



EUROPEAN
COMMISSION

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COMMISSION DECISION

of 24.10.2019

**on THE AID SCHEME
SA.35980 - 2019/C**

United Kingdom – Electricity Market Reform: Capacity Mechanism

(Text with EEA relevance)

(Only the English version is authentic)

PUBLIC VERSION

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular the first subparagraph of Article 108(2) thereof,

Having regard to the Agreement on the European Economic Area, and in particular Article 62(1)(a) thereof,

Having given notice to the parties concerned to submit their comments pursuant to those Articles¹ and having regard to their comments,

Whereas:

HAS ADOPTED THIS DECISION:

1. PROCEDURE

- (1) Following pre-notification contacts, the United Kingdom (UK) authorities notified to the Commission on 23 June 2014, in accordance with Article 108(3) of the Treaty, of a proposed measure to support capacity providers in the electricity market in Great Britain (“GB”)². That measure is referred to in this Decision as "the measure".
- (2) On 23 July 2014, the Commission decided not to raise objections to the aid scheme establishing the measure on the ground that the scheme fell within point (c) of

¹ OJ C 109, 22.3.2019, p. 3-45

² Northern Ireland is not in the scope of the proposed measure as it has separate electricity market arrangements.

Article 107(3) of the Treaty and was therefore compatible with the internal market³ (“the 2014 Decision”).

- (3) The first auction in the capacity market to which the measure relates (“the Capacity Market” or “CM”) took place on 16-18 December 2014. The auction was for delivery of capacity four years later, i.e. in 2018.
- (4) On 15 November 2018, the General Court of the European Union annulled the 2014 Decision, in its judgment in Case T-793/14 - Tempus Energy and Tempus Energy Technology v Commission (“the GC judgment”). In summary, the General Court considered that, based on the length and circumstances of the pre-notification phase and the lack of appropriate investigation by the Commission at the preliminary examination stage with regard to some aspects of the Capacity Market, more specifically with regard to the role and treatment of demand side response in the notified capacity mechanism, the Commission should have had doubts as to the compatibility of the measure with the internal market. Those doubts should have led it to initiate the procedure provided for in Article 108(2) of the Treaty, thereby allowing interested parties to submit their observations to the Commission and to put the relevant information at its disposal so that it would be better able to assess the Capacity Market’s compatibility with the internal market.
- (5) Additional information was received from the UK on 20 December 2018.
- (6) On 25 January 2019, the Commission appealed the GC judgment (case C-57/19). As the appeal does not have suspensive effect, in order to comply with the GC judgment, the Commission reassessed the CM.
- (7) Following that reassessment, the Commission informed the UK, by letter dated 21 February 2019, that it had decided to initiate the procedure laid down in Article 108(2) of the Treaty in respect of the measure.
- (8) The Commission decision to initiate the procedure (“the Opening Decision”) was published in the *Official Journal of the European Union*⁴. The Commission called on interested parties to submit their comments.
- (9) The UK sent its comments on the Opening Decision to the Commission by letter dated 12 April 2019. The Commission received comments from 35 interested parties. It forwarded them to the UK and gave the UK the opportunity to react. The Commission received the UK’s comments in response by letters dated 7 June 2019, 19 July 2019 and 12 September 2019.
- (10) On 29 March 2017, the United Kingdom submitted the notification of its intention to withdraw from the Union pursuant to Article 50 of the Treaty on the European Union (TEU). In accordance with Article 50(3) TEU, the Treaties are to cease to apply to the withdrawing State from the date of entry into force of a withdrawal agreement or, failing that, two years after the notification, unless the European Council, in agreement with the Member State concerned, unanimously decides to extend this

³ Commission Decision C(2014) 5083 final of 23 July 2014 not to raise objections to the aid scheme for the ‘capacity market’ proposed by the UK (State aid SA.35980 (2014/N-2)) (OJ 2014 C 348, p. 5)

⁴ See footnote [1].

period. The period has been extended twice, last time by European Council Decision (EU) 2019/584⁵, which extended it until 31 October 2019.

- (11) On 11 January 2019, by Decision (EU) 2019/274⁶, the Council authorised the signature of the withdrawal agreement agreed at negotiators' level on 14 November 2018. On 17 October 2019, the European Council endorsed the revised Withdrawal Agreement agreed at negotiators' level. On 21 October, the Council, on a proposal from the Commission⁷, amended Decision (EU) 2019/274 so as to authorise the signature of the revised Agreement. The Union re-confirmed that it stands ready to proceed swiftly with its signature and conclusion in the event that the United Kingdom Parliament approves the withdrawal agreement. Part Four of the withdrawal agreement provides for a transition period starting on the date of entry into force of the agreement, during which Union law is to continue to apply to and in the United Kingdom as laid down therein.
- (12) In any event, this Decision applies only as long as Union law applies to and in the United Kingdom.

2. DETAILED DESCRIPTION OF THE MEASURE

2.1. Overview of the measure

- (13) In 2014, the UK estimated that the electricity market in GB would reach critical levels of generation adequacy around 2017/2018. The UK therefore designed the measure as a capacity market where the System Operator would organise centrally-managed auctions to procure the level of capacity required to ensure generation adequacy.
- (14) The auctions organised under the measure were initially open only to existing and new generators, demand side response (DSR) operators and storage operators. Interconnectors were permitted to participate as from the second auction in 2015.
- (15) Bidders who are successful in the auctions are awarded capacity agreements under which they will receive a steady payment for the duration of the capacity agreement in return for a commitment to deliver electricity at times of system stress if called upon to do so by the System Operator. Financial penalties apply if the capacity provider does not deliver the amount of energy required in accordance with its according to its capacity commitment. The measure is financed through a levy on electricity suppliers.
- (16) The first auction was organised in 2014 for delivery of capacity in 2018. It was followed by three further four-year ahead ('T-4') auctions (in 2015, 2016 and 2017), one one year-ahead ('T-1') auction (in 2017), and two transitional auctions ('TAs') in 2016 and 2017).

⁵ European Council Decision (EU) 2019/584 taken in agreement with the United Kingdom of 11 April 2019 extending the period under Article 50(3) TEU (OJ L 101, 11.4.2019, p.1).

⁶ Council Decision (EU) 2019/274 of 11 January 2019 on the signing, on behalf of the European Union and of the European Atomic Energy Agency Community, of the Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community (OJ L 47 I, 19.2.2019, p.1).

⁷ Commission Proposal for a Council Decision amending Decision (EU) 2019/274 on the signing, on behalf of the European Union and of the European Atomic Energy Community, of the Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community, COM(2019)880 final of 18.10.2019.

- (17) The UK suspended the measure on 15 November 2018 following the GC judgment, mentioned in recital (4) and currently under appeal. The UK confirmed that no further aid would be granted through auctions in the Capacity Market and that payments for the aid granted through the auctions that had already taken place had been halted pending a decision by the Commission to approve the measure.
- (18) Nevertheless, following the GC's judgment, the UK did put in place the following measures:
- (a) A replacement T-1 top-up auction for delivery of capacity in the 2019/20 delivery year was held in June 2019, as a result of which conditional capacity agreements were awarded which were conditional on the State aid approval being obtained and on the necessary procedural steps being taken under the legislation establishing the Capacity Market;
 - (b) Compliance with capacity agreements awarded in previous auctions was still enforced so that, subject to a positive State aid decision, deferred capacity payments could be made to capacity providers who had complied with their obligations during the standstill period;
 - (c) Electricity suppliers were to continue passing on the levy to consumers during the standstill period to ensure they would be in a position to pay outstanding supplier charges in respect of the standstill period fully and promptly if State aid approval were granted; and
 - (d) Prequalification procedures were launched on 22 July 2019 for a T-1 auction (delivery year 2020/2021), a T-3 auction (delivery year 2022/2023) and a T-4 auction (delivery year 2023/2024), each of which was due to take place in the first quarter of 2020.

2.2. Legal basis and government arrangements

- (19) The legal basis for the measure is the UK Energy Act 2013. Secondary legislation in the form of the Electricity Capacity Regulations 2014, the Electricity Capacity (Supplier Payments etc.) Regulations 2014 and the Capacity Market Rules governs implementation of the measure.
- (20) The UK regularly reviews the CM mechanism in the light of feedback received from each auction process. It has also conducted a number of public consultations to make incremental improvements to the regulatory detail of certain specific features of the scheme. The energy regulator (Ofgem) also annually gathers stakeholder views on potential changes to the operational and administrative features of the scheme and makes amendments to the rules. In addition, a more formal and comprehensive review is scheduled to take place every five years, involving both the government and Ofgem, to assess the extent to which the Capacity Market effectively delivers on its objectives and remains the most effective form of intervention to address those objectives. The objectives include considering underlying market failures. In essence, the review consists of the following two stages:
- (a) Ofgem carries out five-year reviews of those areas of the Capacity Market design that are covered in the Capacity Market Rules, looking at the effectiveness of the scheme and whether its existing arrangements are fit for purpose, and
 - (b) the Government assesses the Capacity Market and its objectives from a more high-level perspective and addresses the question of whether the Capacity

Market is still needed in the future or should be phased out and the extent to which the objectives of the Capacity Market could be achieved in way that imposes less regulation. This is informed by the Government's annual internal consideration of whether to run the Capacity Market auction as well as the findings of Ofgem's first stage review. The Government carries out public consultations as part of this review process.

- (21) The UK Government initiated the first five-year review process by publishing a Call for Evidence in August 2018, thus inviting views and evidence at a high level on issues such as whether there is a continuing need for the CM, and the identification of any priority areas where changes should be made. In September 2018, Ofgem published an Open Letter asking for views and evidence on whether the Rules continue to meet their objectives. The final report of the UK's government five-year review was published on 22 July 2019⁸, while Ofgem's final report was published on 31 July 2019⁹. Besides, the Science and Technology Committee of the UK's House of Commons published a report on 22 August 2019 mentioning, among other themes, the GB Capacity Market¹⁰.
- (22) The measure is implemented by the UK Government, Ofgem, the Delivery Body (National Grid – 'NG'), the Settlement Body (a new institution created under the Energy Act 2013, subject to government direction and oversight) and the settlement service provider (Elexon). A brief high-level description of their roles and responsibilities is set out below.
- (23) The UK Government is responsible for the strategic oversight of the Capacity Market and for changes to the Regulations governing the scheme and to ensure continued accountability for key aspects of the Capacity Market design. The Regulations include for example general eligibility criteria for entry to Capacity Market auctions, functions of the System Operator for delivery of the Capacity Market, and the settlement of payments.
- (24) The UK Government designed the Capacity Market Rules, but Ofgem is responsible for implementing them (both the UK Government and Ofgem may amend the Rules). The Capacity Market Rules include technical rules and procedures concerning pre-qualification and capacity auctions, the contents of capacity agreements and the obligations of capacity agreement holders. When considering changes to the Rules, Ofgem is bound by a set of objectives enshrined in the Regulations and the Rules, which ensures transparency and confidence in the governance of the Capacity Market. Ofgem is also responsible for the resolution of disputes raised by applicants about the outcome of pre-qualification.
- (25) The System Operator is the National Grid. It undertakes the delivery role for the Capacity Market, including: providing advice to Ministers on the security of supply outlook and recommending the amount of capacity to auction in order to meet the reliability standard; pre-qualifying auction participants, administering the capacity auctions and issuing the contracts (so-called "capacity agreements") with the successful bidders; developing and administering new supporting procedures such as the provision of Capacity Market warnings.

⁸ <https://www.gov.uk/government/publications/capacity-market-5-year-review-2014-to-2019>

⁹ <https://www.ofgem.gov.uk/publications-and-updates/report-our-five-year-review-capacity-market-rules-and-forward-work-plan>

¹⁰ <https://publications.parliament.uk/pa/cm201719/cmselect/cmsctech/1454/145402.htm>

- (26) The UK Government sets out the delivery functions of the System Operator in secondary legislation, which are ‘relevant requirements’ enforceable by Ofgem. This gives the Government certainty about what will be delivered and a clear basis for Ofgem to manage NG’s performance in its delivery role. A panel of technical experts provides independent scrutiny of NG’s advice on the recommended amount of capacity to auction.
- (27) The UK Government set up¹¹ the Capacity Market Settlement Body (“the Electricity Settlement Company”) to provide ultimate accountability, governance and control of the settlement process and payments disbursed under capacity agreements¹². The Settlement Body is a private company limited by shares owned by the Government as the sole shareholder¹³. It is responsible for setting its own internal governance so that it is able to meet its obligations, but the Government has retained overall control over it¹⁴.
- (28) The UK Government announced the decision to contract functions out to Elexon Ltd. through the Official Journal of the European Union in February 2013. Elexon operates as the settlement service provider, with responsibilities for carrying out calculations and determinations of capacity payments. Elexon’s role as settlement service provider is similar but more limited than the role it currently has under the Balancing and Settlement Code. A contract between the Settlement Body and Elexon outlines the details of the service to be delivered, the cost of that service and performance monitoring arrangements.

2.3. Beneficiaries

2.3.1. Eligibility

- (29) Capacity providers participate in the Capacity Market on the basis of ‘Capacity Market Units’ (CMUs). It is at the CMU level that pre-qualification applications are made, capacity agreements are awarded, the obligations which apply in times of

¹¹ The Energy Act 2013 provides the Secretary of State with the power to make Regulations and Rules establishing the Capacity Market. Section 28(4)(g) of the Energy Act 2013 gives the Secretary of State the power to make regulations about a Settlement Body to administer the settlement of capacity payments or capacity incentives. The regulations made to establish the Capacity Market impose a duty on the Secretary of State to appoint a Settlement Body (regulation 80 of the Electricity Capacity Regulations 2014). The Electricity Settlement Company (‘ESC’) was appointed by the Secretary of State in accordance with this duty.

¹² See article 40 (1) of the Electricity Capacity Regulations 2014 : “A capacity provider (“C”) is entitled [...] to receive from the Settlement Body a capacity payment determined in accordance with this regulation in respect of each month of a delivery year (“month M”) for the capacity committed CMUs for which C was the capacity provider during month M.”

¹³ The Electricity Settlement Company (“ESC”) was incorporated in March 2014 as a company limited by shares, and it is wholly owned by the Secretary of State acting in his/her capacity as its sole Shareholder. The Certificate of Incorporation of the ESC and its constitutional documents including its Articles of Association are publicly available here: <https://beta.companieshouse.gov.uk/company/08961281/filing-history?page=2>

¹⁴ Being the sole shareholder of the ESC, the Secretary of State retains some overall control through steps, which may be taken by the company shareholders, for example passing special resolutions. Additionally, where necessary, the Secretary of State can modify how the Settlement Body performs its functions in respect of the Capacity Market by using the regulation making powers in the Energy Act 2013 to change the regulations, which apply to the Settlement Body. Use of these regulation-making powers is subject to Parliamentary approval. In the most serious of circumstances, the Secretary of State may unilaterally terminate the appointment of the chairperson of the ESC Board of directors and Regulation 80 of the Electricity Capacity Regulations 2014 provides that the Secretary of State may terminate the appointment of the Settlement Body.

system stress are specified and penalties/over-delivery payments are calculated. Generators (both existing and new), interconnectors, storage providers and DSR providers are able to participate.

- (30) Generating units (defined by reference to providing electricity, being capable of independent control, net output measured by half hourly meter(s), connection capacity in excess of 2MW) may participate individually as a single CMU or aggregate with other eligible generating units under the following conditions:
- (a) the units all form part of the same Trading Unit (i.e. power station); or
 - (b) all the units are connected to the system at the same Boundary Point; that is the same site, but the Trading Unit concept does not apply; or
 - (c) the aggregate capacity of all the units is between the minimum (2MW) threshold and 50MW (effectively embedded generation spread across several sites).
- (31) DSR CMUs are defined by reference to a commitment to reduce demand. A DSR provider is defined as being (i) an electricity customer directly; (ii) an entity owning the electricity customer; or (iii) an entity having contractual DSR control over the electricity customer. The commitment must cause the electricity customer to reduce its import of electricity (as measured by half hourly meters) and/or to export electricity generated by on-site generating units owned by the electricity customer. DSR providers can participate individually as a single CMU or aggregate with others. In addition, each component must be connected to a half hourly meter and the provider’s total DSR capacity must be between 2MW and 50MW. Table 1 below shows the results of DSR performance in the auctions held before July 2019.

Table 1: DSR performance in the capacity auctions held before July 2019

	<i>Entered auction (MW)</i>	<i>Won agreements (MW)</i>
2014 T-4	603	174
2015 T-4	673	456
2016 T-4	1,798	1,411
2017 T-4	2,246	1,206
2018 T-4 ¹⁵ (susp.)	2,618	N/A
2017 T-1	1,283	443
2018 T-1 (susp.)	2,124	N/A
2019 T-1 (conditional)	1,333	203

¹⁵ The 2018 T-1 and 2018 T-4 auctions have been suspended following the General Court’s judgement in Case T-793/14. Capacity recorded as ‘Entered auction’ is the amount of capacity that has initially prequalified for these future auctions (some may drop out ahead of the auction itself), see reference to “susp.” in the text

2015 TA	619	475
2016 TA	373	312

- (32) The Capacity Market excludes capacity providers already in receipt of support from other measures. The following providers are not eligible to participate in the Capacity Market:
- (a) Low-carbon generating plants receiving support through the Contracts for Difference (CfDs) or the small scale Feed-In-Tariff;
 - (b) Renewable generators receiving support through the Renewables Obligation (RO), unless they choose to forego receiving RO payments (they are allowed to participate once their RO contracts expire);
 - (c) Plants in receipt of the Renewable Heat Incentive (RHI) – this is because the RHI has been designed to complement the RO and the CfD for renewables;
 - (d) Plants in receipt of funding from the UK Carbon Capture and Storage (CCS) Commercialisation Competition – because the CfD for CCS has been designed to provide them with the additional support needed to be commercially viable;
 - (e) Technologies in receipt of funding from the EU New Entrants Reserve 300, which aims to support emerging low carbon technologies such as CCS and tidal energy as they are also eligible to receive support under the CfD;
 - (f) Plants which were awarded 15 year contracts by NG to form part of the Short-Term Operating Reserve (“long term STOR”) immediately prior to the initial Electricity Market Reform (EMR) policy proposals in 2010, and which chose to maintain them.
- (33) Companies who have participated in the Enterprise Investment Scheme (EIS) and Venture Capital Trust (VCT) schemes are not precluded from participation in the CM, but are subject to a test to ensure they do not receive “double subsidy” (in order to avoid cumulation of State aid).
- (34) While the direct participation of foreign capacities is not authorised, interconnectors have been eligible to participate in the Capacity Market since the second auction held in 2015, as CMUs, on an equal basis with GB-based generators and DSR providers, subject to essentially the same regime of rewards and penalties, and de-rated to reflect their contribution to security of supply¹⁶. Table 2 shows the participation of interconnector CMUs (“IC CMUs”) in the auctions held to date.

¹⁶ A de-rating factor is a factor that is applied to a CMU’s capacity put forward in a capacity auction to derive its de-rated capacity. All capacity that bids into the CM must be ‘de-rated’ to adjust for the risk that some or all will not be available to respond during a system stress event. Also in case of interconnectors, de-rating factors are determined individually for each interconnector by the Secretary of State based on an assessment of technical reliability and analysis of likely country flows at times of system stress.

Table 2: Interconnector CMU participation in CM auctions to date

Auction type	T-4				T-1	
Auction Year	2015	2016	2017	2018 (susp.)	2018 (susp.)	2019 (condition.)
Delivery Year	19/20	20/21	21/22	22/23	19/20	19/20
Number of IC CMUs pre-qualified	3	5	6	8	3	3
Number of IC CMUs successful	2	4	6	NA	NA	3
Of which new build	0	0	3	NA	NA	1
Of which existing	2	4	3	NA	NA	2
Capacity of IC CMUs successful (GW)	1.86	2.34	4.56	NA	NA	1.025

- (35) In the 2014 Decision, permission was granted to not include interconnected capacity for the first auction (December 2014) due to the following constraints:
- (a) Capacity to procure: A new methodology to de-rate the interconnector contribution in the auction was needed. Closer cooperation with other Member States on assessing generation adequacy was needed to eliminate potential free riding where countries had different reliability standards.
 - (b) Prequalification: At that point in time, it was not possible for the Delivery Body to independently complete the prequalification stage for a foreign capacity provider. Cooperation with foreign TSOs on measurement and verification, dispatch for testing and data-sharing platforms would have been needed.
 - (c) Auction: The auction would have been open to gaming if foreign capacity had been allowed to participate. A new methodology would have been needed to limit the amount of foreign capacity up to the de-rated capacity of the interconnector. Furthermore the price-taker threshold was likely to be different in another market, meaning that the auction clearing price set in GB might not have been appropriate for capacity in another market and a zonal auction might have been necessary.
 - (d) Delivery: The obligation to deliver requires generators to generate when a 4-hour capacity market warning is called. In another market, this could have resulted in out of merit dispatch, causing market distortion¹⁷. This would have not rendered an additional security of supply benefit to the UK in a world

¹⁷ An obligation to provide capacity (i.e. a risk of penalty) under the Capacity Market may incentivise a foreign power plant to sell electricity in the UK market rather than in its national market even at less than its marginal cost. This is contrary to the merit order in which market participants would sell their electricity based solely on the marginal costs.

where market coupling is fully implemented with electricity flows already responding to scarcity pricing.

- (36) For 2014 only, in the absence of direct participation by interconnected capacity, the expected contribution from interconnection at times of GB system stress was reflected in the amount of capacity auctioned. For example, if 1 GW of imports were expected to be available at times of GB system stress, the amount of capacity auctioned in the Capacity Market would be reduced by 1 GW. The contribution of non-CM interconnection was initially assessed by NG at zero (float) when recommending the T-4 target for the delivery year 2018/19, but this was subsequently revised to a net contribution of 2.1 GW for the T-1 auction.

2.3.2. *Pre-qualification process*

- (37) Participation in the Capacity Market is not mandatory. However, it is mandatory for all licenced, eligible capacity to participate in the pre-qualification process, even if it does not intend to bid. The purpose of the pre-qualification process is to ensure participants in the auction can deliver the capacity they offer, and the System Operator is able to adjust the amount of capacity to auction based on the volume of capacity opting out of the auction.
- (38) Any eligible capacity that opts out of the capacity auction is not exposed to Capacity Market penalties for non-delivery, nor are they eligible for any payment for over-delivery. Such capacity is able to opt back into subsequent auctions and can participate in the secondary market. As with ineligible plants, the amount auctioned is reduced to account for the amount of capacity of plants opting out.
- (39) To ensure reliable capacity is ready for the delivery year, the System Operator undertakes pre-qualification checks ahead of the auction to confirm the eligibility and bidding status of all potential capacity. Pre-qualification requirements vary for different types of capacity (e.g. for generation and DSR).
- (40) As part of their pre-qualification application, applicants have to meet both generic and specific pre-qualification requirements, which vary depending on whether the unit is an existing or prospective generating unit, or a DSR unit. The generic requirements include basic administrative details (contact details, licence status, corporate structure, location and various Directors' declarations), whilst existing generation units have to also demonstrate their historic performance. Prospective units have to provide evidence of planning consent and connection agreement, a detailed construction plan and details of their expected capital expenditure relative to the duration of the capacity agreement being sought. They are also required to lodge credit support (i.e. collateral, or "bid bond") as an indication of their seriousness to participate in the auction and to deliver an operational unit by the start of the delivery year.
- (41) New generation and unproven DSR (as opposed to proven DSR¹⁸) are required to submit a bid bond of GBP 5,000 (around EUR 5,650) per megawatt for four-year ahead and one year-ahead auctions and of GBP 500 (around EUR 565) per megawatt for transitional auctions. Concerning DSR, the measure provides that the bid bond is forfeited pro rata to the volume of capacity that was not actually supplied by the DSR operators, provided that they provide at least 90% of the volume of capacity that they

¹⁸ Proven DSR differs from the unproven DSR in that its capacity has been proven by a DSR Test Certificate issued for that DSR CMU by the Delivery Body (National Grid).

had committed to. While DSR operators can aggregate several sites in order to reach the 2 MW minimum threshold, it should be noted that they are liable to pay a bid bond on the whole of the 2 MW, if even only a small proportion of that volume is unproven DSR capacity. According to the UK, a CMU can only be proven as a single unit, proven on the same day in the same settlement period. This requirement to prove as a unit should minimize gaming risk. Otherwise, applicants could prove at different times and put together a unit which might not be able to perform together during a stress event, with resulting security of supply risk.

- (42) Following consultation in March 2016, the UK Government raised the pre-auction bid bond for new build generation to GBP 10,000/MW to help fully secure exposure to the increased termination fee liability, as well as to help to deter speculative applications by requiring a greater level of pre-auction commitment. The level of pre-auction bid bond for unproven DSR, however, was left at GBP 5,000/MW following feedback from stakeholders during the consultation that it is comparatively more expensive for DSR aggregators to secure credit cover from lenders.
- (43) The System Operator publishes technology specific de-rating factors in advance of the pre-qualification window. For the majority of technology classes, these factors are based on class type historic performance over the previous seven years and represent the average expected contribution of plants at times of system stress on a technology specific basis. A different methodology is used for some classes where historic evidence is either lacking or is less relevant as a robust guide to future performance (e.g. interconnectors or innovative technologies such as battery storage). The relevant factors apply to all plants of a specific technology, irrespective of their age or status. Capacity providers which are successful in the capacity auction receive payments (at the auction clearing price) proportionate to their de-rating factor multiplied by their connection capacity (volume which their physical grid connection permits them to export onto the system). One of the purposes of the penalty regime is to fine tune the level of payments from this estimated performance level to the actual performance level of individual plants.

2.4. The auction process

2.4.1. Establishing the amount of capacity to auction

- (44) The decision whether to run the capacity auctions is taken annually and is informed by an independent electricity capacity assessment carried out by the System Operator. Looking 15 years ahead, NG assesses the likely evolution of future capacity margins, the contribution of interconnected capacity and DSR, and recommends the amount of capacity needed to deliver the enduring reliability standard. In this manner, the Government is able to annually assess whether a capacity auction is needed.
- (45) The decision on how much capacity to contract in each capacity auction is informed by an enduring reliability standard. A reliability standard is an objective level of security of electricity supply, and is the basis for establishing a demand curve in advance of each capacity auction.
- (46) The UK notes that no electricity system can ever be 100% reliable, and there is always some trade-off between the cost of providing additional back up capacity and the level of reliability achieved. Establishing a reliability standard allows this trade-off to be made as it identifies the point at which additional security benefits are outweighed by the costs of providing capacity. It aims to give investors and market

participants clarity over the Government's long-term security of supply objectives and to help reduce costs to consumers. It also aims to ensure that the Government cannot contract more than the economically efficient level of capacity, which prevents over-procurement of GB capacity.

- (47) The UK Government has set an enduring reliability standard for the GB electricity market equal to a loss of load expectation of 3 hours/year. This translates as a system security level of 99.97%. The loss of load expectation is the number of hours/periods per annum in which, over the long term, it is statistically expected that supply will not meet demand, and which reflects the economically efficient level of capacity. The reliability standard has been established on an enduring basis, but there will be an opportunity for the Government to review it should it prove necessary.
- (48) Each year, the System Operator sets out how much capacity is needed to meet the reliability standard and provides advice to the Government by 30 May in an Electricity Capacity Report (ECR). The recommendation on the amount of capacity to contract in the capacity auctions to meet the reliability standard is based on NG's assessment of different scenarios for the level of electricity demand and the amount of capacity provided by power plants which are not eligible for capacity payments, e.g. low carbon generation, and thus sets out NG's recommendation on whether, and how much, capacity needs to be secured for the delivery year in question through the CM. NG's report is scrutinised by an independent Panel of Technical Experts (PTE) who provide advice to Government on the robustness of the analysis and recommendations.
- (49) The System Operator uses a range of demand scenarios as well as sensitivities to account for uncertainties in weather, plant availability, interconnector flows and levels of embedded generation. The System Operator then nets off capacity that is not able to participate in the auction (for example low carbon plant receiving other support) and the capacity that has ongoing capacity agreements (e.g. in cases when a capacity provider has a multi-year agreement covering the relevant delivery year).
- (50) The System Operator then uses a 'robust optimisation' methodology which minimises the worst possible outcome in terms of cost of capacity and unserved demand across the scenarios and sensitivities. The modelling results in a set of options for a single amount to procure and a recommendation.
- (51) In the notification of 2014, the UK provided the prediction depicted in Figure 1 for a range in capacity to procure that could be required in the period 2018 to 2030. Figure 2 shows an updated prediction from December 2018.

Figure 1: 2014 Estimates of the capacity to procure under different scenarios (GW)

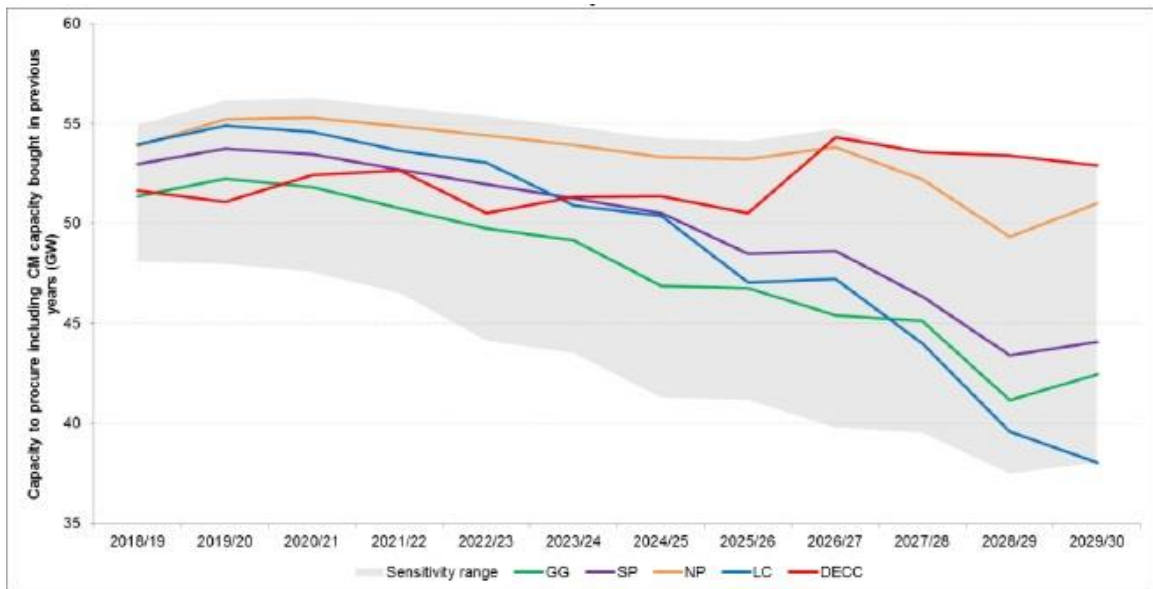
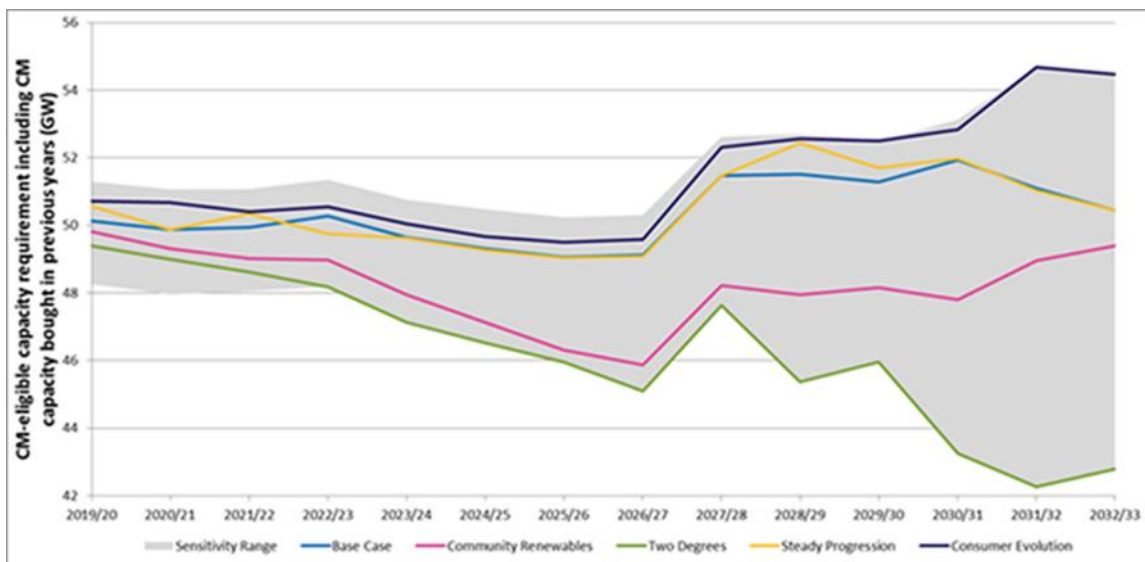


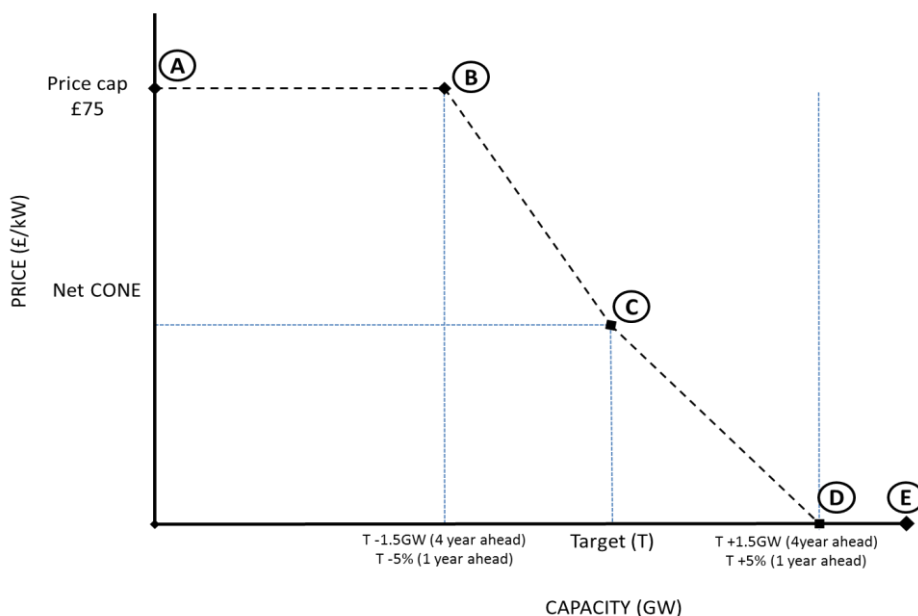
Figure 2: 2018 Estimates of the capacity to procure under different scenarios (GW)



- (52) The Government takes the final decision over how much capacity to procure in each auction on the basis of a demand curve, which is derived according to the methodology set out in the recitals below.
- (53) The demand curve gives the Government some flexibility on the amount of capacity to contract from year to year depending on cost. The sloping demand curve allows a trade-off to be made between reliability and cost, so that less capacity is procured in a given year if the price is very high. It also helps to mitigate gaming risks because it provides an auction price cap, and flexibility to procure less capacity if the price is high – both of which reduce opportunities for participants to push up prices by exercising market power.
- (54) The Government publishes the demand curve in advance of each capacity auction. The demand curve gives the relationship between the price of capacity and the amount of capacity in the auction demanded by the System Operator. Each demand curve is constructed around the target capacity level required to meet the reliability standard indicated by the System Operator and an estimate of the reasonable cost of new capacity (the net cost of new entry or ‘net-CONE’). The intersection of these

target capacity and net-CONE fixes one point in the demand curve. Figure 3 below presents an example of the capacity demand curve.

Figure 3: Illustrative capacity demand curve. Source: UK authorities



- (55) Net-CONE is determined based on the expected clearing price of capacity in the auction and is revised if necessary for each auction, for instance based on new engineering cost estimates for new build and on information gained in previous auctions. The cost of new entry is based on estimates of the capital cost of new built capacity provided by a report¹⁹ commissioned by the UK authorities assuming a 7.5% hurdle rate and a 25 year payback period.
- (56) Alongside the target capacity level and the net-CONE, other key parameters of the demand curve are: the auction price cap (the maximum price at which Government is willing to procure capacity), the price taker threshold (the maximum price at which existing plants can offer capacity in the auction²⁰) and the minimum level of supply needed to hold the auction (a minimum competition requirement). The Government confirms the final auction parameters for each capacity auction just before the relevant pre-qualification window opens.
- (57) The auction price cap determines the top of the demand curve – i.e. the price at which no more capacity will be auctioned. The purpose of a price cap is to protect British consumers from unforeseen problems with the auction, such as a lack of competition or abuse of market power by participants. However, according to the UK authorities, setting the auction price cap too low could put off bidders and reduce competition, so it is important that the price cap is set at a level that encourages competition in the capacity auction, and allows the market to set an efficient price for new capacity based on participants' judgement of the risks and potential returns in the electricity and capacity markets. Getting the level of the price cap right depends

¹⁹ Electricity generation cost model. 2013 update of non-renewable technologies. April 2013. Prepared by Parsons Brinckerhoff for the Department of Energy and Climate Change. PIMS Number: 3512649A

²⁰ See recitals (70) and (71)

on an assessment of the degree of uncertainty around the central estimate of net-CONE.

- (58) In 2014, the UK Government set the price cap at the level of GBP 75/kW. The UK explained that this price cap is above the modelled clearing price in the auction under a range of credible scenarios, yet not so high as to allow plants to exercise significant market power if there is limited new build participating. It also acts to ensure that new build cannot seek to recover all its fixed costs in its auction bid – it must take at least some account of energy market revenues and capacity market payments beyond the initial contract length for the project to be viable.
- (59) The Government also has a further opportunity ahead of the auction to satisfy itself that there is sufficient competition in the auction. Parties that have prequalified to participate in the auction must commit two weeks ahead of the auction if they will offer capacity into the auction. The Government can then review the list of capacity units that will be participating in the auction – considering for instance the volume of supply offered, the mix of technologies, and the ownership of units being offered – and can cancel the auction if it is not satisfied that the process would be sufficiently competitive to achieve value for consumers.

2.4.2. *Auction frequency and format*

- (60) The capacity auction is held every year for delivery in four years' time: e.g. the 2014 auction was for delivery in 2018/19, with the delivery year running from 1 October 2018 to 30 September 2019. Since the implementation of the measure in 2014, four four-year ahead auctions have taken place: in 2014, 2015, 2016 and 2017. The four-year ahead auction scheduled for 2018 with the delivery in 2022 was halted by the UK following the annulment of 2014 Commission decision by the GC judgement. To secure the supply in 2022, the UK authorities submitted in December 2018 that, as part of the notified measure, they would exceptionally organise a three-year ahead auction in 2019 (see recital (18)(d) above).
- (61) A further year-ahead auction is held in the year immediately prior to the delivery year of the main auction. The process for setting the demand curve for this auction is the same as that for the main (four-year ahead) auction – with the final decision taken by the Government based on an analysis provided by the System Operator. The one year ahead auction ensures the right amount of capacity is procured when more accurate demand forecasts are available and is important for enabling DSR capacity (which finds it difficult to participate in an auction four years ahead of delivery) to actively participate in the mechanism. Since the implementation of the measure in 2014, one year-ahead auction took place in early 2018 for delivery year 2018/2019²¹. As mentioned in recital (18)(a) above, a replacement and conditional T-1 top-up auction took place in June 2019 for the 2019/20 delivery year
- (62) Some capacity is held back from the four-year ahead auction and 'reserved' for the year ahead auction. In 2014 and 2015, the amount of reserved capacity was based on an assessment of the amount of the cost-effective DSR that could participate in an auction, and was made public when the demand curve for the four-year ahead auction was published (2.5 GW). A review of the methodology used to determine the

²¹ The UK in addition introduced a supplementary capacity auction in January 2017 to contract capacity for delivery from 1 October 2017 to 30 September 2018. This supplementary auction was approved by a Commission State aid decision C(2016) 7757 final on SA.44475 (2016/N).

T-1 set-aside was carried out by the UK Government in March 2016. Following the review, a new ‘set-aside’ methodology based on the application of a 95% confidence interval around National Grid’s annual T-4 capacity recommendation set out in the ECR was agreed and has been used since 2016. When modelling the Least Worst Regrets (LWR) process in the ECR, National Grid derives a 95% confidence interval around the capacity recommendation. Table 3 below presents the volume set-aside for T-1 auctions.

Table 3: T-1 set aside and the Capacity to Procure at T-1

Delivery Year	Target to Procure at T-4 auction (GW)	Capacity set aside for T-1 (GW)	Target to Procure at T-1 (GW)	Amount Procured at T-1 auction (GW)
2018/19	48.6	2.5	4.9	5.79
2019/20 (conditional auction)	44.7	2.5	2.7	3.68
2020/21	51.7	0.6	N/A	N/A
2021/22	49.2	0.4	N/A	N/A

- (63) If demand falls between the four-year ahead and year ahead auctions, the amount of capacity auctioned in the year ahead auction is reduced. However, because the year ahead auctions provide a better route to market for DSR, in 2014, the UK Government committed to procure in the year ahead auctions at least 50% of the capacity reserved four years earlier. In the T-1 auction for delivery year 2018/2019, more than double the capacity reserved four years earlier was procured (4.9 GW compared to 2.5 GW originally envisaged) while, in the T-1 conditional auction for delivery year 2019/2020, the target to procure was also higher than the capacity originally set aside (2.7 GW compared to 2.5 GW).
- (64) The UK Government expects to run T-4 and T-1 capacity auctions every year, but it is only once prequalification for an auction is completed, when the Government is able to make a final decision about whether to hold a capacity auction.
- (65) The UK Government has discretion to cancel or postpone the auction at any point up to the start of the first round of the auction. If the Government does not choose to cancel the auction, the auction will automatically proceed. Once the auction has started, the Government only has discretion to reject the result of the auction if there are reasonable grounds to suspect that NG, as delivery body, has not run the auction in accordance with the Regulations and the Rules. If the Government does not choose to cancel the auction, the auction is automatically validated. Once an auction has commenced, the Government does not have any discretion to influence its outcome.
- (66) Each Capacity Market auction is a descending-clock, pay-as-clear auction in which all successful participants are paid the last-accepted bid. The auction is run on the basis of pre-defined rules. The auctioneer announces a high price at the beginning of

the auction and eligible participants submit bids to indicate how much capacity they are willing to supply at that price. This process is repeated in successive rounds according to a pre-determined schedule until the auction discovers the lowest price at which demand equals supply. All successful participants are paid the same clearing price (pay-as-clear model). In addition, there exist a number of measures aimed at minimising gaming risks and ensuring an efficient outcome.

- (67) When deciding how much capacity to provide at any given capacity price, participants are expected to factor in the possibility of earning revenues on the energy market. Expected energy market revenues vary by provider depending on their expected load factors, wholesale prices and fuel and carbon costs.
- (68) In 2014, “turn-down” DSR, generation-derived DSR and embedded (or distribution-connected) generation (up to 50 MW) were regarded by the UK as nascent sectors in need of additional support to help them prepare for competition in the main CM auctions. As a result, two transitional auctions (TAs) were held for 2016 and 2017 to support them. While the first transitional auction was indeed open to the three categories of capacity described above, the level of success of embedded (or distribution-connected) generation and generation-derived DSR in the first TA auction, and in the T-4 auctions in 2014 and 2015, led the UK consider that these participants were mature enough to compete successfully in the main CM auctions against other types of capacity without further ring-fenced support. The UK therefore excluded these resources from the second (and final) TA auction so only ‘turn down’ DSR could participate. Furthermore, for the second TA, the UK indicated that it decided to test whether a lower participation threshold (i.e. 500kW instead of 2MW) could be a beneficial amendment to the enduring Capacity Market regime for all participants. Table 4 shows the results of the TA.

Table 4: Capacity (de-rated, MW) securing agreements through the Transitional Arrangements auctions

	1st TA Auction	2nd TA Auction
Distribution-connected generation	328	n/a
Total DSR, of which:	475	312
• Generation-derived DSR	322	n/a
• Turn-down DSR: - Including capacity < 2MW	153 - n/a	312 - 8.5 (representing 8 CMUs)
Total	803	312

- (69) Table 5 shows, for each auction held since 2014, NG’s recommended amount to be procured, the target volume approved by the Secretary of State and the amount eventually procured at the T-4 and T-1 auctions.

Table 5: Capacity Requirements

	National Grid's Recommended amount to procure in ECR (GW)	National Grid Adjusted recommendation of amount to procure at auction following prequalification (GW)	Amount to procure Target volume approved by Secretary of State (GW)	Amount procured at auction (GW)
T-4 2014	53.3	48.6	48.6	49.3 ²²
T-4 2015	47.9	44.7	45.4	46.4
T-4 2016	49.7	51.1	51.7	52.4
T-4 2017	50.5	49.2	49.2	50.4
T-1 2017	6.3	4.9	4.9	5.79
T-1 2019 (conditional auction)	4.6	4.3 (November 2018) 2.3 (May 2019)	2.7	3.6

2.4.3. Price takers

(70) To mitigate market power in the auction, potential capacity providers who have successfully pre-qualified are classified as either 'price takers' (who cannot bid above a relatively low threshold) or 'price makers' (who can). Existing capacity providers are price takers by default. New entrants and DSR resources are classified as price makers, and are free to bid up to the overall auction price cap. According to the UK, this distinction reinforces incentives for participants to bid at true value of their capacity and mitigates the risk that existing plants with lower costs may seek to set a high price in years where new entry is not needed. The UK argues that the price taker threshold should be set at a level that captures the majority of existing plants, while being at a price low enough to mitigate gaming risk. The price taker threshold has been set at GBP 25/kW (50% net CONE). This is high enough to capture the majority of existing plants. In 2014, the UK's modelling suggested that this would capture around 80% of existing plants. Table 6 shows that in reality, around 60% of existing plants were captured by the price taker threshold. GBP 25/kW is also significantly below the expected cost of new entry. As a result, a price taker threshold of GBP 25/kW also mitigates gaming risk.

Table 6: Existing Plants captured by Price Taker Threshold since 2014

Auction	Existing Plant captured by Price taker threshold		
	Capacity (MW)	%	Clearing Price (GBP/kw)
2014 T-4	25,007	67%	19.40

²² After terminations as at February 2018 the capacity is 47.53GW.

2015 T-4	39,286	80%	18.00
2016 T-4	29,548	56%	22.50
2017 T-4	31,099	57%	8.40
2017 T-1	2,306	29% ²³	6.00
2019 T-1 (condit.)	1,758 ²⁴	49%	0.77

- (71) Existing plants with particularly high costs can be allowed to participate as price makers (and bid higher than the price taker threshold), but they have to provide a justification for needing a higher level of payment (for example a board certificate and business plan presented to the provider’s board). This justification must be provided to Ofgem, and may be used as part of any investigation into abuse of market power.
- (72) Any existing providers that bid at a price above the ‘price maker’ threshold and do not receive a capacity agreement in the auction, but continue to operate in the delivery year, are likely to be investigated by Ofgem, which may use the information provided alongside the price setting auction bid.
- (73) New entrants are able to set a price without justifying their bid, though if it were perceived that they were seeking to exercise market power this could be also subject to investigation by Ofgem as part of its normal enforcement role. The level of bid is in any case capped by the price cap set in the demand curve provided in advance of the auction.

2.4.4. Capacity Agreement duration

- (74) If successful at the auction, capacity providers are awarded a capacity agreement at the clearing price. The length of available capacity agreements varies to ensure a level playing field between capacity providers.
- (75) Most existing capacity providers have access to one year agreements; generation capacity providers undertaking capital expenditure above an original GBP 125/kW threshold (refurbishing plants) are eligible for capacity agreements of up to a maximum of 3 years; generation capacity providers undertaking capital expenditure above originally GBP 250/kW (new plants) are eligible for capacity agreements up to a maximum of 15 years. These thresholds are reviewed each year and have been subject to slight increases over time, standing at GBP 135/kW and GBP 270/kW respectively in December 2018. Agreements longer than 1 year are only available to participants in the four-year ahead auction.
- (76) To ensure regulatory certainty and foster investors’ confidence in the mechanisms, the key terms of a capacity agreement are ‘grandfathered’²⁵ (subject to any future

²³ The high proportion of existing capacity participating as Price Makers in the T-1 auction is likely due to the fact that much of this existing capacity comes from the oldest, most marginal plant, unable to commit, through the T-4 auctions, to remaining open that far ahead of the delivery year.

²⁴ Existing generation capacity awarded capacity agreements. After prequalification 6,803MW (72%) qualified as price takers.

regulation to the contrary, although no such changes have been made so far). These key terms are:

- (a) agreement length;
 - (b) capacity price and entitlement to payment;
 - (c) capacity obligation and de-rating figure;
 - (d) completion milestones and termination fees applicable;
 - (e) maximum liability for penalties.
- (77) The UK argues that the rationale for longer-term contracts for new entrants is to help promote competitive new entry into the market. Allowing new entrants to receive a long-term contract enables new entrants to secure lower-cost financing for their investment. The UK believes that this can help mitigate barriers to entry for independent firms who cannot finance investment in new capacity on the back of revenues from other plant in their portfolio. By encouraging competition in the market, longer-term contracts can therefore help lowering costs for consumers in both the energy and capacity markets. Longer-term contracts should also, according to the UK authorities, reduce the risk that participants with high investment or refurbishment costs load all of these costs into a single year agreement.

2.5. Secondary market (trading)

- (78) Between auction and delivery and in the delivery year/s, participants are able to adjust their position through trading, e.g. by taking on a greater or lesser obligation, or finding alternative capacity to meet temporary shortfalls. Secondary trading is an important tool for parties to manage their risk of exposure to penalties within the Capacity Market. There are different forms of secondary trading allowed under the Capacity Market: financial trading, volume reallocation and obligation trading.

2.6. Delivery

- (79) The Capacity Market follows a ‘delivered energy’ model: capacity providers are obliged to deliver energy whenever needed to ensure security of supply, i.e. in real system stress situations. They face penalties if they fail to do so. The model also includes additional physical testing of capacity. Failure to demonstrate capacity to the required level on the requisite number of occasions results in capacity payments being forfeited until successfully demonstrated.

2.6.1. The capacity agreement obligation

- (80) Under the capacity agreement obligation, system stress events are defined as any half hour settlement periods in which either voltage control or controlled load shedding are experienced at any point on the system for 15 minutes or longer. Providers are required to determine their own response at such times, and avoid breaching any existing code or licence conditions. To date, there have only been two Capacity Market Notices issued by the system operator, on the 31 October 2016 and 7 November 2016. The winter (2018/19) was to be the first year of the measure’s operation in full.

²⁵ A grandfather clause is a provision in which an old rule continues to apply to some existing situations while a new rule will apply to all future cases.

- (81) To ensure participants are able to adequately manage the risk of exposure to penalties, e.g. the risk that a number of plants simultaneously trip, the System Operator has published a notice of system stress via a ‘Capacity Market warning’, based on the methodology set out in the Capacity Market Rules (8.4.6)²⁶. Unless this warning has been issued, a scarcity event will not trigger Capacity Market penalties or ‘over-delivery’ payments.
- (82) Capacity agreements oblige participants to deliver a specified quantity of electricity. A provider’s obligation at the time of stress events is calculated from their obligations they entered through the four-year and year-ahead auctions, plus any secondary traded obligations they entered for the specific settlement periods in which a stress event occurs.
- (83) In stress periods preceded by a Capacity Market warning of at least four hours’ notice, providers’ obligations are ‘load following’. That means they are only required to be generating electricity or reducing demand up to the total level of their obligation if all capacity, for which capacity agreements have been concluded in the market, is necessary to meet demand. In a stress event where only 70% of such total capacity is necessary to meet demand, each provider is only required to generate electricity or reduce demand up to 70% of their full capacity obligation.
- (84) According to the UK authorities, load following obligations are appropriate to ensure generators have incentives to operate efficiently in the market, and are proportionate to the harm caused to consumers by any lost load. If every participant risked being penalised for their full total capacity obligation whenever there was system stress, the Capacity Market would create signals for plants to run warm even when it was economically inefficient for them to do so – increasing both emissions and consumer bills.

2.6.2. *Penalties*

- (85) The penalty regime aims to provide capacity providers with incentives to deliver energy when needed. Units which perform below the expected level of performance are penalised, while those that exceed the expected level receive over-delivery payments, so that at the end of the year each unit’s capacity payments broadly reflects their performance. The penalty regime consists of three main elements:
- (a) a monthly liability cap of 200% of a provider’s monthly capacity revenues, which, given the weighting of monthly payments according to system demand, may expose providers to a penalty liability of up to 20% of their annual revenue in any one month;
 - (b) an overarching annual cap of 100% of annual revenues;
 - (c) a penalty rate set at 1/24th of a provider’s annual capacity payments.

2.6.3. *Testing regime*

- (86) The penalty regime is complemented by a rigorous system of performance demonstrations to ensure capacity providers are able to deliver energy when needed and only receive capacity payments if reliable. This is especially important for those delivery years with no stress events in which testing providers’ performance ensures that providers are physically capable of delivering as per their capacity obligations.

²⁶ <https://www.ofgem.gov.uk/electricity/wholesale-market/market-efficiency-review-and-reform/electricity-market-reform/capacity-market-cm-rules>

2.7. Budget, financing of the measure and payment flows

(87) Table 7 shows a summary of the outcome of the various capacity market auctions which have taken place since 2014, including the transitional auctions (TA).

Table 7: Summary of Capacity Market Auction Outcomes

Auction	Auction acquired capacity GW	Clearing Price GBP/kW	Total budget for Capacity committed at auction²⁷ GBP millions
T-4 2014	49.3	19.40	1,734
T-4 2015	46.4	18.00	1,082
T-4 2016	52.4	22.50	2,012
T-4 2017	50.4	8.40	500
T-1 2017	5.8	6.00	35
T-1 2019 (conditional)	3.6	0.77	3
TA 2016	0.8	27.50	22
TA 2017	0.3	45.00	14

(88) According to article 6(1) of the Electricity Capacity (Supplier Payment etc.) Regulations 2014, all licensed suppliers must pay a capacity market supplier charge, to finance the costs of the Capacity Market (i.e. those incurred to fund capacity payments to providers) according to the following process:

- (a) payments are profiled according to system demand – so capacity providers receive a higher proportion of their payments during months of high demand (i.e. over the winter) and a lower proportion in periods of low demand.
- (b) three months before the start of the delivery year suppliers forecast their demand over the period 4pm-7pm on all weekdays from the start of November to the end of February and notify these estimates to the Settlement Body.
- (c) supplier charges are determined based on their forecast market share and monthly charges are levied upon licensed suppliers in order to match the payment profile to capacity providers. Supplier charges are calculated based on

²⁷ The CM registers are regularly updated to reflect capacity that no longer has an agreement. The total presented here represents the amount committed in the auction. It has not been adjusted for capacity that has dropped out since the auction which is no longer eligible for capacity payments. The values have not been adjusted for inflation.

demand between 4-7pm on winter weekdays in order to incentivise suppliers to reduce their customers' electricity demand at the times when demand is typically highest. This should reduce the amount of capacity that is needed, and therefore will reduce the cost of the Capacity Market.

- (d) Supplier charges are updated to reflect actual data on market share once it becomes available as with the existing Balancing and Settlement Code (BSC) reconciliation process. This reconciliation process continues for 14 months as revised demand data is received.
- (89) All payment flows associated with the Capacity Market, for all participants, are calculated and administered by the Settlement Body, assisted by a settlement service provider (Elexon). The role and responsibilities of the Settlement Body and Elexon are outlined in Section 2.2.
- (90) Capacity payments are determined by the amounts set out in each provider's capacity agreement following the outcome of the relevant auction for each delivery year: capacity payments equal the amount of capacity that successful capacity providers have bid in the capacity auction, multiplied by the clearing price.
- (91) Funds received by the Settlement Body are held in a non-interest bearing Government Banking Service bank account. The Settlement Body is also responsible for collecting, holding and (where necessary) returning any collateral that has been posted by new-build generators or DSR providers as part of the pre-qualification process in advance of each capacity auction.
- (92) The principal financial flows to and from the Settlement Body are as follows:
- (a) Suppliers are obliged to pay to the Settlement Body the so-called 'settlement body charges' on a monthly basis beginning from the financial year 2015/2016. The 'settlement body charge' covers the administrative costs of maintaining the Capacity Market settlement function incurred by the settlement body (and its agent). The collection of these payments happens according to the April-March UK financial year, so to a separate timetable to other capacity market payment flows which runs according to the October-September capacity year.
 - (b) Suppliers are obliged to provide a credit cover before the start of each month in the delivery year. This cover must equal 110% of their supplier monthly charge and is intended to ensure that payment flows to the capacity provider can continue to be made in the event that a supplier defaults.
 - (c) Suppliers are obliged to pay a 'supplier monthly charge' to the Settlement Body no later than 24 working days after the end of each month in the delivery year. The supplier monthly charge is an obligation on suppliers (via a condition in their supply licence) to fund the Capacity Market.
 - (d) In the event of any under-performance against their capacity obligations during a stress event occurring in the delivery year, capacity providers are obliged to pay to the Settlement Body a 'penalty charge'. This must be paid by no later than 24 working days after the end of the month.
 - (e) The Settlement Body pays providers a 'capacity payment'. This is an amount determined according to their capacity obligation (the amount set in the capacity auction) within 29 days after the end of each month within the delivery year. All payments to providers are funded by the revenue from the charges levied upon licenced suppliers. In the event that a capacity provider

has failed to pay its penalty charge, the provider's payment is withheld until the necessary penalty charge has been recovered. Actual payments to providers take account of any obligation trading that has taken place between the auction and the delivery period.

- (f) In the event that capacity providers over-deliver against their capacity obligations during a stress event occurring in the delivery year, the Settlement Body pays an 'over-delivery payment'. Over-delivery payments due to each capacity provider are calculated at the end of the capacity year, and are paid using the funds that have been collected as penalties over the course of the year. This does not increase the overall level of capacity payment in a given year – as payments for over-delivery offset the penalties collected for non-delivery.
- (g) If applicable, the Settlement Body returns to suppliers a 'penalty residual supplier amount'. This is the revenue remaining after over-delivery payments that have accumulated over the year have been paid at the necessary rate.

2.8. Generation adequacy in Great Britain

2.8.1. The electricity market in Great Britain

- (93) On 1 April 2005, the UK introduced in GB a single set of wholesale electricity trading and transmission arrangements known as BETTA (British Electricity Trading and Transmission Arrangements). BETTA is based on bilateral trading between generators, suppliers, customers and traders, and participants self-dispatch rather than being dispatched centrally.
- (94) Under BETTA, contracts for electricity are agreed in forwards and futures markets from several years up to 24 hours ahead of a given half hour delivery period. Short-term power exchanges and energy brokers give participants the opportunity to fine tune their contract positions from 1 to 24 hours before delivery. All the deals are bilateral, and are settled at the price registered on the power exchange or agreed bilaterally or through a broker.
- (95) Under BETTA, the wholesale electricity price rewards generators for their electricity and capacity, and investors must decide to invest based on their expectation of recovering the costs of this investment through selling electricity in the wholesale electricity market.
- (96) Closer to delivery, there is a balancing mechanism through which the System Operator accepts offers and bids for electricity close to real time. This enables the System Operator to balance supply and demand. At 'gate closure', 1 hour before each half hour delivery period, generators are required to inform the System Operator of the energy they are contracted to deliver and the expected output from each plant. Suppliers (retailers) must declare the amount they have contracted to buy, which should be the amount they expect their customers to consume. Finally, an imbalance settlement process makes payments to and from those market participants whose contracted positions do not match their actual metered electricity production or consumption. It also settles other costs of balancing the system. Participants face a relatively penal 'cash-out' price if their contracted positions do not match their actual consumption or production. Therefore, the imbalance settlement or cash-out price incentivises participants to help balance the system in real time.
- (97) At the end of December 2017, the UK had a total of 81.3GW of electricity generating capacity. In addition, the UK has four interconnectors allowing trade with Europe:

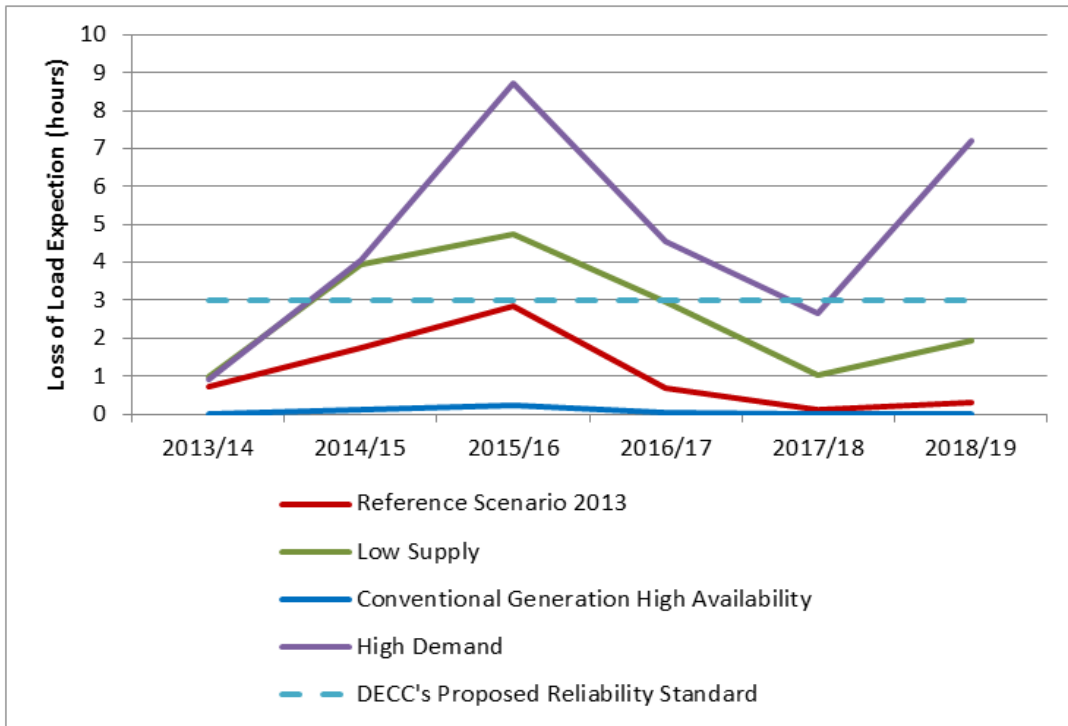
England-France (2 GW capacity), England-Netherlands (1 GW), Northern Ireland-Ireland (0.6 GW) and Wales-Ireland (0.5 GW)²⁸. The NEMO interconnector between England and Belgium (1 GW) went live on 31 January 2019.

2.8.2. *Generation adequacy problems*

- (98) The Reliability standard is expressed in terms of a Loss of Load Expectation (LOLE). This involves setting a standard, which sets out the average number of hours per year in which demand is not expected to be met by supply in a typical year. LOLE represents the number of hours per annum in which, over the long-term, it is statistically expected that supply will not meet demand. This is a probabilistic approach – that is, the actual amount will vary depending on the circumstances in a particular year, for example how cold the winter is; whether or not an unusually large number of power plants fail to work on a given occasion; the power output from wind generation at peak demand; and, all the other factors which affect the balance of electricity supply and demand. However, it is important to note when interpreting this metric that a certain level of loss of load is not equivalent to the same amount of blackouts; in most cases, loss of load would be managed without significant impacts on consumers. The critical level established by the UK is a LOLE of greater than three hours.
- (99) In the notification, the Government noted that, regardless of the modelling approach chosen, the future outlook for electricity security of supply is very difficult to project with full confidence due to the sensitivity to key assumptions including electricity demand, retirement decisions, new build, the contribution of interconnection, and the availability factors of different technologies.
- (100) At the time of the notification of the measure in 2014, the UK stated that in Ofgem's 2013 Electricity Capacity Assessment, LOLE were shown to rise to up to 9 hours in 2015/16 (although noting that there was little impact in the Conventional Generation High Availability case), they would then recover before rising again in 2018/19. At the time, the UK considered that the range of scenarios demonstrated the uncertainty with the high end of the range rising above 3 hours in 2018/19 making, according to the UK, a strong case for intervention. Ofgem's reference scenario assumed 0.75GW of net exports in the winter season.

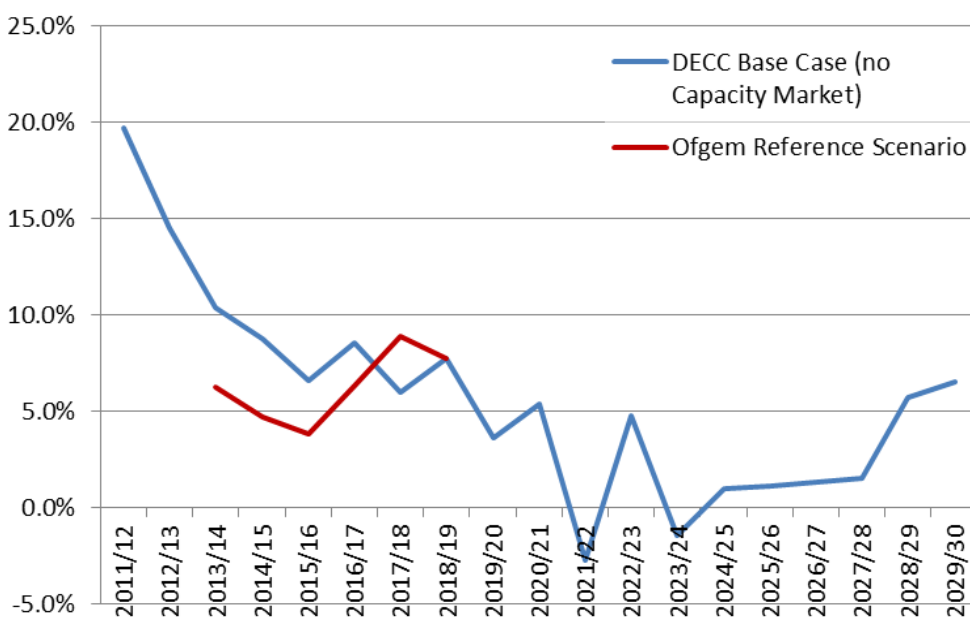
²⁸ These figures are taken from the Digest of United Kingdom Energy Statistics 2018 <https://www.gov.uk/government/statistics/digest-of-uk-energy-statistics-dukes-2018-main-report>

Figure 4: Loss of load expectation and reliability standard, as supplied by the UK in its notification of 2014. Source: Ofgem, DECC analysis



- (101) The UK also stated that the UK Department of Energy and Climate Change (DECC) had also carried out simulations of investment in generation up to 2030. DECC's Base Case scenario without a capacity market presented a similar trend to the Ofgem analysis up to 2016/17. Beyond 2016/17, DECC's Base Case scenario saw a downward trend in capacity margins continuing into the early 2020s. DECC's modelling assumed an additional 2.9GW of interconnection coming forward by 2030 and assumed that interconnectors were, on a net basis (i.e. taking all interconnection capacity together), neither importing nor exporting at times of peak demand.

Figure 5: Long-term estimates of de-rated capacity margins, as supplied by the UK in its notification of 2014. Source: Ofgem 2013, DECC analysis 2013



- (102) The UK estimates that analysis undertaken by the UK Government, as well as a separate analysis provided by National Grid, demonstrate the ongoing need for the CM in order to ensure that the Reliability Standard of 3 hours LOLE is met. When the CM is excluded from the modelling, the reliability standard is likely to be breached in every year included in the modelling.
- (103) NG produces a 5-year EMR Base Case as part of the Future Energy Scenarios²⁹ to assess the capacity to secure in the capacity market auctions. In December 2018, NG set out a revised set of assumptions to assess the potential impact on the Base Case if there was no CM in the UK. NG's assessment is that LOLE would range between 3 and 7 hours LOLE between 2019/20 and 2023/24 without the capacity market.
- (104) The UK Department of Business, Energy, and Industrial Strategy (BEIS) undertook an analysis independently from National Grid, using the most recent ECR recommendations from National Grid (ECR2018) in conjunction with BEIS commercial insights and BEIS assessment of plant economics. This analysis concludes that the expected LOLE range breaches the 3 hours LOLE reliability standard in all years to 2030 (between 3 and 345 hours LOLE between 2019/20 and 2029/30).

2.8.3. *The reasons behind the generation adequacy problems*

- (105) The UK submits that two main market failures explain the generation adequacy problem described in the previous section.
- (106) The first market failure is that reliability is a public good. Customers cannot choose their desired level of reliability, since the System Operator cannot selectively disconnect them, and consumers do not respond to real-time changes in the wholesale price. It can therefore be expected that capacity providers will not provide the socially optimal level of reliability in the absence of intervention. This may also lead to high costs to society as a result of having an unreliable electricity supply. These would be external costs if they are not charged to generators.
- (107) The second market failure is the 'missing money' problem. The concept has been identified and described in academic literature and affects energy-only markets³⁰. In theory, the inability of consumers to select their desired level of reliability could be addressed in an energy-only market by allowing prices to rise to a level reflecting the average value of lost load, that is the price at which consumers would no longer be willing to pay for energy and allowing generators to receive scarcity rents. However, in practice an energy-only market may fail to send the correct market signals to ensure optimal security of supply and to enable investors to obtain project finance for building new capacity. This means that energy market revenues alone may fail to bring forward sufficient investments in capacity due to 'missing money'. The reasons why this may happen are twofold:
- (a) inability of prices to reflect scarcity: Current wholesale energy prices do not rise high enough to reflect the value of additional capacity at times of scarcity. This is due to the fact that charges to generators who are out of balance in the

²⁹ <http://fes.nationalgrid.com/>

³⁰ Cramton and Stoft (2006): 'The Convergence of Market Designs for Adequate Generating Capacity'; Joskow (2006): 'Competitive Energy Markets and Investment in New Generating Capacity'; Cramton, Ockenfels and Stoft (2013): 'Capacity Market Fundamentals'

balancing mechanism (cash-out) do not reflect the full cost of the balancing actions taken by the System Operator (such as voltage reduction).

- (b) lack of certainty that prices will rise, even if they can: At times when the wholesale energy market prices should peak to high levels, investors are concerned that the Government/market regulator will act on a perceived abuse of market power, for example through the introduction of a price cap. They are also concerned that prices simply will not rise – for example, if wind capacity performs better than expected, reducing the opportunities for more expensive dispatchable capacity to run.
- (108) The UK submits that "missing money" is not a theoretical problem. Historically, GB cash-out prices had not exceeded GBP 938/MWh. The UK submits that evidence from recent scarcity situations in the GB market also indicates that prices have not risen to the levels that would have been expected. The UK Government and Ofgem commissioned an independent study to estimate the value of lost load (VoLL), which has concluded that the average value to consumers of preventing disconnections at times of system peak is around GBP 17,000/MWh³¹.
- (109) The UK submits that the market failures are aggravated in the short and medium term by the very rapid closure plans of existing capacity: according to NG's central scenario, if CM revenues were not available any more, up to 8GW of the in 2018/2019 available coal and gas plants could close in 2019/2020.

2.8.4. *Additional measures to ensure generation adequacy*

- (110) In addition to the notified measure, the UK has undertaken and is still undertaking a range of actions in the GB electricity market that could help address the market failures listed in the previous section. The three main initiatives from the UK's notification are listed below.
- (111) The first measure quoted by the UK aimed at reducing overall electricity requirements and increasing the responsiveness of consumer demand. The UK stated that it was taking steps to reduce overall electricity requirements, for example through the Green Deal and Energy Company Obligation. The UK also pursues opportunities to encourage both lasting reductions in demand, (which the Government terms Electricity Demand Reduction or EDR) and short term reductions in demand like peak shaving / shifting (which the Government terms demand side response or DSR). In particular, the UK is committed to ensuring that every home and small business in the country is offered a smart meter by the end of 2020³². Smart meters are an enabler of time-of-use (ToU) tariffs which have lower energy prices at off-peak times. The first static ToU tariff in the UK was introduced by Green Energy in early 2017, offering its smart meter customers a much cheaper rate of electricity during weekday nights. However, this does not reflect actual wholesale

³¹ London Economics 'The Value of Lost Load (VoLL) for Electricity in Great Britain' (2013).

³² The number of domestic electricity smart meters operated by the large energy suppliers has been multiplied by 26 between Q2-2014 and Q3-2018. The number of electricity advanced- and smart-type meters operated by the large energy suppliers, in smaller non-domestic sites has increased by 12% between Q2-2014 and Q3-2018. However, in Q3-2018, smart meters and smart-type meters (operating in smart mode) represented less than 30% of the total number of domestic electricity meters operated by the large energy suppliers. Source: <https://www.gov.uk/government/statistics/statistical-release-and-data-smart-meters-great-britain-quarter-3-2018>

costs which would allow consumers to respond in real time³³. What is more, following preceding work and a call for evidence, in July 2017, the UK Government and Ofgem jointly published a Smart Systems & Flexibility Plan³⁴. This plan outlines the underlying principles of the UK's approach to enable the transition to a smart and flexible system, followed by 29 actions for the Government, Ofgem and/or industry.

- (112) The second measure is the reform of cash-out arrangements. Imbalance or cash-out prices provide market participants with incentives to ensure that the volumes of electricity they sell or consume match the volumes they have contracted to sell or consume. The UK argues that a reform of the way the market operated helps to ensure security of supply.
- (113) Ofgem launched the Electricity Balancing Significant Code Review (EBSCR) in 2012³⁵ to address several long-standing concerns about factors that have dampened cash-out prices. Ofgem adopted and published their final policy decision in May 2014³⁶. The implemented reforms to cash out are as follows:
- (a) Cash-out prices have been made 'marginal' by calculating them using the most expensive action the System operator (SO) takes to balance the system. This was introduced in steps, the first step was that prices would be calculated using an average of the top 50MWh of SO actions (rather than 500MWh) from November 2015. Since November 2018, prices have been calculated using the top 1MWh.
 - (b) A cost for disconnections and voltage reduction has been included into the cash-out price calculations based on the Value of Lost Load (VoLL) to consumers. This cost was introduced in steps starting at GBP 3,000/MWh from November 2015 and at GBP 6,000/MWh from November 2018.
 - (c) The way reserve costs are priced has been improved by reflecting the value reserve provides to consumers at times of system stress. To achieve this, a Reserve Scarcity Pricing function has been introduced which prices reserve when it is used based on the prevailing scarcity on the system³⁷.
 - (d) A move has been introduced to a single cash-out price for each settlement period to simplify the arrangements and reduce imbalance costs, in particular for smaller parties.
- (114) Ofgem has published a review of the first phase of the EBSCR³⁸. Since the implementation of the first phase, the average Imbalance Price (cash out price) has fallen. The majority of Imbalance Prices now lie within the range of GBP 20-30/MWh, rather than GBP 30-40/MWh as previously observed. The Imbalance Price

³³ In December 2018, there was only one dynamic ToU tariff, launched by Octopus Energy in February 2018 which provides consumers with half-hourly price updates that reflect actual wholesale energy costs.

³⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633442/upgrading-our-energy-system-july-2017.pdf

³⁵ <https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-scr-launch-statement>

³⁶ <https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-significant-code-review-final-policy-decision>

³⁷ Using the Loss of Load Probability (LOLP) and the Value of Lost Load (VoLL)

³⁸ <https://www.ofgem.gov.uk/publications-and-updates/review-first-phase-electricity-balancing-significant-code-review>

has, however, become more volatile. The maximum price in the two years preceding the reform was GBP 429.10/MWh whereas after the reform it was GBP 1,528.72/MWh.

- (115) The UK Government believes that the Capacity Market and cash-out reform have distinct but complementary roles in seeking to ensure security of electricity supply. It is better to pursue the Capacity Market as well as supporting reform of the cash-out arrangements, rather than simply to rely on the cash-out reform for the following reasons:
- (a) while cash-out reform should strengthen energy market investment incentives in the long term, it is expected to have a more limited impact on overall levels of investment in the short and medium term³⁹. This is because generators sell almost all their energy in forward markets. However, over time the cash-out reform will lead prices in forward markets to rise as generators exploit arbitrage opportunities between forward markets and the price in the balancing mechanism;
 - (b) cash-out reform cannot address the increased riskiness of investment in thermal capacity as the power sector decarbonises: thermal capacity will increasingly run as backup and will have to recover its fixed costs through earning high prices on the few occasions where there is scarcity and prices spike;
 - (c) in practice, investments may be dependent on a liquid market for ‘reliability options’ trading around a real-time price – whereby suppliers pay generators a fixed price in exchange for an option to buy energy at a strike price. This is unlikely to emerge under Ofgem’s reform of cash-out arrangements as the market even after the current cash out reforms remains a quasi-market with cash out determined through complex administrative procedures, but could develop if a balancing electricity market is introduced that can act as a robust reference market for options trading⁴⁰;
 - (d) it is unclear whether investors will have confidence that any new arrangements would be maintained. This is because when prices are allowed to peak to high levels, it becomes increasingly difficult for the regulator to assess whether very high prices are efficient market operation or profiteering. This means that generators may be averse to offering energy at a high price (for fear of investigation for abuse of market), or that they may expect public intervention in the future to mitigate more frequent price spikes;
 - (e) in the event that cash-out reforms are put in place and work well to address market failures, sharper cash-out prices have the potential to reduce the cost of procuring capacity through the Capacity Market, so that the price paid for capacity should fall to zero in the auction;

³⁹ Note however that cash out reform will provide significantly improved short term price signals for delivery, and therefore improved signals for investment in flexible capacity.

⁴⁰ Under the current pay-as-bid balancing mechanism arrangements, parties can only earn scarcity rents if they successfully offer energy at this price ahead of gate closure (in which case they risk not being taken if a stress event does not materialise), or if they are out of balance (in which case they risk the price being below their short run marginal cost if a stress event does not materialise). It would be necessary for the balancing mechanism to become a pay-as-clear market, in which all generators are paid the reference price, for a liquid market in options traded against the balancing market price to develop.

- (f) although cash out reform could, once completed, lead to higher prices during times of scarcity, the inherently high level of uncertainty regarding scarcity events makes relying on high scarcity rents alone a risky strategy for investors in large new build projects. The CM provides a stable, regular payment for up to 15 years for new build projects which reduces risks to investors and encourages investment in new and existing capacity.
- (116) The third measure quoted by the UK is completing the internal energy market and supporting greater levels of interconnection. The UK has implemented the Third Energy Package into national legislation and submitted that it was contributing to the development of network codes. In particular, the market-related EU network codes, which harmonise the timeframes in which capacity is allocated and traded, will introduce a standard set of market rules across Europe and promote the implementation of a competitive pan-European energy market. The UK submits that these changes have the potential to improve the case for interconnector investment through more efficient utilisation of the assets. The UK also notes that in GB, the level of interconnection has increased from 4% in 2014 to 6% of total installed capacity in 2019, notably as the NEMO interconnector went live on 31 January 2019, and has the potential to rise to 9% by 2021⁴¹.
- (117) The UK also submitted that it was actively participating in the EU process for identifying priority cross-border projects every two years as set out in the ‘TEN-E Regulation’. These priority projects received ‘Projects of Common Interest’ (PCI) status enabling them to benefit from potentially faster planning and permitting procedures, potential regulatory incentives, and possible access to financial support from the Connecting Europe Facility.
- (118) Ofgem’s Integrated Transmission Planning and Regulation (ITPR) project concluded in 2015⁴². It established the Network Options Assessment (NOA) process and publishing of annual NOA reports. The System Operator’s analysis provides improved information to interconnector developers, including locations where new interconnection capacity can most easily be accommodated. The new role also includes the consideration of specific interconnector proposals and provide Ofgem with assessments of their impacts.

2.9. Duration

- (119) The Energy Act 2013 does not contain an end date for the Capacity Market. The State aid clearance is however valid for a period of 10 years⁴³ starting from the date of the first implementation of the measure in 2014⁴⁴.

2.10. Grounds for initiating the procedure

- (120) Although the Capacity Market was notified by the UK authorities before being put into effect, the 2014 Decision authorising the scheme was annulled by the General

⁴¹ These figures assume UK electricity generating capacity remains constant at 81.3GW.

⁴² <https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions>

⁴³ See article 21, point 8 of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

⁴⁴ The date of implementation is considered to be 16 December 2014 when the first auction under the capacity market took place.

Court. In light of the GC judgment annulling the 2014 Decision, the implementation of the aid in question until the GC judgment must be regarded as unlawful⁴⁵.

- (121) In accordance with the Commission notice on determination of the applicable rules for the assessment of unlawful State aid⁴⁶, the Commission has assessed the compatibility of the measure with the internal market, from December 2014 until November 2018 and for the future, on the basis of the conditions established in Section 3.9 of the Environmental and Energy Aid Guidelines (“EEAG”)⁴⁷, which set specific conditions for aid to generation adequacy and have been applicable since 1 July 2014.
- (122) The procedure for adopting a new decision may be resumed at the very point at which the illegality occurred⁴⁸.
- (123) In the light of the conclusions in the GC judgment that the Commission should have had doubts as to the compatibility of certain aspects of the measure with the internal market, the Commission decided to initiate the formal investigation procedure.
- (124) On the basis of the available information and the elements described in the Opening Decision, the Commission sought clarification and solicited comments on the following matters in particular:
- (a) appropriateness of the measure:
 - (1) whether the measure was sufficiently open to all relevant capacity providers, especially to DSR providers because of differences in the applicable contract lengths, limited guarantee for the volume in the T-1 auction, and the minimum level of participation;
 - (2) whether the participation of interconnected capacity should continue to be limited by the use of an interconnector-led model.
 - (b) proportionality of the measure:
 - (1) whether the measure was proportionate due to potentially discriminatory differences in the treatment of DSR operators compared to generators in the form of contract duration;
 - (2) whether the cost recovery method failed to incentivise consumers sufficiently to reduce their consumption during demand peaks and therefore did not minimise the total amount of aid.
 - (c) avoidance of negative effects on competition and trade:
 - (1) whether the measure avoided such effects since long term contracts were reserved for generating units, limiting the openness of the measure, and since the direct participation of foreign capacity was currently not permitted in the GB capacity mechanism.

⁴⁵ See Case C-199/06 CELF, ECLI:EU:C:2008:79, paragraphs 61 and 64

⁴⁶ Commission notice on determination of the applicable rules for the assessment of unlawful State aid, OJ C 119 of 22.5.2002, p. 22

⁴⁷ OJ C 200/1 of 28 June 2014.

⁴⁸ Case 34/86 Council v Parliament [1986] ECR 2155, paragraph 47; Case C-415/96 Spain v Commission [1998] ECR I-6993, paragraph 31; and Case C-458/98 P Industrie des poudres sphériques v Council [2000] ECR I-8147, paragraph 82.

3. COMMENTS FROM INTERESTED PARTIES

(125) This section summarises comments received by the Commission during the consultation period from 35 interested parties, in particular from stakeholders active in the energy sector (such as companies active in conventional generation, interconnectors, renewable energy generation and demand side response operators, as well as trade associations and non-governmental organisations), Ofgem and National Grid.

3.1. Objective of common interest and necessity of the measure

(126) Although the Commission did not explicitly address in the Opening Decision the issue of the common objective or of the necessity of the measure, some interested parties specifically commented on those issues. Most of them were supportive of the objective and necessity of the measure. Some simply agreed with the Commission's preliminary conclusion in the Opening Decision, whilst others:

- (a) cited analyses by ENTSO-E, the UK Government, National Grid and third parties which demonstrate that without the Capacity Market the UK's Reliability Standard would be breached;
- (b) stated that even in the light of recent developments in the energy market (e.g. introduction of smart meters) the Capacity Market remained necessary; or
- (c) explained that the Capacity Market provided an important signal which supported investment in new capacity and the maintenance of existing capacity.

(127) As regards the role and potential of DSR some interested parties pointed to the increasing volume of DSR participating in the auctions as evidence that the Capacity Market was designed appropriately and as evidence of the absence of barriers for DSR. Several interested parties also stressed the positive role played by the transitional auctions to encourage the growth of DSR, all the more as they cleared at higher prices and were not open to other capacity providers.

(128) Other interested parties questioned whether the CM is necessary, arguing that:

- (a) the UK market would be oversupplied. Comments noted the conservative approach taken by National Grid in forecasting demand and supply, the high capacity margins for winter 2018/19, the low level of the LOLE, the reassurances given by the UK in relation to security of supply that winter, the low clearing prices and the significant growth in interconnection;
- (b) the energy-only market would better ensure generation adequacy, especially following the UK's implementation of reforms such as the smart meter roll out, cash out reforms, and half-hourly settlement periods. One interested party cited the Australian energy-only market as an example where wholesale price volatility provides clear signals to invest in DSR;
- (c) the CM would perpetuate the "missing money" problem by dampening scarcity pricing which is necessary to encourage investment in DSR and storage. Several comments cited changes in electricity prices following the General Court's judgment as evidence for this dampening effect.
- (d) the Commission should assess thoroughly the potential of DSR, throughout a 10-year period, and the impact of the CM on this potential. Referring to studies, they indicate that (i) if smart meters and other useful devices are

widely deployed, 15 GW of domestic demand could potentially be shifted on a winter peak day in 2025; (ii) industrial customers were estimated, in a model of 2012, to provide a capacity of 4-5 GW of DSR; while (iii) the potential for DSR from all non-domestic and non-industrial buildings were estimated to be, for 2012, between 1.2 and 4.4 GW on a winter peak day; (iv) up to 1GW of DSR could be available in London in 2050. They also consider that DSR participation in the CM auctions is low, with DSR having obtained 1.37% of the total capacity auctioned. Finally, some interested parties criticised the transitional auctions (TAs) as not sufficient to promote DSR because of the exclusion of DSR providers with contracts under the enduring auctions and because the second TA was limited to turn-down DSR and was therefore not sufficient to promote this type of DSR in the long term. They also regret that the UK did not extend the TA for two more years.

3.2. Appropriateness of the measure

3.2.1. Choice of instrument

(129) One interested party argued that the CM was likely to be inconsistent in a number of ways with Regulation (EU) 2019/943 of the European Parliament and of the Council⁴⁹ because (i) the UK will already have implemented the majority of the energy-market reforms necessary to avoid a CM and (ii) if residual capacity concerns remained, a strategic reserve would be preferable.

3.2.2. Remuneration solely for the service of pure availability of capacity

(130) Some interested parties claimed that the existing notification arrangements ahead of stress events (i.e. a four-hour warning, with the timing and depth of the stress event identified ex-post) disadvantaged decentralised assets, including DSR. They suggested that the UK should explore the introduction of a dispatch mechanism or more warnings in the run-up to a stress event.

(131) Some interested parties indicated that the current penalty regime may not be sufficiently strong to ensure capacity providers respond effectively during system stress events.

(132) On the one hand, some interested parties argued that basing the definition of stress events on a “delivered energy” model breaches paragraph (225) of the EEAG and allows the manipulation of de-rating factors in a manner which discriminates against low carbon (wind and solar) and alternative technologies (such as storage).

3.2.3. Openness of the measure to all relevant capacity providers

3.2.3.1. Potential discrimination against DSR providers because of the absence of time-bound delivery agreements

(133) Some interested parties claimed that the requirement for capacity agreement holders to respond to a stress event at any time of the day and for however long it lasted made participation in the CM a difficult proposition for DSR providers. They therefore argued that time-bound delivery capacity agreements should be offered through the CM.

⁴⁹ Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

3.2.3.2. Differences in the available contract lengths

- (134) Under the current GB CM rules, most existing capacity providers have access to one-year agreements. Only generation capacity providers undertaking capital expenditure (CAPEX) above certain thresholds are eligible for longer-term capacity agreements of up to 15 years.
- (135) To justify the exclusion of DSR providers from longer-term contracts, many interested parties pointed to (i) the low CAPEX levels of DSR providers⁵⁰, (ii) their preference for short-term contracts because of their volatile portfolios, (iii) the need to have longer-term contracts for refurbished and new build capacities to avoid higher bids in the CM auctions, higher levels of aid and windfall profits for existing capacities. Some interested parties also indicated that DSR providers using behind-the-meter generation could still qualify for a longer-term contract if they met the CAPEX threshold and if they entered the auction as generation.
- (136) Some interested parties suggested (i) to limit the contract length to one year for all capacities, or (ii) to only allow contracts shorter than 5 years but not on the basis of CAPEX which does not take into account all the financial costs of DSR (such as operational costs), or (iii) to allow DSR providers to have access to 3-5 year contracts. Other parties suggested keeping the system based on CAPEX thresholds but giving the opportunity to any technology meeting those thresholds (i.e. including technologies operated by DSR providers) to have access to longer-term contracts and regularly reviewing the CAPEX thresholds or even creating several different thresholds to ensure technology neutrality.

3.2.3.3. Limited guarantee for the volume in the T-1 auction

- (137) Some capacity volume is not auctioned four years ahead (T-4) and is ‘reserved’ for the year ahead auction (T-1). If demand falls between the four-year ahead and year ahead auctions, the amount of capacity auctioned in the T-1 auction is reduced. However, because the T-1 auctions provide a better route to market for DSR, in 2014, the UK committed to procure in the year ahead auctions at least 50% of the capacity reserved four years earlier.
- (138) Some comments indicated that the current arrangements were not satisfactory as the organisation of a T-1 is unpredictable. The UK Government can decide to cancel an auction or change the volume to be auctioned in T-1. Some interested parties suggested fixing the amount to be procured in T-1 as a percentage either of the capacity needed for the delivery year or of the capacity auctioned in T-4. Others indicated the need to increase the volume auctioned in T-1 auctions incrementally over five years. Finally, some parties suggested (i) eliminating the T-4 auctions; (ii) organising additional weekly auctions or (iii) organising additional T-2 auctions.
- (139) Most interested parties indicated that the current arrangements were adequate and sufficient, pointing notably to the important success rate of DSR in the T-4 auctions. They argued that (i) all market players are equally exposed to the uncertain organisation or volumes of the T-4 and T-1 auctions so that DSR is not discriminated against; (ii) higher volumes of capacity reserved for T-1 could reduce the competitiveness of the T-1 auctions and (iii) higher volumes of capacity reserved for

⁵⁰ The estimations of DSR CAPEX included in the comments are very low (“close to zero”, “several thousands of pounds or less than GBP 5/kW”, “average cost of GBP 0.15/kW” in the Transitional auctions)

T-1 could increase the risk of over-procurement, if the need for capacity for the delivery year had decreased below the levels previously fixed.

3.2.3.4. Minimum participation threshold

- (140) As described in recitals (30) and (31), a minimum threshold of 2 MW is applicable for participation in the Capacity Market for all capacity types.
- (141) Some interested parties suggested setting much lower participation thresholds (100 kW, 500 kW, <1MW), referring to other markets in which DSR can participate (Pennsylvania-New Jersey-Maryland (PJM) Interconnection, balancing market and ancillary services).
- (142) Moreover, some parties criticised the high level of the bid bond applicable to DSR and generation (GBP 5,000/MW in 2014) as being discriminatory against DSR. They argued that this could constitute a barrier to entry in particular for new DSR providers as all participants in the Capacity Market had to commit to covering open-ended delivery and DSR providers might have more difficulty than generators in covering a long delivery period. Due to the higher perceived default risk of DSR providers, they might have more difficulties in financing the amount of the bid bond.
- (143) In contrast, many interested parties pointed to the relevance of a 2 MW participation threshold. Beyond the necessity to keep administrative costs low, some interested parties indicated that (i) the 2 MW threshold did not appear to be a barrier for DSR participation since the UK tested a lower participation threshold for the second transitional auction (500 kW) and only eight CMUs below 2 MW qualified, providing less than 3% of the overall capacity secured in that auction, and since no clustering of DSR CMUs around the 2 MW threshold was noticed in the latest auctions. They also pointed out that (ii) the 100 kW threshold used by PJM applies to smaller regional procurements and is therefore not comparable.
- (144) Several interested parties explained that a bid bond requirement was necessary to ensure real delivery and to discourage speculative projects. One interested party indicated that, in the transitional auctions for which the bid bond requirement was only 10% of the normal level, a high proportion of the new capacity failed to be delivered (25%).
- (145) Moreover, some interested parties pointed to advantages granted to DSR compared to other technologies:
- (a) unproven DSR that fails to deliver the full amount of its capacity during the DSR tests, only forfeits its bid bond on a pro rata basis provided they still supply at least 90% of the original capacity committed to, and even then, the DSR CMU can still retain its capacity agreement and avoid termination fees provided it remains above the 2MW threshold.
 - (b) termination fees are lower for DSR (up to GBP 10k/MW) than for other forms of capacity (up to GBP 35k/MW).
 - (c) joint testing allows DSR providers to ‘de-risk’ DSR testing by spreading the risk of under-delivery across a number of CMUs (i.e. any CMUs that over-deliver can be used to compensate for CMUs that under-deliver).
 - (d) since 2015, DSR providers need only to post bid bond once for an unproven DSR CMU and, therefore, can prequalify for multiple consecutive auctions whilst only providing one set of bid bond.

- (e) in 2016, the UK Government raised the pre-auction bid bond for new build generation to GBP 10,000/MW while the level of pre-auction bid bond for unproven DSR was left at GBP 5,000/MW.
- (f) the automatic entitlement of DSR to participate in the auctions as a ‘price maker’ and bid above the threshold that ‘price takers’ must accept.
- (g) uniform de-rating factor of 84% for DSR irrespective of the technology used to provide the capacity, whereas other technology classes have specific de-rating factors that range from 17% - 96%.
- (h) the ability for DSR to participate in secondary trading prior to capacity being proven.

3.2.3.5. Openness of the measure to renewable energy sources and new technologies

- (146) Some interested parties claimed that certain renewables – in particular wind and solar energy – are currently not allowed to participate in the CM, in breach of the EEAG. While welcoming the adoptions of new rules for solar and wind in June 2019, they criticised the fact that these rules had not already been in place in 2014 and the fact that the new rules were limited to wind and solar and did not include other RES or new technologies. For instance, a wind farm was rejected at pre-qualification for the T-4 auction in 2017. There was also no mechanism for pre-qualification of merchant renewables for the (cancelled) 2018 T-4 auction (for delivery year 2022/2023). Other comments criticised the de-rating factors applicable to RES as too restrictive.
- (147) Another interested party argued against the inclusion of intermittent renewables in the CM – particularly those built and funded under other support measures – as they would continue to operate regardless of CM payment and might not be able to produce and sell electricity during a stress event.

3.2.3.6. Participation of interconnected capacity

- (148) Many interested parties pointed to the long-term goal of direct participation of foreign capacities while insisting on the necessity to give the UK enough time to adapt to it, in line with the Regulation (EU) 2019/943.
- (149) Other parties however criticised the current interconnector-led model used in the UK, and called for a swift change to direct participation of foreign capacity. One comment indicated that interconnectors are guaranteed regulated returns through the ‘cap and floor’ mechanism. Therefore, it would not be appropriate for these interconnectors to participate in the CM while generation projects receiving subsidies are not allowed to participate.
- (150) One interested party commented that interconnectors should have been allowed to participate in the T-1 auction held in early 2018 for the delivery year 2018/2019. It also criticised the exclusion of interconnectors from capacity contracts longer than one year, as well as the de-rating methodology used for interconnectors, which is described as discriminatory notably because it is computed on an individual basis rather than per technology type like for other technologies participating in the CM.

3.3. Proportionality of the measure

- (151) One interested party questioned the compliance of the GB CM with paragraph (230) of the EEAG, since in 2016, existing generators successful in the CM auctions received a price of GBP 22.50/kW/year, while in 2017 they received a price of GBP 8.40/kW/year, pointing to overcompensation and windfall profits.

3.3.1. *Differences in the applicable contract lengths*

(152) The comments related to the applicable contract lengths are summarised in recitals (134) to (136) above.

3.3.2. *Exclusion of long-term STOR*

(153) One interested party submits that the participation of long-term STOR providers (see recital (32)(f)) in the CM would result in windfall profits, while exclusion would not undermine the original business case. Moreover, these operators could participate in the CM and in the annual auctions for short-term STOR contracts, and subsequently (if successful in the CM auctions) exit their long-term STOR contracts with no penalty.

(154) Another interested party argues that there is no prospect of long-term STOR providers achieving windfall profits as the CM is said to have led to lower cash-out prices, lower wholesale prices and lower utilisation of STOR plant. Moreover, long-term STOR providers would be de facto excluded because the final CM Rules specified that only power plants commissioned after 2014 would qualify as new build. In addition, banks would not accept a single-year CM agreement in favour of a 15-year STOR contract. They also argue that a claw-back mechanism would be more proportionate than complete exclusion and suggest that their plant should be retrospectively awarded the CM agreements they should have been awarded in 2014 and thereafter.

3.3.3. *Cost recovery method*

(155) The cost recovery method is based on electricity consumption between 4pm-7pm each weekday in winter. As explained in recital (187) of the Opening decision, the UK, before the national public consultation on the capacity mechanism, initially envisaged that the amount of the charges would be calculated on the basis of the electricity suppliers' market share in the electricity demand registered during the so-called 'triad' periods. That is to say the three half-hour periods registering the highest annual electricity consumption in the UK during the period from November to February.

(156) Most comments received on this point consider that the cost recovery methodology is proportionate. They argue that the current methodology strikes the right balance between, on the one hand, a predictable and fair basis for charging suppliers, and, on the other, maintaining a signal to reduce demand during the expected period of peak demand.

(157) Some interested parties also raised a range of concerns about the alternative 'triad' methodology:

- (a) it would not achieve any material reduction in the quantity of capacity to be procured through the CM, or the cost of that capacity;
- (b) it would have placed the costs of the CM disproportionately on domestic consumers;
- (c) it would have provided an unpredictable basis upon which to calculate charges – given supply at triads is difficult to forecast;
- (d) system stress events would not necessarily be correlated with the three half-hour periods representing the triads;

- (e) activity by DSR and/or embedded generation to avoid the triads (used to finance other measures) has led to inefficient dispatch decisions and depressed wholesale prices at peak times.
- (158) Other interested parties were critical of the chosen cost recovery methodology. They claim that (i) it is inconsistent with the expectation that the CM would only be activated during peak demand; (ii) few DSR providers could reduce demand every winter weekday between 4pm-7pm, and (iii) the “true” capacity gap would be over-estimated and overall CM costs would be higher. These parties also argue that a methodology based on the triad periods would be more appropriate as it would create a market for CM cost avoidance. One interested party raised a number of additional arguments: the triad methodology would not affect price predictability for most suppliers as almost all domestic customers and small businesses are profile settled; triad avoidance has been successful in encouraging flexible customers to participate in DSR; and the methodology based on 4pm-7pm encourages the use of polluting behind-the-meter generation to reduce demand over these periods.
- (159) Some interested parties supported the Commission’s position explained in recital (187) of the Opening Decision according to which, when assessing this issue, the Commission will also take into account paragraph (25) of the EEAG, stating that the compatibility of the measure should be solely assessed on the basis of the criteria laid down in section 3.9.5 of the EEAG. This provision does not entail any reference to the financing of generation adequacy measures. Others, in contrast, referred to the GC judgement to criticise this position.

3.4. Avoidance of negative effects on competition and trade

- (160) Some interested parties indicated that the CM should (i) be explicitly designed to minimise greenhouse gas emissions by supporting system security through technologies that have zero emissions; or (ii) support more renewable energy, or (iii) favour energy sources which are strategically important from a decarbonisation perspective, while progressively excluding polluting fuels or technologies that are not compatible with a decarbonised electricity sector.
- (161) Some comments also indicated that the Commission’s investigation should take account of the new rules for capacity mechanisms contained in Regulation (EU) 2019/943 in particular in order to limit capacity with high CO₂ emissions.

3.5. Standstill obligation

- (162) Some interested parties highlighted a number of actions taken by the UK after the GC judgment (see recital (18)) – holding replacement T-1 auction and (possibly) a T-3 auction (see recitals (53) and (156) of the Opening Decision). These actions would continue to enforce existing agreements in return for the prospect of deferred payments, and the continued collection of supplier charges. This would provide participants in the CM with an economic advantage during the standstill period and would therefore constitute unlawful aid.
- (163) These parties asked the Commission to issue a suspension injunction according to article 13(1) of Regulation 2015/1589, requiring the UK to suspend any unlawful aid until the Commission has taken a decision on the compatibility of the aid.

4. COMMENTS FROM THE UNITED-KINGDOM

(164) This section summarises the comments received from the UK on 12 April 2019 on the Opening Decision and those received on 7 June 2019, 19 July 2019 and 12 September 2019.

4.1. Objective of common interest and necessity of the measure

(165) According to the UK, their analysis, supported by the view of National Grid Electricity System Operator (NG ESO), demonstrates that the absence of the CM would adversely affect the UK's security of electricity supply and increase the Loss of Load Expectation (LOLE) above the Reliability Standard of 3 hours/year in all years as from 2019/20. On 7 June 2019, the UK indicated that, together with NG ESO, it had reviewed the analysis submitted in December 2018 and described in recitals (102) to (104) (and recitals (94) to (96) of the Opening Decision) and confirmed that it continues to represent the latest and best view of the need for the CM.

(166) The UK disagrees with the claim that the GB electricity market is oversupplied:

- (a) The parameter setting process employed by NG ESO is not overly conservative but instead seeks to ensure the appropriate balance of risks (between over-procurement and inadequacy of capacity) in what is an inherently uncertain process. It recalls that Ofgem provides NG ESO with incentives to accurately forecast demand⁵¹.
- (b) The better than anticipated capacity margins for winter 2018/19 illustrate the significant uncertainty and challenges involved in accurately predicting future capacity needs (noting that the assessment for 2018/19 was completed in early 2014). NG ESO's Winter Outlook report explained that some larger units, which were unsuccessful in the CM auction, were expected to remain operational during winter 2018/2019. This could be due to higher wholesale prices driven by the rise in gas prices and carbon costs.
- (c) This unexpected and favourable shift in market conditions ahead of winter 2018/19 also enabled the UK Government to make reassuring statements regarding the security of supply situation that winter despite the GC judgment. Whilst clearing prices are currently low, the UK submits that this is one of the successes of the CM – that high levels of competition in the auctions have secured the capacity needed, including some new capacity, at a lower cost to the consumer than originally expected.
- (d) In relation to the claim that the significant growth in interconnectors has led to oversupply of capacity, the UK notes that interconnectors participate in capacity auctions so that their contribution towards the UK's capacity needs is duly taken into account. The de-rating factors for interconnectors are reviewed on an annual basis to ensure they remain appropriate.

⁵¹ Ofgem notes in its State of the Energy Market 2018: "National Grid forecasts of transmission demand have been consistently above out-turns since 2011 by an average of around 1.5GW. Whilst it can be considered prudent for the System Operator to take a conservative approach to forecasting demand, this needs to be balanced against the costs of procuring additional capacity. Over the past year National Grid has made a number of changes to its demand forecasting process, which overall resulted in reductions to its view of underlying demand."

- (167) The UK contests the idea that the energy-only market is better placed to ensure generation adequacy. (i) The UK recalls the market failures described in recitals (105) to (109) (and recitals (97) to (101) of the Opening Decision). (ii) With respect to the roll out of smart meters, less than a third of consumers currently use smart meters, and dynamic Time of Use (ToU) tariffs are in their very early stages. Therefore, the UK does not believe the market failure of reliability as a public good has changed significantly since 2014 and it is too early to assess the extent to which greater roll-out in the future will affect this market failure. (iii) The cash-out reform has led to higher peak cash-out prices since the introduction of the CM but the inherently high level of uncertainty regarding scarcity events makes relying on high scarcity rents alone a risky strategy for investors: cash-out reform is unlikely to solve the missing money problem on its own. (iv) Referring to the International Energy Agency's review of Australia's energy policies in 2018, the UK notes that Australia experiences high electricity prices due to a lack of competition and structural problems, not because it would be a well-functioning energy-only market.
- (168) The UK also contests the idea that the CM would perpetuate the missing money problem. (i) Through the competitive auction process, the extent of the missing money is revealed. As the underlying issues that led to the missing money problem are addressed and the potential to secure scarcity rents through the electricity market increases, the UK expects that market participants will become less reliant on CM revenues because competitive auctions will drive clearing prices towards zero. At this point, it is possible that the CM will no longer be required. (ii) Contrary to what some interested parties claim, the UK considers that electricity market prices were not affected by the GC judgment or subsequent Government decisions or announcements. Looking at longer-term trends, it would appear that average baseload prices and volatility in prices have actually increased since the first CM delivery year in 2017/18. This would suggest that other factors have a greater influence on prices, and that some interested parties over-state the price dampening effect of the CM.
- (169) According to the UK, citing the National Grid EMR Electricity Capacity Report, of 2018, there is very little DSR data available and the best source of DSR contracts is the CM registers, as described in table 2 of the Opening decision (see Table 1 of the present decision). Analysis of the results of the first transitional auctions (see Table 4) indicates that around 70% of the DSR winning agreements was behind-the-meter generation, typically back-up diesel generators. According to the UK, a recent industry survey of DSR providers suggests a high level of participation of existing DSR (70%) in the CM. Moreover, estimates of DSR participating in other electricity services tend to be similar: for example, the amount of DSR participating in National Grid's portfolio of balancing products and services in 2015 was approximately 708MW. The UK indicates that there have been numerous attempts to estimate the total potential amount of DSR capacity in the UK but that these estimates come with significant caveats often linked to a lack of real data, leading to very different estimates. For example, the UK indicated that, while the Association for Decentralized Energy estimated in 2016 that there could be up to 9.8GW of components across the UK that could be turned down at least once a year by 2020, National Grid's 2018 Future Energy Scenario sees up to 1GW of viable Industrial and Commercial turn-down DSR by 2019/20, which it expects to roughly double over a decade.

(170) As regards the transitional auctions (TAs), the UK indicate that they have been designed specifically to support the DSR sector and independent evaluations of the TAs found that they were broadly successful in achieving their objective. A secondary objective of the TAs was to help improve the understanding of the sector. Evidence gathered as part of these evaluations identified ways in which the participation of DSR in the CM could be encouraged, which have now been or are being implemented (see “joint testing” in recital (145), reallocating the components of DSR CMUs in see recital (180) below). Finally, the UK indicates that participants in the TAs were prevented from entering the T-4 auctions in 2014 and 2015 (they are allowed to participate in all other T-4 auctions) because they did not need the additional support available via the TA to the extent that they were already sufficiently mature to compete in these auctions. Participants in the TA were, however, permitted to enter the T-1 auctions for the corresponding delivery years, thus ensuring that TA participants had a route to the market for every single delivery year.

4.2. Appropriateness of the measure

4.2.1. Choice of instrument

(171) The UK does not share the view of some interested parties that a strategic reserve would be preferable to the market-wide CM. Although the UK recognises that strategic reserves can be an efficient way of addressing temporary adequacy concerns, they are a less suitable option in markets where capacity concerns are more acute or prolonged, as they come with a greater risk of market distortion. According to the UK, this is due to a number of factors, namely the inefficiency of holding the reserve outside the market; the requirement for more central management of such a strategic reserve which may lead to insufficient or inappropriate reserve capacity being purchased; and the risk that the reserve becomes steadily larger over time as plant choose to 'game' the mechanism, preferring to sit in the reserve rather than taking the risk of participating in an electricity-only market⁵².

(172) In addition, the UK states that a strategic reserve would not incentivise investments in new plants. On the contrary, it can effectively create a price cap (or the perception of a price cap) in the market as investors may be concerned that the UK authorities would, in the event of price spikes, come under pressure to reduce the reserve dispatch price – eliminating their scarcity revenues, and undermining their investment case. According to the UK, market-wide CMs are more effective in incentivising investments in new capacity to address longer-term adequacy concerns.

4.2.2. Remuneration solely for the service of pure availability of capacity

(173) The UK states that it chose the notification arrangements ahead of stress events in order to comply with the EEAG, specifically paragraph (225) regarding the remuneration of pure availability rather than delivered energy. A specific dispatch mechanism would interfere with markets. As part of the five-year review, the UK plans to investigate mechanisms to provide greater information to participants in respect of stress events, though it does not envisage to implement a full dispatch mode.

⁵² The latter is known as “slippery slope” problem.

- (174) As regards the effectiveness of the penalty regime of the CM, the UK will consider strengthening the penalty regime in response to increasing participation by non-conventional technologies as follow-up to the five-year review.
- (175) The UK recognises that capacity providers may face penalties in instances where they fail to physically deliver energy during stress events. In this regard, the CM can be considered to follow a ‘delivered energy’ model. However, in the context of the CM, distortions to dispatch are highly unlikely to occur in practice because stress events are defined with reference to last resort actions by NG once the market has failed to deliver. Therefore, the CM would be in line with paragraph (225) of the EEAG.
- 4.2.3. *Openness of the measure to all relevant capacity providers*
- 4.2.3.1. Potential discrimination against DSR operators because of the absence of time-bound delivery agreements
- (176) The UK indicates that a ‘time-banded’ variant of the standard capacity agreement was available to capacity providers participating in the TA auctions: capacity providers could choose to make their capacity available between 4-7pm only in return for reduced capacity payments. However, demand for this product in the TAs proved negligible: only one CMU out of the 89 CMUs that were successful in the auctions chose this type of agreement. Therefore, according to the UK the absence of a time-banded product in the main auctions cannot be considered a significant barrier to participation. Moreover, the UK Government submits that time-banded capacity agreements do not fully meet the generation adequacy requirement (system stress events are not necessarily restricted to this time of day) and would create additional complexity in calculating the total capacity requirement for a given delivery year.
- 4.2.3.2. Differences in the applicable contract lengths
- (177) The UK indicates that without access to long-term agreements, new, project-financed generation may not be able to participate in the capacity auctions. Without this longer amortisation period, applicants with project-financed developments would be required to bid at high levels, potentially in excess of the auction price cap. This would unnecessarily increase bid levels – increasing the overall amount of aid paid through the CM and the risk of windfall profits to other capacity providers. The result may even be that new build capacity would not at all participate in the auction, thereby reducing competition in the auctions.
- (178) The UK underlines that the interested parties’ comments pointing to low CAPEX levels for DSR are consistent with information on the capital costs of turn-down DSR collected through the independent evaluation of the second Transitional auction. The UK considers that the average cost of GBP 0.15/kW is negligible when considered against the minimum capital expenditure threshold of GBP 270/kW for 15-year agreements. In relation to the argument that aggregators face significant staffing costs associated with administration and with recruiting clients, the UK notes that this argument is relevant only to the activity of aggregation, not DSR per se, and similar arguments could be made in relation to other types of capacity. Besides, the UK indicates that new DSR with behind-the-meter generation would also be able to participate in the CM as generation and could bid for 15-year agreements.
- (179) The UK notes that the principle of non-discrimination does not require that all undertakings be treated in exactly the same way in all cases. Differences in treatment may be objectively justified, and in fact may be necessary, to avoid discrimination.

DSR and new build generation are not in the same position for example with respect to their level of CAPEX. They therefore do not necessarily have to be treated in the same manner with regard to available contract lengths. The results of the auctions to date do not provide any indication that the differential access to longer-term agreements is distorting auction outcomes in practice. The performance of DSR is comparable with (and regularly better than) new build generation: e.g. in the most recent T-4 auction, unproven DSR obtained a higher success rate and higher total volume than new build generation.

- (180) Finally, the UK indicates that the CM rules were amended in June 2019 to allow DSR operators to reallocate components of their CM unit during the contract period. The UK claims that, without proper regulation, allowing DSR operators to have access to longer-term contracts in this case could create a loophole in the system. DSR operators might aggregate expensive components to artificially reach the CAPEX thresholds, before exchanging them against cheaper ones during the contract period.
- (181) As regards the exclusion of interconnectors from longer term contracts, the UK notes that, despite the lack of multi-year agreements for interconnectors in the CM, there are plans for several interconnector projects, suggesting that longer agreements are not required in order to incentivise such investment.
- (182) The UK considers that the principle of using CAPEX thresholds to determine the contract length remains appropriate and could be extended. Therefore the UK committed on 12 September 2019:
- (a) to allow all types of capacities (except interconnectors) to apply to prequalify to bid for the various contracts lengths available if they can demonstrate they meet the capital expenditure (CAPEX) thresholds described in recital (75) and;
 - (b) to keep these CAPEX thresholds under review to ensure that they remain appropriate.

4.2.3.3. Limited guarantee for the volume in the T-1 auction

- (183) The selected approach to set aside capacity for the T-1 auction aims to strike a balance between minimising risks to security of supply (which would favour a larger T-4 auction volume) against risks of over-procurement (which would favour a larger T-1 auction volume). Moreover, T-1 auctions are seen as a preferable route-to-market for DSR capacity as such capacity has generally shorter lead times.
- (184) The auction volume commitment of the 2014 Decision has been honoured to date, with actual volumes auctioned in T-1 exceeding the volume reserved four years earlier.
- (185) The UK also indicated that reserving four years ahead for T-1 auctions, a fixed percentage of the total amount of capacity for the delivery year would reduce the amount of capacity available to new installations in T-4 and would therefore be discriminatory. It would also increase the T-1 auction volume to a level which cannot necessarily be fulfilled and may lead to uncompetitive T-1 auctions, particularly if coinciding with additional plant closures.
- (186) The Secretary of State's ability to postpone or cancel a capacity auction (see recital (65) and (138)) is necessary to ensure effective oversight of the CM and auction process and enable the UK Government to take action in unforeseen circumstances (e.g. cancellation of the auctions following the GC judgement). Besides, the UK

notes that these arrangements affect equally both T-4 and T-1 auctions and all prequalified participants. It therefore cannot be said to disadvantage a particular type of capacity provider.

- (187) To continue providing visibility to capacity providers, the UK committed on 12 September 2019:
- (a) to continue procuring in the year ahead auctions at least 50% of the capacity reserved four years earlier as part of the parameter setting process for the four year ahead auction for the same delivery year and;
 - (b) to continue using the set-aside methodology based on a 95% confidence interval described in recital (62) to determine the minimum amount of capacity that will be set aside for a year ahead auction.
- (188) According to the UK: (i) a T-2 auction geared towards smaller, decentralised generation would discriminate against plants with longer construction times. Moreover, the need for a T-2 auction is unclear as small-scale embedded generation with shorter construction times has been one of the most successful categories of new generation in the T-4 auctions to date. (ii) Weekly auctions would not provide the long-term investment signals that are a goal of the CM, and it is not clear what benefit this could provide in respect of security of supply or in what way it would differ from existing secondary trading arrangements.

4.2.3.4. Minimum participation threshold

- (189) The UK notes that the purpose of the 2MW minimum threshold is to keep the administration of the CM's processes manageable. The ability to aggregate ensures that smaller capacity is not excluded or disadvantaged in the CM. The second Transitional Auction failed to attract significant interest from smaller than 2MW CMUs (see recital (68)). The UK indicates that, for recent auctions, there was no clustering of CMUs at the 2MW level, which one might expect to see if there was a preference or desire for smaller CMUs. Besides, as in its notification in 2014, the UK recalls that 2 MW is a low threshold in particular because National Grid's balancing services in 2014 had higher participation thresholds (Short Term Operating Reserve (STOR) and Frequency Response was set at 3 MW) and because it was much lower than the one used in many other European capacity mechanisms where thresholds of 10-50 MW were not uncommon (with reference to Final Report of the Sector Inquiry on Capacity Mechanisms the Sector Inquiry⁵³).
- (190) The UK agrees with the comments of interested parties mentioned in recitals (143) to (145).
- (191) The UK indicates that participating as part of an aggregated CMU should in most cases allow to hedge against non-delivery risks. The aggregator can design its CMUs so that the failure of one component can be compensated for by another component either within the same CMU or by another CMU within the portfolio, thereby reducing the risk of incurring penalties or termination fees.
- (192) The UK also states that maintaining the level of bid bond at half the level of that for new build generation is deemed appropriate to ensure that the requirement does not create an undue entry barrier to new DSR. As regards the exposure of DSR operators to the full level of bid bond even if most components are proven, the component

⁵³ Final Report of the Sector Inquiry on Capacity Mechanisms, SWD(2016) 385 final

reallocation rule change (see recital (180)) has created a flexibility mechanism to fully address this issue.

- (193) The UK acknowledges that there may be a handful of CMUs smaller than 2 MW that wish to enter the auction and have a preference not to aggregate, but does not believe that the 2 MW minimum threshold represents a technical barrier to DSR participation. However, the UK recognises that, since 2014, there has been a trend towards lower entry thresholds in electricity markets, such as the 1 MW threshold for TERRE⁵⁴.
- (194) To take into account the market developments described in recital (193), the UK committed on 12 September 2019:
- (a) to reduce the minimum threshold to participate in the CM as described in recitals (30) and (31) to 1 MW for all auctions for which prequalification starts from January 2020, and;
 - (b) to reassess this threshold by October 2021 to examine the potential for a further reduction.

4.2.3.5. Openness of the measure to renewable energy sources and new technologies

- (195) The UK indicates that, in 2014, it was expected that wind and solar would, due to their high capital costs, require high and explicit low-carbon support, such as the Contracts for Difference (CfD) scheme or its predecessor the Renewables Obligation (RO). Receipt of these subsidies would de facto exclude them from participating in the CM. It was therefore considered unnecessary to design and implement rules to enable their participation.
- (196) The UK recognises that capital costs for certain renewables have declined dramatically in recent years. Once it became clear there was interest to build ‘subsidy free’ wind and solar installations and include them in the CM, the necessary changes were investigated and implemented as quickly as possible— including establishing a new de-rating methodology and ensuring there is no duplication of State aid. The necessary changes to the CM Rules to add these intermittent technologies were adopted in the UK Parliament on 4 June 2019. The UK confirms that renewables (wind and solar) will be able to participate in the T-1, T-3, and T-4 auctions planned for January 2020 (subject to a positive final State aid decision on the scheme). Consequently, the wind farm mentioned in recital (146) above, which could not participate in the prequalification for the cancelled T-4 auction in 2018, could still participate in the upcoming T-3 auction, i.e. for the same delivery year (2022/2023).
- (197) To ensure the repetition of a situation similar to the one described in recital (146) above, the UK committed, on 12 September 2019, to develop all rules necessary (for instance, but not limited to de-rating factors) to ensure the effective participation of any new capacity type which can effectively contribute to addressing the generation adequacy problem, as soon as such capacity has the potential to contribute to addressing the generation adequacy problem.
- (198) The UK disagrees with the comment mentioned in recital (147) above. Taking the example of the extreme weather event of March 2018 (the so-called “Beast from the East”), when wind was noted as key contributor to the avoidance of a stress event,

⁵⁴ Trans-European Replacement Reserve Exchange, a pan-European balancing services market expected to come into force at the end of 2019

the UK underlines that wind makes a demonstrable contribution to security of supply. After extensive analysis, an appropriate de-rating methodology for such installations has therefore been developed for inclusion in the CM.

4.2.3.6. Participation of interconnected capacity

- (199) The UK indicates that it has always been clear that it sees direct participation by foreign capacity in the CM as the best solution to contribute to security of supply. However, it was not possible to implement direct foreign participation immediately for the reasons described in recital (35) (and recital (28) of the Opening Decision).
- (200) Taking into account the fact that, since 2014, other Member States have implemented market-wide capacity mechanisms with the prospect of allowing direct participation of foreign capacities, and taking into account the entry into force on 4 July 2019 of Regulation (EU) 2019/943, the UK committed on 12 September 2019:
- (a) to endeavour to implement the direct participation of foreign capacity in auctions for which prequalification starts from January 2020, conditional upon cooperation agreements with the transmission system operators in the neighbouring countries where participating capacities are located; and, in any event,
 - (b) to apply direct participation of foreign capacity for all auctions for which prequalification starts after the methodologies, common rules and terms mentioned in point 11 of article 26 of the Electricity Regulation (EU) n°2019/943 have been approved by ACER and published on its website according to article 27 of the above mentioned Regulation and have become applicable.
- (201) The UK does not consider that the 'cap and floor' regime for interconnectors provides them with an unfair advantage in the CM auction. Any revenue from the CM is considered before assessing an interconnectors' revenue with respect to the cap and floor regime. An interconnector would only receive a floor payment if total revenue (including CM revenue) is below the pre-defined floor. Similarly, if total revenue is above the cap then the interconnector will pay back the excess to the consumer. Interconnectors continue to be exposed to market prices and revenue fluctuations within the bounds of the cap and floor regime.
- (202) Finally, the UK indicated that it had made clear to all stakeholders since September 2014 that the interconnectors would be able to participate in auctions for the delivery year 2019/2020: hence, not for the T-1 auction organised in early 2018 for the delivery year 2018/2019. According to the UK, as part of the 2014 State aid assessment process, the UK committed to the following: if the ex-post assessment showed that the contribution of interconnectors in the T-4 auction planned for 2014 was under-estimated, the UK would reduce the amount of capacity in the 2017 T-1 auction correspondingly (see recital (124) of the 2014 Decision). The UK claimed that, in order to respect this commitment, it had to reduce the amount of capacity to be procured in the T-1 for delivery year 2018/2019, which was incompatible with an increase in the amount of capacity to be procured (which would have been necessary to allow interconnectors to participate in this T-1 auction). As regards the de-rating methodology used for interconnectors, the UK indicated that methodologies differ among technology type to ensure a level playing field. In particular, de-rating factors are set on the basis of individual interconnectors due to the significant differences between interconnectors and connected markets. Besides, each year NG ESO

establishes a suitable modelled range of de-rating factors for each interconnected country (using a stochastic pan-European modelling methodology). This overall methodology is then validated by the PTE, which confirms that NG ESO's analysis is accurate and appropriate, and then suggests the appropriate de-rating from within each range. The Secretary of State then adopts the final values. The UK also underlined that awarding longer-term contracts to interconnectors would be inconsistent with the UK's position that the interconnector model is a short-term solution (see recital (199) above) until direct foreign participation is introduced.

4.3. Proportionality of the measure

4.3.1. Differences in the available contract lengths

(203) The comments related to the available contract lengths are summarised in recitals (177) to (180) above.

4.3.2. Exclusion of long-term STOR

(204) The UK maintained that the approach taken to long term STOR (LT STOR) providers in 2014 was based on the best evidence available at the time. Operators were expected to realise windfall profits if they were allowed to participate in the CM, which would have been in contradiction of paragraphs (228) and (230) of the EEAG. At the time, it was reasonable to expect that STOR operators would have substantial utilisation payments over the coming years in addition to the fixed availability payments.

(205) The UK did not expect that the utilisation payments would effectively cease altogether. It is now likely that only in the case of a stress event, LT STOR providers would receive utilisation payments, as NG will dispatch all resources at its disposal in that event.

(206) The UK argued that the exclusion of LT STOR plants from bidding into the CM for long-term agreements was in line with the logic of offering long-term agreements only to those plants that would otherwise have experienced a barrier to entry. Moreover, plants commissioned by the time of the first CM auction in 2014 could no longer be considered 'new'.

(207) The UK underlined that operators could decide to withdraw from STOR contracts if successful in a CM auction as the termination of their long-term STOR contracts was penalty-free.

(208) The UK explained that the suggested "claw back mechanism" was not proposed by the interested party in 2014 and was not regarded as necessary because the revenues available to LT STOR operators were deemed to be equivalent with the low-carbon subsidy schemes (CfD, RO, FiT) that were also excluded from CM participation.

(209) The UK noted that the remedy proposed by the interested party of retrospectively awarding agreements to the plant, starting in 2014 is unreasonable. This would present the operator with risk-free consumer-funded income for a period during which it has had no delivery obligations under the CM.

(210) As the market circumstances may have changed since 2014, the UK wishes to consider whether it is appropriate to allow their eligibility for future auctions.

4.3.3. Cost recovery method

(211) The UK underlined that with respect to assessing the proportionality of a measure, the EEAG (at paragraph 3.9.5) do not include the financing of a generation adequacy

measure as a relevant criterion. Nevertheless, the UK considers that the charging methodology is proportionate.

- (212) The UK indicated that, irrespective of how much DSR is incentivised by CM cost avoidance, this cannot be reflected in a reduction in the overall CM volume. The reason is that the same DSR capacity is eligible to participate in the CM and provide the requested volume. To reduce the overall CM volume would risk double-counting the capacity provided by this DSR: first, as expected market-based demand reduction and, secondly, as DSR provider within the CM if successful in the auction.
- (213) Moreover, there are already strong incentives to reduce demand during the three half-hour triad peaks (the value of the benefit arising from the Transmission Network Use of System charging arrangements increased from around GBP 10/kW in 2005/06 to around GBP 47/kW in 2016/17 and was projected to increase to over GBP 70/kW by 2020/21). Enabling CM cost avoidance in this same period would be unlikely to stimulate any additional DSR activity but would likely provide a greater financial reward to DSR providers that were already acting to reduce demand at these times.
- (214) The UK noted that system stress events will not necessarily be correlated with the three half-hour periods representing the Triads – stress events may also be associated with times of low availability of generation (e.g. wind) or last longer. Besides, forecasting supply (and market share of supply) at triads is difficult as triads are identified ex-post (i.e. their timing is only known after the end of the triad season). Consequently, suppliers could have large discrepancies between their forecast and actual CM costs, which could lead to an increased cost for consumers as suppliers would seek to manage the uncertainty by passing on costs with a risk premium. Moreover, basing the CM cost recovery methodology on a larger number of hours (i.e. 4-7 pm winter weekday peaks) makes it harder for larger industrial customers to completely avoid CM costs and therefore treats them more similar to domestic consumers and small businesses.
- (215) According to the UK, the argument that the current methodology encourages only behind-the-meter generation as DSR is based on the assumption that the 4-7 pm period is too wide for customers to regularly turn down demand during these hours. The UK notes that it is not necessary to reduce demand during the entire period to benefit; it would just imply the DSR turn-down providers would not yield the full benefit.
- (216) Whilst the UK considers that the chosen cost recovery methodology is proportionate in that it retains some incentive effect on DSR and avoids or softens the negative impacts associated with a triad methodology, the UK intends to explore, as part of the five year review process, whether certain changes might be useful to reflect experience and market developments.

4.4. Avoidance of negative effects on competition and trade

- (217) The UK noted that Regulation (EU) 2019/943 requires Member States to phase out agreements and payments for generation capacity (including generators used by behind-the-meter DSR operators) that emit more than 550g of CO₂ of fossil fuel origin per kWh of electricity. A corresponding amendment to the Capacity Market Rule entered into force on 18 July 2019. It introduced a carbon emissions limit of that level for new build capacity seeking to prequalify for the capacity auctions to be held in early 2020 (including any new build components entering as unproven DSR).

(218) On 12 September 2019, the UK committed to respect the provisions of Regulation (EU) 2019/943 and in particular to adopt by the end of 2020 regulatory changes to ensure that, from 1 July 2025 at the latest, generation capacity that started commercial production before 4 July 2019 and that emits more than 550 g of CO₂ of fossil fuel origin per kWh of electricity and more than 350 kg CO₂ of fossil fuel origin on average per year per installed kW_e is not committed, does not receive payments or commitments for future payments under the Capacity Market.

4.5. Standstill obligation

(219) The UK recognises that the consequence of the GC judgment is that, until and unless the Commission reaches a decision approving the grant of State aid under the CM scheme following a formal investigation, the UK is not permitted to grant aid. It does not follow from the judgment, however, that the UK cannot operate elements of the scheme that do not involve the grant of any aid.

(220) According to the UK, there is no breach of the standstill obligation in the following situations:

(a) awarding conditional capacity agreements ("CCAs") following a T-1 top up auction held in June 2019 (see recital (18)(a)) because CCAs do not confer any economic advantage on providers unless and until the Commission grants State aid approval. The providers will be required to comply with certain obligations without any guarantee that they will receive capacity payments or other economic advantage, as the payments are conditional on Commission approval.

(b) requiring providers to comply with their obligations under existing capacity agreements during the standstill period. Once again, providers have no guarantee that capacity payments will eventually be made. Moreover, this imposes a burden on capacity providers, not a benefit.

(c) allowing suppliers to make voluntary payments to the CM Settlement Body during the standstill period to offset their potential supplier charge liabilities, and allowing the Settlement Body to receive such payments. The supplier payments will not finance aid unless and until the Commission grants State aid approval.

4.6. Transparency

(221) The UK committed to apply the transparency conditions laid down in Section 3.2.7 of the EEAG insofar as applicable to the aid granted under the capacity market.

5. ASSESSMENT OF THE AID

5.1. State aid within the meaning of Article 107(1) TFEU

(222) In the Opening Decision, the Commission expressed the preliminary view that the measure constituted State aid within the meaning of Article 107(1) of the Treaty. Neither the UK nor any interested party questioned that view.

(223) Article 107(1) of the Treaty defines State aid as 'any aid granted by a Member State or through State resources in any form whatsoever'.

(224) State aid falling within Article 107(1) of the Treaty is incompatible with the internal market if it 'distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods [...], in so far as it affects trade between Member States'.

(225) Paragraphs 2 and 3 of Article 107 of the Treaty list specific circumstances in which aid is or may nonetheless be considered compatible with the internal market. The Commission's assessment of whether any of those circumstances apply in this case is set out in Section 6.

5.1.1. Imputability to the State and financing through State resources

(226) For measures to be count as State aid within the meaning of Article 107(1) of the Treaty, (a) they have to be imputable to the State and (b) the monies have to derive from the State's fund, being granted either directly or indirectly by any public body designed or established by the State⁵⁵. For the reasons given in recitals (227) to (229) of this Decision, the Commission considers that the measure is imputable to the UK and that capacity payments constitute State resources because they are under the control of the State.

(227) The Capacity Market was put in place by the UK Secretary of State for Energy and Climate Change under powers conferred on him by the Energy Act 2013. The UK adopted secondary legislation in the form of the Electricity Capacity Regulations and Capacity Market Rules on 1 August 2014 which has governs the implementation of the Capacity Market. The State is responsible for issues such as approving the amount of capacity to auction, the pre-qualification procedures, the contents of the capacity agreements, and the obligations of the capacity holders.

(228) The UK set up a Settlement body to provide accountability, governance and control of the settlement process and payments disbursed. The Settlement Body is State-owned and the UK authorities stated that the government retains overall control over it (see recital (27)).

(229) As described in recitals (88) and (89), the measure is financed through a surcharge (levy) established by law and levied on all licensed suppliers. The levy is mandatory and is collected by the Settlement Body. The Settlement Body then orders the payments to be made to the capacity providers. The State through the Settlement body has the power to dispose of the funds.

5.1.2. Economic advantage conferred on certain undertakings or the production of certain goods (selective advantage)

(230) An advantage, within the meaning of Article 107(1) TFEU, is any economic benefit which an undertaking would not have obtained under normal market conditions, i.e. in the absence of State intervention⁵⁶.

(231) The Commission notes that the successful bidders in the Capacity Market auctions receive remuneration through the CM which they would not receive if they continued to operate in the electricity market under normal economic conditions selling electricity and ancillary services only (BETTA – described in Section 2.8). The measure therefore confers an economic advantage on undertakings which have been successful in the CM auctions. This advantage is selective in that it favours only certain undertakings, namely the successful bidders in the CM auctions, that are in a

⁵⁵ Case 76/78 Steinike & Weinlig v Germany [1977] ECR 595, paragraph 21; Case C-379/98 PreussenElektra [2001] ECR I-2099, paragraph 58; Case C-706/17 Achema [2019] paragraph 47 and following.

⁵⁶ Judgment of the Court of Justice of 11 July 1996, SFEI and Others, C-39/94, ECLI:EU:C:1996:285, paragraph 60; Judgment of the Court of Justice of 29 April 1999, Spain v Commission, C-342/96, ECLI:EU:C:1999:210, paragraph 41

comparable factual and legal situation to other capacity providers that either could not, or did not participate in the CM auctions, or did participate but were not successful.

- (232) Moreover, the measure has so far conferred a selective advantage only on certain undertakings able to help tackle the identified adequacy problem because capacities smaller than 2MW (see recitals (30) and (31)) and foreign capacities are excluded from participating directly in the CM (see recital (34)), even though they can also help reduce the identified adequacy problem. For the future, the existence of a minimum threshold to participate in the CM, even if reduced in the manner described in recital (193), will continue to exclude some capacities from a direct participation (i.e. without aggregation) in the CM. Furthermore, unless all foreign capacities located in neighbouring and non-neighbouring Member States can participate in the CM, the CM will continue to exclude certain undertakings able to help tackle the identified adequacy problem. Consequently, also from this narrower perspective, the measure confers a selective advantage.

5.1.3. *Distortion of competition and trade within the EU*

- (233) The measure risks distorting competition and affecting trade within the internal market. Electricity generation as well as electricity wholesale and retail markets are activities open to competition throughout the Union⁵⁷. Therefore, any advantage from State resources to any undertaking in that sector has the potential to affect intra-Union trade and to distort competition.

5.1.4. *Conclusion on the assessment under Article 107(1) of the Treaty*

- (234) In the light of the assessment set out in this Section, the Commission concludes that the measure constitutes State aid within the meaning of Article 107(1) of the Treaty. Article 107(1) is subject to application of any of the specific grounds for compatibility set out in Article 107(2) and (3) of the Treaty. The only ground that could be relevant in this case is the one set out in point (c) of Article 107(3). Section 6 assesses whether that ground is satisfied in this case.

5.2. **Lawfulness of the aid**

- (235) Although the Capacity Market was notified by the UK authorities before being put into effect, the 2014 Decision authorising the measure was subsequently annulled by the General Court. In the light of the GC judgment annulling the 2014 Decision, the implementation of the measure in question until the GC judgment must be regarded as unlawful⁵⁸.
- (236) Since issue of the GC judgment and annulment of the 2014 Decision in November 2018, the UK put in place certain measures, listed in recital (18). This Section considers whether those measures constitute new unlawful aid.
- (237) First, as far as the organisation of a top-up T-1 auction in June 2019 is concerned, no breach of the standstill obligation occurred since the contracts awarded as a result of that auction contained a conditionality clause to the effect that they can only confer rights if there is a positive State aid decision. As a result, that measure put in place by the UK after November 2018 does not constitute new unlawful aid.

⁵⁷ See notably Regulation (EC) n°714/2009, Directive 2009/72/EC, Regulation (EU) n°2019/943 and Directive (EU) 2019/944.

⁵⁸ See Case C-199/06 CELF, ECLI:EU:C:2008:79, paragraphs 61 and 64

- (238) Second, as regards the continued enforcement of capacity contracts awarded in auctions held before November 2018 and the collection of CM-charges from suppliers while the CM-payments were suspended, the UK is not in breach of the standstill obligation. These measures could not be regarded as providing any economic advantage since they represent a cost to companies, not a benefit. Therefore, this measure alone does not constitute new unlawful aid.
- (239) Third, as regards the launch of prequalification procedures on 22 July 2019 for a T-1 auction, a T-3 auction and a T-4 auction, each of which is scheduled to take place in the first quarter of 2020, no contracts have been signed yet. As a result, that measure does not constitute new unlawful aid either.

6. COMPATIBILITY WITH THE INTERNAL MARKET BASED ON ARTICLE 107(3)(C) OF THE TREATY

- (240) Article 107(3)(a) to (e) of the Treaty specifies certain types of aid that may be considered compatible with the internal market. Point (c) covers aid to facilitate the development of certain economic activities or of certain economic areas where such aid does not adversely affect trading conditions to an extent contrary to the common interest.
- (241) The Commission's Guidelines on State aid for environmental protection and energy 2014-2020⁵⁹ ('EEAG') set out the conditions under which aid for energy and environment may be considered compatible with the internal market under Article 107(3)(c) of the Treaty. The EEAG have been applicable since 1 July 2014. Section 3.9 of the EEAG sets out the specific conditions for aid granted to ensure generation adequacy.
- (242) As mentioned in recital (235) above, the result of the annulment of the 2014 Decision is that the implementation of the aid until the GC judgment must be deemed unlawful. In accordance with the Commission notice on determination of the applicable rules for the assessment of unlawful State aid⁶⁰, the Commission has assessed the compatibility of the measure with the internal market on the basis of the conditions established in Section 3.9 of the Environmental and Energy Aid Guidelines (EEAG). According to paragraph (248) of the EEAG, unlawful energy aid should be assessed in accordance with the rules in force on the date on which the aid was granted, i.e. 16 December 2014.
- (243) The procedure for adopting a new decision may be resumed at the very point at which the illegality occurred⁶¹.

6.1. Objective of common interest and necessity of the measure

- (244) Sections 3.9.1 and 3.9.2 of the EEAG set out specific conditions to be applied in assessing the extent to which aid contributes to a well-defined objective of common interest and the extent to which there is a need for State intervention.

⁵⁹ OJ C 200/1 of 28 June 2014

⁶⁰ Commission notice on determination of the applicable rules for the assessment of unlawful State aid, OJ C 119 of 22.5.2002, p. 22

⁶¹ Case 34/86 Council v Parliament [1986] ECR 2155, paragraph 47; Case C-415/96 Spain v Commission [1998] ECR I-6993, paragraph 31; and Case C-458/98 P Industrie des poudres sphériques v Council [2000] ECR I-8147, paragraph 82.

(245) In the Opening Decision, the Commission reached the preliminary conclusion that the CM contributed to an objective of common interest and was necessary.

6.1.1. *Objective of common interest*

(246) In 2014, the UK put in place a methodology to identify the generation adequacy concern based on a model using the enduring reliability adequacy standard as an indicator for generation adequacy. In its 2014 notification, the UK demonstrated that the enduring reliability adequacy standard could reach critical levels four years later, i.e. as of 2018/2019. Those findings were broadly consistent with the ones published by ENTSO-E in the most recent system adequacy report available at the time⁶². In 2014, ENTSO-E estimated that in Scenario A for Great Britain (which only took into account generation capacity developments that were considered secure) the capacity remaining after 2016 might have been insufficient to cover an adequacy reference margin in the absence of interconnector imports.

(247) According to the latest ENTSO-E's findings in its Mid-term Adequacy Forecast 2018 (MAF 2018)⁶³, the LOLE level (hours/year) for the UK in the base case scenario is estimated to be 1.29 in 2020 and 1.30 in 2025, well below the target LOLE of 3 hours set by the UK as described in recital (98). The MAF 2018 indicates that *"improved MAF 2018 results may also be attributed to existing capacity mechanisms"*. MAF 2018 was published on 3 October 2018, i.e. before the GC judgment annulling the 2014 Decision. The MAF 2018 calculation therefore took into account the effects of the existence of the CM in the UK. Indeed, in Appendix 2 of MAF 2018, the UK indicates that *"Great Britain has established a Capacity Market (CM) to ensure that we have sufficient available capacity to meet our Reliability Standard of 3 hours/year loss of load expectation (LOLE). The results for the MAF are in line with these expectations and so we are not anticipating adequacy concerns in Great Britain."*

(248) The identification of a persistent need for a CM for the future has to be based on counterfactual scenarios, assuming that no CM exists in the UK. As described in recitals (102) to (104), the analyses show that when the CM is excluded from the modelling, the reliability standard (LOLE) is likely to be breached in every year included in the modelling. In particular, NG's analysis described in recital (103) is based on the EMR base case used in NG's Future Energy Scenarios. The Future Energy Scenarios are also the basis of the assumptions used in MAF 2018 for the UK. Therefore, in line with paragraph (221) of the EEAG, NG's analysis is consistent with the analysis carried out by ENTSO-E.

(249) The CM may result in support to fossil fuel generation. However as described in Section 2.8.4, the UK has already implemented, is implementing or is considering additional measures to address the market failures identified by the UK, namely the fact that reliability is a public good and the so-called "missing money" problem. These additional measures aim at improving DSR participation, reforming the cash-out arrangements and promoting increased levels of interconnection. The Commission considers that these additional measures should lead to a reduction of the amounts of capacity that need to be procured under the CM. In addition, the Commission notes that the UK is bringing forward ad-hoc measures to support low-carbon generation (e.g. Contracts for Differences) and has passed stringent emission

⁶² ENTSO-E (2014), "Scenario Outlook and Adequacy Forecast 2014-2030", 2 June 2014

⁶³ <https://www.entsoe.eu/outlooks/midterm/>

performance standards to prevent commissioning high carbon intensive generation. The UK reports that this has resulted in a sharp decline in the numbers of new build diesel generators winning capacity agreements since 2014⁶⁴. Furthermore the Commission notes that the generation adequacy assessment – conducted on an annual basis – takes into account the amount of generation, the contribution of interconnectors while being open to all types of capacity providers, including DSR operators. As a result, the Commission considers that the UK has sufficiently explored means of mitigating the negative impacts that the measure may have on the objective of phasing out environmentally harmful subsidies, in line with paragraph (220) of the EEAG.

- (250) The measure aims at procuring the necessary amount of capacity to meet the reliability standard. The measure therefore has a well-defined objective. In exchange for receiving capacity payments, capacity providers commit to deliver energy at times of system stress. The methodology to establish the amount of capacity to tender is informed by an annual security of supply assessment by the System Operator.

6.1.2. *Necessity of the measure*

- (251) The nature and causes of the generation adequacy problem have been analysed and quantified, as presented in Sections 2.8.2 and 2.8.3 above. The unit of measure for quantification (i.e. the reliability standard) has been described and its method of calculation has been provided (see recital (46) and (47) above). Therefore, the Commission concludes that paragraph (222) of the EEAG is respected.
- (252) As explained in recital (128), some interested parties raised concerns on the necessity of the CM.
- (253) As regards the alleged current state of oversupply in the UK electricity market raised by some interested parties, the Commission has analysed the arguments presented by the interested parties (see recital (128)(a)) and by the UK (see recital (166)). The Commission considers that the criticism made by interested parties does not call into question the necessity of the CM. In particular, like any other capacity mechanism, the CM has to deal with important uncertainties requiring a balance to be struck between the risk of over-procurement on the one hand, and system inadequacy on the other. In this regard, the better than expected capacity margins of Winter 2018/19 reflect this uncertainty⁶⁵. Moreover, as explained by Ofgem in its final report mentioned in recital (21), the margin figures calculated prior to implementation of the CM scheme from 2017 onwards included the Contingency Balancing Reserve (“CBR”) and without these measures the capacity margins would have been much

⁶⁴ According to the UK, more than 500MW of new build diesel won capacity agreements in 2015 (mainly small peaking plant, with 36 total CMUs identified). This amount dropped to only 5MW (1 CMU) by the 2017 auction. The UK reports that the existing diesel generation could be expected to see a significant decline in the 2019 T-4 auction, as the emissions controls for existing plants come into force for existing plants in January 2024 (for plants between 5-50MW).

⁶⁵ According to Ofgem’s State of the Energy Market 2019 Report: “*The CM helped to support higher daily margins for the 2018/19 winter than in preceding years, and it continued to lower and stabilise cash-out prices by increasing system capacity*”. In its final report mentioned in recital (21), Ofgem also writes: “*The CM’s first full year of operation (2017/18) there were higher daily winter capacity margins than in winter 2016/17. This suggests that the CM has been effective so far in improving capacity margins. It has done so through a combination of reducing the rate at which existing capacity closes, and stimulating investment in new capacity.*”

lower⁶⁶. In its report, Ofgem also explained that the forecasts of LOLE for the previous five delivery years further supported Ofgem's view that there is a strong need to maintain the CM. Furthermore, low clearing prices in the CM auctions can be seen as a proof of a high level of competition in the CM auctions and not necessarily as a sign of excess capacity. Finally, as explained in recital (34), interconnectors have been able to participate in the CM auctions as from the second auction in 2015, so that their contribution to security of supply has been taken into account.

- (254) As regards the idea put forward by some interested parties that generation adequacy would be better secured through an energy-only market, the Commission notes the arguments of some interested parties (see recital (128)(b)) and of the UK (see recital (167)). The Commission does not see reasons to change the conclusions reached in table 8 of the Opening Decision and maintains them: it accepts that as long as individual real time metering and dynamic price contracts subscribed by a majority of users are not available, reliability displays many of the characteristics of a public good. For the foreseeable future, it is unlikely that consumers will systematically manage their consumption in response to scarcity signals from the markets, so that the public good character of a secure electricity supply will persist.
- (255) Similarly, as regards the question related to the market failure called “missing money”, the Commission notes the arguments presented by some interested parties (see recital (128)(c)) and the UK (see recital (168)). The Commission does not see reasons to change the conclusions reached in table 8 of the Opening Decision and maintains them. In particular, the Commission reaffirms that implementation of a capacity market cannot come at the expense of well-functioning short run markets. The reforms mentioned in Section 2.8.4 above are helping to improve the functioning of the GB electricity markets, but they do not eliminate the “missing money” problem.
- (256) Based on the assessment in recitals (254) and (255) above, the Commission concludes that the UK has clearly demonstrated the reasons why the market cannot be expected to deliver the adequate capacity in the absence of the CM, in line with paragraph (223) of the EEAG.
- (257) As regards the estimation of DSR potential, the Commission underlines that according to paragraph (224)(b) of the EEAG, the Commission is only required to take into account, among others and when applicable, elements presented to it and related to the assessment of the impact of DSR participation. The Commission notes the very different estimates provided by interested parties (see recital (128)(d)) and the UK (see recital (169)) in response to the Opening Decision. The Commission also notes that, as shown in Table 1, the amount of DSR capacity entering the CM auctions has continued increasing, reaching 2.6 GW in the T-4 auction organised in 2018.

⁶⁶ CBR consists of the Supplemental Balancing Reserve (SBR), where existing power stations were contracted by NGESO outside the market to stand by to generate additional electricity and the Demand Side Balancing Reserve (“DSBR”) where companies were contracted by NGESO to reduce their electricity usage times of peak demand. According to Ofgem, for example, “*in 2016/17 NGESO procured around 3.5 GW of CBR and so without utilisation of this additional procurement tool the margin would have actually been just above zero*”.

- (258) Of the various measures taken by the UK to encourage demand response in line with paragraph (224)(b) of the EEAG, only the transitional auctions were criticised by some interested parties as being insufficient to promote DSR participation (see recital (128)(d)). The Commission notes the UK's arguments presented in recital (170) as well as other interested parties' comments presented in recital (126). In particular, the Commission considers that transitional auctions have been designed to promote DSR by excluding nearly all other types of capacity. Significantly, these auctions cleared at higher prices than the regular CM auctions.
- (259) The Commission therefore concludes that the CM contributes to a well-defined objective of common interest and is necessary in accordance with Sections 3.9.1 and 3.9.2 of the EEAG.

6.2. Appropriateness of the measure

- (260) Section 3.9.3 of the EEAG specifies conditions for assessing whether a measure is an appropriate policy instrument to address the objective of common interest.

6.2.1. Choice of instrument

- (261) As mentioned in recitals (129) and (171), some interested parties indicated that a strategic reserve would be more appropriate than a market-wide capacity market to tackle the generation adequacy problem in the UK. In contrast, the UK considered that a strategic reserve would not tackle the underlying market failures (cf. recitals (171) and (172)).
- (262) As explained in the Final Report of the Sector Inquiry on Capacity Mechanisms⁶⁷, long-term intervention is not needed if adequacy assessments show and policy makers are convinced that, in the long run, the market can be reformed to ensure sufficient investment incentives and there is sufficient capacity available to ensure security of supply until then. However, there might be a need to ensure that existing capacity is not closing prematurely. In such circumstances, a strategic reserve is likely to be the most appropriate response because it can help to control the amount of existing capacity leaving the market. Where long-term adequacy concerns are identified, the most appropriate capacity mechanism to address the problem is likely to be a volume-based, market-wide scheme.
- (263) A strategic reserve would not solve the investment problem identified for new plants. In contrast, market-wide capacity mechanisms are more effective in encouraging investment to address longer-term adequacy concerns.
- (264) The CM has been designed to support and complement ongoing developments in the market and to be consistent with the internal energy market and Union energy policies, namely development of an active demand response, increased competition and investment in interconnected capacity.
- (265) The Commission therefore concludes that the choice of instrument is appropriate to tackle the underlying market failure hindering long-term investment.

6.2.2. Remuneration solely for the service of pure availability of capacity

- (266) In the Opening Decision, the Commission reached the preliminary view that the measure remunerated the service of pure availability of capacity. Nevertheless, as

⁶⁷ Final Report of the Sector Inquiry on Capacity Mechanisms, SWD(2016) 385 final

explained in recitals (130) to (132) of the present decision, some interested parties raised concerns on this issue.

(267) As regards the concern raised by interested parties about the notification arrangements for stress events (see recital (130)), the Commission considers that implementing a dispatch mechanism could interfere with market signals and could therefore be regarded as not compatible with paragraph (225) of the EEAG.

(268) As regards the proposed strengthening of the penalty regime (see recital (131) and (174)) and also the concerns raised by interested parties about the “delivered energy” model of the CM (see recitals (132) and (175)), beneficiaries receive compensation for the units of capacity that they make available (GBP/MW) and not for the energy delivered (GBP/MWh). This is in line with paragraph (225) of the EEAG. That said, the Commission notes that the CM follows a ‘delivered energy’ model (see Section 2.6 above), whereby capacity providers may face penalties if they fail to physically deliver energy during system stress events, regardless of the signals provided by the wholesale market. The Commission considers it is primarily the role of market coupling (both day-ahead and intraday) and balancing markets to ensure the efficient use of the resources available to the system, including across interconnectors. A delivered energy model has the potential to undermine this, since it may lead to capacity providers dispatching even when it is not profitable based on market prices alone, in order to avoid penalties. However, distortions to dispatch are highly unlikely to occur in practice in the CM, given that stress events are defined by reference to actions that would usually be taken as a last resort by the System Operator, once the market has failed to deliver security of supply.

(269) As a result, the Commission concludes that the CM remunerates the service of pure availability of capacity in line with the guidelines in Section 3.9.3 of the EEAG.

6.2.3. *Openness of the measure to all relevant capacity providers*

6.2.3.1. Potential discrimination against DSR operators because of the absence of time-bound delivery agreements

(270) Though the Commission did not explicitly address that issue in the Opening Decision, some interested parties argued that, to avoid discrimination against DSR providers, the CM should offer agreements which provide for a time-bound delivery (see recital (133)).

(271) Based on the evidence provided by the UK and summarised in recital (176), the Commission considers that the absence of time-bound delivery agreements is not discriminatory. In particular, the fact that only one CMU out of 89 opted in the transitional auction for the time-bound delivery agreement demonstrates that the actual arrangements do not represent a barrier to participation for DSR providers.

6.2.3.2. Differences in the applicable contract lengths

(272) The GC judgment found that the difference in the contract lengths offered to non-generation capacity, in particular to DSR operators, on the one hand and to generators on the other may indicate that the Commission should have had doubts as to the compatibility of the measure with the internal market. The Commission has therefore examined whether the absence of longer-term capacity contracts for DSR operators reduces the opportunity for DSR operators to participate in the CM.

(273) Paragraph (226) of the EEAG requires a balance to be struck between two competing goals: on the one hand, the openness of the mechanism to all types of capacity, and

on the other hand, the need to provide adequate incentives to both existing and new capacities.

- (274) As indicated in the Opening Decision, the Commission is of the opinion that, on the one hand, the capacity contracts longer than one year may be justified in cases of high capital expenditure and difficulties in securing financing, thus promoting competitive new entry into the market. As explained by the UK (see recital (177)), this is particularly the case for new build generation. Apart from general suggestions advocating for shorter contract lengths (see points (i), (ii) and (iii) of recital (136)), the Commission did not receive any comments contesting the relevance of longer-term contracts (up to 15 years) in providing incentives for new capacity, in line with paragraph (226) of the EEAG. In particular, the Commission considers that the use of CAPEX thresholds to determine the eligibility to longer term contract is appropriate, since it gives a good indication of the difficulty to secure financing: the higher the investment amount, the more difficult to secure the financing. On the other hand, the Commission considers that the exclusion of non-generation capacity from access to longer term contracts was not discriminatory since existing plants and DSR, in view of their lower capital cost requirements (indicating a reduced importance of securing financing) do not need longer contracts to obtain financing. The Commission therefore considers that shorter contracts did not put existing generation or DSR at a competitive disadvantage compared to new generation. The appropriate balance has thus been struck between the two competing goals referred to in recital (273).
- (275) The Commission considers that there are several indications that the differences in contract length have in practice not led to any discrimination against DSR operators. First, the auction results do not indicate that the differential access to longer-term agreements has, in practice, distorted the auction outcomes to date. On the contrary, the performance of DSR is comparable with (and regularly better than) new build generation (see recital (179)). Second, the Commission has not found any evidence that any DSR operator met the CAPEX threshold for longer-term contracts but was not able to participate in the CM. Third, the estimates of real DSR CAPEX provided by interested parties were very low, some interested parties, who act as DSR operators, estimated that the DSR CAPEX was well below the thresholds and are even close to zero (see recital (135)). The CAPEX of DSR identified in the second transitional auction was on average GBP 0.15/kW (see recital (178)). Fourth, behind-the-meter generation DSR (i.e. 60%-70% of DSR actively participating in flexibility markets) can have access to longer-term contracts if it enters the auction as generation (see recital (135) and (178)). Fifth, the CAPEX thresholds for the auctions have been updated regularly (see recital (75)).
- (276) Consequently, for the past, the Commission considers that the differences in the applicable contract lengths have not led to any discrimination against DSR operators in practice.
- (277) The current situation in which access to longer term contracts is limited to generators has not led to any discriminatory treatment. Nevertheless, participation of DSR providers in the CM auction is increasing (cf. table 2) and it cannot be excluded that, in the future, DSR providers meet CAPEX levels corresponding to the thresholds. Therefore, to ensure that, in the future, no capacity meeting these thresholds will be prevented from accessing longer term contracts on the basis of the type of capacity, the Commission welcomes the UK's commitments i) to allow all types of capacities (except interconnectors) to apply to prequalify to bid for the various contracts lengths available if they can demonstrate they meet the capital expenditure (CAPEX)

thresholds described in recital (75) above and (ii) to keep these CAPEX thresholds under review to ensure that they remain appropriate (see recital (182)). This change would be in line with the UK House of Commons Science and Technology Committee's report, mentioned in recital (21), which recommends that non-generation suppliers bidding for Capacity Market contracts should be eligible to bid for contracts of up to fifteen years, in line with new generation facilities.

6.2.3.3. Limited guarantee for the volume in the T-1 auction

- (278) As explained in recitals (161) to (163) of the Opening Decision, the Commission sought clarification about the legal situation, the practical implementation and the incentive effect of the T-1 auctions in particular with respect to the DSR CMUs, since the T-1 auction provides a better route to market for DSR.
- (279) As regards the legal situation of T-1 auctions for the past, the Commission recalls that, in 2014 the UK authorities committed to procure in the year ahead auctions at least 50% of the capacity reserved four years earlier. This commitment was binding, on the basis of the 2014 Decision. It was then on the UK to implement the measure as approved in the national legislation, including the relevant commitments, and to comply with the Commission decision in all respects⁶⁸.
- (280) The Commission also notes that, as explained in recital (162) of the Opening Decision, and as described in Table 3 and recital (63) of the present decision, since 2014, the target capacity to be secured and the amount actually secured at the T-1 auction has always exceeded the capacity originally 'set aside' at the T-4 stage.
- (281) The Commission acknowledges that, as mentioned in recital (162) of the Opening Decision, and as underlined by some interested parties (see recital (138) above), the Secretary of State may decide not to organise T-1 auctions. Nevertheless, as mentioned by other interested parties (see recital (139)) and by the UK (see recital (186)), both T-4 and T-1 auctions can be postponed or cancelled by the Secretary of State: therefore, no particular discrimination against DSR is apparent. Moreover, in practice, none of the auctions was cancelled except for the auctions after the GC judgment when the UK authorities suspended the CM as a whole.
- (282) As regards the level of the volume of capacity to be set aside, the Commission agrees with the comments received from some interested parties and the UK pointing to the balance between, on the one hand, the need to ensure a route to market for DSR through T-1 auctions and, on the other hand, the need to avoid any over-procurement or over-sized, uncompetitive, auctions. Taking into account the high and increasing level of participation of DSR providers in T-4 auctions (see Table 1), the latter risk has gained in importance. Indeed, if the need for capacity decreases between the T-4 auction and the T-1 auction, the target will be adjusted downwards to avoid such a risk. This flexibility is also required to ensure compatibility with paragraphs (231) and (232)(c) of the EEAG. Therefore, Commission concludes that the current set-aside methodology, as described in recital (62), is appropriate.
- (283) Some interested parties suggested the elimination of T-4 auctions or the organisation of additional weekly auctions or of T-2 auctions. However, the organisation of T-4 auctions is necessary to ensure compliance with paragraph (226) of the EEAG, i.e. allow sufficient lead time for new investments. The Commission agrees with the UK's argument (see recital (188)) that the need for T-2 auctions on top of T-4 and T-

⁶⁸ Judgment of 13 June 2013, C-287/12 P, Ryanair/Commission, EU:C:2013:395, paragraphs 67 and 68

1 auctions is not justified. Moreover, weekly auctions would not provide the adequate long-term investment signal necessary to reach the CM objectives.

- (284) For greater legal certainty of the participants in the auctions, the Commission welcomes the UK's commitment described in recital (187), (i) to continue procuring in the year ahead auctions at least 50% of the capacity reserved four years earlier as part of the parameter setting process for the four year ahead auction for the same delivery year and (ii) to continue using the set-aside methodology based on a 95% confidence interval described in recital (62) above to determine the minimum amount of capacity that will be set aside for a year ahead auction.

6.2.3.4. Minimum participation threshold

- (285) In the Opening Decision, the Commission sought clarification on whether the minimum threshold of 2 MW (described in recitals (30) and (31)) might constitute a barrier to entry to the CM for new DSR operators. In particular, while it is possible for DSR operators to aggregate several sites in order to reach the 2 MW minimum threshold, they are liable to pay a bid bond on the whole of the 2 MW, even if only a proportion of that volume is unproven DSR capacity.
- (286) As regards the level of the threshold itself, the Commission is of the opinion that 2 MW was low in 2014, compared to the participation thresholds applied in other measures operated by National Grid and those applied in other European countries (see recital (189)). Furthermore, the 100 kW threshold used by PJM applies to smaller regional procurements and is therefore not comparable (cf. recital (143)). Moreover, as explained in recital (68) of the present decision, the UK tested a lower participation threshold for the second transitional auction. Only eight CMUs below 2 MW qualified, providing less than 3% of the overall capacity secured in that auction. Besides, if there was a greater demand of smaller CMUs to participate, the auctions should have shown a clustering of CMU at the 2 MW level, but this has not been the case (see recital (189)). Both elements show there was no strong willingness of smaller CMUs to participate in the CM.
- (287) As regards the bid bond requirement, the Commission agrees that such a requirement is useful to ensure actual delivery and to deter speculative projects, as pointed out by some interested parties (see recital (144)) and by the UK (see recitals (40) and (42)).
- (288) The Commission has assessed whether the level of the bid bond could be regarded as an entry barrier for new DSR participation in the CM. First, the Commission concluded in recital (271), that the lack of time-bound delivery capacity agreements is not, in itself, discriminatory against DSR. Second, as explained by some interested parties (see recital (145)) and by the UK (see recital (190)), new DSR operators benefit from a range of advantages in the CM compared to other technologies. In particular, the Commission notes that, as described in recital (42), the UK Government raised the pre-auction bid bond for new build generation to GBP 10,000/MW following consultation in March 2016. At the same time, the level of pre-auction bid bond for unproven DSR was left at GBP 5,000/MW, easing the burden in relative terms. Moreover, since 2015, DSR providers need to provide a bid bond only once for an unproven DSR CMU and, therefore, can prequalify for multiple consecutive auctions whilst providing a bid bond only once. Furthermore, other features of the CM need to be taken into account when assessing whether one feature, i.e. the bid bond requirement, is discriminatory against DSR or not. Among those cited by interested parties and summarised in recital (145), termination fees is cited as an example of a case where the requirements are lower for DSR (up to GBP

10k/MW) than for other forms of capacity (up to GBP 35k/MW). Finally, as explained by the UK (see recital (192)), the component reallocation rule change (see recital (180)) implemented in June 2019 has considerably limited the exposure of unproven DSR operators to the full level of bid bond (even if most of their components are proven).

- (289) The Commission therefore concludes that the minimum participation threshold of 2 MW, including the bid-bond requirement linked to it, has so far in practice not constituted a barrier to entry to the CM for new DSR operators. As explained by the UK (see recital (193)), the market reality is progressing and there may be in future some DSR operators with a capacity below 2 MW which would prefer entering the CM auctions without aggregation. Therefore, the Commission welcomes the UK's commitment, as described in recital (193), to reduce the minimum threshold to participate in the CM as described in recitals (30) and (31) to 1 MW for all auctions for which prequalification starts from January 2020, as well as the UK's commitment to reassess this threshold by October 2021 to examine the potential for a further reduction, as described in recital (193).

6.2.3.5. Openness of the measure to renewable energy sources and new technologies

- (290) Paragraph (226) of the EEAG, indicates that a measure should be open to operators using substitutable technologies. Renewable energy sources can contribute to address the generation adequacy problem. Therefore, the Commission rejects the idea expressed by one interested party that these technologies should not be included in the CM (see recital (147)). As explained in Section 2.3, de-rating factors are used to adjust for the risk that some or all of the capacity will not be available to respond during a system stress event. The methodology used to determine the de-rating factors applicable to wind and solar has been endorsed by the PTE⁶⁹ and leads to factors commensurate with those used in other capacity markets in the EU⁷⁰. Therefore, unlike some interested parties (see recital (146)), the Commission considers that the de-rating factors are appropriate.
- (291) Though the Commission did not explicitly address this issue in the Opening Decision, some interested parties argued that the exclusion of non-subsidised technologies from participating in the CM was not compatible with the EEAG. As mentioned in recital (146), one interested party explained that its non-subsidised wind farm was prevented from participating in the 2017 T-4 auction, while no prequalification route existed for the cancelled 2018 T-4 auction (for delivery year 2022/2023).
- (292) The Commission takes the view that the rules described in recitals (32) and (33) are sound to avoid the cumulation of State aid. Nevertheless, they should not lead to the exclusion of capacity providers, who do not receive such aid. The Commission takes note of the UK's arguments mentioned in recital (195) and recognises that the UK

⁶⁹ <https://www.emrdeliverybody.com/Prequalification/EMR%20DB%20Consultation%20response%20-%20De-rating%20Factor%20Methodology%20for%20Renewables%20Participation%20in%20the%20CM.pdf>

⁷⁰ The de-rating factors used for the prequalification for the upcoming T-4, T-3 and T-1 auction (see recital (18)(d)) are the following: for onshore wind, between 7.42% and 8.98%; for offshore wind, between 10.55% and 14.45%; for solar PV, between 2.34% and 3.22%. These de-rating factors are comparable to those used in Ireland (for instance, for the 2019/2020 T-1 Capacity Auction, see http://sem-o.com/documents/general-publications/Initial-Auction-Information-Pack_IAIP1920T1.pdf) and in Italy (see decision C(2018) 617 final).

took action rapidly. The Commission welcomes the entry into force in June 2019 of the new CM rules allowing the participation of wind and solar technologies in the CM described in recital (196). These rules will be applicable as of the T-1, T-3, and T-4 auctions planned for January 2020. They will therefore allow the operator of the wind farm mentioned in recital (291), to participate in the upcoming T-3 auction (delivery year 2022/2023). At the same time, the Commission notes that there is only one instance where a provider could not participate in any of the auctions, namely one wind farm in the 2017 T-4 auction, thus having a negligible effect on the overall CM.

- (293) Capital costs for certain technologies have declined dramatically in recent years, so that they may not need support from the measures described in recital (32) any more. Therefore, to avoid, in the future, the exclusion of capacity providers, who do not receive such aid, as in the situation described in recital (291), the Commission welcomes the UK's commitment, described in recital (197) to develop all rules necessary (for instance, but not limited to de-rating factors) to ensure the effective participation of any new capacity type which can effectively contribute to addressing the generation adequacy problem, as soon as such capacity has the potential to contribute to addressing the generation adequacy problem.

6.2.3.6. Participation of interconnected capacity

- (294) Paragraph (226) of the EEAG provides that a measure should also take into account to what extent interconnection capacity could remedy any possible problem of generation adequacy.
- (295) In the Opening Decision, the Commission explained that, the UK submitted evidence in 2014 that it was not possible at that stage to include foreign capacity in the CM without implementing additional cross-border arrangements. The Commission recognises the complexities of effectively allowing cross border participation in the CM at that time. Instead, the UK allowed interconnected capacity to directly participate in the CM as of the second auction in 2015. The Commission however had doubts about whether cross-border participation in the CM should continue to be limited to interconnectors in the future.
- (296) According to Article 26 of Regulation (EU) 2019/943, which will apply from 1 January 2020, capacity mechanisms must be open to direct cross-border participation by capacity providers located in another Member State. In this context, the Commission welcomes the UK's commitment, described in recital (200):
- (a) to endeavour to implement the direct participation of foreign capacity in auctions for which prequalification starts from January 2020, conditional upon cooperation agreements with the transmission system operators in the neighbouring countries where participating capacities are located; and
 - (b) in any event, to apply direct participation of foreign capacity for all auctions for which prequalification starts after the methodologies, common rules and terms mentioned in point 11 of article 26 of Regulation (EU) 2019/943 have been approved by ACER and published on its website according to article 27 of the above mentioned Regulation and have become applicable.
- (297) As regards the comments of some interested parties on the 'cap and floor' remuneration system applicable to interconnectors (see recital (149)), the Commission considers that this situation is different from the ones described in recitals (32) to (33) with regard to cumulation of aid. As explained by the UK (see

recital (201)) any revenue from the CM is considered before assessing an interconnectors' revenue with respect to the cap and the floor. An interconnector would therefore receive a floor payment only if total revenue (including CM revenue) is below the floor, while if total revenue is above the cap, the interconnector would pay back to the consumer. Therefore, the 'cap and floor' is different from a support measure which would imply a cumulation of aid. Consequently, the Commission does not consider that interconnectors should have been excluded from participating in the CM on this basis.

- (298) With regard to the interested party's comment on the exclusion of interconnectors from the T-1 auction held in early 2018 for the delivery year 2018/2019 (see recital (150)), the Commission takes note of the arguments presented by the UK in recital (202). In particular, as explained in recital (143) and (144) of the Opening Decision, the Commission acknowledges that the UK revised upwards its estimate of the interconnector's contribution during stress events following the PTE's recommendation and to respect recital (124) of the 2014 Decision. Their net contribution increased from 0 GW to 2.1 GW for delivery year 2018/2019 (see recital (36)). Consequently, the UK adjusted downwards the amount of capacity to be procured in this T-1 auction. To allow interconnectors to participate in this T-1 auction would however have required an increase in the capacity to be auctioned in contrast to the market expectations based on the conditions of the 2014 T-4 auction.
- (299) As regards the de-rating factors applied to interconnectors, the Commission considers that the methodology based on individual interconnectors is not discriminatory. As explained by the UK in recital (202), this particular approach to interconnectors is justified to take into account the significant degree of diversity of interconnectors and of the connected markets. This diversity requires NG to use a modelled range of de-rating factors for each interconnected country (using a stochastic pan-European modelling methodology). Moreover, the Panel of Technical Experts examines independently whether the de-rating figures are appropriate.

6.2.4. *Conclusion on the appropriateness of the measure*

- (300) The Commission therefore concludes that the CM satisfies the guidelines set out in Section 3.9.3 of the EEAG.

6.3. Incentive effect

- (301) The Commission has assessed whether the measure has an incentive effect as required by Section 3.9.4 of the EEAG which refers to the conditions set out in section 3.2.4 of the EEAG. An incentive effect occurs when the aid induces the beneficiary to change its behaviour to improve the functioning of a secure, affordable and sustainable energy market and the change in behaviour is one that it would not undertake without the aid.
- (302) In its notification of 2014, the UK provided generation adequacy estimates showing that in a counterfactual scenario without the measure, generation adequacy would have reached critical levels by 2018/2019, as shown in recital (100) and Figure 4. In other words, without the measure the capacity providers would not have made the necessary capacity available to meet the reliability standard set by the UK to deliver energy at times of stress. As explained in recital (126)(c), some interested parties confirmed the importance of the CM to support investment in new capacity and to maintain existing capacity.

- (303) Without the CM, the expected LOLE range would breach the 3 hours LOLE reliability standard in all years to 2030. Therefore, without the CM, the generation adequacy problem would remain.
- (304) The objective of the measure in this case is to ensure security of supply by keeping available sufficient capacity. As explained in recitals (302) and (303) above, without the CM there would be insufficient capacity to ensure security of supply because a significant portion of plants is projected to gain insufficient revenues from the energy-only market to cover their costs.
- (305) The measure therefore has an incentive effect for existing capacities to stay on the market and to be available at times of scarcity, and for new capacities to enter the market. The measure incentivises new and existing market players to contribute in this way to the objective of security of supply.
- (306) Finally, in accordance with paragraph (52) of the EEAG, the aid is awarded on the basis of a competitive bidding process. The auction process described in section 2.4 is non-discriminatory and open to all types of capacity providers and the aid is granted on the basis of the clearing price. Moreover, the number of undertakings is sufficient and the volume is a binding constraint so that not all bidders receive aid (see for example Table 1 and Table 2 above).
- (307) As a result, the Commission concludes that the CM has an incentive effect, and satisfies the guidelines set out in Section 3.9.4 of the EEAG.

6.4. Proportionality of the measure

- (308) Under Section 3.9.5 of the EEAG, a measure is considered proportionate when it meets the following conditions: i) the compensation allows beneficiaries to earn a reasonable rate of return (a measure designed as a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria will be considered as leading to reasonable rates of return under normal circumstances); ii) the measure has built-in mechanisms to ensure that windfall profits cannot arise; and iii) the price paid for availability automatically tends to zero when the level of capacity supplied is expected to be adequate to meet the level of capacity demanded.
- (309) Compliance of the CM with the first requirement relating to the reasonable rate of return is assessed in Sections 6.4.1 and 6.4.2.
- (310) With regard to the second requirement, a market-wide CM design mirrors the outcome of an efficient energy market. The auction follows a pay-as-clear descending clock design where successful bidders receive the clearing price. Paying the clearing price is one of the designs specifically mentioned in the definition of 'competitive bidding process' in paragraph (43) of the EEAG and hence presumed to have built-in features leading to reasonable rates of return in line with paragraph (229) of the EEAG. Furthermore, the following features contribute to minimising the risk of windfall profits in line with paragraph (230) of the EEAG: an overall price cap of GBP 75/kW, a bidding limit on price-takers of GBP 25/ kW, and a short-term duration of the contract agreement for most categories of capacity providers. The lower level of capacity payments for existing capacities, mentioned by one interested party (see recital (151)) only reflects differences in the value of adequacy for different years and does not amount to windfall profits. Consequently, the Commission concludes that the GB CM fulfils the requirement of preventing windfall profits.

(311) As regards, the third requirement, the competitive nature of the auction as described in Section 2.4 of the present decision, is expected to drive prices to zero if there is sufficient supply to meet demand, in line with paragraph (231) of the EEAG. It has indeed been observed that some auctions cleared at much lower prices than expected, notably even close to zero in the T-1 auction in 2019 when the clearing price was GBP 0.77/kW (see Table 7).

6.4.1. *Differences in the applicable contract lengths*

(312) Notwithstanding prima facie doubts, as discussed in Section 6.2.3.2, for the past, the Commission considers that the differences in the applicable contract lengths have not led in practice to any discrimination against DSR operators. In particular, the Commission considers that the exclusion of non-generation capacity from access to longer term contracts was not discriminatory since existing plants and DSR providers, in view of their lower capital cost requirements (indicating a reduced need of securing financing) may not benefit significantly from longer contracts. The Commission therefore considers that shorter contracts do not put existing generation and DSR providers at a disadvantage compared to new generation. Besides, as explained in recital (275), the comments received show several important elements confirming this analysis. Therefore, the measure respects the condition included in paragraph (229) of the EEAG related to competitive bidding processes according to which such processes should be based on transparent and non-discriminatory criteria. The Commission notes that the use of CAPEX thresholds is sufficient to ensure that longer term contracts are accessible only to the capacities which may face difficulty in securing financing. Therefore, the Commission welcomes the UK's commitment to allow all types of capacities (except interconnectors) to apply to prequalify to bid for the various contracts lengths available if they can demonstrate they meet the capital expenditure (CAPEX) thresholds and to keep these CAPEX thresholds under review to ensure that they remain appropriate (see recital (182)).

6.4.2. *Exclusion of long-term STOR*

(313) In the Opening Decision, the Commission considered that the exclusion of long-term STOR providers was not discriminatory. This point was nonetheless addressed by interested parties (see recitals (153) and (154)) and by the UK (see recitals (204) to (210)) during the formal investigation procedure.

(314) As regards the exclusion itself, the Commission considers that, for the past, the UK legitimately considered the risk of windfall profits arising from the participation of long-term STOR. Based on the information available at that time, this risk seemed important, as also explained by another interested party (see recital (153)). Moreover, as explained in the Opening Decision, and again by one interested party (see recital (153)) and by the UK (see recital (207)), the Commission considers that the power plants in question may in fact participate in the CM provided they relinquish their long-term contract with the System Operator if successful in the auction. Furthermore, the Commission takes note of the UK's decision to keep the long term STOR scheme and the CM scheme separate, without a "claw back" provision", a decision similar to the one excluding from the CM capacities benefiting from renewable energy support schemes. Finally, the Commission takes note of the UK's intention to reevaluate the exclusion of long-term STOR operators in the light of new market information available (see recital (210)): this new evaluation shall still consider the risk of windfall profits.

(315) As regards the exclusion of plants commissioned before 2014 from the chance to have access to longer term contracts, the Commission agrees with the UK's arguments presented in recital (206). In particular, plants commissioned before the first CM auction did not face any particular barrier to entry the CM (e.g. financing of the construction) and therefore had no reason to be eligible to longer-term contracts.

6.4.3. *Cost recovery method*

(316) As presented in recital (187) of the Opening Decision, the Commission needs to take into account paragraph 25 of the EEAG, which states that the compatibility of the measure should be solely assessed on the basis of the criteria laid down in section 3.9.5 of the EEAG. Notably, this section does not include any reference to the financing of generation adequacy measures. Some interested parties (see recital (159)) and the UK (see recital (211)), support this view. The Commission concludes that the proportionality of the GB capacity market only needs to be assessed against paragraphs 228 to 231 of the EEAG, as done in recitals (308) to (315).

(317) Nevertheless, even if paragraphs 27(e) and 69 of the EEAG were applicable to the measure in this case, the Commission considers that the cost recovery method is proportionate.

(318) First, as explained by some interested parties (see recital (156)) and by the UK (see recital (214)), the cost recovery methodology reconciles the interest in maintaining a demand reduction incentive with the need to reduce uncertainty for suppliers over their likely share of costs. Such uncertainty would translate in a risk premium that suppliers would pass on to consumers, thereby increasing electricity costs.

(319) Second, the cost recovery methodology exclusively benefits DSR providers, not generators (since the cost is applied on the retail side). In any event, it charges peak demand on top of the demand reduction incentives already existing in the GB electricity market when compared with alternative methods such as flat charges or general taxation (see recital (212)). As explained by the UK (see recital (215)), the argument that the current methodology encourages, as DSR, only behind-the-meter generation is based on the assumption that the 4-7pm period is too wide for customers to regularly turn down demand during those hours and hence benefit from a reduced CM charge. However, it is not necessary to reduce demand during the entire period to benefit. It would merely imply that DSR turn-down providers would not obtain the full benefit.

(320) Third, as explained by interested parties (see recital (157)) and the UK (see recital (214)), the alternative triad methodology favoured by other interested parties (see recital (158)), would not necessarily be aligned with moments of system stress and would potentially lead to inefficient dispatch decisions. There are therefore no reasons to consider that the cost recovery method as applied by the UK is less proportionate than other potential financing methods, notably the triad method.

6.4.4. *Conclusion on the proportionality of the measure*

(321) The Commission therefore concludes that the CM satisfies the guidelines set out in Section 3.9.5 of the EEAG.

6.5. Avoidance of negative effects on competition and trade

(322) Section 3.9.6 of the EEAG specifies conditions for the avoidance of undue negative effects on competition and trade.

6.5.1. *Participation of generators using different technologies and of operators offering measures with equivalent technical performance*

(323) As explained in recitals (30) and (31), the CM is open to aggregation of both demand and supply in line with the last sentence of paragraph (232)(a) of the EEAG.

(324) As described in Section 2.3.1, the CM is in principle open to the participation of generators using different technologies and operators offering measure with equivalent technical performance such as demand side management, interconnectors and storage, in line with the first two sentences of paragraph (232)(a) of the EEAG. Nevertheless, in the Opening Decision, the Commission sought clarification with regard to the openness of the CM with regard to some of its specific design features.

6.5.1.1. Potential discrimination against DSR operators because of the absence of time-bound delivery agreements

(325) Based on the evidence provided by the UK and summarised in recital (176), the Commission considers that the absence of time-bound delivery agreements is not discriminatory. In particular, the fact that only one CMU out of 89 opted in the transitional auction for the time-bound delivery agreement demonstrates that the actual arrangements do not represent a barrier to participation for DSR.

6.5.1.2. Differences in the available contract lengths

(326) In the Opening Decision, the Commission sought clarification on the potentially discriminatory treatment of DSR capacity over generating capacity due to the difference in the applicable contract lengths.

(327) The Commission is of the opinion that, on the one hand, the capacity contracts longer than one year may be justified in cases of high capital expenditure and difficulties in securing financing, thus promoting competitive new entry into the market. This is particularly the case for new build generation. Apart from general suggestions for shorter contract lengths (see point (i), (ii) and (iii) of recital (136)), the Commission did not receive any comments contesting the relevance of longer-term contracts (up to 15 years) in providing incentives for new capacity, in line with paragraph (226) of the EEAG. In particular, the Commission considers that the use of CAPEX thresholds to determine the eligibility to longer term contract is appropriate, since it gives a good indication of the difficulty to secure financing. On the other hand, the Commission considers that the exclusion of non-generation capacity from access to longer term contracts was not discriminatory since existing plants and DSR, in view of their lower capital cost requirements (indicating a reduced importance of securing financing) may not benefit significantly from longer contracts. The Commission therefore considers that shorter contracts do not put existing generation and DSR providers at a disadvantage compared to new generation.

(328) The Commission considers that the differences in contract length have not led in practice to any discrimination against DSR operators. First, the auction results do not indicate that the differential access to longer-term agreements has, in practice, distorted the auction outcomes to date. On the contrary, they indicate that the performance of DSR is comparable with (and regularly better than) new build generation (see recital (179)). Second, the Commission has not found any evidence that any DSR operator met the CAPEX threshold for long-term contracts but was not able to participate in the CM. Third, the estimate of real DSR CAPEX provided by interested parties were very low, some interested parties who act as DSR operators estimated that the DSR CAPEX was well below the thresholds and even close to zero

(see recital (135)). The CAPEX of DSR identified in the second transitional auction was on average GBP 0.15/kW (see recital (178)). Fourth, behind-the-meter generation DSR (i.e. 60%-70% of DSR actively participating in flexibility markets) can have access to longer-term contracts if it enters the auction as generation (see recitals (135) and (178)). Fifth, the CAPEX thresholds for the auctions have been updated regularly (see recital (75)).

- (329) Consequently, for the past, the Commission considers that the differences in the applicable contract lengths have not led to any unjustified restriction on participation for DSR operators in practice. The Commission notes that the use CAPEX thresholds is sufficient to ensure that longer term contracts are accessible only to the capacities which may face difficulty in securing financing. Therefore, the Commission welcomes the UK's commitments i) to allow all types of capacities (except interconnectors) to apply to prequalify to bid for the various contracts lengths available if they can demonstrate they meet the capital expenditure (CAPEX) thresholds described in recital (75) above and (ii) to keep these CAPEX thresholds under review to ensure that they remain appropriate (see recital (182)).

6.5.1.3. Limited guarantee for the volume in the T-1 auction

- (330) As regards the legal situation of T-1 auctions for the past, the Commission recalls that, in 2014 the UK authorities committed to procure in the year ahead auctions at least 50% of the capacity reserved four years earlier. This commitment was binding, on the basis of the 2014 Decision. It was then on the UK to implement the measure as approved in the national legislation, including the relevant commitments, and to comply with the Commission decision in all respects⁷¹.
- (331) The Commission also notes that, as explained in recital (162) of the Opening Decision, and as described in Table 3 and recital (63) of the present decision, since 2014, the target capacity to be secured and the amount actually secured at the T-1 auction has always exceeded the capacity originally 'set aside' at the T-4 stage.
- (332) The Commission acknowledges that, as mentioned in recital (162) of the Opening Decision, and as underlined by some interested parties (see recital (138) above), the Secretary of State may decide not to organise T-1 auctions. Nevertheless, as mentioned by other interested parties (see recital (139)) and by the UK (see recital (186)), both T-4 and T-1 auctions can be postponed or cancelled by the Secretary of State: therefore, no particular discrimination against DSR is apparent. Moreover, in practice, none of the auctions was cancelled except for the auctions after the GC judgment when the UK authorities suspended the CM as a whole.
- (333) As regards the level of the volume of capacity to be set aside, the Commission agrees with the comments received from some interested parties and the UK pointing to the balance between, on the one hand, the need to ensure a route to market for DSR through T-1 auctions and, on the other hand, the need to avoid any over-procurement or over-sized, uncompetitive, auctions. Taking into account the high and increasing level of participation of DSR operators in T-4 auctions (see Table 1), the latter risk has gained in importance. Indeed, if the need for capacity decreases between the T-4 auction and the T-1 auction, the target will be adjusted downwards to avoid such a risk. This flexibility is also required to ensure compatibility with paragraphs (231)

⁷¹ Judgment of 13 June 2013, C-287/12 P, Ryanair/Commission, EU:C:2013:395, paragraphs 67 and 68

and (232)(c) of the EEAG. Therefore, Commission concludes that the current set-aside methodology, as described in recital (62), is appropriate.

- (334) Some interested parties suggested the elimination of T-4 auctions or the organisation of additional weekly auctions or of T-2 auctions. However, the organisation of T-4 auctions is necessary to ensure compliance with paragraph (226) of the EEAG, i.e. allow sufficient lead time for new investments. The Commission agrees with the UK's argument (see recital (188)) that the need for T-2 auctions on top of T-4 and T-1 auctions is not justified. Moreover, weekly auctions would not provide the adequate long-term investment signal necessary to reach the CM objectives.
- (335) For greater legal certainty of the participants in the auctions, the Commission welcomes the UK's commitment described in recital (187), (i) to continue procuring in the year ahead auctions at least 50% of the capacity reserved four years earlier as part of the parameter setting process for the four year ahead auction for the same delivery year and (ii) to continue using the set-aside methodology based on a 95% confidence interval described in recital (62) above to determine the minimum amount of capacity that will be set aside for a year ahead auction.

6.5.1.4. Minimum participation threshold

- (336) In the Opening Decision, the Commission sought clarification on whether the minimum threshold of 2 MW (described in recitals (30) and (31)) might constitute a barrier to entry to the CM for new DSR operators. In particular, while it is possible for DSR operators to aggregate several sites in order to reach the 2 MW minimum threshold, they are liable to pay a bid bond on the whole of the 2 MW, even if only a proportion of that volume is unproven DSR capacity.
- (337) As regards the level of the threshold itself, the Commission is of the opinion that 2 MW was low in 2014, compared to the participation thresholds applied in other measures operated by National Grid and those applied in other European countries (see recital (189) above). Furthermore, the 100 kW threshold used by PJM applies to smaller regional procurements and is therefore not comparable (cf. recital (143)). Moreover, as explained in recital (68) of the present decision, the UK tested a lower participation threshold for the second transitional auction. Only eight CMUs below 2 MW qualified, providing less than 3% of the overall capacity secured in that auction. Besides, if there was a greater demand of smaller CMUs to participate, the auctions should have shown a clustering of CMU at the 2 MW level, but this has not been the case (see recital (189)). Both elements show there was no strong willingness of smaller CMUs to participate in the CM).
- (338) As regards the bid bond requirement, the Commission agrees that such a requirement is useful to ensure actual delivery and to deter speculative projects, as pointed out by some interested parties (see recital (144)) and by the UK (see recitals (40) and (42)).
- (339) The Commission has assessed whether the level of the bid bond could be regarded as an entry barrier for new DSR participation in the CM. First, the Commission concluded in recital (271), that the lack of time-bound delivery capacity agreements is not, in itself, discriminatory against DSR. Second, as explained by some interested parties (see recital (145)) and by the UK (see recital (190)), new DSR operators benefit from a range of advantages in the CM compared to other technologies. In particular, the Commission notes that, as described in recital (42), the UK Government raised the pre-auction bid bond for new build generation to GBP 10,000/MW following consultation in March 2016. At the same time, the level of

pre-auction bid bond for unproven DSR was left at GBP 5,000/MW, easing the burden in relative terms. Moreover, since 2015, DSR providers need to provide a bid bond only once for an unproven DSR CMU and, therefore, can prequalify for multiple consecutive auctions whilst providing a bid bond only once. Moreover, other features of the CM need to be taken into account when assessing whether one feature, i.e. the bid bond requirement, is discriminatory against DSR or not. Among those cited by interested parties and summarised in recital (145), termination fees is cited as an example of a case where the requirements are lower for DSR (up to GBP 10k/MW) than for other forms of capacity (up to GBP 35k/MW). Finally, as explained by the UK (see recital (192)), the component reallocation rule change (see recital (180)) implemented in June 2019 has considerably limited the exposure of unproven DSR operators to the full level of bid bond (even if most of their components are proven).

- (340) The Commission therefore concludes that the minimum participation threshold of 2 MW, including the bid-bond requirement linked to it, has so far in practice not constituted a barrier to entry to the CM for new DSR operators. As explained by the UK (see recital (193)), the market reality is progressing and there may be in future some DSR operators with a capacity below 2 MW which would prefer entering the CM auctions without aggregation. Therefore, the Commission welcomes the UK's commitment, as described in recital (193), to reduce the minimum threshold to participate in the CM as described in recitals (30) and (31) to 1 MW for all auctions for which prequalification starts from January 2020, as well as the UK's commitment to reassess this threshold by October 2021 to examine the potential for a further reduction, as described in recital (193).

6.5.1.5. Openness of the measure to renewable energy sources and new technologies

- (341) Renewable energy sources can contribute to address the generation adequacy problem. Therefore, the Commission rejects the idea expressed by one interested party that these technologies should not be included in the CM (see recital (147)). As explained in Section 2.3, de-rating factors are used to adjust for the risk that some or all of the capacity will not be available to respond during a system stress event. The methodology used to determine the de-rating factors applicable to wind and solar has been endorsed by the PTE⁷² and leads to factors commensurate with those used in other capacity markets in the EU⁷³. Therefore, unlike some interested parties (see recital (146)), the Commission considers that the de-rating factors are appropriate.
- (342) Though the Commission did not explicitly address this issue in the Opening Decision, some interested parties argued that the exclusion of non-subsidised technologies from participating in the CM was not compatible with the EEAG. As mentioned in recital (146), one interested party explained that its non-subsidised wind farm was prevented from participating in the 2017 T-4 auction, while no

⁷² <https://www.emrdeliverybody.com/Prequalification/EMR%20DB%20Consultation%20response%20-%20De-rating%20Factor%20Methodology%20for%20Renewables%20Participation%20in%20the%20CM.pdf>

⁷³ The de-rating factors used for the prequalification for the upcoming T-4, T-3 and T-1 auction (see recital (18)(d)) are the following: for onshore wind, between 7.42% and 8.98%; for offshore wind, between 10.55% and 14.45%; for solar PV, between 2.34% and 3.22%. These de-rating factors are comparable to those used in Ireland (for instance, for the 2019/2020 T-1 Capacity Auction, see http://sem-o.com/documents/general-publications/Initial-Auction-Information-Pack_IAIP1920T1.pdf) and in Italy (see decision C(2018) 617 final).

prequalification route existed for the cancelled 2018 T-4 auction (for delivery year 2022/2023).

- (343) The Commission takes the view that the rules described in recitals (32) and (33) are sound to avoid the cumulation of State aid. Nevertheless, they should not lead to the exclusion of capacity providers, who do not receive such aid. The Commission takes note of the UK's arguments mentioned in recital (195) and recognises that the UK took action rapidly. The Commission welcomes the entry into force in June 2019 of the new CM rules allowing the participation of wind and solar technologies in the CM described in recital (196). These rules will be applicable as of the T-1, T-3, and T-4 auctions planned for January 2020. They will therefore allow the operator of the wind farm mentioned in recital (291), to participate in the upcoming T-3 auction (delivery year 2022/2023). At the same time, the Commission notes that there is only one instance where a provider could not participate in any of the auctions, namely one wind farm in the 2017 T-4 auction, thus having a negligible effect on the overall CM.
- (344) Capital costs for certain technologies have declined dramatically in recent years, so that they may not need support from the measures described in recital (32) any more. Therefore, to avoid, in the future, the exclusion of capacity providers, who do not receive such aid, as in the situation described in recital (342), the Commission welcomes the UK's commitment, described in recital (197) to develop all rules necessary (for instance, but not limited to de-rating factors) to ensure the effective participation of any new capacity type which can effectively contribute to addressing the generation adequacy problem, as soon as such capacity has the potential to contribute to addressing the generation adequacy problem.

6.5.1.6. Conclusion

- (345) The Commission therefore concludes that the CM allows the participation of generators using different technologies and of operators offering measures with equivalent technical performance, in line with paragraph (232)(a) of the EEAG.

6.5.2. *Participation of operators from other Member States*

- (346) Paragraph (232)(b) of the EEAG deals with making it possible for operators from other Member States to participate in a measure. In the Opening Decision, the Commission sought clarification on whether, for the future, cross-border participation in the GB CM should still be limited to interconnector.
- (347) In the Opening Decision, the Commission explained that the UK submitted evidence in 2014 that it was not possible at that stage to include foreign capacity in the CM without implementing additional cross-border arrangements. The Commission recognises the complexities of effectively allowing cross border participation in the CM at that time. Instead, the UK allowed interconnected capacity to directly participate in the CM as of the second auction in 2015. The Commission however had doubts about whether cross-border participation in the CM should continue to be limited to interconnectors in the future.
- (348) According to Article 26 of Regulation (EU) 2019/943, which will apply from 1 January 2020, capacity mechanisms must be open to direct cross-border participation by capacity providers located in another Member State. In this context, the Commission welcomes the UK's commitment, described in recital (200):
- (a) to endeavour to implement the direct participation of foreign capacity in auctions for which prequalification starts from January 2020, conditional upon

cooperation agreements with the transmission system operators in the neighbouring countries where participating capacities are located; and

- (b) in any event, to apply direct participation of foreign capacity for all auctions for which prequalification starts after the methodologies, common rules and terms mentioned in point 11 of article 26 of Regulation (EU) 2019/943 have been approved by ACER and published on its website according to article 27 of the above mentioned Regulation and have become applicable.
- (349) Paragraph (232)(b) of the EEAG explains that the participation of operators from other Member States should be allowed where such participation is physically possible, i.e. where the capacity can be physically provided to the Member States implementing the measure. Therefore, compatibility of the CM is still ensured if the direct participation of foreign capacity is not possible for a particular auction because the most recent estimate of available interconnection capacity has already been fully contracted in previous CM auctions for the relevant delivery year.
- (350) As regards the comments of some interested parties on the ‘cap and floor’ remuneration system applicable to interconnectors (see recital (149)), the Commission considers that this situation is different from the ones described in recitals (32) to (33) with regard to cumulation of aid. As explained by the UK (see recital (201)) any revenue from the CM is considered before assessing an interconnectors’ revenue with respect to the cap and the floor. An interconnector would therefore receive a floor payment only if total revenue (including CM revenue) is below the floor, while if total revenue is above the cap, the interconnector would pay back to the consumer. Therefore, the ‘cap and floor’ is different from a support measure which would imply a cumulation of aid. Consequently, the Commission does not consider that interconnectors should have been excluded from participating in the CM on this basis.
- (351) With regard to the interested party’s comment on the exclusion of interconnectors from the T-1 auction held in early 2018 for the delivery year 2018/2019 (see recital (150)), the Commission takes note of the arguments presented by the UK in recital (202). In particular, as explained in recital (143) and (144) of the Opening Decision, the Commission acknowledges that the UK revised upwards its estimate of the interconnector’s contribution during stress events following the PTE’s recommendation and to respect recital (124) of the 2014 Decision. Their net contribution increased from 0 GW to 2.1 GW for delivery year 2018/2019 (see recital (36)). Consequently, the UK adjusted downwards the amount of capacity to be procured in this T-1 auction. To allow interconnectors to participate in this T-1 auction would however have required an increase in the capacity to be auctioned in contrast to the market expectations based on the conditions of the 2014 T-4 auction.
- (352) As regards the de-rating factors applied to interconnectors, the Commission considers that the methodology based on individual interconnectors is not discriminatory. As explained by the UK in recital (202), this particular approach to interconnectors is justified to take into account the significant degree of diversity of interconnectors and of the connected markets. This diversity requires NG to use a modelled range of de-rating factors for each interconnected country (using a stochastic pan-European modelling methodology). Moreover, the Panel of Technical Experts examines independently whether the de-rating figures are appropriate.
- (353) As regards the interested party’s comment on the exclusion of interconnectors from access to capacity contracts longer than one year (see recital (150)), the Commission

agrees with the UK that awarding longer-term contracts to interconnectors would be inconsistent with the UK's position that the interconnector model is a short-term solution (see recital (202)) until direct foreign participation is introduced. To the extent interconnector capacity receives contracts in the auction, this capacity would not be available for imports from capacity providers located in neighbouring countries. Direct participation of foreign capacity would therefore not be possible.

(354) The Commission also concludes that allowing interconnectors to have access to capacity contracts longer than one year would be in contradiction with paragraph (232)(b) of the EEAG and especially footnote 97 of the EEAG, according to which schemes should be adjusted in the event that common arrangements are adopted to facilitate cross-border participation in such schemes.

(355) The Commission concludes that the CM allows participation of operators from other Member States and therefore satisfies the guideline in paragraph (232)(b) of the EEAG.

6.5.3. *Participation of a sufficient number of operators to establish a competitive price for the capacity*

(356) Paragraph (232)(c) deals with making it possible for a sufficient number of generators to participate in order to establish a competitive price for the capacity. As shown in Table 7, the capacity price has not been excessive and has even decreased from GBP 19.40/kW in the 2014 T-4 auction, to GBP 8.40/kW in the 2017 T-4 auction. Moreover, the capacity price in the T-1 auctions has also strongly decreased, from GBP 6.00/kW in 2017 to GBP 0.77/kW in the conditional auction held in June 2019.

(357) The Commission has not received comments from interested parties pointing to the contrary. It therefore concludes that there is a sufficient number of capacities participating in the Capacity Market to establish a competitive price for the capacity, in line with paragraph (232)(c) of the EEAG.

6.5.4. *Avoidance of negative effects on the internal market due to regulatory measures*

(358) As described in recitals (110) to (118) of the present decision (see also recitals (102) to (110) of the Opening Decision), the UK has implemented a series of reforms to improve the functioning of the electricity markets.

(359) The Commission has not received comments from interested parties pointing to the contrary and based on the arguments stated above concludes that the GB capacity market avoids negative effects on the internal market, in accordance with paragraph (232)(d) of the EEAG.

6.5.5. *Impact on incentives to invest in interconnection capacity and market coupling*

(360) Interconnectors have been able to participate in the CM auction since the second auction in 2015, as explained in recital (34). The CM has therefore contributed to the financing of interconnectors. Notably, as shown in Table 2 above, 3 new build interconnector CMUs were successful in the 2017 T-4 auction.

(361) More generally, as described in and recital (116) of the present decision, the UK's level of interconnection has increased from 4% in 2014 to 6% of total installed capacity in 2019, notably as the NEMO interconnector with Belgium became operational on 31 January 2019. Interconnection capacity is planned to rise to 9% by

2021⁷⁴. Furthermore, the measures described in Section 2.8.4 help market coupling work more effectively.

- (362) The Commission has not received comments from interested parties pointing to the contrary. It therefore concludes that the CM does not reduce incentives to invest in interconnection capacity or market coupling, in line with paragraph (233)(a) and (b) of the EEAG.

6.5.6. Impact on investment decisions that preceded the introduction of the measure

- (363) In the Opening Decision, the Commission indicated that, according to the modelling submitted by the UK, the introduction of the CM will over time tend to depress electricity prices in the energy market. The fact that existing generators – which took the investment decisions based on projected wholesale energy prices – have access to the CM and can top up their market revenue therefore implies that their investment decisions are not be undermined on average. Furthermore, plants that began construction between May 2012 and the first auction in 2014 were considered new plants to acknowledge their capital investment and their expectation of the introduction of the CM.

- (364) As with any change in market design, it can be expected that some of the existing plants may be impacted more than others. In particular, those plants which have been built more recently but before May 2012, hence not in a position to qualify as ‘new’ under the CM, can be expected to be impacted more from the introduction of the measure. However, any potential negative impact should be limited by the fact that any plant can access the CM, and should be offset by the substantial benefits which the measure should bring to the electricity system, also in light of the clear price signal which the CM should provide in relation to capacity. Such a price signal would not exist without the measure and would need to be gauged indirectly through the price of electricity.

- (365) The Commission has not received comments from interested parties pointing to the contrary. It therefore concludes that the Capacity Market does not undermine investment decisions that preceded the introduction of the measure, in line with paragraph (233)(c) of the EEAG.

6.5.7. Impact on market dominance

- (366) Paragraph (232)(d) of the EEAG deals with the need to avoid negative effects on the internal market. In the Opening Decision, the Commission noted that longer capacity contracts for new investments allowed new entrants to secure the necessary financing. This feature would also help to counter the risk of market dominance through easier market entry. The Commission also noted that the strong price-discovery feature in a pay-as-clear, descending clock design reduces the risk of exercising market power in the auction.

- (367) The Commission has not received comments from interested parties pointing to the contrary. It therefore concludes that the Capacity Market does not strengthen market dominance, in line with paragraph (232)(d) of the EEAG.

⁷⁴ These figures assume UK electricity generating capacity remains constant at 81.3GW.

6.5.8. *Preference of low-carbon technologies in case of equivalent technical and economic parameters*

- (368) In the Opening Decision, the Commission noted a list of reasons why it considered the CM gave preference to low-carbon generators in case of equivalent technical and economic parameters in line with paragraph (233)(e) of the EEAG:
- (a) The measure is open to low-carbon generators. However, to prevent the cumulation of aid and the resulting overcompensation, generators must not be recipients of other support measures as described in recitals (32) and (33).
 - (b) The competitive bidding nature of the mechanism leaves participants exposed to carbon prices when selling their electricity on the market. Given equivalent technical characteristics, and higher carbon costs will therefore lower expected energy market revenues and increase the capacity price that high-carbon bidders will ask for in the auction (see recital (67) above), reducing their probability of success in an auction⁷⁵.
 - (c) As stated in the 2014 Decision (recital (153)) and in the Opening Decision (recital (195)), the Commission considers that carbon costs associated with the EU ETS represent general economic parameters for the purposes of paragraph (233)(e) of the EEAG and are therefore insufficient to demonstrate that a measure gives a specific preference to low-carbon generators. However, the Commission notes that the UK introduced a Carbon Price Floor (CPF) in 2013, fixed at GBP 18/tCO₂ for 2018/2019 and 2019/2020. This element has resulted in a higher carbon price faced by electricity generators than the EU ETS alone. In the Commission's view, therefore, the interaction of the CPF with the auction mechanism described above has an equivalent effect to secondary selection criteria (for example, in a tender process using other criteria than price) that would give preference to low-carbon generators in case of equivalent technical and economic parameters.
- (369) As mentioned in recital (160), some interested parties insisted on the need for the CM to be modified to generally favour low-carbon technologies. Moreover, in the report mentioned in recital (21), the Science and Technology Committee of the House of Commons suggested that the CM should support low-carbon technologies as far as possible and should include a minimum proportion of CM funding that must be awarded to low-carbon technologies. The Commission estimates that, in order to comply with the EEAG, the suggested changes to the GB CM are not necessary since paragraph 233(e) of the EEAG requires the CM to give preference to low-carbon capacities only in case of equivalent technical and economic parameters.
- (370) As regards the interested parties' comments indicating that the CM should respect the CO₂ emissions limits imposed by the Regulation (EU) 2019/943 (see recital (161)), the Commission notes that:
- (a) as regards new capacity, an amendment to the Capacity Market Rule entered into force on 18 July 2019 in order to put in place this limit on carbon emissions for new build capacity seeking to prequalify for the capacity auctions to be held in early 2020 (including any new build components entering as unproven DSR), as explained in recital (217).

⁷⁵ Alternatively, the UK argues that if two projects, differing in their carbon intensity, submit equal bids, this can only be explained by different technical and other economic characteristics

(b) as regards existing capacity, the UK has committed to respect the relevant provisions of Regulation (EU) 2019/943. In particular, it will adopt by the end of 2020 regulatory changes to ensure that, from 1 July 2025 at the latest, generation capacity that started commercial production before 4 July 2019 and that emits more than 550 g of CO₂ of fossil fuel origin per kWh of electricity and more than 350 kg CO₂ of fossil fuel origin on average per year per installed kW_e does not receive payments or commitments for future payments under the CM (see recital (218)).

(371) Based on these considerations, the Commission concludes that the CM gives preference to low-carbon technologies in case of equivalent technical and economic parameters, in line with paragraph (233)(e) of the EEAG.

6.5.9. *Conclusion on the avoidance of undue negative effects on competition and trade*

(372) The Commission therefore concludes that the CM satisfies the guidelines set out in Section 3.9.6 of the EEAG.

6.6. Compliance with Article 30 and 110 of the Treaty

(373) In the Opening Decision, the Commission reached the preliminary conclusion that the financing mechanism of the measure did not introduce any restrictions that would infringe Article 30 or Article 110 of the Treaty.

(374) As explained in recital (88) above, the payments are financed by a levy imposed on electricity suppliers (the “supplier obligation”). The settlement service provider calculates and collects the payments under the supplier obligation. The UK explains that the supplier obligation is imposed on all licensed suppliers in relation to their market share based on electricity volumes sold. The Commission considers however that the levy is very similar to a tax on the electricity consumed.

(375) With regard to Article 30 and 110 of the Treaty, it is settled case-law that in its present state of development, Union law does not restrict the freedom of each Member State to establish a tax system which differentiates between certain products, even products which are similar within the meaning of the first paragraph of Article 110 of the Treaty, on the basis of objective criteria, such as the nature of the raw materials used or the production processes employed. Such differentiation is compatible with Union law, however, only if it pursues objectives which are themselves compatible with the requirements of Union law, and if the detailed rules are such as to avoid any form of discrimination, direct or indirect, against imports from other Member States or any form of protection of competing domestic products.⁷⁶

(376) The Commission has not received any comment from interested parties or the UK pointing to the contrary and it maintains its preliminary conclusion.

(377) A discriminatory treatment against imports from other Member States presupposes that similar situations are treated differently. The Commission has therefore assessed whether imports are in a similar situation to the national production. As explained in recital (34), interconnectors have been eligible for the participation in the CM as from the second auction in 2015, as CMUs, on equal terms as GB-based capacity. Moreover, for the future, as described in recital (200), the UK will allow the direct participation of foreign capacities in the CM.

⁷⁶ Case C-213/96 Outokumpu [1998] I-1777, paragraph 30.

- (378) The Commission therefore concludes that the financing mechanism of the measure does not introduce any restrictions that would infringe Article 30 or Article 110 of the Treaty.

6.7. Transparency

- (379) As explained in recital (221), the UK has committed to apply the transparency conditions specified in Section 3.2.7 of the EEAG insofar as applicable to the aid granted under the Capacity Market. That guideline is therefore satisfied.

6.8. Applicability of the compatibility assessment

- (380) On 15 November 2018, the General Court of the European Union (GC) in case T-793/14 - Tempus v Commission annulled the Commission decision of 23 July 2014. On 25 January 2019, the Commission appealed the GC's judgement (case C-57/19). As the appeal did not have suspensive effect, in order to comply with the GC judgment, the Commission decided to reassess the GB CM and on 21 February 2019, it initiated the formal investigation proceedings under Article 108(2) TFEU.
- (381) For the purposes of legal certainty, it is necessary to set out the status of the present decision if the Court of Justice decides to reverse the judgement of the General Court in case T-793/14, in which case the Decision of 23 July 2014, would be valid as of the date of its adoption. In this case, the compatibility assessment carried out in the present decision as regards the measures in place until the date of adoption of the present decision would be devoid of purpose and legal effects. As regards the modifications of the capacity market compared to the mechanism as approved by the Commission decision of 23 July 2014, the Commission considers that these changes, described in recitals (182), (187), (194), (197), (200) and (218), would constitute alterations of the capacity market under article 4(1) of Commission Regulation (EC) No 794/2004 of 21 April 2004 implementing Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty, which the Commission has declared compatible with the internal market according to Article 107(3) of the Treaty on the basis of the assessment developed in the present decision.

7. CONCLUSION

- (382) The Commission finds that, from the date of implementation of the measure and until its suspension, on 15 November 2018, following the GC judgement⁷⁷, the United Kingdom unlawfully implemented the CM in breach of Article 108(3) of the Treaty, as explained in recital (235). However, the Commission finds that the measure is compatible with the internal market on the basis of Article 107(3)(c) of the Treaty, in particular based on the guidelines in Section 3.9 of the EEAG for a maximum period of 10 years from the date when the measure was first implemented in 2014 (considered to be 16 December 2014, i.e. when the first CM auction took place)⁷⁸.

HAS ADOPTED THIS DECISION:

⁷⁷ See recital (17)

⁷⁸ See Article 21, point 8 of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (OJ L 158, 14.6.2019, p. 54).

Article 1

The aid scheme in the form of the Capacity Market implemented by the United Kingdom pursuant to the Energy Act 2013 (“the aid scheme”) is compatible with the internal market on the basis of Article 107(3)(c) of the Treaty. The Commission authorises the aid scheme for a maximum period of 10 years from 16 December 2014.

Article 2

In the event that the Court of Justice reverses the judgment of the General Court given in Case T-793/14 and decides to uphold Decision C(2014) 5083, Article 1 is replaced by the following:

“Article 1

The proposed alterations to the aid scheme declared compatible by Decision C(2014) 5083, which were notified to the Commission on 12 September 2019 and are described in the Annex to this Decision are compatible with the internal market on the basis of Article 107(3)(c) of the Treaty, from the date of notification of this Decision until 15 December 2024.”

Article 3

This Decision is addressed to the United Kingdom of Great Britain and Northern Ireland.

Done at Brussels, 24.10.2019

For the Commission

Margrethe VESTAGER
Member of the Commission

ANNEX: Changes to the Capacity Market

1) First, the UK commits:

- a- to reduce the minimum threshold to participate in the CM as described in recitals (30) and (31) of the present Decision to 1 MW for all auctions for which prequalification starts from January 2020, and
- b- to reassess this threshold by October 2021 to examine the potential for a further reduction.

2) Second, the UK commits:

- a- to endeavour to implement the direct participation of foreign capacity in auctions for which prequalification starts from January 2020, conditional upon cooperation agreements with the transmission system operators in the neighbouring countries where participating capacities are located; and, in any event,
- b- to apply direct participation of foreign capacity for all auctions for which prequalification starts after the methodologies, common rules and terms mentioned in point 11 of article 26 of Regulation (EU) 2019/943 have been approved by ACER and published on its website according to article 27 of the above mentioned Regulation and have become applicable.

3) Third, the UK commits to develop all rules necessary (for instance, but not limited to de-rating factors) to ensure the effective participation of any new capacity type which can effectively contribute to addressing the generation adequacy problem, as soon as such capacity has the potential to contribute to addressing the generation adequacy problem.

4) Fourth, the UK commits:

- a- to allow all types of capacities (except interconnectors) to apply to prequalify to bid for the various contracts lengths available if they can demonstrate they meet the capital expenditure (CAPEX) thresholds described in recital (75) of the present decision and;
- b- to keep these CAPEX thresholds under review to ensure that they remain appropriate.

5) Fifth, the UK commits:

- a- to continue procuring in the year ahead auctions at least 50% of the capacity reserved four years earlier as part of the parameter setting process for the four year ahead auction for the same delivery year and;
- b- to continue using the set-aside methodology based on a 95% confidence interval described in recital (62) of the present Decision to determine the minimum amount of capacity that will be set aside for a year ahead auction.

6) Sixth, the UK commits to respect the provisions of Regulation (EU) 2019/943 and in particular to adopt by the end of 2020 regulatory changes to ensure that, from 1 July 2025 at the latest, generation capacity that started commercial production before 4 July 2019 and that emits more than 550 g of CO₂ of fossil fuel origin per kWh of electricity and more than 350 kg CO₂ of fossil fuel origin on average per year per installed kWe is not committed, does not receive payments or commitments for future payments under the Capacity Market.