Department for Energy Security & Net Zero

# Capacity Market

## Consultation on proposals to improve security of supply and align with net zero (Phase 2) and call for evidence on Ten-year Review

Closing date: 8 December 2023

October 2023

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

# Contents

# 1. Introduction

## 1.1 Background

The Capacity Market (CM) is at the heart of the government's strategy for ensuring security of electricity supply in Great Britain. It is a technology neutral scheme, in which existing and new-build electricity capacity (in the form of generation, interconnectors, Demand Side Response and other technologies) complete to obtain agreements under which they commit to delivering capacity when needed, in return for guaranteed payments.

## 1.2 The purpose of this document

This document is in two parts:

**Part A is a consultation on proposals to reform the CM** to improve security of supply, align the scheme with the government's net zero goals, and improve the functioning of the scheme. The proposals in this consultation constitute Phase 2 of the changes that we set out earlier this year in the government response to our January 2023 consultation.[1]

**Part B is a call for evidence to inform the second statutory five yearly review of the CM (referred to as the 'Ten-year Review'),** which is due to be published in summer 2024.

Whilst both parts of the document are inherently linked, they can be treated separately. We understand that some stakeholders may only wish to respond to one part of the document. Government intends to issue separate responses to the two parts.

## 1.3 Part A: Consultation on proposals to reform the Capacity Market

Since it was first introduced as part of the Electricity Market Reforms in 2014, the CM has undergone numerous changes to reflect the shifting policy, economic and technological landscape.

In 2019, the UK became the first major economy to set a legally binding target to reach net zero greenhouse gas emissions by 2050. In 2021, with the publication of the Net Zero Strategy, the government built on this by committing to delivering a decarbonised electricity system by 2035, subject to security of supply.

The global easing of COVID-19 restrictions in late 2021 contributed to a surge in wholesale gas prices, which in turn caused a significant increase in wholesale electricity prices. This trend was exacerbated in February 2022 when Russia illegally invaded Ukraine, which led to higher gas and power prices across Europe and increased concerns about energy security for winter 2022/23 and beyond.

[1] Available at: www.gov.uk/government/consultations/capacity-market-consultation-strengthening-security-of-supply-and-alignment-with-net-zero

Russia's illegal invasion of Ukraine put the need for energy security into sharp perspective. Building on ambitions set out in the 2022 British Energy Security Strategy and the 2021 Net Zero Strategy, in March 2023 the government published Powering Up Britain. This sets out the government's approach to energy security and net zero and acts as an introduction to the complementary plans: Powering Up Britain: Energy Security Plan and Powering Up Britain: Net Zero Growth Plan. These policy papers outline how the government plans to secure our energy system by ensuring a resilient and reliable supply, increasing our energy efficiency, and bringing bills down through decisive actions to increase Great Britain's low carbon domestic electricity supply. They also outline plans to reduce our reliance on fossil fuels for heating and transport, and continue UK leadership in securing the economic benefits of the energy transition, including through major investment in Carbon Capture, Usage and Storage (CCUS).

These factors have further strengthened the need for the continued evolution of the CM design to ensure it continues to deliver effectively and efficiently in a changing world. Between 9 January and 3 March 2023, government consulted on a range of policy proposals aimed at enhancing the delivery assurance within the CM and aligning the scheme with net zero. The response to this consultation, published in June 2023, set out a two phased approach for implementing reforms to the CM.

Phase 1 encompassed proposals to strengthen security of supply, ensure better value for money for consumers and increase opportunities for auction competition. These changes came into force following the July 2023 amendments to the Capacity Market Rules[2].

This consultation, forming Phase 2 of the reforms flowing from the January 2023 consultation, builds on the previous consultation and engagement with stakeholders and industry. The proposed reforms set out in this consultation represent the next phase of the evolution of the CM, aiming to improve security of supply and, by accelerating investment in low carbon technologies, increase the role that they play in the CM, aligning it better with the government's net zero objectives. These proposals are summarised in more detail in section 3.

The January 2023 CM consultation sought views on decarbonisation pathways and a new emissions limit for Capacity Market Units (CMUs).[3] In the government's response to the January consultation, published in June 2023, we confirmed our intention to implement emissions limits for new build and refurbishing capacity seeking multi-year agreements. These proposals are crucial for the delivery of government's commitment for a decarbonised power system and are closely linked to wider electricity sector policy development being considered holistically by the Review of Electricity Market Arrangements (REMA) programme.

## 1.4 Part B: Call for evidence to inform the Ten-year Review

Both the Rules and the Regulations which underpin the CM contain a requirement to carry out a review every five years and publish a report. In 2019, the government published the first Five-year Review of the CM to meet this requirement.

The next full review of the CM (the 'Ten-year Review') is due to be published and laid before Parliament by summer 2024 and will similarly take the form of a single document. Part B of this document is a call for evidence to help inform this review.

[2] Available at: www.gov.uk/government/publications/capacity-market-rules
[3] Available at: www.gov.uk/government/consultations/capacity-market-consultation-strengthening-security-of-supply-and-alignment-with-net-zero

The REMA programme aims to assess, identify, and implement options for reform of the current electricity market and trading arrangements required for an electricity system of the future. The review is considering options for reforming the electricity markets and policies to promote investment in and operation of electricity generation assets, including the options relating to the CM.

The Ten-year Review must now be considered in light of REMA. As REMA is assessing the larger strategic questions concerning the need for a CM and how a future CM can better meet government objectives on security of supply and delivering net zero, the Ten-year Review of the CM will focus on a limited set of questions to meet the statutory requirements. The Ten-year Review of the CM will also feed into the wider REMA process.

# 2. General information

## 2.1 Why we are consulting

As set out above, this document consists of two parts.

The purpose of Part A is to consult on proposals to improve electricity security of supply, facilitate the transition to a net zero electricity system and achieve better value for money. The proposed reforms set out in this consultation represent the next phase of the evolution of the CM complementing proposals in Phase 1, which were implemented in July 2023, and ongoing engagement with stakeholders.

The purpose of Part B is to collect views and evidence to inform the statutory Ten-year Review of the CM.

## 2.2 Consultation details

**Issued:** 16 October 2023

**Respond by:** 8 December– 11:45pm

**Enquiries to:**

Electricity & Market Arrangements
Capacity Market Team
Department for Energy Security and Net Zero
1 Victoria Street
London
SW1H 0ET

Email: electricity.security@beis.gov.uk

**Consultation reference:**

Capacity Market: Consultation on proposals to improve security of supply and align with net zero (Phase 2) and call for evidence on Ten-year Review

**Audiences:**

We are seeking the views of industry, academia, think tanks and other organisations who have an interest in security of supply and net zero in Great Britain.

**Territorial extent:**

Great Britain. Electricity security is a devolved matter for Northern Ireland.

## 2.3 How to respond

Respondents can choose to answer one or both parts of the document.

We strongly encourage respondents to make use of the online e-consultation wherever possible when submitting responses as this is the government's preferred method of receiving them. Alternatively, responses in writing or via email using the response form will also be accepted.

To ensure your response is most effective in aiding government policy development, it is crucial that responses are framed as direct responses to the questions posed, supported by evidence where possible.

When responding, please state whether you are responding as an individual or representing the views of the organisation.

The government intends to undertake engagement with stakeholders and industry following the publication of this consultation and call for evidence.

**Respond online at:**

https://beisgovuk.citizenspace.com/clean-growth/capacity-market-phase-2-10-year-review

or

Complete a response form and either:

**Email to:**

electricity.security@beis.gov.uk

**Write to:**

Electricity & Market Arrangements
Capacity Market Team
Department for Energy Security and Net Zero
1 Victoria Street
London
SW1H 0ET

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.

## 2.4 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, 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.

## 2.5 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: Bru@energysecurity.gov.uk

# 3. The proposals

The proposals we are consulting on are set out in Part A and summarised below.

Improving security of supply:

- Supporting amendments to timelines for volume reallocation activities, to ensure that settlement processes following a System Stress Event are appropriately aligned, following changes made in July 2023 to the timelines for calculating non-delivery penalties;
- Rolling over a temporary amendment to enable mothballed plant to apply to prequalify for CM auctions, by allowing Existing Generating CMUs who have not been operational for the 24 months before prequalification to use operational data older than 24 months;
- Aligning the wording of Regulation 50 to the Rules and policy intent that failure to meet Extended Performance Tests (EPTs) should be treated in the same way as failure to meet Satisfactory Performance Day (SPD) requirements; and
- Adding further clarification to Regulation 16(2) that a site cannot prequalify for the CM auction if they hold a Contract for Difference (CfD) for a future delivery year.

Accelerating investment in low carbon technologies:

- Clarifying that battery augmentation is permitted so that storage CMUs can manage the natural decline in capacity due to degradation, by introducing a new definition to Rule 4.4.4;
- Enabling the level of the EPT obligation to be reduced through secondary trading, in line with the approach for other CM testing frameworks;
- Seeking views on no capital expenditure (Capex) thresholds for low carbon, low Capex technologies such as unproven Demand Side Response (DSR) and new build capacity only (previously consulted on in January 2023 consultation);
- Setting out our plans to implement 9-year agreements and Capex thresholds for low carbon, new build and refurbishing capacity;
- Building on the January 2023 consultation which asked for feedback on challenges faced by projects with long build times and potential supportive measures by proposing to offer a 24 month declared long stop date, in addition to the existing 12 month long stop date, for new build and refurbishing low carbon projects meeting the Capex thresholds of 15 and proposed 9-year agreements participating in T-4 auction;
- Removing barriers faced by domestic DSR providers by partially redacting residential addresses published on the publicly available CM Register and amending the current re-allocation cap of 40 components that exists for DSR CMUs.
- Seeking evidence and views on the creation of new Generating Technology Classes (GTCs) to cover DSR; and
- Proposing an amendment to 8.3.6B definition of Extended Years Criteria to clarify the requirement to replace a turbine.

- Decarbonising the Capacity Market: Proposing that CM emissions are published on the CM register to ensure transparency and provide valuable information to investors, policymakers, and the public, as previously consulted in the Capacity Market: 2021 consultations on improvements.

# 4. Next steps

The consultation set out in Part A represents the next stage in the evolution of the CM to strengthen security of supply, align the scheme with net zero, and improve the functioning of the scheme.

The government will consider responses to this consultation and aims to publish a response in early 2024.

The government has historically made changes to the CM through secondary legislation for the following delivery year, however, as with every year, this is subject to when parliamentary time allows.

These proposals will be informed by the range of responses the government receives to this consultation, further stakeholder engagement, and additional analysis where necessary. Implementation will also be subject to ensuring the proposed changes are compliant with the requirements of the UK's domestic subsidy control regime.

Separately, government will review the responses to the Call for Evidence to inform the Ten-year Review set out in Part B. These will inform the Ten-year Review publication, which we will aim to publish by summer 2024. As set out in the introduction, the Ten-year Review will be considered in the overall context of the REMA programme.

# Part A: Consultation on proposals to improve security of supply and align with net zero

This section sets out specific proposals which government is consulting on to improve the CM, following the publication of our response to the January 2023 consultation.

# 5. Improving security of supply

## 5.1 Penalty regime – timelines for calculating non-delivery penalties

### Context

Following consultation in January 2023, we implemented changes to Regulation 41(2) in July 2023 to extend the timelines for when the CM Settlement Body, the Electricity Settlements Company (ESC), must determine the penalty amount a Capacity Provider has incurred through non-delivery in a stress event, and when the ESC must invoice that Capacity Provider. These timelines were extended from 21 working days after the end of the month to 35 working days, to allow sufficient time for the Delivery Body to provide accurate data on 'Relevant Balancing Services' to ESC, even if a stress event occurs on the final day of the month.

Stakeholder feedback was shared that the change to Regulation 41(2) may require a review of wider timescales associated with ESC's penalty calculation activities, to ensure that timelines for settlement remain appropriate.

One area identified by respondents was the timescale for Capacity Market Volume Reallocation (CMVR), whereby Capacity Providers who have over or under delivered against their obligation during a System Stress Event may re-allocate this capacity volume post stress event.

Following a stress event, Capacity Providers or CMVR Registered Participants may re-allocate volume from one CMU to another by submitting a CMVR Notice (CMVRN) to the ESC. Volume re-allocation activity is considered through the settlement process by ESC, who must determine the energy delivered by a Capacity Provider during a stress event. This value is referred to as Eij (where E is energy delivered, i is the relevant CMU and j is the relevant Settlement Period in which that CMU delivers energy), which ESC adjust for any volume re-allocation to calculate the Adjusted Eij of a CMU. This information is then factored into penalty calculations.

Following a system stress event, ESC is also required to publish a Capacity Volume Register (CVR) that provides information to support the settlement and volume reallocation process, such as detail of a CMU's Eij and the Adjusted Load Following Capacity Obligation (ALFCO) during the relevant period.

### Proposed changes to the timelines for post-stress event settlement activities

Regulation 39(4) currently requires that ESC must determine the Adjusted Eij after the close of the volume re-allocation window for the relevant month but by no later than 20 working days after the end of that month. This originally provided for a final CVR to be published on Working Day (WD) 20, followed by penalties being calculated and issued on WD21. Given the extension for penalty calculations and invoicing by ESC to 35 working days, made through changes to Regulation 41(2) in July 2023,[4] the government is minded to amend the timescales

[4] The Electricity Capacity (Amendment) Regulations 2023 are available at: www.legislation.gov.uk/uksi/2023/860/made

for ESC to determine the Adjusted Eij to 34 working days to bring these in line with Regulation 41(2).

To support this proposed change, the government is also minded to amend the timescales set out in Rule 10.5, which detail the dates for when information must be considered by the ESC and published in the CVR. We propose that the dates for the CVR be updated as follows, to better align with the new timelines under Regulation 41(2):

- The first CVR publication date to be amended from WD10 to WD20
- The timelines for updated CVRs published each day to be amended from between WD11 and WD19, to between WD21 and WD33

The proposed amendments set out above would also require a corresponding change to the Volume Re-allocation window in which a relevant party can submit a CMVRN, as set out in Rule 10.2.4, from between WD11 and WD19 to between WD21 and WD33. We would welcome feedback on both aspects of this proposal, including the proposed changes to timescales for ESC activities and the changes associated with Capacity Provider activities through the Volume Re-allocation window.

In addition, timelines for other settlement activities that are carried out at the end of the year may also warrant extension in order to address the risk of a system stress event occurring at the end of the settlement period and there being insufficient time to incorporate the new 35 working day timeline for calculating penalties. This includes activities such as the calculation of capacity payments and over-delivery payments and the determination of penalty residual supplier amounts under the Electricity Capacity (Supplier Payment etc.) Regulations. We welcome views on whether such supporting timeline changes, or other wider changes, might be required.

Through the review of the CM Rules on settlement, we have also identified that Rule 10.5 includes references to the Electricity Capacity Regulations that are intended to relate to CM Settlement Body (ESC) activities but currently reference Regulation 35, which covers “Null and void capacity agreements”. Rule 10.5 should instead refer to Regulation 39, “Determination of adjusted load-following capacity obligation, net output and adjusted net output” which obliges ESC to make certain determinations also covered by the Rules. As such, we propose to make appropriate corrections to Rule 10.5.

**Question 1: Do you agree with the proposed changes to the timelines for ESC Volume Ve-allocation activities and the Volume Re-allocation window? Are there any unintended consequences of these changes?**

**Question 2: Do you have any comments on supporting changes to other settlement activities that may be required following the changes to Regulation 41(2)? Do you have any comments on the correction to Regulation references in Rule 10.5?**

# 5.2 Mothballed plant

## Context

As referred to in previous consultations in 2022 and 2023, government are aware that Rule 3.6.1(a) may prevent Existing Generating CMUs, which have been mothballed for more than 24 months prior to the end of the Prequalification Window, from prequalifying for the auctions.

Rule 3.6.1(a) provides that, in relation to Previous Settlement Period Performance that an Existing Generating CMU must identify three Settlement Periods from the 24 months prior to the Prequalification Window in which the CMU delivered a net output equal to or greater than its Anticipated De-Rated Capacity, and to report the operational data for each of those Settlement Periods. The policy intent of Rule 3.6.1(a) is to ensure that the Existing Generating CMU's capacity is real and able to provide delivery assurance.

In 2018, Ofgem consulted on, and introduced, the above requirement. The rationale for this was "to ensure that the periods specified by the generator are recent enough to be representative of the generator's performance but allow enough time for generators to prove their capacity if – for example – they are mothballed or unavailable". Prior to 2018, Rule 3.6.1(a) allowed Existing Generating CMUs which had not been operational for the 24 months before prequalification to use operational data that was more than 24 months old to comply with this rule.

In 2022, the government made temporary amendments to the Rules to enable mothballed Existing Generating CMUs to apply for prequalification for the 2023 auctions without running for three Settlement Periods prior to the end of the Prequalification Window. This was done with a view to improving auction liquidity in the 2023 auctions in light of the broader security of supply challenges following Russia's illegal invasion of Ukraine.

A permanent rule change was consulted on in January 2023 however, as set out in our June 2023 government response, this proposal was not implemented due to links to the SPD changes that were required to enable it. Instead, the temporary measure was extended to enable greater liquidity in the 2024 auctions.

## Proposal

We propose a further temporary amendment, as previously implemented, which allows Existing Generating CMUs to demonstrate performance using operational data from the most recent 24 months of operation if there is no data from the 24 months of operation prior to the closure of the Prequalification Window. If this measure were to be implemented, it would be done through a time-limited modification to the CM Rules, meaning the change would apply to 2024 prequalification for the auctions in 2025. We will continue to develop policy as necessary.

**Question 3: Do you agree with the proposed temporary rule change to operational requirements for Existing Generating CMUs which are mothballed? Does this proposal create any unintended consequences?**

## 5.3 Further aligning Regulation 50 with policy intent

### Context

As part of the requirements for a CMU which is subject to demonstrating extended performance under Rule 13.4A, an EPT must be completed once every three delivery years as one of the three standard SPDs in the winter of the relevant year. The Capacity Provider can choose on which of the winter SPDs to carry this out. Effectively, this means that EPTs are a subfunction of the SPD requirement.

As set out in the government response to the 2017 'Capacity Market: improving the framework' consultation,[5] the policy intent is that EPTs have "similar consequences as failure to meet a standard SPD, including suspension of payments and termination".

### Proposal

The proposed amendment to Regulation 50 is such that it further aligns with the policy intent and CM Rules, in that failure to meet EPTs are to be treated in the same ways as failure to meet SPDs across suspension of payments.

**Question 4: Do you agree with the proposed amendment to Regulation 50 so that it aligns with the policy intent and CM Rules, in that failure to meet EPTs are to be treated in the same ways as failure to meet SPDs across suspension of payments? Does the proposed amendment have any unintended consequences?**

## 5.4 Changes to the regulations clarifying non-permitted Capacity Market and Contract for Difference participation

### Context

Regulation 16(2) states that the Delivery Body must not prequalify a CMU if it is subject to a CfD which applies to any of the delivery period. A site is classed as subject to a CfD from the point at which they are awarded a CfD and not from the point at which they start to receive or make CfD payments. This means a site cannot prequalify for the CM if they have been awarded a CfD, even if they would be delivering under their CfD and their Capacity Agreement in different delivery years.

### Proposal

The Regulations were drafted to achieve the policy intent outlined above, however, the proposed amendment aims to provide further clarity to industry by adding further detail to Regulation 16(2). This would be to provide expressly that a CMU can only be prequalified where no CfD has been awarded in respect of it, even if the CfD is for a later delivery period, unless the CfD in question has expired or been terminated. There is no policy change associated with this proposed amendment.

[5] Available at: https://www.gov.uk/government/consultations/capacity-market-consultation-improving-the-framework-detailed-proposals

**Question 5: Do you agree with the proposed amendment to add further detail to Regulation 16 (2) to clarify that that a CMU can only be prequalified where no CfD has been awarded in respect of it, even if the CfD is for a later delivery period, unless the CfD in question has expired or been terminated? Does the proposed amendment have any unintended consequences?**

# 6. Accelerating investment in low carbon technologies

A secure, reliable, cost-effective and decarbonised power sector is critical for a modern industrial economy and vital to achieving our net zero ambitions. In the 2021 Net Zero Strategy, government committed to decarbonising the power sector by 2035, subject to security of supply.

The Energy White Paper and the Net Zero Strategy set out our approach to transforming the energy system, moving from fossil fuels to home grown, clean energy, to eliminate emissions and tackle climate change. The 2022 British Energy Security Strategy set out the key actions to accelerate delivery of clean energy, recognising its importance in delivering our climate goals whilst simultaneously providing energy security and securing greater energy independence.

Most recently, we have published the 'Powering Up Britain: Energy Security Plan', which sets out the government's plans to enhance our country's energy security, diversifying through a range of energy sources including wind, solar, nuclear and hydrogen.

Renewable energy now makes up a significant proportion of our electricity generation mix, and innovative technologies, including batteries, are playing an increasingly important role in keeping the lights on across Great Britain.

Across the electricity system there is a need to significantly increase the deployment of low carbon flexibility to maintain security of supply, integrate renewables and meet our decarbonisation goals at lowest cost. The 2021 Smart Systems and Flexibility Plan therefore set out a range of actions to remove barriers and reform markets for flexibility. This included considering how the CM needs to adapt to better align with our net zero ambitions.

The REMA programme will be a key enabler for investment in low carbon power and will consider wider reaching reforms, including longer-term reforms to the CM to further decarbonise the electricity system, whilst managing overall system costs and maintaining security of supply.

However, in the meantime, it is important that the government continues to take steps to ensure the CM is aligned with our decarbonisation targets to capture potential investment in low carbon technology.

Removing barriers for low carbon technology to participate in the CM will provide additional capacity, improve competition, reduce prices and strengthen security of supply. Furthermore, increasing the diversity of low carbon technologies within the CM will help to limit the GB power sector's exposure to volatility in the international fossil fuel market.

To incentivise further investment in low carbon technologies, the government proposes:

- De-risking investment in storage by addressing the barriers faced by batteries in meeting the CM's performance and duration testing requirements;
- Incentivising increased participation in the CM from low carbon flexible capacity by enabling low carbon capacity with low capital expenditure to access 3-year agreements;

- Introducing a new 9-year threshold with the aim of supporting a wide range of new build and refurbishing low carbon projects;
- Addressing the participation challenges faced by low carbon projects with long build times by introducing an additional long stop date; and
- Addressing participation barriers faced by domestic DSR by allowing for residential address redaction, increasing the component reallocation limit and considering the introduction of new GTCs for DSR.

## 6.1 Addressing challenges faced by batteries in the Capacity Market

In recent years, the CM has witnessed increased participation from CMUs with a Storage GTC or those containing a Storage Facility (referred to here as "Storage CMUs"), namely lithium-ion and other battery chemistries, which have gone from around 0.1GW awarded for the 2018/19 delivery year, to 3.1 GW being awarded T-4 agreements for delivery year 2026/27. [6] These CMUs face several challenges in the CM, specifically relating to degradation.

Batteries degrade over time, and this reduces their energy capacity, power and efficiency. The main factors that influence degradation rates include temperature, ramp rates, average state of charge and depth of discharge. Degradation is challenging to analyse and predict, especially for battery assets that are participating in various markets and services, such as frequency regulation, wholesale energy market trading and the Balancing Mechanism (BM).

Whilst it is challenging for battery operators to predict degradation, they can take action to manage and mitigate system deterioration in order to maintain long term capacity. This is especially pertinent to new build battery assets with multi-year Capacity Agreements, where they need to deliver at set capacity levels for agreements of up to 15 years.

However, there are specific constraints presented by certain CM Rules and Regulations which either restrict, prevent or cause uncertainty for battery CMUs seeking to take action to manage degradation.

Storage CMUs now account for a more significant portion of capacity in the CM than they did when the EPT was designed, and Capacity Providers have begun to raise concerns about the ability of battery CMUs in particular, to continue to meet the EPT over the course of multi-year agreements.

### 6.1.1 Extended Performance Testing

The EPT arrangements aim to provide assurance that CMUs in a Storage GTC (and CMUs containing at least one DSR component which contains a Storage Facility) can deliver capacity for the relevant duration, for example, 2 hours. This test is required for every 3rd capacity year, and failure to demonstrate extended performance can lead to termination of a CMU's agreement.

[6] This does not account for possible storage agreements that may be awarded in the corresponding T-1 auction for 2026/27.

Section 2.2.3 of the January 2023 CM consultation sought views on the barriers faced by Storage CMUs in meeting the CM's performance and duration testing requirements.

In general, respondents to the consultation considered that existing performance and duration testing requirements in the CM pose a challenge to batteries due to asset degradation, whereby capacity capabilities fall over time. A total of 22 responses raised ways in which battery degradation could be managed under current arrangements to mitigate the risk of batteries failing to meet EPT requirements. The majority of stakeholders reported augmentation as a way to maintain the Adjusted Connection Capacity level or suggested ways in which the level of the EPT may be adapted to align with degradation.

The government considers the EPT framework a necessary measure for ensuring confidence that Storage CMUs can deliver against their Capacity Agreements, both in terms of duration and capacity. The duration of storage is a key consideration when determining de-rating factors and it is therefore imperative that Storage CMUs can deliver their stated connection capacity for their stated duration. Without this assurance it is likely that de-rating factors for Storage CMUs would need to decrease to account for the additional non-delivery risk.

### 6.1.2 Battery augmentation

Battery augmentation is a key strategy in the battery sector that helps maintain capacity in energy storage systems. It involves adding or replacing battery capacity as systems age to counteract the natural decline in capacity over time. Augmentation ensures that the battery system can maintain its capacity over the agreed period by addressing the gradual loss of battery performance through the addition or replacement of capacity.

The government recognises augmentation as a key risk management tool for battery assets with longer term agreements in the CM and is committed to addressing the barriers faced by Storage CMUs seeking to augment battery sites with Capacity Agreements.

Respondents to the January 2023 consultation perceived that Rule 4.4.4, which prohibits changes to the configuration of Generating Units in a CMU after it has prequalified, could be a barrier to augmentation.

### 6.1.3 Proposed policy changes

The government has considered stakeholder feedback to the January 2023 consultation regarding the reduction to extended performance requirements from a CMU's Adjusted Connection Capacity to Net Capacity Obligation (NCO). The government concludes that this change would remove the main verification mechanism for ensuring that Storage CMUs are able to deliver their Adjusted Connection Capacity for their stated duration. Adjusting the EPT level to NCO would arguably require an adjustment to the relevant de-rating factors, as otherwise this would not provide appropriate assurance on the availability of storage capacity.

Therefore, it is the government's view that the EPT framework should continue to use a CMU's Adjusted Connection Capacity for testing purposes, to maintain the necessary assurance of storage capacity and duration. However, the government recognises the specific technology challenges faced by batteries and proposes to implement several policy changes that will enable storage CMUs to better manage the risk of degradation and support their ability to demonstrate the capacity requirements of the EPT.

Responses to the consultation also proposed changes to address concerns around the interaction between secondary trading and EPT obligations for Storage CMUs. Specifically,

feedback was shared by stakeholders that the EPT requirements of a Storage CMU are not impacted by secondary trading, for example, if secondary trades have been made to partially reduce the level of their Capacity Obligation. This differs from the approach for SPDs, which test performance to the level of the Capacity Obligation and therefore can account for when a CMU's obligation has been reduced through secondary trades. Therefore, the government proposes to amend the CM Rules to enable the MW requirement of the EPT to be appropriately reduced when secondary trading occurs.

The government recognises augmentation as a key risk management tool for battery assets with longer term agreements in the CM. Therefore, to address perceived barriers to augmentation posed by Rule 4.4.4 reported through stakeholder feedback, the government proposes to introduce a definition of 'Permitted Augmentation for Battery Storage CMUs'.

Government proposes that the definition of 'Permitted Augmentation' would:

- Allow CMUs of the fuel type 'Storage – Battery' to replace and/or add batteries at an existing CMU site, to enable batteries to maintain the level of capacity required to meet EPT requirements;
- Not enable a Capacity Provider to supplement a CMU's capacity with capacity from another CMU; and
- Not enable a CMU to increase its Auction Acquired Capacity Obligation.

**Question 6: Do you agree with the proposals that we have put forward to help address barriers faced by storage CMUs in managing battery degradation? Specifically:**

a. **The introduction of a definition of Permitted Augmentation under Rule 4.4.4.**

b. **Enabling the level of EPT requirement to be appropriately reduced when secondary trading occurs.**

**Question 7: Do you foresee any unintended consequences which could arise from the proposals set out in question 6?**

**Question 8: Do you believe that other supporting changes are required to accommodate the proposals set out in question 6, for example changes to testing arrangements?**

**Question 9: Noting the considerations outlined in section 6.1 of the consultation, do you have any further comments or concerns regarding the retention of the EPT framework for storage CMUs? Are there any further required changes which have not been identified or considered?**

## 6.2 Multi-year agreements for low carbon, low Capex technologies

The government believes multi-year agreements provide greater revenue certainty and are likely to incentivise further low carbon participation in the CM. This improves market liquidity and leads to a greater diversity of technologies, which strengthens security of electricity supply by limiting the CM's exposure to issues, such as gas supplies or high electricity wholesale prices.

### 6.2.1 Eligibility

The January 2023 CM consultation sought views on a range of proposals supporting low carbon generation through improved access to multi-year agreements available via the CM. To define which projects were considered low carbon, the benchmark for emissions intensity set by the emissions limit proposal in the same consultation was used.

To clarify what is meant by low carbon in this consultation, the benchmark for the definition remains the same, i.e. an emissions intensity of **100gCO2/kWh or lower**.

This benchmark is derived from the estimate that a power CCUS plant which is 50% thermally efficient would be able to meet this limit with a minimum capture rate of circa 73%. This is broadly consistent with capture availability requirements in the CCUS Dispatchable Power Agreement[7] (DPA), where payments reflect capture plant performance, and if capture performance drops below 70% for three consecutive billing periods, the generator is required to undertake remedial work or risk termination of its DPA. The CM emission limits regime for CCUS is based on a relatively simple calculation taking account of the annual average capture rate. Therefore, additional flexibility is required to safeguard against technical issues causing a plant with an otherwise adequate capture rate (e.g. 90%) to fall outside the definition of low carbon capacity in the CM.

Government considered using specified technology classes in place of a benchmarked definition, but this was regarded as going against the technology neutrality principles of the CM. Furthermore, a quantified 100gCO2/kWh intensity limit enables ongoing review of what number is appropriate to reflect advances in technology and the development of the low carbon energy portfolio, which will provide further evidence of operational carbon capture reliability.

### 6.2.2 3-Year agreements for new low carbon, low Capex technologies

Section 3.4 of the January 2023 consultation sought views on the introduction of 3-year agreements with no Capex thresholds for low carbon, low Capex technologies such as Unproven DSR and New Build capacity. The proposal aims to remove participation barriers for low carbon, low Capex technologies to facilitate CM access and support investment in the full range of technologies that can support security of supply.

Views were mixed as to whether the eligibility for 3-year agreements without Capex thresholds should be expanded to include Refurbishing CMUs, which can demonstrate some investment into refurbishment, improvement or life extension of the asset.

Responses that supported including refurbishing assets tended to suggest that 3-year Capacity Agreements could potentially be used as a useful mechanism for re-powering and extending the life of such assets.

However, the government believes that refurbishments of this nature generally require sufficient capital expenditure to be able to access the existing 3-year refurbishment agreements with Capex thresholds. The government believes these refurbishment agreements continue to represent the best value for money for consumers.

As stated in the June 2023 response to the consultation, the government intends to introduce the proposed 3-year agreement with a Capex threshold of £0/kW, only for New Build and Unproven DSR capacity. Projects would also be required to meet the definition of low carbon capacity as proposed in section 6.2.1.

### 6.2.3 9-Year Capex threshold

The January 2023 CM consultation sought views on the introduction of a new mid-point 9-year Capex threshold. The proposal aims to ensure that new and refurbishing projects with costs which fall between the existing 3- and 15-year thresholds are not prevented from coming forward in the CM.

This will help to support a wide range of low carbon projects for whom existing CM arrangements may not be sufficiently versatile, such as low carbon refurbishing assets.

In the consultation response, the government stated that it would continue to explore this policy proposal further as part of Phase 2. The government is committed to removing barriers to participation and competition for low carbon capacity in the CM where possible. This includes supporting low carbon refurbishing projects, including the refurbishment of existing low carbon CMUs and the decarbonisation of existing carbon intensive CMUs.

As stated in the January 2023 consultation, the government is concerned that although the investment case for some low carbon refurbishing projects would benefit from the increased revenue certainty provided by a longer multi-year agreement, the large range of Capex costs for such projects means that some projects may not meet the 15-year threshold and would therefore only be eligible for a 3-year agreement.

A mid-point 9-year Capex threshold would address this concern and the government believes that this proposal could facilitate the advancement of large-scale decarbonisation measures in both the CM and the wider GB electricity market.

Supportive responses tended to agree with this, emphasising the view that a 9-year agreement would provide additional investment security for projects that require significant capital expenditure, but do not meet the 15-year threshold.

A number of responses urged the government to consider a range of technologies that the new threshold is designed to support and set the reference cost levels appropriately. This proposal intends to support both refurbishing and new build low carbon projects and, after consideration, the government has concluded that there is a large range in the Capex costs for such projects.

To avoid unintentionally excluding certain technologies from accessing the proposed 9-year agreements, as stated in the January 2023 consultation, the government intends to set the reference cost level underpinning the 9-year threshold at the average of the figures used for the reference cost levels for the existing 3-year and 15-year Capex thresholds. 9-year

agreements will be accessible only to new-build and refurbishing capacity which meets the definition of low carbon capacity set out in section 6.2.1.

As the government has already consulted on the proposed 9-year Capex thresholds in January 2023, it is the government's intention to now progress this change to support the advancement of decarbonisation.

As established in the CM Rules, a Prospective Generating CMU that has been awarded a Capacity Agreement with a duration of more than three delivery years must provide to the Delivery Body a certificate from an Independent Technical Expert (ITE), confirming that the ITE is satisfied that the CMU meets the Extended Years Criteria.

The government proposes that a similar rule will apply to the proposed 9-year agreements.

**Question 10: Do you have any further views on the proposed 3-year or 9-year agreement proposals?**

## 6.3 Projects with long build times

Section 3.6 of the January 2023 consultation outlined the participation challenges faced by projects with long build times. A number of responses presented strong opposition to the government's decision not to introduce a mechanism that allows for projects with longer construction times.

The consultation response, published in June 2023, stated:

*"Based on the feedback received through this consultation, alongside the evidence received through our earlier Call for Evidence on LLES, the government will continue to explore options for addressing the issues faced by projects, of all technologies, with long build times. The government anticipates further consultation in due course."*

Supportive responses to the January 2023 consultation tended to support the view that long duration electricity storage will have a significant role to play in the future electricity system and can support the delivery of net zero targets.

In the Powering Up Britain: Energy Security Plan, published March 2023, the government committed to putting in place:

*"an appropriate policy framework by 2024 to enable investment in large scale long duration electricity storage (LLES), with the goal of deploying sufficient storage capacity to balance the overall system."*

### 6.3.1 Capacity Market

To maintain capacity and security of supply it is important to support low carbon refurbishing assets as well as new build assets. Extending the declared (additional) long stop mechanism to refurbishing assets could arguably support decarbonisation pathways, as more substantive refurbishments (linked to the proposed 9-year capex limit) could use the additional construction time to undergo more substantive re-powering work.

Regardless of the benefits of addressing participation barriers, it remains a key priority for government to maintain the integrity of the CM and the auction processes. We are mindful that this proposal has the potential to introduce security of supply risks if large volumes of new build CMUs opt for a later delivery year, particularly if they do so when it is not strictly necessary (e.g. to mitigate the risks and impacts of late delivery).

As such, it is imperative that any policy solution seeks to minimise the risk and uncertainty of non-delivery of new build capacity.

Considering this, whilst developing this proposal the government has sought to define a policy solution that:

- Addresses CM participation barriers for low carbon new build and refurbishing projects;
- Can be implemented within the current CM auction structures;
- Seeks to minimise the level of uncertainty around which delivery year Capacity Providers will start delivering their contracted capacity in; and
- Minimises the opportunity for auction prices to be influenced through ill-intentioned market interference.

### 6.3.2 Proposed policy changes

The government proposes the introduction of a declared additional (24-month) long stop date, as well as a declared (12-month) long stop date.

In the CM, the existing long stop date affords projects an extension of up to 12 months after the start of the first Delivery Year. This provides projects with some flexibility to meet the Substantial Completion Milestone or Minimum Completion Requirement (the 'relevant completion requirement').

For some Capacity Providers, it is clear that their projects will require the 12-month extension and these providers could benefit from a formal recognition at prequalification that their project is expected to deliver later than the T-4 Delivery Year. It is also clear that other projects require additional construction time, beyond the 12 months afforded by the long stop, to deliver their new build and/or refurbishing capacity.

Therefore, the government proposes implementing two new options alongside the existing long stop date provisions:

**Declared (12-month) long stop date -** This would enable a Prospective CMU to benefit from a total of up to 12 months additional construction time (as allowed for by the existing long stop date) and declare at prequalification its intent to deliver for the start of the second Delivery Year. This would not be compulsory, and a CMU which does not submit a declaration would still be able to benefit from existing long stop date provisions.

**Declared additional (24-month) long-stop date -** This would enable a Prospective CMU to benefit from a total of up to 24 months additional construction time and declare at prequalification its intent to deliver for the start of the third Delivery Year. Access to the additional (24-month) long stop date is only available through declaration at prequalification.

In both cases:

- Rule 6.7.7 which allows for flexibility in case of a network provider being late with a connection, and the 120 working days to achieve the Minimum Completion Requirements after Notice of Intention to Terminate, will still apply; and
- Any use of a declared 12- or 24-month long stop date would correspond to an agreement being shortened by that time (as is the case with the existing 12-month long stop provision), resulting in a 15-year agreement being shortened to a 14- and 13-year agreement respectively.

To maintain the integrity of the CM and the auction processes, it is important to consider options for minimising potential security of supply risks associated with this proposal, including:

Applicability:

- Projects which seek to utilise the declared (additional) long stop would also be required to meet the definition of low carbon set out in section 6.2.1;
- The declared additional (24-month) long stop would only apply to capacity procured through the T-4 auctions;
- The declared additional (24-month) long stop would only apply to new build and refurbishing projects; and

- The declared additional (24-month) long stop would only apply to projects meeting the capex thresholds of 15-year or (proposed) 9-year agreements.

Prequalification requirements:

- Rules that require Prospective CMUs to declare their intention to utilise the (additional) long stop at prequalification;
- Prospective CMUs must provide a director's declaration at prequalification, confirming that the additional time is genuinely required for construction;
- Prospective CMUs must provide a report from an ITE (as already defined in the CM Rules) that confirms that the additional construction time is required; and
- The evidence provided by an ITE needs to reference the delivery timeframes for other comparable projects. The expectation is that the requirements will need to be robust. For example, the evidence provided may need to take the form of an evidenced project timeline with key development and build milestones, as a minimum, as part of a construction plan.

Operational parameters:

- Refinements to the CM Rules so that in the event of early delivery, the agreement would still only take effect (and capacity payments commence) at the start of the declared long stop date;
- Rules preventing CMUs with a declared later delivery year from prequalifying for T-1 auction(s) for delivery years that predate the relevant delivery year;
- Rules preventing any CMU taking advantage of these proposals from becoming a secondary trading entrant prior to the commencement of the relevant later delivery year; and
- Rules preventing any CMU that has utilised the declared (additional) long stop from also utilising the conventional long stop. For example, if a CMU declares the intention to utilise the additional long stop at prequalification, they are not then able to utilise the long stop date if they face delays reaching their Substation Completion Milestone.

The government is also seeking views on:

- Agreement lengths: utilising the existing long stop, results in a reduction to a CMU's agreement length, delaying delivery until the following Delivery Year, resulting in a forfeit of 12 months of CM revenues. For example, if a CMU has secured a 15-year agreement in the relevant T-4 auction and then exercises the Long Stop date, they will receive 14 years of revenue. This incentivises CMUs to deliver for their contracted Delivery Year, only using the Long Stop when necessary, as utilising the mechanism results in lost revenues. It is the government's view that the Declared (Additional) Long Stop should mirror this policy and result in the relevant reduction in agreement length, so as to maintain the incentive to only utilise the mechanism where genuinely required. However, the government invites stakeholder views on this element of the proposal, especially thoughts on how this may impact bidding behaviour and project investment cases;
- The relationship between a CMU utilising the Declared (Additional) Long Stop and its role as Price Maker versus as a Price Taker; and

- Whether a Declared Long Stop Date, both 12- and 24-month options, with no further accommodation for slippage besides the existing 120 working days from notice of termination to achieve a Minimum Completion Requirement, and Rule 6.7.7, is sufficient for slippage.

The government proposes that the Declared Additional (24-month) Long Stop Date be introduced as an interim measure, for a maximum of 3 years from the date of the proposal's implementation and that the policy be reviewed as appropriate, in line with the evolution of government policy, including the REMA programme.

We anticipate that very few CMUs would seek to take advantage of this proposal, as it would be limited to those low carbon technologies and projects which can sufficiently evidence that the additional time is genuinely required for construction. Government is satisfied that the details outlined above would limit the opportunity for any negative impact on security of electricity supply.

**Question 11: Do you agree with the proposed introduction of Declared Long Stops, both 12- and 24-month options, to accommodate low carbon projects with long build times in the CM?**

**Question 12: Does the option to declare a (12-month) Long Stop Date provide developers with any benefits versus relying on the existing Long Stop Date process?**

**Question 13: Does a Declared Additional (24-month) Long Stop Date, Rule 6.7.7 (if applicable) and the existing 120 working days from a Notice of Intention to Terminate provide sufficient time for slippage, and if not, what would be an appropriate amount of time which would need to be considered?**

**Question 14: Do you foresee any unintended consequences which could arise from the introduction of the declared long stop dates?**

**Question 15: Do you agree with the proposed eligibility criteria for CMU's seeking to utilise the Declared Additional (24-month) Long Stop?**

**Question 16: Do you agree with the proposed operational conditions for a Declared Additional (24-month) Long Stop?**

**Question 17: Do you have views on the relationship between a CMU utilising the Declared Additional (24-month) Long-Stop and its role as Price Maker versus Price Taker in the CM auction(s)?**

**Question 18: Are there any further required changes for the implementation of a Declared Additional (24 month) Long-Stop which have not been identified?**

# 6.4 Domestic Demand Side Response participation

Domestic DSR, where households reduce, increase, or shift their energy demand in response to system needs, is a source of low carbon and often low-cost flexible capacity that can contribute to ensuring security of supply. It encompasses a wide range of technologies, including smart systems (such as heat pumps and electric vehicle chargers), manual consumer demand shifting and vehicle to grid connections.

There are growing levels of participation from domestic DSR across the electricity markets, and some portfolios have already begun to bid into the CM. As this sector matures, we expect to see more providers, with larger portfolios, making bids, however, the CM Rules and processes were not established with handling large, aggregated portfolios of residential assets in mind, and Capacity Providers have identified some potential barriers to their participation.

Through stakeholder engagement, the government has identified two key barriers that will be addressed in this consultation:

- The publishing of residential addresses on the CM Register has implications for data privacy and the UK General Data Protection Regulation (GDPR); and
- Currently no more than 40 components can be re-allocated for a given DSR CMU, irrespective of the size of the portfolio.

## 6.4.1 Limiting the publication of residential addresses

Where a full address must be provided for individual components in a CMU, there are unique challenges for domestic DSR portfolios where this will be a residential address. When this information is then made publicly available on the CM Registers, it has implications for data privacy and UK GDPR, as this personal information can be easily accessed by advertisers and other third parties.

To address this issue for existing domestic DSR CMUs, the CM Registers have partially redacted residential addresses through the removal of the house name/number and the second half of the postcode. However, a 6-figure grid reference and street name are still published, which could be enough information to still pose a UK GDPR risk.

The government is thus proposing to make a formal update to the CM Regulations to only publish the first half of the postcode for residential addresses (e.g. SW7) on the publicly available CM Register. This will mean removing the house name/number, street address, grid reference and the second half of postcode. Publishing just this information will still allow anyone to conduct location-based analysis on the dataset, but will remove the risks to individual's privacy.

This redaction will, however, only apply to the published register, and component addresses will still need to be provided in full to the Delivery Body, as this information is critical to carrying out governance checks and establishing metering connections. The government recognises that the requirement to submit large data volumes could still be considered onerous, however, this is mitigated by the fact that the Delivery Body will accept submission via CSV for large portfolios.

### 6.4.2 Increasing the limit on component reallocation

For a DSR CMU, once an application for prequalification has been submitted, no more than 40 components can be re-allocated, irrespective of the portfolio size or nature.

This creates a participation barrier for domestic DSR, as portfolios often contain thousands of components, and in the future could become even larger. Additionally, as it is a consumer's right to easily be able to switch supplier and opt in and out of schemes, domestic DSR faces uniquely high levels of customer churn, and thus a greater need for component re-allocation.

The government considers it appropriate to introduce a new proportional limit, set at a certain percentage of portfolio size, to enable portfolios to re-allocate either up to the proposed percentage, or up to 40 units, whichever is higher. Adopting a proportional limit will account for the likelihood that the size of domestic DSR portfolios could continue to increase in future.

This would mean that if the cap was established at 10% of portfolio size, for example, then a 1000 component portfolio would be permitted to re-allocate a maximum of 100 components. However, a portfolio of less than 300 components (i.e. where 10% of portfolio size is less than 40) would still be able to reallocate up to 40 components as per the current CM Rules.

The government is seeking views on the appropriate percentage value to set for the proposed limit. Removing the limit in its entirety was also considered as an option, however, as component reallocation has an administrative burden associated with it, some limit must be kept in place to prevent excessive reallocation that could lead to the system becoming unworkable.

This administrative burden is especially large for components that hold bespoke metering arrangements, as opposed to supplier settlement or balancing services metering arrangements, both of which have automated process flows. Consequently, the government proposes that the new percentage limit will only apply to components that do not fall under bespoke metering arrangements, as this would become operationally unfeasible to implement.

The government understands that this risks excluding some domestic DSR providers. However, the Low Carbon Contracts Company (LCCC), who operate the CM Settlement Body, are currently considering changes to allow a greater range of meter types (in particular, modern digital meters) to fall under automated process flow arrangements. It is possible as a result of this, that those meters will no longer fall under the bespoke category and will become eligible for the proposed percentage limit. LCCC welcomes feedback directly from industry as they explore and develop this change.

We also note that this proportional limit will only apply to DSR CMUs that are currently already allowed to reallocate up to the 40-component threshold as laid out in Rule 8.3.4. The government notes that this rule does not allow any component re-allocation to occur after the DSR Test has been conducted, however, we consider this a necessary delivery assurance measure to limit the potential for under delivery, and so will not be proposing any changes to this restriction. As Capacity Providers can conduct the DSR Test at a time appropriate to them and can choose to do so very shortly before the delivery period, the government considers the impact of keeping this restriction in place to be limited.

**Question 19: Do you agree with the proposal for partial redaction of addresses on the CM registers for domestic DSR CMU components?**

**Question 20: Do you agree with our proposed changes to component reallocation? If so, what percentage do you propose would be appropriate to set as the new limit?**

## 6.5 Extended Years Criteria

A Refurbishing CMU is defined in the CM Rules as an Existing CMU which will be subject to an improvements programme to be completed prior to the first Delivery Year and so is considered a Prospective CMU. Prospective CMUs (New Build CMUs and Refurbishing CMUs) are eligible for multi-year Capacity Agreements, with the agreement length dependent on the criteria set out in the CM Rules and Regulations.

To be eligible to prequalify for a 15-year agreement, Prospective CMUs must declare intentions to meet the following requirements during prequalification:

1. The Total Project Spend must meet or exceed the 15-year Qualifying £/kW Capital Expenditure, as defined in the auction parameters for the relevant auction; and

2. The 'Extended Years Criteria', as defined in Rule 8.3.6B, which states that Prospective CMUs must detail the extent of the works, meet apparatus requirements and confirm that the expected lifespan of the project will exceed 15 years from the point of the first Delivery Year. There are also additional requirements for certain technology types.

If a 15-year agreement is awarded through a capacity auction, the Prospective CMU must evidence compliance with the above through ITE certification by the appropriate agreement milestone.

Achieving the Extended Years Criteria is currently defined by Rule 8.3.6B as follows:

"*Extended Years Criteria" means the requirements, in respect of a Prospective Generating CMU, that:*

*(a) for each Generating Unit of the CMU, the Core Generating Plant consists of:*

> *(i) new Apparatus;*
>
> *(ii) both new and rebuilt Apparatus, where at least one complete generator or turbine is new; or*
>
> *(iii) rebuilt and/or previously used Apparatus, provided that the Generating Unit:*
>
> > *(aa) has not been used, or been available for use, for the generation and Export of electricity in Great Britain at any time in the three years preceding the Application; and*
> >
> > *(bb) forms part of a CMU which is installed on a site that has not previously been used for that CMU and benefits from a new Grid or Distribution Connection Agreement;*

*(b) each Generating Unit of the CMU can, with routine maintenance, be expected to remain capable of operation for at least fifteen years beginning with the first Delivery Year for which the Capacity Agreement is awarded;*

*(c) where the CMU is a combustion installation covered by the BREF, the introductory note to a permit issued in respect of that CMU by the Environment Agency, Natural Resources Wales or the Scottish Environment Protection Agency includes the statement prescribed by Rule 8.3.6C(b); and*

*(d) if paragraph (c) does not apply, and the Core Generating Plant of any Generating Unit of the CMU does not comprise all new Apparatus:*

> *(i) where the CMU is a combustion installation that is not covered by the BREF, the CMU meets the emissions and energy efficiency standards that could be expected of a new plant of the same type, size and energy source installed in Great Britain; or*
>
> *(ii) where the CMU is not a combustion installation, the CMU meets the energy efficiency standards that could be expected of a new plant of the same type, size and energy source installed at that location.*

The Extended Years Criteria refers to Apparatus, as defined under "Core Generating Plant" in the Capacity Market Rules as:

*Core Generating Plant – means any combination of generators, turbines and other machinery or devices ("Apparatus") which are connected physically and operated together as part of one Generating Unit which:*

*(a) transform energy from a fuel source into mechanical or electrical form (or both);*

*(b) are driven by water, other than by tidal flows, waves, ocean currents or geothermal sources;*

*(c) convert stored energy into electrical energy or*

*(d) transform energy from an Intermittent Power Source into electrical form.*

We have received feedback from previous ITEs that 8.3.6B (a)(iii) suggests that turbines need to be replaced as new, rather than refurbished, because of the additional provisions of (aa) to achieve the Extended Years Criteria as set out above.

It is the government's understanding that the original policy intent for this section of the Extended Years Criteria was to prevent gaming of long-term Capacity Agreements. However, we are aware that for certain generation technologies it may not be entirely necessary for turbines to be replaced, as opposed to refurbished, for an improvements programme to be completed.

Therefore Rule 8.3.6B no longer accurately defines a way to determine significant refurbishment work for all CMU types, which may be preventing potential Capacity Providers from bidding for Extended Years Criteria.

The government is proposing to add the word "either" at the end of the first line of (a) and to delete "*, where at least one complete generator or turbine is new" at (a) (ii) so* that Rule 8.3.6B(a) would read as follows:

*(a) for each Generating Unit of the CMU, the Core Generating Plant consists of either:*

> *(i) new Apparatus;*

*(ii) both new and rebuilt Apparatus, or*

*(iii) rebuilt and/or previously used Apparatus, provided that the Generating Unit:*

*(aa) has not been used, or been available for use, for the generation and Export of electricity in Great Britain at any time in the three years preceding the Application; and*

*(bb) forms part of a CMU which is installed on a site that has not previously been used for that CMU and benefits from a new Grid or Distribution Connection Agreement;*

**Question 21: Do you agree with the above proposed changes to the Extended Years Criteria? Are there any unintended consequences of these changes?**

## 6.6 Call for evidence on Demand Side Response Generating Technology Classes

On 28 September 2022, the government published the annual open letter inviting stakeholders to share their views as to whether any new generating technologies, which can contribute to security of supply, and which are not already identified as a GTC, should be eligible to participate in future CM auctions.

A number of respondents noted the global increase in vehicle-to-everything (V2X) projects (a form of domestic DSR) over the past year, particularly projects which are operating commercially. The government stated in its response that it would consider how best to assess their potential contribution to security of supply and any future participation in the CM.

Currently there is only one GTC for DSR, which incorporates both domestic, industrial and commercial (I&C), as well as more specific technology types within those categories including electric vehicle fleets (V2X), manual turndown and backup generators.

Consequently, one de-rating factor is applied across all types of DSR, despite it potentially having a wide range of availability profiles. In National Grid ESO's 2023 Electricity Capacity Report,[8] the de-rating factor for DSR was stated as 79%, which some stakeholders have expressed may be higher than certain forms of DSR are able to provide for. Alongside the risk this poses for under delivery, the current system may also risk dissuading DSR providers from participating in the CM if they feel they won't be able to meet their contracted capacity.

The government is considering whether additional GTCs for DSR are required to reduce the risk of under delivery by enabling a more tailored calculation of de-rating factors, or whether those risks are already appropriately managed through the penalty regime. There is however a risk that handling this entirely through the penalty regime means providers may currently be overbidding, or understating their capacity, in order to avoid a potential penalty, both of which are undesired outcomes.

[8] Available at: www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Electricity%20Capacity%20Report%202023.pdf

We are also seeking views on any unintended consequences such GTC changes might have, in particular, how it might affect DSR participation in the CM, innovation within DSR and any aspects of the wider energy system it might interfere with.

There are several potential options for what the creation of multiple DSR GTCs could look like. Two key examples include splitting it out by technology type or splitting it out by duration and utilising a duration limited methodology, as is currently done for storage.

Through this consultation, the government is seeking views on different potential options for implementing multiple GTCs, including welcoming suggestions for options we may not have considered and views on the potential benefits and risks of the different options.

**Question 22: What are your views on the creation of new GTCs for DSR and which new classes should be created? Please provide evidence to support your response.**

# 7. Decarbonising the Capacity Market

## 7.1 Publishing Capacity Market emissions data

As discussed in the 2021 Capacity Market Consultation[9], the carbon emissions values shared on a Fossil Fuel Emissions Declaration, provided by applicants during prequalification, is deemed as 'Protected Information' under Regulation 65(1).

It was previously proposed that we would introduce amendments to the rules to ensure that the disclosure and publication of carbon emissions data by the Delivery Body and the department would be possible.

Some respondents supported the original proposal, but others sought clearer details about the information that would be published or indicated that they would be willing to provide information to the government, but were opposed to public disclosure.

The consultation response, published in June 2021 stated that:

*"We are continuing to engage with the Delivery Body on potential future amendments with respect to the disclosure and publication of carbon emissions data, and have decided that, given the likely implementation timescales and the questions raised by respondents, we will not implement this proposal ahead of the 2021 prequalification period. However, we intend to do so before the 2022 prequalification period. This means that emissions values submitted as part of this year's prequalification process will not be published on the Capacity Market Register*."

The government plan 'Transitioning to a net zero energy system: smart system and flexibility plan 2021[10]' (SSFP) and the recommendations from the Energy Digitalisation Taskforce (EDiT), highlight the importance of transparency on robust carbon emissions reporting, to ensure that electricity markets are aligning with net zero.

Publication of emissions data on the CM Register provides valuable information for investors, industry, policy makers and the public. This may support policymakers in identifying and addressing any gaps in policy that may be distorting markets, hindering investment in low carbon flex or impeding efforts to decarbonise assets. It would also allow government to monitor the impacts of policy to ensure it is having the intended outcomes and providing good value for money for consumers. Making the data available publicly, allows government to use it in public communications and share with industry how it has informed policy decisions.

Furthermore, publication ensures consistency across various government schemes and mechanisms, such as the Emissions Trading Scheme, to support net zero. It also complements the development of a UK Green Taxonomy, which can prove an important tool in enabling the supply of relevant and reliable sustainability information into the market, supporting an increase in financing for activities assisting the transition to net zero and delivering on UK environmental objectives.

[9] Available at: www.gov.uk/government/consultations/capacity-market-2021-proposals-for-improvements
[10] Available at: www.gov.uk/government/publications/transitioning-to-a-net-zero-energy-system-smart-systems-and-flexibility-plan-2021

We intend to ensure the CM is transparent and provides investors, industry, policy makers and the public with access to information that will help facilitate the transition to net zero. This will require us to collate, process and publish carbon emissions information via the publicly available CM Register. We therefore propose introducing amendments to the CM Rules to ensure that the policy intent is properly reflected and that use, disclosure and publication of emissions data by the Delivery Body and the department is possible.

We propose that the following information will be published on the CM Register:

- The Fossil Fuel Emissions declared by the Applicant/Capacity Provider for each Component (over 1MW), including both emissions for components and the figure for total emissions for the CMU;
- Where applicable, the Fossil Fuel Yearly Emissions declared by the Applicant/Capacity Provider for each Component (over 1MW);
- All fuels used to generate electricity as declared within the Fossil Fuel Emissions Declaration (FFED); and
- Where applicable, whether the Combined Heat and Power (CHP), Carbon Capture Utilisation and Storage (CCUS) or Mixed Fuels formulae were applied. For mixed fuels, a list of fuels listed against individual CMU components, with a primary fuel for the CMU as a whole.

**Question 23: Do you have any comments or concerns regarding our proposal to publish the fossil fuel emissions data (as stated above), disclosed in the Fossil Fuel Emissions Declaration on the Capacity Market Register?**

# 8. Assessment of impacts

A number of the proposals included in this consultation were previously considered in the January 2023 CM consultation, including proposals on multi-year agreements for low carbon, low Capex technologies and proposals on Capex thresholds. For further information on the assessment of impacts for these proposals, please see section 5 of the January 2023 CMU consultation.[11]

## 8.1 Addressing challenges faced by batteries in the Capacity Market

The proposal suggests an amendment of Rule 4.4.4 of the CM Rules, to enable Permitted Augmentation of battery storage sites. Throughout their lifespan, battery storage systems degrade in performance over time at the rate that is determined by the depth of charge and discharge, as well as the cycle rate. The generators with long term Capacity Agreements may require augmentation (in the context of replacing battery cells) to ensure they meet Capacity Obligations, particularly for capacity and duration testing obligations with EPT requirements. The other part of the proposal addresses concerns regarding the impact on EPT obligation level as a result of secondary trading. This adjusts secondary trading requirements in relation to EPT testing to better align with requirements for other technologies.

Battery storage is becoming an increasingly important technology for meeting system reliability, whilst reducing power sector emissions. The de-rated battery storage capacity entering the Capacity Auctions has increased from 0.1GW in the T-4 2018/19 to 1.6GW in the T-4 2026/27, with more than 35GW of battery storage currently in the planning pipeline. For the 2026/27 delivery year, there is 3GW of de-rated battery storage capacity, with long term contracts ranging from 3 to 15 years, and 0.5 GW entering the fifth year of their contract in delivery year 2024/25. As the amount of battery storage capacity in the CM increases and ages, ensuring that this capacity stays operational and part of the CM becomes more important, as it reduces the risks of terminations and increases investor confidence. Feedback shared in the January 2023 consultation indicated concerns amongst battery storage units over EPT obligations, with views shared that the test may present a termination risk over long term agreements due to battery degradation.

CMUs are required to perform to the full adjusted connection capacity in EPT tests, even if the Capacity Obligation is partially traded via secondary trading. This prevents the benefits of secondary trading from being realised as there is little incentive to use it to manage battery degradation risks.

We expect that implementation of the proposed measures would enable the battery storage CMUs to better manage their battery degradation profiles and demonstrate the capacity requirements of the EPT throughout their lifetime. This is expected to decrease the risks of failing EPT testing and terminations of agreements. The adaptation of EPT requirements is expected to remove the barriers to secondary trading, caused by EPT requirements.

[11] Available at: www.gov.uk/government/consultations/capacity-market-consultation-strengthening-security-of-supply-and-alignment-with-net-zero

Reducing the amount of de-rated capacity lost through EPT terminations would prevent the need to re-procure terminated capacity in the future Capacity Auctions. We are unable to quantify these impacts at present without knowing what future auction targets will be and the site specifications that determine the scale of possible benefits of these proposals.

Some generators may be unable to benefit from the changes to the definition of Permitted Augmentation due to the specifics of their sites. For those units able to augment battery storage sites, the costs associated with the augmentation over the lifetime of the assets might cause increases in the bid prices of battery storage CMUs. However, this could be offset if the developers currently price in the risk of agreement terminations into their bids.

Furthermore, the increased flexibility of maintaining the asset will also remove barriers inhibiting participation for these sites in the CM, thus potentially increasing liquidity and lowering clearing prices in future auctions, as well as increase the flexible capacities available to provide wider system services. These proposals aim to maximise the benefit realised from battery storage participation in the CM and to reduce the barriers to participation. Overall, these proposals will likely increase total capacity participating in the CM, by providing routes to manage degradation for batteries. This would contribute to improved system reliability and greater market liquidity. Removing the barriers to the participation in the CM will have beneficial impacts on the investment case for the battery storage systems, thus potentially increasing their rate of deployment, which would help meet government decarbonisation objectives. On balance, we believe that this proposal provides an overall benefit to CM objectives, as well as to government's decarbonisation objectives.

## 8.2 Projects with long build times

The proposed implementation of the Declared Additional Long Stop aims to offer a route for projects with build times greater than the four years currently accepted in the CM, without disincentivising participation in T-4 auctions, or threatening security of supply. We expect that only a small number of developers will opt-in for the Declared Additional Long Stop . Most of the low carbon technologies participating in the CM (such as wind, solar, and battery storage) have relatively short construction times that are under four years. The technology with the longest assumed construction period is pumped hydro storage. As most of the pumped storage in the GB has been built between 1960s and 1980s, several sites might need to undergo refurbishment in the future to continue operating.

The likely security of supply impacts of the measure are expected to be small as the proposal is designed to have delivery protections in place to minimise the risks and uncertainties of non-delivery of acquired capacity. Generators would need to demonstrate the requirement for additional construction time and would forego 24 months of contracted CM revenue, which should disincentivise speculative use of the policy. Capacity that would otherwise be ineligible without the Declared Additional Long Stop for the CM may enter auctions. There will likely be a minor positive impact on the auction liquidity and thus increased opportunity for auction competition.

The risks of gaming are expected to be minor. This is due to the applicability criteria and operational parameters set for the Declared Additional Long Stop . Delivery protections and a lack of incentives present with the Declared Additional Long Stop proposal, aim to ensure it is only used when strictly necessary to facilitate participation in the CM. The developers may choose to account for the foregone CM revenue by submitting higher bid prices in the auction. However, as these developers would not be otherwise able to participate in the auction in the

absence of the Declared Additional Long Stop , the impact of higher liquidity would likely outweigh the impact of higher bid prices on auction outcomes. The relative strength of these effects depends on the overall auction targets and the liquidity of the auction.

The proposal also consults on the status of CMUs as a Price Taker or Price Maker when using the Declared Additional Long Stop . A Price Taker status would prevent Declared Additional Long Stop units from entering bids above £25/kW and thus likely prevent them from determining the auction outcome, similar to the existing assets. Limiting bid prices to the price taker threshold presents a risk to the developers that the auction clearing prices might not be high enough, which could disincentivise them from participation in the auction.

The Declared Additional Long Stop would require participants to prove eligibility within the prequalification stage of T-4 auctions. As the units declaring intended use of Additional Long Stop Date would not be expected to contribute to meeting the target in the auction Delivery Year, this might require additional adjustments on top of existing considerations during the target setting process. The adjustments made to the targets after prequalification closes do not allow for the usual market signals to be sent to potential CM participants and would be unable to incentivise additional capacity to come forward.

# Part A: Consultation questions list

**Question 1: Do you agree with the proposed changes to the timelines for ESC Volume Ve-allocation activities and the Volume Re-allocation window? Are there any unintended consequences of these changes?**

**Question 2: Do you have any comments on supporting changes to other settlement activities that may be required following the changes to Regulation 41(2)? Do you have any comments on the correction to Regulation references in Rule 10.5?**

**Question 3: Do you agree with the proposed temporary rule change to operational requirements for Existing Generating CMUs which are mothballed? Does this proposal create any unintended consequences?**

**Question 4: Do you agree with the proposed amendment to Regulation 50 so that it aligns with the policy intent and CM Rules, in that failure to meet EPTs are to be treated in the same ways as failure to meet SPDs across suspension of payments? Does the proposed amendment have any unintended consequences?**

**Question 5: Do you agree with the proposed amendment to add further detail to Regulation 16 (2) to clarify that that a CMU can only be prequalified where no CfD has been awarded in respect of it, even if the CfD is for a later delivery period, unless the CfD in question has expired or been terminated? Does the proposed amendment have any unintended consequences?**

**Question 6: Do you agree with the proposals that we have put forward to help address barriers faced by storage CMUs in managing battery degradation? Specifically:**

- **The introduction of a definition of Permitted Augmentation under Rule 4.4.4; and**
- **Enabling the level of EPT requirement to be appropriately reduced when secondary trading occurs.**

**Question 7: Do you foresee any unintended consequences which could arise from the proposals set out in question 6?**

**Question 8: Do you believe that other supporting changes are required to accommodate the proposals set out in question 6, for example changes to testing arrangements?**

**Question 9: Noting the considerations outlined in section 6.1 of the consultation, do you have any further comments or concerns regarding the retention of the EPT framework for storage CMUs? Are there any further required changes which have not been identified or considered?**

**Question 10: Do you have any further views on the proposed 3-year or 9-year agreement proposals?**

**Question 11: Do you agree with the proposed introduction of Declared Long Stops, both 12- and 24-month options, to accommodate low carbon projects with long build times in the CM?**

**Question 12: Does the option to declare a (12-month) Long Stop Date provide developers with any benefits versus relying on the existing Long Stop Date process?**

**Question 13: Does a Declared Additional (24-month) Long Stop Date, Rule 6.7.7 (if applicable) and the existing 120 working days from a Notice of Intention to Terminate provide sufficient time for slippage, and if not, what would be an appropriate amount of time which would need to be considered?**

**Question 14: Do you foresee any unintended consequences which could arise from the introduction of the declared long stop dates?**

**Question 15: Do you agree with the proposed eligibility criteria for CMU's seeking to utilise the Declared Additional (24-month) Long Stop?**

**Question 16: Do you agree with the proposed operational conditions for a Declared Additional (24-month) Long Stop?**

**Question 17: Do you have views on the relationship between a CMU utilising the Declared Additional (24-month) Long-Stop and its role as Price Maker versus Price Taker in the CM auction(s)?**

**Question 18: Are there any further required changes for the implementation of a Declared Additional (24 month) Long-Stop which have not been identified?**

**Question 19: Do you agree with the proposal for partial redaction of addresses on the CM registers for domestic DSR CMU components?**

**Question 20: Do you agree with our proposed changes to component reallocation? If so, what percentage do you propose would be appropriate to set as the new limit?**

**Question 21: Do you agree with the above proposed changes to the Extended Years Criteria? Are there any unintended consequences of these changes?**

**Question 22: What are your views on the creation of new GTCs for DSR and which new classes should be created? Please provide evidence to support your response.**

**Question 23: Do you have any comments or concerns regarding our proposal to publish the fossil fuel emissions data (as stated above), disclosed in the Fossil Fuel Emissions Declaration on the Capacity Market Register?**

# Part B: Ten-year Review call for evidence

This section sets out the call for evidence to inform the government's statutory Ten-year Review of the Capacity Market (CM).

# 9. Introduction

The Energy Act 2013[12] and associated secondary legislation and CM rules set out a requirement for the government to publish a review of the CM every five years. The first Five-year Review was published in 2019, and the second (referred to as the Ten-year Review) is due to be published by summer 2024.

As per legislation, this review must:

- Set out the objectives intended to be achieved by the CM
- Assess the extent to which it is achieving those objectives
- Assess whether those objectives remain appropriate and, if so, the extent to which they could be achieved in a less burdensome way

The call for evidence contained in this part of the document seeks views and evidence on the performance of the CM for the five-year period since the previous Five-year Review was published in 2019, to inform the Ten-year Review.

[12] See link for the Energy Act 2013: www.legislation.gov.uk/ukpga/2013/32/contents/enacted

# 10. Background and context

## 10.1 The objectives of the Capacity Market

As set out in the introduction to Part A of this document (see section 1), the CM[13] is at the heart of the government's strategy for ensuring a secure and reliable electricity system in Great Britain. Introduced in 2014, the CM provides all forms of capacity capable of contributing to security of supply with incentives to be available on the system to deliver capacity during periods of electricity system stress.

It is technology neutral, with existing and new capacity competing to obtain agreements under which they commit to making their capacity available when needed, in return for guaranteed payments.

Since 2014, the CM has helped to ensure adequate investment into reliable capacity (on both the supply and demand side) and has contributed to investment in just under 17.5GW of the new, flexible capacity that is needed as we transition to a net zero economy.

The CM has three main objectives:

- Security of supply: to incentivise sufficient investment in capacity to ensure security of electricity supply
- Cost-effectiveness: to ensure the most efficient level of capacity is secured at minimum cost to consumers
- Avoiding unintended consequences: to minimise design risks and complement the decarbonisation agenda

The CM allows eligible existing or new electricity generators, interconnectors, and DSR providers to bid into annual competitive auctions, either one year or four years ahead of the 'delivery year'. Successful bidders secure a Capacity Agreement which obliges them to provide electricity capacity at times of system stress or, in the case of DSR providers, to reduce their demand for electricity. Capacity Agreement holders are paid the auction's clearing price for each de-rated kilowatt (kW) of capacity they have committed to make available throughout the delivery year in case of system stress. Capacity Agreement holders face financial penalties if they fail to deliver capacity when required to do so.

Several Capacity Auctions have been held since 2014, with the results of all four year ahead (T-4) auctions summarised in Table 1.

[13] For a detailed description of the Capacity Market, see: https://www.gov.uk/government/collections/electricity-market-reform-capacity-market

**Table 1: Summary of all T-4 Capacity Market Auctions to date**

| Date | Capacity Secured (GW) | Price £/KW/Year | Total Auction Cost £M |
|---|---|---|---|
| Dec 14 T-4 | 49.3 | £19.40 | 956 |
| Dec 15 T-4 | 46.4 | £18.00 | 835 |
| Dec 16 T-4 | 52.4 | £22.50 | 1,179 |
| Jan 17 EA | 54.4 | £6.95 | 378 |
| Feb 18 T-4 | 50.4 | £8.40 | 423 |
| Jan 20 T-3 | 45.1 | £6.44 | 290 |
| Mar 20 T-4 | 43.7 | £15.97 | 699 |
| Mar 21 T-4 | 40.8 | £18.00 | 735 |
| Feb 22 T-4 | 42.4 | £30.59 | 1,300 |
| Feb 23 T-4 | 43.0 | £63.00 | 2,700 |

Notes:

T-4: Four year ahead auction

EA: Early Auction, introduced a year early in response to emerging security of supply concerns

T-3: Three year ahead auction, due to the suspension of the CM in 2019

Capacity secured: excludes terminated Capacity Agreements

## 10.2 Requirement to review the Capacity Market every five years

The CM was created as part of the government's policy of Electricity Market Reform (EMR) through the Energy Act 2013[14] (the Act), the Electricity Capacity Regulations 2014[15] (the Regulations) the Capacity Market Rules 2014[16] (the Rules), and the Electricity Capacity (Supplier Payment etc.) Regulations 2014[17] (the Supplier Payment Regulations).

The energy policy and market landscape are continually evolving, making it important for the government to periodically review the CM to ensure it is fit for purpose. To this end, the Act, the Regulations and the Rules each contain a requirement for the government to carry out five-yearly reviews of the policy and its implementing legislation to assess. The statutory requirement is that the review must:

[14] www.legislation.gov.uk/ukpga/2013/32/contents/enacted
[15] www.legislation.gov.uk/uksi/2014/2043/contents/made
[16] www.ofgem.gov.uk/publications-and-updates/publication-consolidated-capacity-market-rules-2018
[17] www.legislation.gov.uk/ukdsi/2014/9780111123119

- Set out the objectives intended to be achieved by the CM legislation
- Assess the extent to which it is achieving those objectives
- Assess whether those objectives remain appropriate and, if so, the extent to which they could be achieved in a less burdensome way

The conclusions of the reviews must be published in a report laid in Parliament not more than five years since the publication of the previous review.

The government regularly reviews the performance of the CM through frequent engagement with stakeholders and by assessing the outcomes of auctions. These regular reviews have helped ensure the CM design adapts to the most pressing issues such as: emerging risks to security of supply, facilitating access to new technologies, removing market distortions, and ensuring a level playing field.

As the Act, the Rules and the Regulations all contain a requirement to conduct a five-yearly review and publish a report. In July 2019 the government published one single five-year review of the CM[18] (the 'Five-Year Review') to meet these requirements and avoid duplication of overlapping content. The Ten-year Review will similarly take the form of one single document, which we aim to publish in summer 2024.

Additionally, Ofgem has established an annual process for receiving and responding to industry requests for changes to the CM Rules[19] (which set out the operational and administrative arrangements) in light of operational experience.

## 10.3 Objectives for the Ten-year Review

As set out above however, the policy and market landscape are continually evolving, making it important for the government to periodically conduct a more holistic formal review of the CM to ensure it is fit for purpose.

The purpose of this review (the Ten-year Review) is to meet that statutory requirement by answering the following questions:

- **To what extent has the CM achieved its objectives?**
- **Do the objectives of the CM remain appropriate?**
- **Can the CM's objectives be achieved in the future in a way that imposes less regulation?**

We aim to publish a report by summer 2024 which will outline the government's assessment in relation to each of the high-level questions above and, if considered necessary, make recommendations for appropriate changes to the CM's design.

[18] www.gov.uk/government/publications/capacity-market-5-year-review-2014-to-2019
[19] See link for the Capacity Market Rules www.gov.uk/government/publications/capacity-market-rules

## 10.4 Context for the Ten-year Review

Since the introduction of the CM as part of EMR in 2014, the policy, economic and technological landscape in which it operates have shifted significantly.

In June 2019, the UK became the first major economy to set a legally binding target to reach net zero greenhouse gas emissions by 2050. The Secretary of State has a statutory duty to ensure that this target, and the series of five-yearly, interim decarbonisation targets, set out in the UK's carbon budgets as steppingstones to achieving net zero, are met.

Published shortly after this in July of that year, the first Five-year Review of the CM found that the CM was working effectively against its three objectives, namely: incentivising sufficient investment in capacity to ensure security of electricity supply, ensuring the most efficient level of capacity is secured at minimum cost to consumers, and avoiding unintended consequences. The Five-year Review concluded there was a strong need for continuation of the CM as a guarantee of system reliability and committed to making further incremental improvements to its design.

Several high priority improvements to the CM were identified in the Five-year Review and introduced through legislative changes resulting from the 2020 Consultation on Future Improvements, Emissions Limits and Coronavirus Easements ('the Future Improvements Consultation').[20] This included introducing carbon emissions limits, reducing the Minimum Capacity Threshold, and making changes to better facilitate DSR participation.

Building on the Five-year Review, government issued a Call for Evidence (CfE) in July 2021 seeking views on proposals to better align the CM with the government's net zero targets and improve delivery assurance across the scheme.[21] This process also signalled the beginning of government's engagement on the Ten-year Review. The CfE received 49 responses, and the government published a summary of these responses in July 2022.[22] Respondents to questions regarding future market design were broadly supportive of the continuation of the CM and positive about its performance since implementation. Feedback was also shared regarding potential areas for improvement, for example regarding administration of the scheme and alignment with net zero.

In October 2021, the government published the Net Zero Strategy which set out our plans for delivering the 6th Carbon Budget and included a commitment to deliver a decarbonised electricity system by 2035, subject to security of supply.

The global easing of COVID-19 restrictions in late 2021 contributed to a surge in wholesale gas prices, which in turn caused a significant increase in wholesale electricity prices. This trend was exacerbated in February 2022 when Russia illegally invaded Ukraine, which led to higher gas and power prices across Europe and increased concerns about energy security for winter 2022/23 and beyond.

The government took swift action to bolster electricity security of supply, including pre-emptively procuring the maximum amount of available capacity in the CM's 2022/23 T-1 auction held in February 2022 in response to the wider range of uncertainties for energy

[20] www.gov.uk/government/consultations/capacity-market-proposals-for-future-improvements
[21] www.gov.uk/government/consultations/capacity-market-2021-call-for-evidence-on-early-action-to-align-with-net-zero
[22] www.gov.uk/government/consultations/capacity-market-2021-call-for-evidence-on-early-action-to-align-with-net-zero

security. The government also requested that the National Grid Electricity System Operator (NGESO) engage with the operators of certain coal plants to temporarily extend their operations to provide additional capacity in winter 2022/23 if needed, resulting in around 2GW of additional capacity remaining on the system.

As well as taking immediate actions to bolster security of supply, in April 2022 the government set out its vision for improving GB's energy security over the medium and longer term in the British Energy Security Strategy (BESS).[23] The BESS includes ambitious new targets on the buildout of offshore wind and new nuclear capacity, and increased targets on hydrogen production.

The BESS also announced the Review of Electricity Market Arrangements (REMA), which is a major review of Britain's electricity market design intending to radically enhance energy security and to help deliver the government's world-leading climate targets whilst reducing exposure to international gas markets.

REMA aims to assess, identify, and implement options for reform of the current electricity market and trading arrangements required for an electricity system of the future. The review is considering options for reforming the electricity markets and policies to promote investment in and operation of electricity generation assets, including the CM.

REMA encompasses all electricity related (non-retail) markets, and all technologies are within scope to the extent that they currently do, or potentially could, participate in these electricity markets. In 2022, government consulted on a range of issues and options related to electricity market reform across several market dimensions,[24] including the CM.

The consultation received 225 responses from a range of electricity market participants and wider stakeholders. A summary of responses was published this year[25] to update stakeholders on the key feedback received. The majority of respondents to questions regarding options to address Capacity Adequacy were supportive of reforms to the CM to better align it with decarbonisation objectives. The intention is to publish a second REMA consultation in 2023.

[23] www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy
[24] www.gov.uk/government/consultations/review-of-electricity-market-arrangements
[25] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1140189/review_of_electricity_market_arrangements_summary_of_responses.pdf

# 11. REMA and approach to the Ten-year Review

As REMA is considering larger strategic questions, including the need for a CM and how a future CM can better meet government objectives on security of supply and delivering net zero, the Ten-year Review will focus on a limited set of questions to meet the statutory requirements, but will feed into the thinking on the wider REMA process.

Following the 2021 call for evidence on the CM, the government commissioned an independent process and impact evaluation of the CM in September 2021, conducted by Technopolis Ltd. The Technopolis report, published alongside this document, presents independent findings which will be used by government to inform the Ten-year Review of the CM.

The Technopolis evaluation aimed to:

- Determine whether and how the CM has historically met its objectives
- Provide evidence on the potential need for future market intervention to ensure security of supply and how that compares to the current scheme design
- Provide learning about how the individual components of the scheme could be included in any future market interventions

The Ten-year Review will be supported by a separate review conducted by Ofgem of the areas of the CM design that are covered in the CM Rules.[26] Ofgem will determine the detailed content and process of this review, building on the annual reviews they have undertaken to date. Ofgem will shortly announce arrangements for its review of the CM Rules.

[26] See Regulations 81(5) which states "In carrying out the review under paragraph (1)(a), the Secretary of State must take account of any reports published by the Authority under regulation 82 or provided to the Secretary of State under regulation 83".

# 12. Call for evidence questions to inform the Ten-year review

A cost-effective approach to decarbonising the power sector will require significant deployment of flexible, low carbon capacity (CCUS, hydrogen, storage etc.) to complement intermittent and inflexible low carbon generation. The REMA programme will consider wider reaching reforms, including reforms to the CM for potential implementation in the longer term. The make-up of Great Britain's capacity mix has changed significantly in recent years. Since 2010, renewable capacity has grown fourfold, increasing the quantity of intermittent and inflexible capacity on the system, whilst generation from coal has declined from around 40% to less than 2%.[27] This has introduced challenges to ensuring security of supply for those periods when renewable output is lower, such as still winter nights. Additionally, as thermal capacity approaches the end of its operational life there may be further effects to consider on reliability.

In this CfE we return to these challenges and account for developments, set out in section 10 of this document, which have occurred since the publication of the Five-year Review, whilst being mindful that decisions on the future of the CM will be taken as part of the REMA programme in due course.

As REMA is considering capacity adequacy options, we welcome your feedback on the following questions for the purposes of gathering further evidence for the Ten-year Review:

## 12.1 Objectives of the Capacity Market

**Question 1: To what extent, how and why has the CM been contributing to its intended objectives?**

The objectives of the CM, as set out in its original impact assessment,[28] are:

- Security of Supply: to incentivise sufficient investment in capacity to ensure security of electricity supply
- Cost-effectiveness: to implement changes at minimum cost to consumers
- Avoid unintended consequences: to minimise design risks and complement the decarbonisation agenda

**Question 2: How have the different elements of the CM achieved the objectives above?**

The main elements of the CM can be broken down into auction design, parameter setting, agreement management, penalty system and termination fees. We would welcome your views on how these elements deliver or impact on the CM's stated objectives.

[27] www.gov.uk/government/statistics/electricity-section-5-energy-trends
[28] See CM impact assessment www.gov.uk/government/uploads/system/uploads/attachment_data/file/354677/CM_-_revised_IA_and_front_page__September_2014__pdf_-_Adobe_Acrobat.pdf

**Question 3: To what extent would you agree that over the last 5 years the CM has achieved these objectives? Please supply as much evidence as possible to support your answer**.

**Question 4: Have these objectives been equally achieved or has the CM performed better against some objectives than others, and if so, what are the main reasons for your view?**

**Question 5: Do you agree that the objectives of the CM are still appropriate?**

The last 5 years have seen significant shifts in the GB and global energy markets and led to associated adjustments in the CM to meet this changing environment. Given the current climate, are the CM objectives still appropriate? Please explain your views.

Understanding whether the CM objectives remain appropriate is a statutory requirement of the Ten-year Review. Government will consider the evolving system needs, such as the implications of a growing proportion of intermittent generation and new demand profiles, and what aspects need to be addressed to ensure security of supply. Our expectation is that, subject to the conclusions from the REMA programme, the objectives will need to evolve and that we will need to demand more of capacity beyond simply delivering during System Stress Events, particularly with respect to supporting decarbonisation.

## 12.2 Security of supply

**Question 6: To what extent do existing delivery assurance mechanisms in the CM achieve the CM's objective of ensuring security of supply?**

The above question is particularly concerned with the delivery assurance mechanisms that are delivery milestones, testing arrangements, penalties, termination fees and credit cover requirements in the CM. We welcome your views as to their appropriateness for achieving security of supply.

**Question 7: To what extent has the CM incentivised sufficient investment in capacity to ensure security of electricity supply?**

There have been no System Stress Events declared to date and the low instances of Capacity Market Notices (12 since 2016) and non-zero Loss of Load Probability (LOLP), are an indication that the security of supply objective of the CM is being met. However, 10 of the 12 Capacity Market Notices have occurred between 2020 and 2022, with 6 occurring in 2022 alone, partially as a result of record wholesale electricity prices.

**Question 8: What are your views on the resilience of the CM to both longer term and shorter term energy trends?**

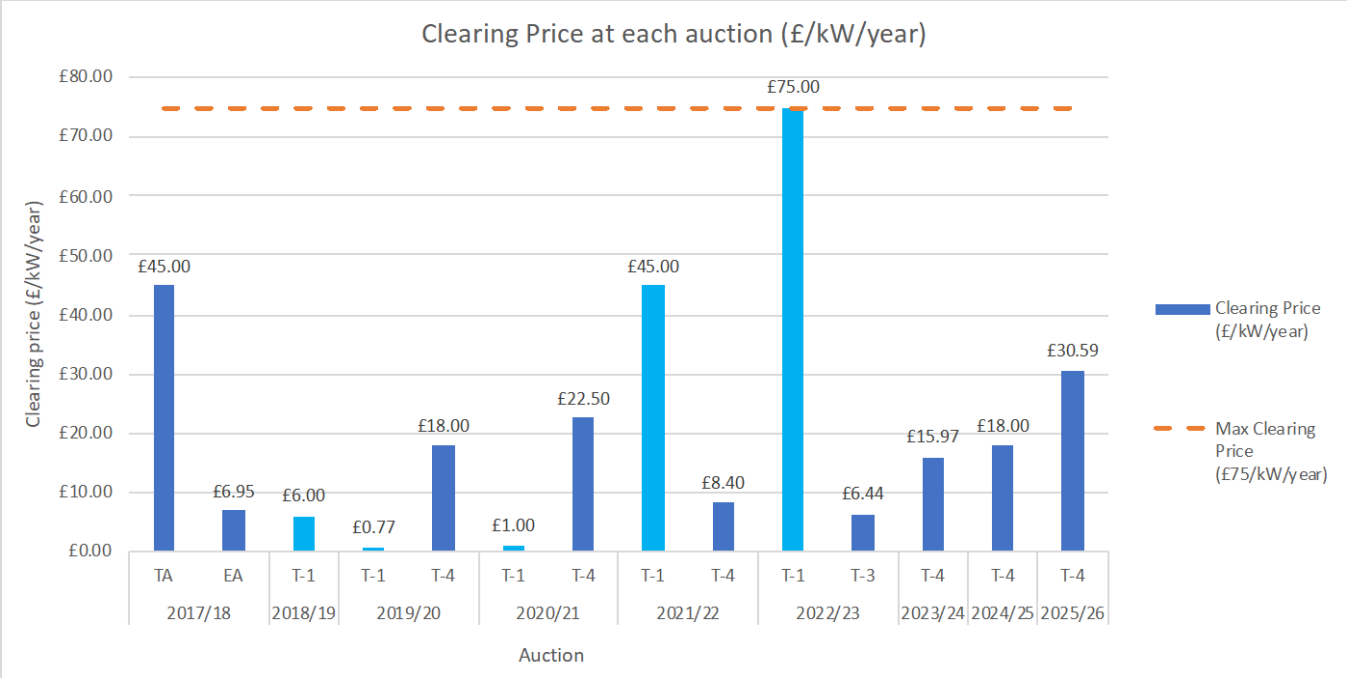
Please provide evidence to support your views and suggestions on how these could be addressed.

# 12.3 Cost effectiveness

**Question 9: To what extent does the CM reduce the cost of capital and investment risks for CM participants?**

It is noted that CM clearing prices should not be considered in isolation as providers and new build developers view the price signal over a medium to long term time horizon (5 to 10 year price signal).

**Figure 1: Clearing price at auctions**




Source: Technopolis using data from Capacity Auction Results

Figure 1 shows that clearing prices were initially low but have increased in recent years (T-1 auction results for 2022/23 cleared at the price cap of £75/kW/year).

According to the independent Technopolis report, low clearing prices may signal the scheme's cost effectiveness when compared to the value of lost load,[29] but another perspective is that the real value of the CM is observed in the certainty and assurances it provides for security of supply. A long term signal enables longer forward planning, which theoretically allows for a reduction of cost. However, it should be noted the primary factor impacting the costs of energy in recent years has been the increasing price of gas on international markets, which currently acts as the price setter in the GB electricity system.

**Question 10: To what extent would you agree with the above statement that low clearing prices signal the scheme's cost effectiveness when compared to the value of lost load?**

**Question 11: What are your views on the effectiveness of the controls and delivery assurance frameworks within the CM to mitigate against gaming and the potential abuse of market power?**

[29] Value of lost load is valued for the GB system at £17,000/MWh.

Please provide evidence to support your views and suggestions on how these could be addressed. We also welcome views on any other ideas you may have on how to improve the cost effectiveness of the CM.

## 12.4 Avoid unintended consequences

Distortions in competition can undermine achievement of the CM's objectives and have broader, undesirable consequences which, given capacity can win agreements of up to 15 years, can persist for a long time.

**Question 12: Are there distortions in the interaction of the various markets (wholesale, ancillary, CM), or their charging arrangements, which impact the effectiveness of the CM?**

Please provide evidence to support your views and suggestions on how these could be addressed.

As set out above, over the past five years the government has put in law a target to reach net zero greenhouse gas emissions by 2050 and set out its Net Zero Strategy which includes a commitment to a fully decarbonised power system by 2035, subject to security of supply. To this end, we have introduced a range of reforms to the CM to align it with net zero, including the introduction of emissions limits in 2020, and the policies we consulted on in January 2023 and in Part A of this document, to address the barriers that low carbon technologies face to accessing the CM.

REMA is considering the broader question of how our electricity market arrangements can enable the transition to net zero, and we have set out in Part A of this document a range of measures to support low carbon technology in the CM. In this context, we welcome your views on how the existing rules and regulations within the CM supports the transition to net zero.

**Question 13: What are your views on the effectiveness and operation of the existing rules within the CM to support the transition to net zero? (You may want to consider emissions limits, and barriers faced by low carbon technology in accessing the CM). Please provide evidence to justify your answer.**

**Question 14: Are there any other improvements to the CM that would help support the transition to net zero? Please provide evidence to justify your answer.**

## 12.5 Governance arrangements

The CM's existing institutional framework, setting out the responsibilities of the government, Ofgem, the EMR Delivery Body (National Grid ESO) and the Settlement Body (the Electricity Settlements Company) is outlined below.[30]

[30] See also https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/448153/Roles_and_responsibilities_under_the_Capacity_Market.pdf

### 12.5.1 The government

The government introduced the CM and is responsible for its strategic oversight and the policy framework. It is responsible for any changes to the Regulations which govern the scheme. The Regulations include, for example, general eligibility criteria for prequalification to bid in CM auctions, functions of the EMR Delivery Body for delivery of the CM, and the settlement of payments. Government also takes final decisions on the parameters for the auctions, including the target level and de-rating factors, based on extensive technical advice and recommendations from National Grid ESO. The Secretary of State also hears appeals made against Capacity Agreement terminations.

### 12.5.2 The Authority – Ofgem

The government made the first set of CM Rules, however the government or Ofgem may also initiate changes to the Rules. The Rules generally set out the operational and administrative detail of the CM. Ofgem has developed a process for both receiving change requests to the Rules and making changes to them. When considering changes to the Rules, Ofgem is bound by a set of objectives set out in the Regulations, which ensure transparency and confidence in the governance of the CM. Ofgem is also responsible for resolution of disputes if the Delivery Body and an applicant remain in dispute regarding decisions on prequalification, rectifying the CM Register, a Capacity Agreement or the issuing of a Termination Notice. Ofgem also oversee National Grid ESO's compliance with their CM duties, as these are generally enshrined in National Grid ESO's operating licence, for which Ofgem as the regulator is responsible.

Ofgem have established the Capacity Market Advisory Group (CMAG) to play a role in developing, analysing, prioritising and making recommendations to Ofgem for changes to the Capacity Market (CM) Rules. The CMAG comprises of impartial expert Capacity Market participant members as well as other key stakeholders such as consumer groups.

### 12.5.3 The EMR Delivery Body – National Grid ESO

The EMR Delivery Body, National Grid ESO, undertakes the delivery role for the CM. It is responsible for prequalifying auction participants, running the capacity auctions, issuing and monitoring Capacity Agreements and issuing CM Notices. It is also responsible for providing security of supply analysis, including recommendations to government for the auction targets, and for determining de-rating factors for most technology types.

The government has set out the delivery functions of the Delivery Body in secondary legislation. This gives the government certainty about what will be delivered, and a clear basis for Ofgem to manage the Delivery Body’s performance in its delivery role. The government’s independent panel of technical experts has been created to provide independent scrutiny of National Grid ESO’s advice on the recommended amount of capacity to procure at auction.

### 12.5.4 The Settlement Body – the Electricity Settlements Company

The Settlement Body, the Electricity Settlements Company (ESC), provides ultimate accountability, governance and control of both the settlement process and payments disbursed under Capacity Agreements. This includes managing credit cover, capacity payments, penalties, meter verification and monitoring, and secondary trading volume re-allocation. The ESC is a private company owned by the government and limited by shares. The ESC is supported in the delivery of its settlement activities by its settlement services provider, Electricity Market Reform Settlement (EMRS) Ltd, a subsidiary of Elexon.

### 12.5.5 Feedback on governance arrangements

While the current roles of the various delivery parties are set out in law, stakeholder engagement suggests there can be uncertainty at times for auction participants about who is responsible for what.

For example, stakeholders who are keen to see amendments to the auction framework may be unsure whether the issue relates to regulations or rules, and whether they should be discussing with Ofgem or government.

Similarly, stakeholders who have concerns about the way the scheme is being operated may be unsure to whom they should address their concerns and from whom they should seek guidance.

The Ten-year Review provides an opportunity to re-consider the balance of roles and responsibilities between the government and its delivery partners. We welcome views on the effectiveness of existing institutional arrangements and how they can be improved to facilitate a more transparent and cohesive framework.

**Question 15: To what extent do the current governance arrangements support an effective change process? Please provide suggestions on how issues with governance arrangements can be addressed and evidence to support your views.**

**Question 16: To what extent do the defined and allocated roles and responsibilities support effective administration and delivery of the annual CM prequalification, delivery, and payment processes? Please provide suggestions on how any issues can be addressed and evidence to support your views.**

**Question 17: Please provide any suggestions you have for improving the management of fraud and error risk in the CM.**

Please provide evidence to support your views.

## 12.6 Secondary trading

A specific area of interest for the Ten-year Review is secondary trading. The government understands the importance that industry attaches to secondary trading in the CM as a means of risk mitigation. Working with Ofgem and the Delivery Body, we continue to keep the policy on secondary trading under review.

Whilst not specifically covered in the January 2023 CM consultation, government is aware that the industry led Capacity Market Advisory Group (CMAG) has done a significant amount of work looking at perceived barriers to secondary trading for presentation to Ofgem. The purpose of including this section is to set out the government's broad view on secondary trading and to seek further industry input to help guide thinking through CMAG and Ofgem.

The original policy intent behind the establishment of secondary trading in the CM was to provide risk mitigation for Capacity Providers regarding penalties if they are unable to meet their CM Obligation during a System Stress Event. Capacity Providers have the option to trade all or part of their Capacity Obligation for a Delivery Year with other eligible CM participants who meet the 'acceptable transferee' requirements. This enables Capacity Providers to cover periods of unavailability due to planned and unplanned outages of generators or demand side

participants, transferring of the risk of under delivery, which would ordinarily attract penalty payments.

Following the trading of an obligation, the original owner no longer receives Capacity Payments and has no exposure to penalties. The new owner will then start to receive Capacity Payments along with holding the onward accountability and delivery risk. The current requirements placed both on the transferor and transferee in order to trade their Capacity Obligation can be found within the CM Rules.

Secondary trading is managed by the EMR Delivery Body, who must first perform several checks to establish that both parties are eligible to trade within the CM Rules. Capacity Payments are settled by EMRS on behalf of ESC, the Settlement Body.

In March 2023, the EMR Delivery Body presented statistics on secondary trading at CMAG. There has been a total of 814 secondary trades submitted to the EMR Delivery Body, representing just under 9080MW of de-rated capacity. 770, or 95%, of these secondary trades, representing 9466MW, were approved, whilst 44 (5%) were rejected. 30 out of the 44 had multiple rejection reasons. Over 90% of rejected secondary trade applications had subsequent secondary trades approved by EMR Delivery Body (Source: National Grid ESO, CMAG Meeting 6 Papers, slide 29).[31]

Obligations acquired through the auction processes are traded by volume per Settlement Period, but the capacity an Acceptable Transferee can take on is limited by their overall de-rated capacity to ensure any new owner can fulfil the onward delivery commitment, should a period of system stress occur.

Under the current rules, industry have highlighted (via CMAG to Ofgem and directly with the Delivery Body) various restrictions in place that they believe reduce the liquidity of secondary trading, and consequently lead to T-1 auctions not operating efficiently and potentially clearing at a higher market price, impacting consumer's value for money.

However, the government believes that the Capacity Auctions should be the main mechanism through which Capacity Obligations are acquired, as this process is both competitive and transparent. It is acknowledged that the liquidity of the secondary trading market is significantly affected by the relative costs of the T-1 and T-4 auctions.

If a Capacity Provider cannot deliver, and if spare capacity exists, then facilitating secondary trading maintains the security of supply intentions of the CM. However, before any relaxing of the rules around secondary trading, under the well-intentioned guise of increasing liquidity, the Delivery Body would first need to assess the proposal to ensure that any increase in the risk of Capacity Providers gaming the system via speculative bids into the CM can be mitigated. Capacity Providers must first prequalify for an auction and are expected to deliver on all obligations that they win at auction. Reasons for non-delivery resulting in terminations and penalty payments are many and complex and are part of the inherent risk of entering the CM.

The government accepts that it is theoretically possible for a Capacity Provider to qualify for a CM agreement with a purely speculative bid and the intention to secondary trade, which is why there are several CM rules in place designed to mitigate such speculation.

[31] https://cmag.elexon.co.uk/event/cmag-meeting-6/

**Question 18: Considering new, higher risk technologies coming into the CM, does the continued policy intention for secondary trading set out above remain appropriate? If not, why not? Please explain your reasoning.**

We would encourage industry to continue to work with CMAG regarding potential future changes to secondary trading, so that fully worked up proposals that benefit all participants can be sent to Ofgem for consideration.

**Question 19: Are there any further issues on secondary trading that you feel cannot be addressed through CMAG and Ofgem, as they may require significant policy, rules or regulation change? If so, what are these issues and why do you feel they need to be addressed? Please explain your reasoning.**

## 12.7 Overall views on the evaluation

Whilst reading the independent Technopolis report is by no means a requirement for those responding to this call for evidence, for those who have, we are keen to hear your views on the overall findings of the report to help inform our final Ten-year Review publications next year.

**Question 20: What are your views on the findings of the Technopolis evaluation and independent research?**

**Question 21: Do you have any further views based on your experience of the CM's performance, particularly in the last five years but also since its implementation, that we should consider in the context of the Ten-year Review as described above?**

**Question 22: Please provide suggestions on how any issues raised in the report can be addressed and provide evidence to support your views.**

# Part B: Call for Evidence questions list

**Question 1: To what extent, how and why has the CM been contributing to its intended objectives?**

The objectives of the CM, as set out in its original impact assessment, are:

- Security of Supply: to incentivise sufficient investment in capacity to ensure security of electricity supply
- Cost-effectiveness: to implement changes at minimum cost to consumers
- Avoid unintended consequences: to minimise design risks and complement the decarbonisation agenda

**Question 2: How have the different elements of the CM achieved the objectives above?**

**Question 3: To what extent would you agree that over the last 5 years the CM has achieved these objectives? Please supply as much evidence as possible to support your answer**.

**Question 4: Have these objectives been equally achieved or has the CM performed better against some objectives than others, and if so, what are the main reasons for your view?**

**Question 5: Do you agree that the objectives of the CM are still appropriate?**

**Question 6: To what extent do existing delivery assurance mechanisms in the CM achieve the CM's objective of ensuring security of supply?**

**Question 7: To what extent has the CM incentivised sufficient investment in capacity to ensure security of electricity supply?**

**Question 8: What are your views on the resilience of the CM to both longer term and shorter term energy trends?**

**Question 9: To what extent does the CM reduce the cost of capital and investment risks for CM participants?**

**Question 10: To what extent would you agree with the above statement that low clearing prices signal the scheme's cost effectiveness when compared to the value of lost load?**

**Question 11: What are your views on the effectiveness of the controls and delivery assurance frameworks within the CM to mitigate against gaming and the potential abuse of market power?**

**Question 12: Are there distortions in the interaction of the various markets (wholesale, ancillary, CM), or their charging arrangements, which impact the effectiveness of the CM?**

**Question 13: What are your views on the effectiveness and operation of the existing rules within the CM to support the transition to net zero? (You may want to consider emissions limits, and barriers faced by low carbon technology in accessing the CM). Please provide evidence to justify your answer.**

**Question 14: Are there any other improvements to the CM that would help support the transition to net zero? Please provide evidence to justify your answer.**

**Question 15: To what extent do the current institutional arrangements support an effective change process? Please provide suggestions on how issues with governance arrangements can be addressed and evidence to support your views.**

**Question 16: To what extent do the defined and allocated roles and responsibilities support effective administration and delivery of the annual CM prequalification, delivery, and payment processes? Please provide suggestions on how any issues can be addressed and evidence to support your views.**

**Question 17: Please provide any suggestions you have for improving the management of fraud and error risk in the CM.**

**Question 18: Considering new, higher risk technologies coming into the CM, does the continued policy intention for secondary trading set out above remain appropriate? If not, why not? Please explain your reasoning.**

**Question 19: Are there any further issues on secondary trading that you feel cannot be addressed through CMAG and Ofgem, as they may require significant policy, rules or regulation change? If so, what are these issues and why do you feel they need to be addressed? Please explain your reasoning.**

**Question 20: What are your views on the findings of the Technopolis evaluation and independent research?**

**Question 21: Do you have any further views based on your experience of the CM's performance, particularly in the last five years but also since its implementation, that we should consider in the context of the Ten-year Review?**

**Question 22: Please provide suggestions on how any issues raised in the report can be addressed and provide evidence to support your views.**

# Glossary

| Abbreviation/term | Definition |
|---|---|
| Adjusted Load Following Capacity Obligation (ALFCO) | The Capacity Obligation of a CMU which has been adjusted proportionally to the level of service provided, accounting for activities as set out in Rule 8.5.2. |
| Auction clearing price | The price at which the supply of capacity offered by bidders at that price is equal to the volume of capacity required to be secured in the auction. |
| Auction parameters | The parameters of the capacity auction, which are determined by the Secretary of State. This includes the demand curve, the auction capacity target, the price-taker threshold, the price cap and the capital expenditure thresholds. |
| Balancing Services / Balancing Mechanism | The services procured by / mechanism used by National Grid ESO to balance electricity demand and supply across the national transmission network. |
| Capacity | An amount of electrical generating capacity or DSR capacity, usually expressed in megawatts (MW) unless stated otherwise. |
| Capacity Agreement | The rights and obligations accruing to a Capacity Provider under the Regulations and the Rules in relation to a CMU for one or more delivery years. |
| Capacity Auction | An auction held under Part 4 of the Regulations, as a result of which successful bidders are awarded capacity agreements. |
| Capacity Market Notice (CMN) | A signal issued by National Grid ESO four hours in advance that there may be less generation available than expected to meet national electricity demand on the transmission system.<br>Rule 8.4 of the Capacity Market Rules describes the specific obligations to be met by a Capacity Provider, including where a System Stress Event occurs, and the procedures for determining when a System Stress Event has occurred and for issuing a Capacity Market Notice. |
| Capacity Market Rules/ CM Rules (“the Rules”) | The Capacity Market Rules provide the technical detail for implementing the operating framework set out in the Regulations. |
| Capacity Market Unit (CMU) | A unit of electricity generation capacity or DSR capacity that can be put forward in a capacity auction. It is the product that forms the capacity to be procured through the CM. |
| Capacity Market Volume Reallocation (CMVR) | Capacity Providers who have under-delivered against their obligation during a System Stress Event may re-allocate this capacity volume post stress event by trading volume with CMUs who have over-delivered, to reduce the amount of penalty charges they owe. |

| Abbreviation/term | Definition |
|---|---|
| Capacity Obligation | An obligation awarded pursuant to a capacity auction, applying for one or more delivery years, to provide a determined amount of capacity when required to do so in accordance with Capacity Market Rules. |
| Capacity Payment | A payment to a capacity provider under the Regulations for its commitment to meet a Capacity Obligation during a delivery year. |
| Capacity Provider | A person who holds a capacity agreement or a transferred part in respect of a capacity agreement. |
| Capital expenditure thresholds (Capex) | Auction parameters that determine whether a CMU can access a multi-year agreement (either as a refurbished CMU or a new build CMU) based on their amount of capital expenditure (in £/kW). |
| Carbon Capture Utilisation and Storage (CCUS) | The process of capturing carbon dioxide from industrial processes, power generation, certain hydrogen production methods and greenhouse gas removal technologies such as bioenergy with carbon capture and storage and direct air capture. The captured carbon dioxide is then either used, for example in chemical processes, or stored permanently in disused oil and gas fields or naturally occurring geological storage sites. |
| Combined Heat and Power (CHP) | An electricity generating unit that also supplies heat. |
| Connection Capacity | The capacity available to a CMU on the distribution or transmission network. |
| Contracts for Difference (CFDs) | CFDs are 15-year private law contracts between low carbon generators and the Low Carbon Contracts Company. CFDs stabilise revenues for generators at a fixed price level, set by the government (the 'strike price'). Generators receive revenue from selling their electricity into the market as usual, but when the market reference price is below the strike price, they receive a top-up payment. If the reference price is above the strike price, the generator must pay back the difference. |
| Credit Cover | A letter of credit or cash deposit required to be provided by a person (a prequalification applicant, a capacity provider or a supplier) to the Settlement Body. The Settlement Body may draw down on credit cover in certain circumstances set out in the Regulations and the Supplier Payment Regulations, e.g. if the person must pay the Settlement Body a termination fee in relation to the termination of a capacity agreement. |
| Decarbonisation | A process of reducing the amount of carbon dioxide released into the atmosphere. |

| Abbreviation/term | Definition |
|---|---|
| Delivery Assurance | An umbrella term that refers to the framework of checks and balances that are used to ensure that CMUs are available to deliver their Capacity Obligation at the start of and during the delivery year. This includes processes in the lead up to the delivery year, such as termination events and the posting of credit cover, as well as processes within the delivery year such as Satisfactory Performance Days. |
| Delivery Body | The national electricity system operator (i.e. National Grid ESO). |
| Delivery Partners | Refers to Ofgem, the Settlement Body and the Delivery Body. |
| Delivery Year | In relation to a capacity auction, this means the year for which a 1-year Capacity Obligation is awarded, or the first year of the period for which a multi-year Capacity Obligation is awarded. Delivery years run 1st October- 30th September of each calendar year. |
| Demand Side Response (DSR) | DSR is a method of reducing electricity demand. This can be achieved by either reducing demand by switching off assets (see turn-down DSR), or by starting up on-site generators to provide electricity in place of drawing it from the distribution network or transmission network (see behind the meter generation). |
| Demand Side Response (DSR) Tests | Tests carried out to ensure that DSR capacity providers are on track to deliver their Capacity Obligation before the start of the delivery. |
| De-rated Capacity | The capacity that a CMU is likely to be technically available to provide at times of peak demand, which is specific to the CMU's technology type and individual characteristics. |
| De-rating Factor | A factor that is applied to a CMU's capacity to derive its de-rated capacity. |
| Distribution Network | This consists of smaller and lower-voltage 'local' networks (compared to the high-voltage transmission network). It is used to carry electricity from the high voltage transmission network to industrial, commercial and domestic users. |
| Electricity Market Reform (EMR) | A programme created by DESNZ (formerly BEIS/DECC) to deliver secure electricity supply and new low carbon generation. It consists of four mechanisms: Contracts for Difference, the Capacity Market, Carbon Price Support and an Emissions Performance Standard. |
| Electricity Settlements Company (ESC) / Settlement Body | Referred to in the CM legislation as the "Settlement Body". A private limited company owned by the Secretary of State for the Department, established to oversee the settlement of payments to and from suppliers and capacity providers such as the supplier charge and capacity payments. |
| Electricity Systems Operator (ESO) / National Grid Electricity Systems Operator | The organisation operating the national electricity transmission network for GB. |

| Abbreviation/term | Definition |
|---|---|
| Emissions Trading Scheme (ETS) | A method of putting a price on emissions. A cap is set on the total amount of certain greenhouse gases that can be emitted by participants. The cap is reduced over time so that total emissions fall. Within the cap, companies receive or buy emission allowances, which they can trade with one another as needed. |
| Extended Performance Test (EPT) | Requires a CMU from a Storage Generating Technology Class with an agreement awarded after 21 December 2017 to generate continuously at an average of their Connection Capacity multiplied by Technology Class Weighted Average Availability for a number of consecutive Settlement Periods equivalent to the CMU's storage duration. This test is taken at one of the CMU's three Satisfactory Performance Days in the winter of the CMU's first Delivery Year and must be repeated once every three years thereafter. |
| Flexibility | The ability to change generation and/or demand in response to an external signal (e.g. price or contract terms). Flexibility enabling technologies include batteries, demand side response, interconnectors and fossil fuel generators. |
| Fossil Fuel Emissions Declaration (FFED) | Information provided to demonstrate compliance with the carbon emissions limits in respect of relevant Fossil Fuel Components comprised in a CMU.<br><br>Exhibit ZA in the Capacity Market Rules sets out the content and form in which the declaration must be provided. |
| Generator | (i) Any equipment that produces electricity, including equipment which produces electricity from storage; and<br><br>(ii) A business which operates such equipment. |
| Generating Technology Classes (GTC) | means a class of Generating Unit, defined by the technology used to generate electricity, for which the Secretary of State requires the Delivery Body to publish a De-Rating Factor |
| Gigawatt (GW) | A unit of capacity (1000 Megawatts) |
| Independent Emission Verifiers (IEVs) | An individual who independent of the Applicant or Capacity Provider and is engaged by them to check calculations of Fossil Fuel Emissions and suitably accredited. If established in the UK, they must be accredited by the United Kingdom Accreditation Service (UKAS). |
| Interconnector | (i) A physical link that allows for the transmission of electricity across GB's borders; and<br><br>(ii) A business which operates such equipment. |

| Abbreviation/term | Definition |
|---|---|
| Independent Technical Expert (ITE) | A person who is independent of the relevant Capacity Provider and is engaged by the relevant Capacity provider to prepare the technical assessment, report, certificate or commentary required by the Rules to the Required Technical Standard. |
| Kilowatt (kW) | A unit of capacity (1000 Watts) |
| Megawatt (MW) | A unit of capacity (1000 kilowatts) |
| Net Capacity Obligation | Total Capacity Obligation for a CMU following any secondary trades. |
| Net Zero | Refers to a point at which the amount of greenhouse gas being put into the atmosphere by human activity in the UK equals the amount of greenhouse gas that is being taken out of the atmosphere. |
| New build capacity / New build generator / New build generation | Generators that are to be or are being constructed. |
| New Build CMU | A generating CMU that is not built at the time of the relevant capacity auction. |
| Ofgem | A non-ministerial government department and an independent regulator, governed by the Gas and Electricity Markets Authority. Ofgem's powers and duties in relation to the CM are provided for in Chapter 3 of Part 2 of the Energy Act 2013 (c. 32), the Regulations and the Capacity Market Rules, in which it is referred to as "the Authority". |
| Penalty regime | The regime of financial penalties that are applied to capacity providers who do not provide their committed capacity during a system stress event. |
| Prequalification | The process set out in the Capacity Market Rules for the Delivery Body to confirm whether a CMU may bid in a capacity auction. A CMU must meet the requirements specified in the Regulations and the Capacity Market Rules to be prequalified. |
| Prequalification Window | For any Capacity Auction, the period specified in the Auction Guidelines within which applications for prequalification are to be made. |
| Pumped Storage Hydro (PSH) | PSH is a storage technology that stores energy in the form of gravitational potential energy of water, pumped from a lower elevation reservoir to a higher elevation. |
| Review of Electricity Market Arrangements (REMA) | The Government has launched the Review of Electricity Market Arrangements (REMA) following commitment in the British Energy Security Strategy. REMA is a major review into Britain's electricity market design to radically enhance energy security and to help deliver our world-leading climate targets whilst reducing exposure to international gas markets. |
| Satisfactory Performance Days (SPDs) | Days within the delivery year in which capacity providers must demonstrate that they are able to deliver their Capacity Obligation. |

| Abbreviation/term | Definition |
|---|---|
| Secondary Trading | Trading by capacity providers in respect of the Capacity Obligations they hold. Takes the form of obligation trading or volume reallocation. |
| Settlement Period | A period of 30 minutes beginning on an hour or half-hour. |
| System Stress Event (SSE) | An SSE occurs when demand for electricity outstrips supply; it is defined in Rule 8.4.1 of the Rules. |
| Termination | A CMU which meet the criteria for a termination event set out in rule 6.10.1 may have its capacity agreement terminated, as per the procedure set out in rule 6.10.2, resulting in termination fees, as set out in rule 6.10.3. |
| The Electricity Capacity Regulations ("the Regulations") | This refers to the Electricity Capacity Regulations 2014, S.I. 2014/2043, the principal regulations underpinning the CM. |
| T-1 auction | This is the capacity auction held one year ahead of the delivery year, which 'tops up' any capacity secured in the relevant T-4 auction. |
| T-4 auction | This the capacity auction held four years ahead of the delivery year, which secures the large majority of capacity needed in the relevant delivery year |
| Transmission Network | This is the high-voltage electricity network that transmits large quantities of electricity over long distances across the country (cf. distribution network). |
| Unabated (gas) generation | Electricity generation where carbon dioxide from burning natural gas is not captured and stored. |
| UK General Data Protection Regulation (UK GDPR) | The UK implementation of the General Data Protection Regulation. This refers to a series of legal protections concerning the collection and use of personal data. |
| Unproven Demand Side Response (DSR) | DSR that has not yet demonstrated it has the necessary metering in place or demonstrated it can deliver a specified level of capacity. |
| Wholesale electricity Market | The market in which generators sell electricity to suppliers. |
| Winter | A period from 1 October to the following 30 April. |

This consultation is available from: www.gov.uk/government/consultations/capacity-market-2023-phase-2-proposals-and-10-year-review

If you need a version of this document in a more accessible format, please email alt.formats@energysecurity.gov.uk Please tell us what format you need. It will help us if you say what assistive technology you use.