EUROPEAN COMMISSION

Brussels, 21.2.2019
C(2019) 1296 final

In the published version of this decision, some information has been omitted, pursuant to articles 30 and 31 of Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union, concerning non-disclosure of information covered by professional secrecy. The omissions are shown thus […]		PUBLIC VERSION This document is made available for information purposes only.

Subject: State Aid SA.35980 (2018/NN) – United Kingdom Electricity Market Reform: Capacity Mechanism

Sir,

The Commission wishes to inform the United Kingdom that, following the Judgement of the General Court of the European Union of 15 November 2018 in case T-793/14 - Tempus Energy and Tempus Energy Technology v Commission ("the GC judgement"), it has re-examined the information supplied by your authorities on the measure referred to above

After re-examination of the notification, the Commission has decided to initiate the procedure laid down in Article 108(2) of the Treaty on the Functioning of the European Union (TFEU).

1. PROCEDURE

(1) Following pre-notification contacts, the UK authorities notified to the Commission on 23 June 2014, in accordance with Article 108(3) of the Treaty on the Functioning of the European Union (TFEU), a measure to support capacity providers in the electricity market in Great Britain[1] ("the measure").

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

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(2) In the course of the pre-notification contacts and the notification process the Commission received several submissions alleging the incompatibility of the measure with Article 107(3)(c).

(3) On 23 July 2014, the Commission decided not to raise objections to the aid scheme establishing the measure, on the ground that that scheme was compatible with the Union rules on State aid.[2]

(4) On 15 November 2018, in the GC judgement, the General Court annulled the Commission decision mentioned in recital (3) above. 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, which should have led it to initiate the formal investigation procedure in accordance with Article 108(2) TFEU, and thus allow interested parties to submit their observations and to put at its disposal the relevant information in order to better assess the compatibility of the planned capacity market.

(5) Following the annulment of the Commission decision, the Commission registered the file under a NN reference, since the measure has been in force since 2014[3]. Additional information was received from the UK on 20 December 2018. In order to comply with the GC judgement, the Commission re-examined the notified measure and decided to initiate the formal investigation proceedings under Article 108(2) TFEU.

(6) Since the United Kingdom notified on 29 March 2017 its intention to leave the European Union, pursuant to Article 50 of the Treaty on European Union, the Treaties will cease to apply to the United Kingdom from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification, unless the European Council in agreement with the United Kingdom decides to extend this period. As a consequence, and without prejudice to any provisions of the withdrawal agreement, the present decision only applies if (i) the United Kingdom is still a Member State on the first day of the period for which the notified scheme is approved, and (ii) to individual aid granted under the notified scheme until the United Kingdom ceases to be a Member State.

2. DESCRIPTION OF THE MEASURE

2.1. Overview of the measure

(7) In 2014, the United Kingdom (UK) estimated that the electricity market in Great Britain (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 organises centrally-managed auctions to procure the level of capacity required to ensure generation adequacy.

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2 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)

3 The first auction under the capacity market took place on 16-18 December 2014 for the delivery of capacity four years later.

(8) The auctions were initially open to existing and new generators, demand side response (DSR) operators and storage operators. Participation of interconnectors was enabled as of the second auction in 2015. Successful bidders receive a steady payment during the duration of the capacity agreement in return for a commitment to deliver electricity at times of system stress called on by the System Operator. Financial penalties apply if beneficiaries do not deliver the amount of energy according to their capacity obligation. The measure is financed through a levy on electricity supplies.

(9) The first auction was organised in 2014 for the delivery of the capacity in 2018, followed by three further four-year ahead ('T-4') auctions (in 2015, 2016 and 2017), one year-ahead ('T-1') auction (in 2017), and two transitional auctions ('TA', in 2016 and 2017) as discussed in recital (61).

(10) The measure was suspended on 15 November 2018 following the GC judgement, mentioned in recital (4) (and currently under appeal). The UK confirmed that no further aid under the Capacity Market (also abbreviated as "CM") would be granted through auctions and that the payments for the aid granted under the auctions that had already taken place had been halted until a State aid approval by the Commission.

2.2. Legal basis, duration, budget and governance arrangements

(11) The legal basis for the measure is the Energy Act 2013. Secondary legislation in the form of Electricity Capacity Regulations 2014, the Electricity Capacity (Supplier Payments etc.) Regulations 2014 and the Capacity Market Rules govern the implementation of the measure.

(12) The Energy Act does not contain an end date for the Capacity Market. The State aid clearance is however valid for a period of 10 years starting from the date of the first implementation of the measure in 2014[4].

(13) Table 1 below presents a summary of the outcome of the various capacity market auctions which have taken place since 2014, including the transitional auctions (TA).

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

Table 1: Summary of Capacity Market Auction Outcomes

Auction	Auction acquired capacity GW	Clearing Price GBP/kW	Total budget for Capacity committed at auction[5] 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
TA 2016	0.8	27.50	22
TA 2017	0.3	45.00	14

(14) The UK regularly reviews the CM mechanism in the light of feedback of each auction process, and has conducted a number of public consultation exercises to make incremental improvements to the regulatory detail of certain specific features of the scheme. 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[6], involving both the government and Ofgem, to assess the extent to which the Capacity Market effectively delivers on its objectives and to which it remains the most effective form of intervention to address those objectives, which 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.

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.

[5] 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.

[6] In December 2018, the UK informed the Commission that the first review of the capacity mechanism was ongoing.

(15) The UK Government has initiated the first 5-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.

(16) The measure is implemented by the Government, the energy regulator (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.

The Government

(17) The 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.

Ofgem

(18) The Government designed the Rules for the Capacity Market, but the market regulator Ofgem is responsible for implementing them (both the 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.

National Grid (also abbreviated “NG”)

(19) 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.

(20) The 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.

The Settlement Body

The Government set up the Capacity Market Settlement Body to provide ultimate accountability, governance and control of the settlement process and payments disbursed under capacity agreements. The Settlement Body is a private company limited by shares owned by the Government as the sole shareholder. 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 it.

The settlement service provider

(21) The 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

Eligibility

(22) Capacity providers participate in the Capacity Market on the basis of 'Capacity Market Units' (CMUs). It is at CMU level at which pre-qualification applications are made, capacity agreements are held, obligations that apply in times of system stress are specified and penalties/over-delivery payments are calculated. Generation capacity (both existing and new), interconnectors, storage and DSR are able to participate. The eligibility criteria are set out in recitals (23) to (27).

(23) Generating units (defined with 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 CMU or aggregate with other eligible generating units under the following conditions:

- The units all form part of the same Trading Unit (i.e. power station); or
- 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
- The aggregate capacity of all the units is between the minimum (2MW) threshold and 50MW (effectively embedded generation spread across several sites);

(24) DSR CMUs are defined with reference to a commitment to reduce demand with the DSR provider 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. Such commitment should cause the electricity customer to reduce the import of electricity (as measured by half hourly meters) and/or export electricity generated by on-site generating units which are owned by the electricity customer. In addition, each component should be connected to a half hourly meter and the provider's total DSR capacity should be between 2MW and 50MW. Table

2 below shows the results of DSR performance in the auctions held until November 2018:

Table 2: DSR performance in the capacity auctions held to date

	Entered auction (MW)	*Won agreements (MW)*
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[7] (susp.)	2,618	N/A
2017 T-1	1,283	443
2018 T-1 (susp.)	2,124	N/A
2015 TA	619	475
2016 TA	373	312

(25) The Capacity Market excludes capacity providers already in receipt of support from other measures. The following resources are not eligible to participate in the Capacity Market:

- Low-carbon generating plants receiving support through the Contracts for Difference (CfD) or small scale Feed-In-Tariff.

- 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).

- 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.

- 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.

- 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.

[7] 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.

- Plants which were awarded 15 year contracts by NG to form part of the Short-Term Operating Reserve immediately prior to the initial Electricity Market Reform (EMR) policy proposals in 2010, and which chose to maintain them.

(26) 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).

(27) While the direct participation of foreign capacities is not allowed, interconnectors have been eligible for the participation in the capacity market as from the second auction in 2015, as CMUs, on an equal basis with GB-based generators and DSR resources, subject to essentially the same regime of rewards and penalties, and de-rated to reflect their contribution to security of supply[8]. Table 3 below presents the results of the interconnectors' ("IC CMUs") participation in the auctions to date:

Table 3: Interconnector participation in CM auctions to date

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

(28) In the 2014 decision, an exception to the participation of the interconnected capacity was granted for the first auction (December 2014) due to the following constraints:

- 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.

- Prequalification: At that point in time, it was not possible for the Delivery Body to independently complete the prequalification stage for a foreign capacity. Cooperation with foreign TSOs on measurement and verification, dispatch for testing and data-sharing platforms would have been needed.

8 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.

- 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.

- Delivery: The obligation to deliver entails that generators must generate when a 4-hour capacity market warning is called. In another market, this could have resulted in out of merit dispatch, causing market distortion[9]. This would have not rendered an additional security of supply benefit to the UK in a world where market coupling is fully implemented with electricity flows already responding to scarcity pricing.

(29) 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 (cf. recital (143)).

Pre-qualification process

(30) 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 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.

(31) 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.

(32) 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).

(33) 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

[9] 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.

requirements include basic administrative detail (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.

(34) New generation and unproven DSR (as opposed to proven DSR[10]) 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 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.

(35) 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.

(36) 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.

[10] 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).

2.4. The Auctioning process

Establishing the amount of capacity to auction

(37) 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.

(38) 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.

(39) 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.

(40) The 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.

(41) 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.

(42) 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).

(43) 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.

(44) 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)

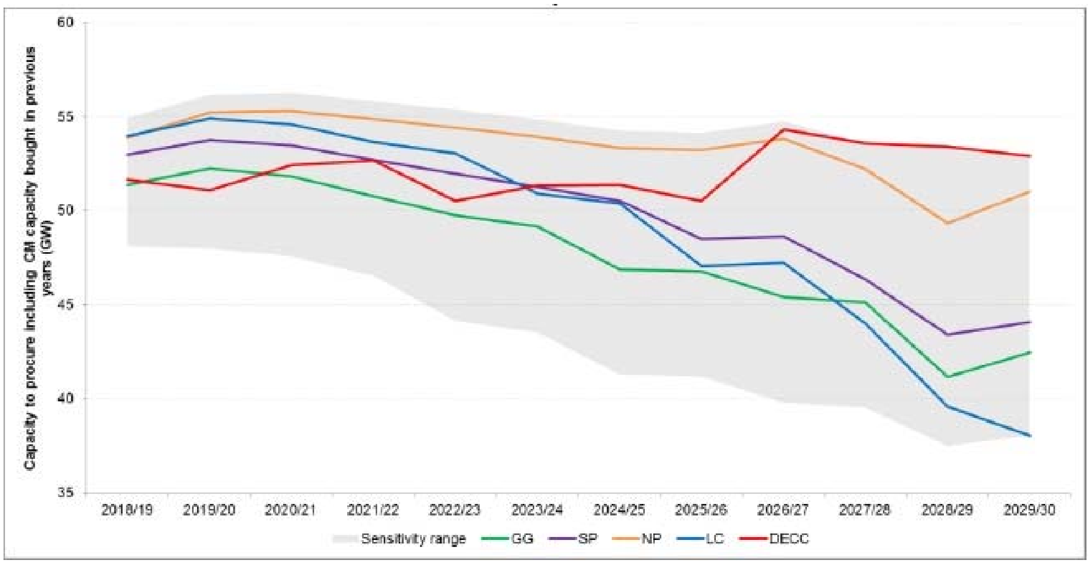
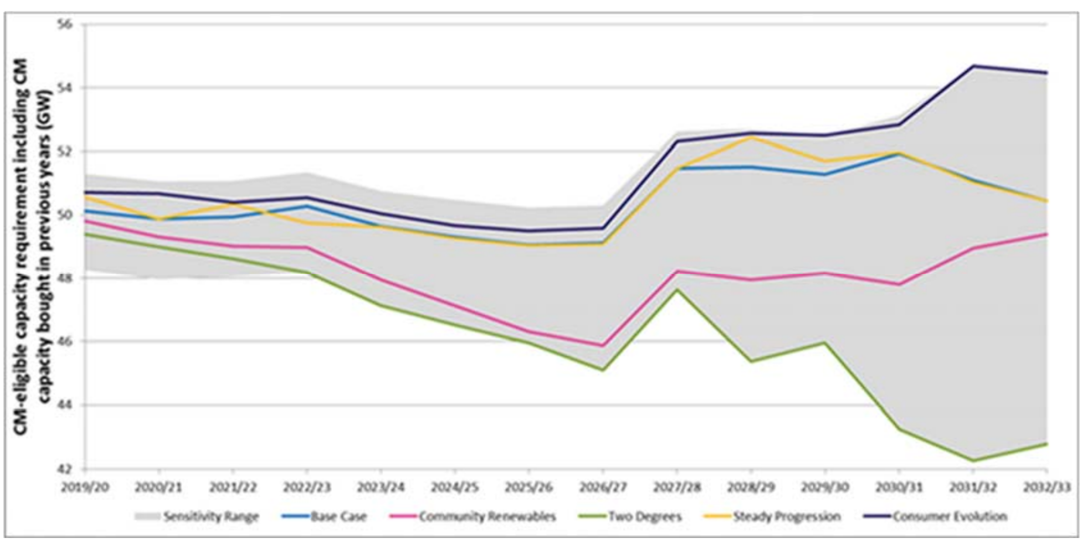


Figure 2: 2018 Estimates of the capacity to procure under different scenarios (GW)

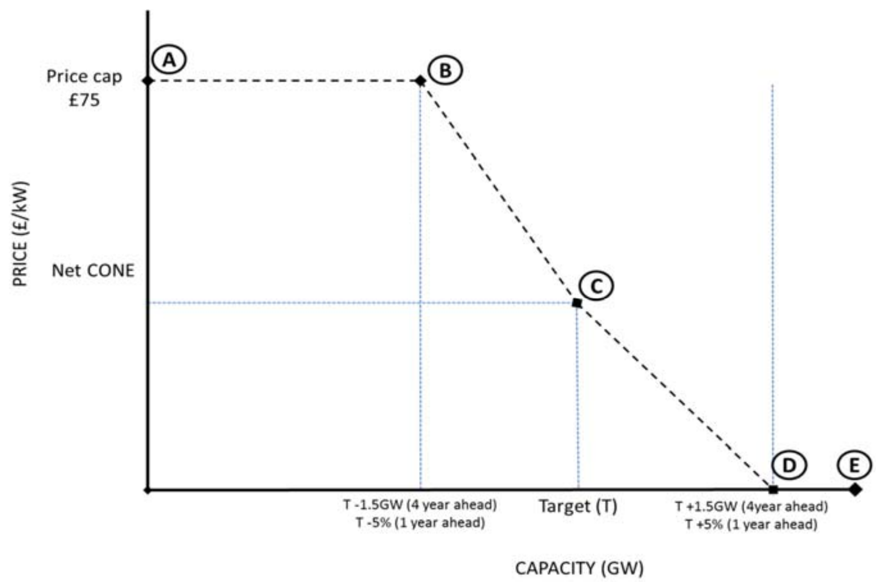


(45) The Government takes the final decision over how much capacity to procure in each auction on the basis of a demand curve, which is derived according to the methodology set out in the recitals below.

(46) 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.

(47) 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



(48) 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 report[11] commissioned by the UK authorities assuming a 7.5% hurdle rate and a 25 year payback period.

[11] 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

(49) 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 auction[12]) 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.

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

(51) 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.

(52) 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.

Auction frequency and format

(53) 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 that, as part of the notified measure, they may exceptionally organise a three-year ahead auction in 2019.

[12] See recitals (63) and (64)

(54) 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.[13]

(55) 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 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 4 below presents the volume set-aside for T-1 auctions.

Table 4: 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	45.4	2.5	4.6[14]	N/A
2020/21	51.7	0.6	N/A	N/A
2021/22	49.2	0.4	N/A	N/A

(56) 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, the Government committed to procure in the year ahead auctions at least 50% of the capacity reserved four years earlier. To date only one T-1 has taken place and in that auction more than double the capacity reserved four years earlier was procured (4.9 GW compared to 2.5 GW originally envisaged). The proposed target for the next T-1 auction, which has been postponed as a result of the GC judgement, aims to secure over 180% of the capacity reserved four years earlier. Though the UK authorities indicated that they did not foresee any difficulty in continuing to honour the

[13] 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).

[14] National Grid's recommendation ECR 2018

commitment to secure in the T-1 auctions at least 50% of the capacity set-aside four years earlier, flexibility will be retained to remove this guarantee if DSR does not prove cost-effective in the long run or if the DSR industry is considered sufficiently mature.

(57) The 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.

(58) The 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.

(59) 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.

(60) 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.

(61) 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 (TA) 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, let 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 indicates 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 5 below present the results of the TA.

Table 5: 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

(62) Table 6 below presents, 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 6: 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[15]
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

Price takers and price makers

(63) 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 7 below 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

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

new entry. As a result, a price taker threshold of GBP 25/kW also mitigates gaming risk.

Table 7: 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
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%[16]	6.00

(64) 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.

(65) 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.

(66) 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.

Capacity Agreement duration

(67) 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.

(68) 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.

[16] The high proportion of existing capacity participating as Price Makers in the T-1 auction (cf. recital (64)) 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.

(69) To ensure regulatory certainty and foster investors' confidence in the mechanisms, the key terms of a capacity agreement are 'grandfathered[17]' (subject to any future regulation to the contrary, although no such changes have been made so far). These key terms are:

- agreement length;
- capacity price and entitlement to payment;
- capacity obligation and de-rating figure;
- completion milestones and termination fees applicable;
- maximum liability for penalties.

(70) 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)

(71) 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

(72) 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.

The capacity agreement obligation

(73) 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 been no Capacity Market Notices issued by the system operator. The winter (2018/19) was to be the first year of the measure's operation in full.

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[17] 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.

(74) 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)[18]. Unless this warning has been issued, a scarcity event will not trigger Capacity Market penalties or 'over-delivery' payments.

(75) 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.

(76) 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.

(77) 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.

Penalties

(78) 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 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.
- an overarching annual cap of 100% of annual revenues.
- a penalty rate set at 1/24th of a provider's annual capacity payments.

Testing regime

(79) The penalty regime is complemented by a rigorous system of performance demonstrations to ensure capacity providers are able to deliver energy when needed

[18] https://www.ofgem.gov.uk/electricity/wholesale-market/market-efficiency-review-and-reform/electricity-market-reform/capacity-market-cm-rules

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.

2.7. Financing of the measure and payment flows

(80) The costs of the Capacity Market (i.e. those incurred to fund capacity payments to providers) are paid by all licensed suppliers according to the following process:

- 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.

- 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.

- 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 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.

- 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.

(81) 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 above.

(82) 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.

(83) 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.

(84) The principal financial flows to and from the settlement body are as follows:

- 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.

- 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.

- 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.

- 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.

- 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.

- 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.

- 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

The electricity market in Great Britain

(85) On 1 April 2005, the UK introduced in Great Britain 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.

(86) 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.

(87) 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.

(88) 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.

(89) 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)[19]. The NEMO interconnector between England and Belgium (1 GW) will be going live in early 2019.

Generation adequacy problems

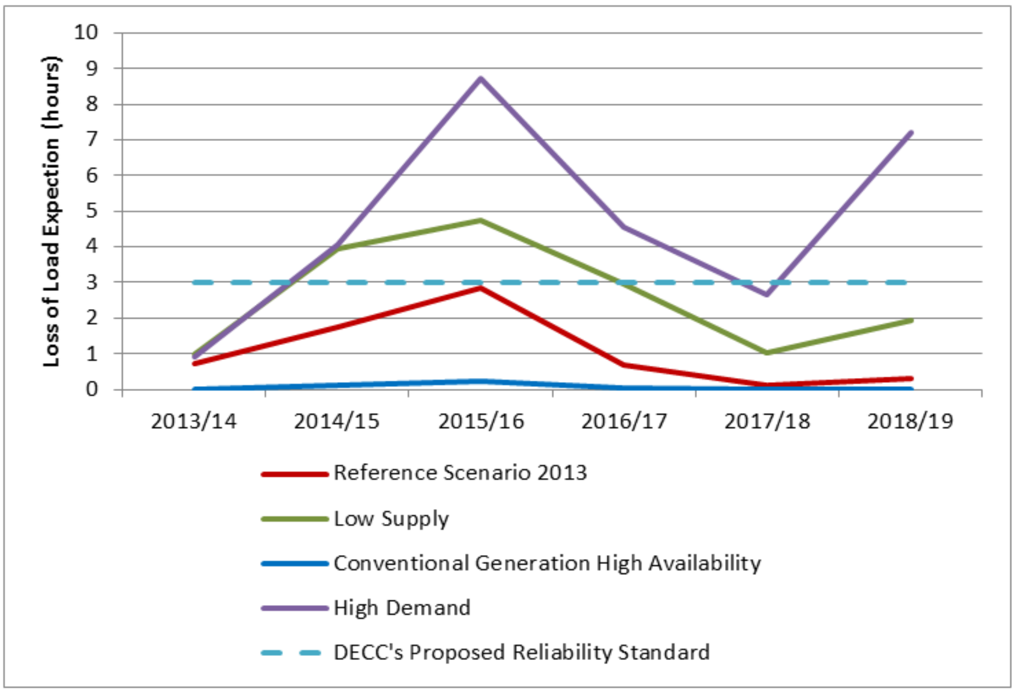
(90) The Reliability standard is expressed in terms of a Loss of Load Expectation (LOLE). This involves setting a standard, which sets out the average number of hours per year in which demand is not expected to be met by supply in a typical year. LOLE represents the number of hours per annum in which, 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.

[19] 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

(91) The Government notes 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.

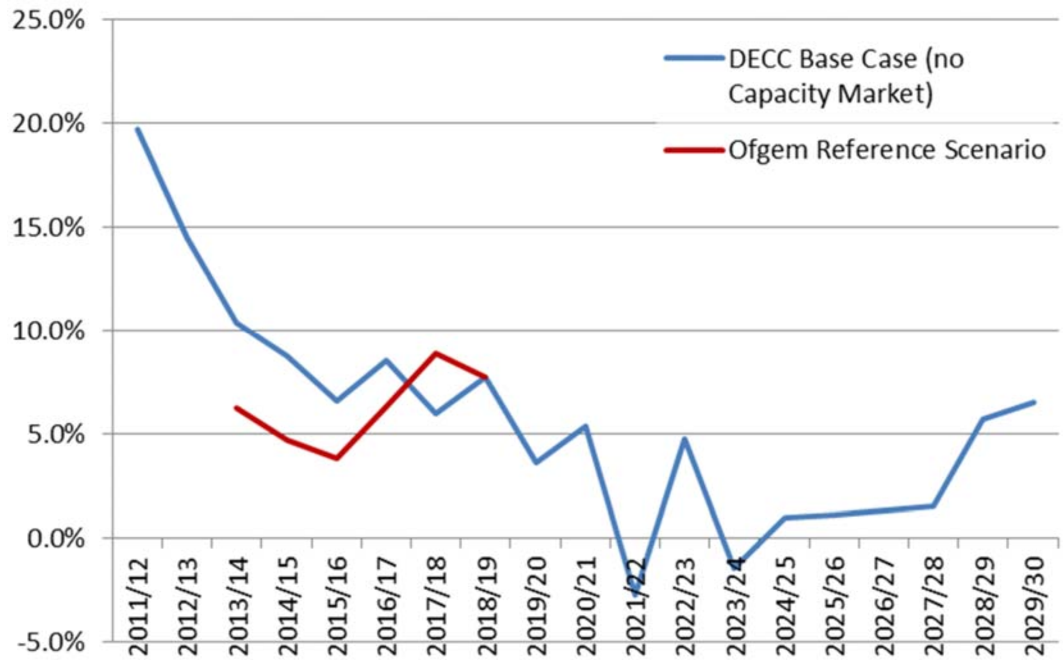
(92) At the time of the notification of the measure in 2014, the UK stated that in Ofgem's 2013 Electricity Capacity Assessment, LOLE were shown to rise to up to 9 hours in 2015/16 (although noting that there was little impact in the Conventional Generation High Availability case), they would then recover 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.

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



(93) 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



(94) 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.

(95) NG produces a 5-year EMR Base Case as part of the Future Energy Scenarios[20] 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.

(96) 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).

The reasons behind the generation adequacy problems

(97) The UK submits that two main market failures explain the generation adequacy problem described above.

[20] http://fes.nationalgrid.com/

(98) 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.

(99) The second market failure is the 'missing money' problem. The concept has been identified and described in academic literature and affects energy-only markets[21]. 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:

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

- 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.

(100) 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 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/MWh[22].

(101) 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.

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[21] 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'

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

Additional measures to ensure generation adequacy

(102) 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 above. The three main initiatives from the UK's notification are listed below.

(103) 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 2020[23]. 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 costs which would allow consumers to respond in real time[24]. 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 Plan.[25] 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.

(104) 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.

(105) Ofgem launched the Electricity Balancing Significant Code Review (EBSCR) in 2012[26] to address several long-standing concerns about factors that have dampened

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[23] 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

[24] 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.

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

[26] https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-scr-launch-statement

cash-out prices. Ofgem adopted and published their final policy decision in May 2014[27]. The implemented reforms to cash out are as follows:

- 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.
- 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.
- 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 system[28].
- 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.

(106) Ofgem has published a review of the first phase of the EBSCR[29]. 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 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.

(107) The 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:

- 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 term.[30] 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;

[27] https://www.ofgem.gov.uk/publications-and-updates/electricity-balancing-significant-code-review-final-policy-decision

[28] Using the Loss of Load Probability (LOLP) and the Value of Lost Load (VoLL)

[29] https://www.ofgem.gov.uk/publications-and-updates/review-first-phase-electricity-balancing-significant-code-review

[30] 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.

- 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;

- 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 trading[31].

- 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.

- 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.

- 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.

(108) 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

[31] 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.

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 31st January 2019, and has the potential to rise to 9% by 2021[32].

(109) 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.

(110) Ofgem's Integrated Transmission Planning and Regulation (ITPR) project concluded in 2015[33]. It established the Network Options Assessment 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. Submissions received in 2014

2.9.1. The submission by a balancing services operator

(111) The Commission received letters from a provider of balancing services to the System Operator, on 30 May 2014 and on 26 June 2014, alleging the Capacity Mechanism would be incompatible with the EEAG. In particular, the operator alleges the exclusion of generators with long-term "Short-term operating reserve" (STOR) contracts (see recital (25) above) would be discriminatory and would undermine investment decisions on generation that preceded the introduction of the Capacity Mechanism.

(112) The arguments of the operator are as follows:

- that, according to EEAG, generation adequacy measures "…should be designed in a way so as to make it possible for any capacity which can effectively contribute to addressing the generation adequacy problem to participate in the measure", that measures should be "…delivered through a mechanism which allows for potentially different lead times, corresponding to the time needed to realise new investments by new generators using different technologies" and that "… restriction on participation can only be justified on the basis of insufficient technical performance required to address the generation adequacy problem";

- that a STOR holder operator is not in a different situation to any other plant with a commercial power purchase agreement ("PPA")[34]

[32] These figures assume UK electricity generating capacity remains constant at 81.3GW.

[33] https://www.ofgem.gov.uk/publications-and-updates/integrated-transmission-planning-and-regulation-itpr-project-final-conclusions

[34] Typically, a long-term contract to provide electricity at an agreed price.

- that the operator currently receives an internal rate of return lower than the rate the UK Government claims is necessary to secure investment in new plant, and would not receive windfall profits as a result of participating in the Capacity Mechanism; and

- that, as a consequence and contrary to the EEAG, the exclusion of generators with long-term STOR contracts would "…undermine investment decisions on generation which preceded the measure…".

2.9.2. The submission by an operator owning existing plants

(113) On 25 June 2014 and on 3 July 2014 the Commission received letters from an operator that has acquired existing power plants. The operator claimed that the difference in treatment between existing and new plants (restricting existing plants to one year capacity agreements and imposing on them "price taker" status) raised serious concerns regarding the compatibility of the Capacity Mechanism proposals.

(114) In particular, the operator submitted that such differentiation between existing and new plant:

- was without objective basis (for example, it is not based on technical characteristics);

- was liable to result in more than the minimum aid required to meet the policy objective of ensuring security of supply, since it risks accelerating the closure of existing plant, increasing the requirement for new plant;

- was inconsistent with point (226) of the EEAG which states that "[t]he measure should be open to and provide adequate incentives to both existing and future generators…";

- Unnecessarily restricted competition (contradictory to points (80) and (232)(c)of the EEAG) by denying consumers the possibility to express preferences as to contract length and by restricting the bids of all existing plants, irrespective of the market power of the generator.

(115) The operator submitted numerical examples relating to both a generic plant and a specific plant showing that, under certain assumptions, existing Combined Cycle Gas Turbines (CCGTs) could provide capacity at a lower price than a new entrant CCGT for any given contract duration. However, existing CCGTs could lose out in an auction against new entrant CCGTs based on the proposed Capacity Mechanism design. This would be because existing CCGTs would not have access to a contract duration longer than 1 year (or 3 years in the case of existing plant requiring significant refurbishment), which would enable them to lower their bids, as a result of the increased revenue certainty provided by a longer contract.

2.9.3. The submission by operators in the Demand Response market

(116) On 9 June 2014 the Commission received a submission from a group of aggregators of the electricity consumption of industrial and commercial customers who provide certain ancillary services to the System Operator.

(117) In particular, the operators submitted that:

- Offering one year capacity agreements to DSR would make the business case for DSR less favourable while locking in fossil fuel generation by offering 15 year agreements to generation is discriminatory and incompatible with points (220) and (227) of the EEAG;

- DSR would be discouraged from participating in the main auctions four years ahead, since DSR providers who hold a capacity agreement for the enduring regime would not be permitted to enter the transitional auctions;

- The costs of the Capacity Market was targeted at all winter peak demand periods rather than the specific hours in which it is used, thereby blunting the economic signal to consumers to shift their demand away from peak times and discouraging DSR, inconsistent with point (224)(b) of the EEAG;

- The Capacity Market did not recognise the benefits of DSR compared to generation in avoiding transmission and distribution losses; and

- Contrary to point (233)(d) of the EEAG, the treatment of DSR strengthened the dominance of fossil fuel generation.

2.9.4. Observations by the UK authorities to the 2014 third parties' submissions (see sections 2.9.1 to 2.9.3)

(118) The UK does not contest that the support granted under the scheme constitutes State aid within the meaning of Article 107 (1) of the Treaty on the Functioning of the European Union (TFEU). However, the UK submits that the Capacity Market is compatible with the internal market pursuant to Article 107 (3)(c) TFEU as it leads to an increased contribution to the EU objective of ensuring security of energy supply without adversely affecting trade and competition in the internal energy market to an extent contrary to the common interest.

(119) In particular, the UK submits that the Capacity Market meets the common principles applicable to the assessment of compatibility under the Guidelines on State aid for environmental protection and energy 2014-2020. According to the UK, the Capacity Market (i) contributes to an objective of common interest (security of electricity supply); (ii) remedies well-defined market failures; (iii) is an appropriate instrument to address the objective; (iv) will have an incentive effect on participants; (v) will provide proportionate support by limiting aid to the minimum necessary; and (vi) seeks to avoid any major undue effects on competition and trade between EU Member States.

(120) Regarding the submission by the STOR operator, the UK noted that:

- Commercial PPAs were different to contracts with the TSO, as these were the contracts that consumers ultimately have to fund directly.

- Long-term STOR providers tended to make use of project finance. The UK's advice from a range of professionals from various types of finance and internally within the UK Government was that project finance was not available to a project exposed to merchant risk. The UK also noted that the technologies used by STOR providers (Open Cycle Gas Turbines, diesel) had high short-run marginal costs (in the range of GBP 70-200/MWh), meaning such projects could not expect to run with a load factor higher than 1-2%. As such, the project finance case was likely to have "banked" only long-term STOR revenues and little or limited wholesale market revenues, so that long-term STOR revenues should be considered to fully remunerate the investment cost. The UK therefore considered that the impact of the Capacity Market on energy market revenues would have no impact on the business case for the project. Taking a combination of annual (i.e. short-term) STOR payments and capacity payments as the counterfactual, then, due to the higher legacy price of the existing long-term STOR contracts, participation of long-term STOR providers in the capacity market could lead to overpayment of up to GBP *[…]*(*) million per annum (2018 prices).

- Long-term STOR providers were not per se excluded from the Capacity Market – effectively, they were given a choice as to whether to give up their long-term STOR contract (without any fear of penalty from the System Operator) and enter both the Capacity Market and the annual STOR tender process; or to choose to retain their long-term STOR contract and remain outside of the Capacity Market. The UK acknowledged that the long-term STOR contract might be an inherent part of providers' financing and that, as such, relinquishing the long-term STOR contract might have required re-financing. However, the UK noted that if long-term STOR providers saw a commercial case for relinquishing their long-term STOR contract and participating in the capacity mechanism, they might have made the case to their lenders and sought new financing terms. Long-term STOR providers would not be required to relinquish their STOR contract unless they were successful in the capacity auction i.e. there was no circumstance where they would be left with neither a long-term STOR contract nor capacity agreement.

- The same concerns regarding over-compensation would not be present in the annual STOR auctions. Since the STOR auctions for annual contracts would occur after the Capacity Market auction had taken place, providers would be able to factor in their Capacity Market revenues before bidding in the annual STOR auctions, resulting in no overcompensation.

(121) Regarding the submission by the existing operator, the UK noted that:

- Different capacity providers were in almost all ways treated equally in the Capacity Mechanism, except most significantly in terms of the agreement length on offer.

- Based on feedback from its October 2013 consultation, 15 years was the minimum agreement length necessary to enable new investment by independent generators requiring project finance. According to the UK, 15 years was also the minimum term which would allow an efficient commercial debt structure for a project. Commercial debt tenors were typically 7 years post construction and a 15 year capacity agreement allowed debt to be structured over two such periods with refinancing mid-term (at, for example, year 7). Lenders for the initial 7 year debt term would size the debt as if it were over a 13 or 14 year term since they would be able to assume the debt can be refinanced in the middle of the capacity agreement term, due to the certainty of revenues provided by the longer capacity agreement. This allowed

* Confidential information

an optimum period to amortise costs and debt service payments would therefore be lower, allowing lower bids. The participation of independent generation was required to ensure effective competition in capacity auctions.

- In contrast to new plants, long-term contracts were unnecessary for existing generation as they did not need to secure finance. One year contracts were otherwise beneficial since they ensured that annual auctions were liquid and reduced the risks to consumers of locking in high prices for capacity.

- As described in paragraphs (63) to (66) above, the distinction between price makers and price takers was intended to reinforce incentives for participants to bid at their true valuation of capacity and to mitigate market power. Existing generation might have obtained "price maker" status if they provided a justification for doing so. The UK submitted that there was nothing to prevent companies from making provision in such a justification for a rate of return deemed necessary to continue operating (i.e. a rate above mere covering of operating costs). Such a justification would not need validation prior to participation in the auction – it could only be requested as part of any investigation by Ofgem into possible market manipulation. The UK argued that companies that had made honest declarations should not be concerned by such an investigation. The UK noted that companies would in any case be carrying out their own analysis of the price they might be willing to accept in an auction, and that providing a justification for price maker status should entail little additional administrative burden.

- That the assumptions used by the operator might have over-stated the likelihood of existing plant losing out to new plants in auctions, in particular by:

    - Assuming the same relationship between the Weighted Average Cost of Capital (WACC) and contract length regardless of project type and source of finance, whereas the WACC for new build could be higher than for existing plant; and

    - Assuming amortisation of new plant capital expenditure over the full plant life, rather than within the duration of the capacity market agreement, the latter being more likely to apply to new build project-financed CCGTs.

    - In the generic example, the capex estimate for returning plant from mothball appeared extremely high (almost as high as possible without causing the plant to be reclassified as "new") and was inconsistent with evidence from the UK on actual mothball plants.

    - In the plant-specific example, using an example with a particularly high-cost existing plant which was relatively unlikely to be successful in the auction in any case and adopting a disadvantageous investment schedule which did not enable the plant to access the three-year refurbishment contract, which would, according to the calculations submitted by the operator, enable it to win the auction.

    - The UK had simulated in their own model the generic plant example submitted by the operator, making the following amendments:

- For the existing mothballed plant, assuming required capex equal to GBP 100/kW.
- For the new plant:
    - A scenario using the same assumptions as the operator.
    - A scenario with revised financing assumptions, namely assuming a debt:equity ratio of 65:35, that this debt is amortised in 14 years (i.e. within the 15 year contract period) and assuming capacity payments need to be equal to at least the debt service costs (plus a *[4-7%]* margin) of GBP 50/kW/year, since lenders are assumed not to take merchant risk.

- The UK's simulations showed that the existing CCGT would be able to bid lower than the new build CCGT.
- The UK's simulation of an auction showed that, in most cases, existing plants would be able to bid lower than new build, except for a few relatively old and low efficiency plants which appear to be uncompetitive. The analysis by the operator assumed that all existing plants bid for one-year contracts; it did not take into account any further benefits existing plant might secure from bidding for three-year refurbishment contracts.
- The UK also explained that, with increased interconnection and demand-side response, capacity prices were expected to decline over time. The UK concluded that granting existing plant access to longer contracts increased the risk of over-compensation by locking in capacity at high initial prices and would reduce the UK's ability to revert to an energy-only market when conditions allow.

(122) With regards to the DSR submission, the UK noted that:

- 15-year capacity agreements were only available to new build generation which requires greater certainty given high up-front capital investment, not required by existing generation and DSR. As noted above in response to the new entrant's submission, the UK's view was that shorter agreements promoted competition, while longer agreements reduced the costs of procuring new plant.
- The transitional auctions for DSR (cf. recital (61)) were specifically designed to grow the DSR sector by helping new DSR providers that were not yet mature enough to compete against generation in the main auctions. As such, safeguards were needed to ensure funds for the transitional arrangements were being used to develop the sector and not to provide revenue for mature DSR providers.
- Cost allocation: The cost recovery methodology reduced uncertainty for suppliers over their likely share of costs and safeguards the associated risk premium being passed on to consumers, while retaining the incentive to reduce demand since costs were still targeted on the overall period when demand was highest (4pm-7pm on winter weekdays).

- The Capacity Market ensured there was sufficient capacity on the system and it was not intended to reward other benefits, such as reduced transmission losses.

3. ASSESSMENT OF THE MEASURE

3.1. Existence of aid

(123) Article 107(1) TFEU defines State aid as 'any aid granted by a Member State or through State resources in any form whatsoever which 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'.

3.1.1. Imputability to the state and financing through state resources

(124) As held by the Court, State resources encompass both advantages which are granted directly by the State and those granted by a public or private body designated or established by the State[35]. The Commission considers that the capacity payment constitutes a resource that is under the control of the State for the reasons laid down in recitals (125) and (126).

(125) The Capacity Market was put in place by the UK Secretary of State for Energy and Climate Change under the powers conferred to him by the Energy Act 2013. Secondary legislation in the form of Electricity Capacity Regulations and Capacity Market Rules was adopted by Parliament on 1 August 2014 and has governed 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.

(126) 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 will retain overall control over it. The measure is financed through a surcharge (levy) on all licensed suppliers which is collected by the Settlement body. The Settlement body then orders the payments to the capacity providers.

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

(127) 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 intervention.

The Commission notes that the successful bidders receive through the mechanism a remuneration they would not receive if they continued to operate in the electricity market on normal economic conditions selling electricity and ancillary services only (BETTA – described in section 2.8 above). The notified measure will thus confer an economic advantage to undertakings that are in a comparable factual and legal situation to other electricity producers.

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[35] Case 76/78 Steinike & Weinlig v Germany [1977] ECR 595, paragraph 21; Case C-379/98 PreussenElektra [2001] ECR I-2099, paragraph 58.

(128) Moreover, the measure confers an advantage also to only certain undertakings able to help tackle the identified adequacy problem because capacities smaller than 2MW (see recitals (23) and (24)) and foreign capacities (see recital (27)) are excluded from participating directly to the mechanism.

(129) The Commission therefore finds that the measure confers a selective advantage on its beneficiaries.

3.1.3. Distortion of competition and trade within the EU

(130) 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 EU. Therefore it would normally be assumed that any advantage from State resources to any undertaking in that sector has the potential to affect intra-Union trade and to distort competition.

3.1.4. Conclusion on the assessment of existence of aid

(131) In the light of the above assessment, the Commission concludes that the measure constitutes State aid within the meaning of Article 107(1) TFEU.

3.2. Lawfulness of aid

(132) Although the Capacity Market was notified by the UK authorities before being put into effect, the 2014 Commission decision authorising the scheme was annulled by the General Court. In light of the GC judgement annulling the 2014 Commission decision, the implementation of the aid in question must be regarded as unlawful.[36]

3.3. Compatibility with the internal market

(133) As mentioned in recital (132) above, the result of the annulment of the Commission decision is that the aid must be deemed unlawful. In accordance with the Commission notice on determination of the applicable rules for the assessment of unlawful State aid[37], the Commission has assessed the compatibility of the measure with the internal market, from 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)[38], which set specific conditions for aid to generation adequacy and have been applicable since 1 July 2014.

(134) The procedure for adopting a new decision may be resumed at the very point at which the illegality occurred[39].

(135) In the light of the General Court's conclusions (cf. recital (4) above) that the Commission should have had doubts as to the compatibility with the internal market of certain aspects of the notified measure, the Commission revised its

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

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

[38] OJ C 200/1 of 28 June 2014.

[39] 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.

assessment and decided to initiate the formal investigation procedure. Therefore, the Commission invites the UK authorities and any interested parties to provide all relevant information for verifying the compatibility of the capacity mechanism with the internal market on the basis of the conditions established in Section 3.9 of the EEAG.

3.3.1. Objective of common interest and necessity of the aid

(136) In order to be considered necessary and contributing to an objective of common interest, the measure should meet several conditions of Sections 3.9.1 and 3.9.2 EEAG; i) the generation adequacy concerns must be identified through a quantifiable indicator and the findings must be consistent with the analysis carried out by the European Network of Transmission System Operators for electricity (ENTSO-E); ii) the measure must pursue a well-defined objective; iii) the measure must address the nature and causes of the problem and in particular the market failure that prevents the market from delivering the required level of capacity; iv) the Member State must have considered alternative options to address the problem to avoid missing the objective of phasing out environmentally harmful subsidies.

Identification of the generation adequacy concern - 2014 to November 2018

(137) 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, at the time, the most recent system adequacy report.[40] In 2014, ENTSO-E estimated that in Scenario A for Great Britain (which saw only the generation capacity developments that were considered secure) after 2016 remaining capacity might have been insufficient to cover an adequacy reference margin in the absence of interconnector imports. The UK submitted that, at least in the short- to medium-term, there was insufficient evidence to suggest that interconnectors would always flow to GB when needed and that coincident stress events in neighbouring countries were possible. The UK cited analysis commissioned for Ofgem[41], which showed that interconnector flows had helped to reduce the number of GB low capacity margin hours in a year. However, for the hours of highest GB system stress (i.e. where capacity margins were below 10%) interconnection flows had not consistently helped and had sometimes worsened capacity margins in GB.

(138) The 2014 NG's Electricity Capacity Report (ECR)[42] was examined by an independent Panel of Technical Experts ("PTE") appointed by DECC. On 30 June 2014, the DECC published the PTE's report on the analysis underpinning NG's recommendations on the amount of capacity to procure for the first auction. PTE concluded that NG's overall Scenario and model-based approach was in principle sound, and NG had sought to take account of evidence and stakeholders' views. However, PTE's consensus view was that NG tended to take an overly conservative

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

[41] Pöyry Management Consulting (2013) "Analysis of the correlation of stress periods in the electricity markets in GB and its interconnected systems"

[42] See recitals (42) and (43) for a description of NG's generation adequacy assessment methodology.

view on a few key assumptions, most notably interconnector flows which would have over-estimated the amount of capacity to procure. PTE also noted that less conservative assumptions could have been enough to avoid the need for procuring new generation capacity.

(139) The UK authorities explained that they had taken into account both NG's advice and PTE's report and had considered carefully the differences in their respective analyses. For the first T-4 auction that took place in December 2014, NG's modelling took stock of the evidence available: exports to Ireland (0.75GW) and 0.75GW (out of 3GW) of imports from the continental interconnectors rendering a total of 1.5 GW of cross-border trade – so the net position was zero. NG's modelling covered a range of scenarios and, in the UK's view, corresponded more closely to observed market behaviour. Uncertainties had been taken into account through NG's Robust Optimisation methodology. NG had presented evidence on historical continental interconnector flows on days with high GB demand. This showed that on the majority of days with high GB demand there had been net interconnector imports, but this was not always the case and sometimes GB was exporting at times of high demand. NG had also presented evidence on the flow to Ireland which showed that GB was generally exporting to Ireland. The UK had explained that, based on the evidence presented, Ministers had decided to follow the advice of NG as system operator. The UK viewed NG's recommendation as cautious but reasonable because even though the UK expected significant improvements in interconnection capacity in coming years, a cautious approach was prudent for the first auction. As per the PTE's recommendation, the UK underlined that it continued to work with NG to gather further evidence on the likely flows as information and experience was gained with the operation of the Day-Ahead and future Intra-Day market coupling at the time. The UK also indicated that it would monitor developments on future key interconnector projects. In addition, the UK expressed support to PTE's recommendation to commission further research and statistical analysis of the deliverability of UK-Continent interconnectors during GB stress hours and committed to work with NG to assess ways in which the Robust Optimisation methodology could be improved.

(140) In December 2018, the UK submitted that National Grid's modelling of the behaviour of interconnector flows and the wider European electricity market more generally had become significantly more sophisticated with the use of BID3 – a pan-European model used to map likely interconnector flows across Europe. In 2018 ECR[43], National Grid introduced the further improvement of use of European scenarios as inputs to their BID3 modelling. In addition, from 2015 onwards, interconnectors have been able to participate in the main auctions (cf. recital (27)) and the analysis of their actual flows has determined the de-rating factors for the individual interconnectors. Each year National Grid makes recommendations on interconnector de-rating factors – generally expressed as ranges – which the PTE scrutinises in their advice. According to the UK, the Secretary of State makes the final decision, adjusting National Grid's recommendations if deemed necessary to ensure security of supply and value for money for consumers. In almost every case, the Secretary of State has determined de-rating factors which are consistent with the advice of the PTE.

[43] https://www.emrdeliverybody.com/Lists/Latest%20News/Attachments/189/Electricity%20Capacity%20Report%202018_Final.pdf

(141) As for the contribution of DSR, the PTE's 2014 report also raised concerns regarding the lack of information and understanding. The Panel recommended a programme to investigate this area further so that opportunities are captured in the future. In 2014, the UK indicated that NG estimated that DSR could provide around 3 GW of capacity in 2018/19. Furthermore, the UK submitted that holding the first auction (December 2014) would be key to revealing information about DSR and DSR potential (cf. recital (24)). In response to the PTE's 2014 report, the Power Responsive programme[44] was launched in January 2015 as a stakeholder-led programme (with participation from the Energy Networks Association), facilitated by National Grid, to stimulate increased participation in the different forms of flexible technology such as DSR and storage. It brings together industry and energy users, to work together in a co-ordinated way. Its goal is to achieve a DSR share of 30-50% of balancing capability by 2020. According to the UK, preliminary results indicate this target could be met in 2018, two years ahead of schedule[45]. In addition the UK developed transitional auction arrangements to support the growth of DSR in 2016 and 2017[46] and a GBP 20 million Electricity Demand Reduction pilot. Finally, the UK explained that it carried out evaluations of data coming from the first T-4 auction that took place in 2014 and ensured demand curves were adjusted appropriately, which fed into NG's Future Energy Scenario process for Electricity Capacity Reports ahead of subsequent auctions. Finally, National Grid has undertaken an additional project to understand the technologies and capacity connected at the level of distribution networks. National Grid obtained half hourly data from Electralink on output from all distribution network connected sites in mid-2018. This data predominantly covers small scale generation technologies connected to the distribution networks but also includes data on DSR sites.

(142) Regarding the availability assumptions for power plants, NG commissioned in 2014 further evidence on plant availability from an external consultant and, as a result, adjusted upwards some of the plant availability assumptions for the analysis. However, NG was reluctant to use availability figures higher than ever seen before in the UK. The UK authorities recall that the availability assumptions are reviewed and updated each year and need to be agreed with both Ofgem and NG, to ensure consistency across all adequacy work.

(143) The Commission takes note of the UK's initiatives to address the recommendations from the PTE. The Commission considers that some of the issues identified by PTE in 2014 were serious; in particular the appreciation of an overly conservative estimate that interconnectors would render a zero-net contribution during stress events. The Commission notes that the difference at stake between the estimations by NG and the PTE was 0.75 GW or 1.5% of the amount of capacity to be contracted in the first auction. The Commission considers that the UK claims that at the time there was no robust evidence of how interconnector flows would operate under the new model and historical evidence suggested that flows into GB from the continent would not be as high as the PTE had estimated are plausible. In addition, the Commission takes note that the amount of capacity to procure in the T-1 auction was adjusted in 2017, assuming that 2.1GW of interconnection

44 http://powerresponsive.com/

45 https://theenergyst.com/national-grid-hits-dsr-target-two-years-early-works-to-open-ultimate-balancing-market/

46 See recital (61)

capacity would be available at peak times outside the capacity mechanism[47]. In this respect, the Commission further notes that the UK indicated that it would:

- continue to ensure that the capacity to be procured is based on the expected availability of conventional generation during high demand situations and not on annual or seasonal averages.

- work with the Commission to develop standards used for generation adequacy assessment to ensure adherence to European best practice.

(144) The Commission considers that the measures provided by the UK address the methodological concerns over the contribution of interconnectors during stress events.

Identification of the generation adequacy concern – after November 2018

(145) According to the latest ENTSO-E's findings in its Mid-term Adequacy Forecast 2018 (MAF 2018)[48], 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 (90). The MAF 2018 indicates that "*improved MAF 2018 results may also be attributed to existing capacity mechanisms*". As a matter of fact, the MAF 2018 was published on 3 October 2018, i.e. before the GC judgement annulling the 2014 Commission decision. The MAF 2018 calculation therefore took into account the effects of the existence of the capacity mechanism in the UK. Indeed, in Appendix 2 of the 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.*"

(146) The identification of a persistent need for a capacity mechanism for the future has to be based on counterfactual scenarios, assuming that no capacity mechanism exists in the UK. As described in recitals (94) to (96), and in line with point 222 of the EEAG, 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.

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47 In their 2017 ECR, National Grid recommended that the 2.5GW which was 'set-aside' for the T-1 auction be increased to 6.3GW to account for (a) increases in their assessment of peak demand and (b) capacity which was contracted at the T-4 stage failing to deliver. This increase would have been even higher, but for the fact that National Grid updated their interconnector assumptions – their recommendation assumes that 2.1GW of interconnection capacity will deliver outside of the CM at peak. Internal UK Government analysis in light of PTE comments on National Grid's initial recommendation for this T-1 auction resulted in the Secretary of State deciding to auction 6.0GW of capacity. After pre-qualification was complete, National Grid recommended a 1.1GW reduction to the target (for other reasons), resulting in a final T-1 target of 4.9GW : https://www.emrdeliverybody.com/Lists/Latest%20News/Attachments/162/CM_Update_to_Demand_Curve_T-1_201819_Dec17.pdf

48 https://www.entsoe.eu/outlooks/midterm/

(147) In particular, NG's analysis described in recital (95) 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 the MAF 2018 for the UK. Therefore, in line with point 221 of the EEAG, the Commission estimates that NG's analysis is consistent with the analysis carried out by the European Network of Transmission System Operators for electricity (ENTSO-E).

Objective

(148) 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.

Market failures

(149) As described in recitals (97) to (101), the UK has identified two market failures that prevent the market from bringing the necessary capacity to meet the established generation adequacy standard. The table below explains how the measure addresses each market failure.

Table 8: How the measure addresses the identified market failures

Market Failure	**How the Capacity Market addresses the market failure**
Reliability is a public good	Rather than depending on the energy market to derive the optimal level of capacity (which is sensitive to how the value of lost load is determined in the market), the UK has set an enduring reliability standard (a loss of load expectation of 3 hours/year). The annual capacity auctions procure the level of capacity that delivers that standard. The Capacity Market also promotes a more active *voluntary* demand side response – with parties receiving capacity payments for reducing energy use at times of scarcity – to reduce the need for *involuntary* disconnections. The Commission accepts that as long as individual real time metering is not available[49], that reliability displays many of the characteristics of a public good. However, in the future with the roll out of smart technology this will become less important as consumers will be able to manage their consumption in response to scarcity signals from the markets.
Missing money	The Capacity Market addresses the 'missing money' problem by giving capacity providers certainty on a part of their revenues. In effect, they exchange the possibility of part of their scarcity rents for a capacity payment. In return, they guarantee to provide capacity when needed, or face penalties. This mimics the action

49 Cf. recital (103). According to the UK, less than a third of UK consumers currently use smart meters, and dynamic time-of-use tariffs are in very early stages.

Market Failure	How the Capacity Market addresses the market failure
	of a perfectly functioning electricity market. However, the Commission reiterates that the implementation of a capacity market cannot come at the expense of well-functioning short run markets. The Commission notes in particular the potential for a robust reference market for options trading developing under the cash out reform reported in recitals (103) to (105).

Alternative measures

(150) The measure may result in support to fossil fuel generation. However as reported in recitals (102) to (110), the UK has already implemented, is considering or is implementing additional measures to address the identified market failures. These measures aim at improving DSR, reforming the cash-out arrangements and promoting increased levels of interconnection. The Commission considers that these alternative measures should therefore lead to a reduction of the amounts of capacity to procure under the Capacity Market. 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 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 2014.[50] As a result, the Commission considers that the UK has explored sufficiently means of mitigating the negative impacts that the measure may have on the objective of phasing out environmentally harmful subsidies. 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 demand side management operators.

Conclusion

(151) In the light of the assessment above, the Commission reaches the preliminary conclusion that the UK Capacity Market contributes to an objective of common interest and is necessary.

3.3.2. Appropriateness of the aid

(152) The Commission will assess whether the measure is appropriate based on Section 3.9.3 EEAG. According to EEAG, the measure should meet several conditions: i) the choice of the instrument must be coherent with other measures aimed at the same market failure; ii) aid must only compensate the service of availability of capacity; iii) the measure should be open to all relevant capacity providers, allow sufficient lead times for new investments and iv) take into account the extent to which interconnected capacity can contribute to remedy the generation adequacy concerns.

[50] 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).

Choice of instrument

(153) The Commission notes that the measure aims to address the identified market failures as shown in Table 8. Furthermore, the measure has been designed to support and complement ongoing developments in the market and to be consistent with the internal energy market and EU energy policies: i.e. the development of an active demand response, increased competition and investment in interconnected capacity.

- According to the UK authorities, the Capacity Market aims to support the development of an active demand side. Demand side resources is able to receive capacity payments, and there are specific measures to help build the capability of this industry. The Capacity Market increases liquidity and competition (in both the capacity and electricity markets).

- By centrally contracting capacity from capacity providers on behalf of electricity suppliers, the Capacity Market aims to ensure that small generators, demand side participants and suppliers have a clear route to market, and receive a fair value for the capacity they provide.

- The Capacity Market aims to avoid restrictions on cross-border trade, and EU rules regarding the internal energy market govern the import and export of electricity between neighbouring markets so that electricity continues to flow from areas with lower prices to areas with higher prices.

- The Capacity Market has been designed to be consistent with the reform of the electricity cash-out arrangements. This provides additional stronger incentives for investment in interconnection and is the focus of further work across the EU to increase the efficiency of the price signals that determine imports and exports between countries. Ensuring that cash-out prices accurately signal scarcity has helped the energy market reward capacity providers who are available at times of scarcity. More cost-reflective imbalance prices have also provided stronger incentives for demand side response, interconnection and investment in storage. In particular, cash-out reform has increased the likelihood that GB is importing electricity at times of system scarcity, therefore reducing the need to build additional national capacity. The UK has estimated that removing the implicit price cap in the GB market caused by current cash-out arrangements could significantly increase the contribution of current interconnection to security of supply because GB could rely more on imports at key periods.

Remuneration solely for the service of pure availability of capacity

(154) Beneficiaries receive a compensation for the units of capacity that they make available (GBP/MW) and not for the energy delivered (GBP/MWh), in line with point 225 EEAG. That said, the Commission notes that the Capacity Market follows a 'delivered energy' model (see Section 2.6 above), whereby capacity providers may face penalties in case they fail to actually 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 if it was not profitable based on market prices alone, in

order to avoid penalties. Sufficient conditions for a delivered energy model to have no impact on the efficient allocation of resources are that system stress events relate only to a general shortage of capacity across the system (as opposed to local circumstances) and that they apply only when the market has reached its limits in directing the efficient allocation of resources. In that regard, the Commission notes that:

- involuntary demand disconnections by the System Operator to resolve locational issues are not classed as system stress events;

- the need for the System Operator to initiate voltage reduction or involuntary demand reduction (i.e. system stress events) by definition occur when available supply is inadequate to meet demand. In an impending shortage, prices rise, motivating owners of supply to deliver energy in response. In this manner, all available supply delivers its energy until exhausted by its physical capacity or, in the case of imports over interconnectors, reaches the maximum import limit. Only when all available supply sources are exhausted could an actual shortage occur, requiring the System operator to initiate rationing. As such, declaring a system stress event and requiring capacity providers to actually deliver energy merely complements the incentives in the energy market. In addition, as explained in recital (108), in GB, the 2019 level of interconnection is 6% of total installed capacity as the NEMO interconnector went live on 31st January 2019, and has the potential to rise to 9% by 2021[51];

- In certain, mainly exceptional, circumstances the System Operator may need to take actions that will involve the involuntary reduction of generation or demand before all valid offers of balancing energy have been accepted, in accordance with the Balancing Principles Statement (BPS). The circumstances are set out in the BPS and limited to unexpected emergency scenarios However, the UK states that the System Operator would ordinarily instruct commercially negotiated balancing power prior to instigating involuntary voltage reduction.

(155) The Commission notes that as a result, distortions to dispatch are highly unlikely to occur in practice, given that system stress events are defined with 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. Therefore, the Commission takes the preliminary view that the UK measure remunerates the service of pure availability of capacity.

Openness of the measure to all relevant capacity providers

(156) The Commission notes that the measure is open to existing and new generators, to storage operators, DSR operators and interconnected capacity. The auctioning process has been designed to consider different lead times to make capacity available. Capacity providers can bid for lead-times of one or four years ahead, which should cater for the needs of new generation plants and for the refurbishment of existing plants. As mentioned in recital (53) above, in 2019 the UK would exceptionally organise an additional three-year ahead auction to cater for potential risks in security of supply in 2022, following the cancellation of the 2018 T-4 auction due to the GC judgement.

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[51] These figures assume UK electricity generating capacity remains constant at 81.3GW

(157) However, on the basis of the GC judgement, the Commission seeks clarification whether certain aspects of the measure provide adequate incentives to allow DSR to participate effectively in the Capacity Market or whether they might disadvantage DSR operators in the Capacity Market compared to generating CMUs.

(158) First, with regard to the submission by the DSR operators received in 2014, the Commission notes the UK's view that 15-year capacity agreements may be justified for new generation capacity while existing capacity and DSR, in view of their lower capital cost requirements (indicating a reduced importance of securing financing), may not benefit from the availability of longer contracts (see recital (121) above). The Commission also takes note of the UK's view that shorter contracts would not seem to put existing plants and DSR at a disadvantage to new generation.

(159) In this regard, the Commission would like to point to the fact that the secondary objective of the measure of incentivising sufficient investment in new capacity is aimed at both generation capacity and other capacity, such as DSR. The Commission agrees with the UK that the capacity contracts longer than one year help in cases of high capital expenditure and difficulties in securing financing, thus promoting competitive new entry into the market. The Commission also takes note of the UK's arguments that new DSR operators do not necessarily have the same capital expenditure as generators building new plants. According to the UK, the DSR sector has not provided information in response to previous requests and past studies commissioned by the UK Government into DSR costs demonstrating significant capital costs.

(160) That being said, the Commission would like to clarify whether new DSR capacity like new generating capacity might have capital expenditure and financing difficulties that could justify capacity contracts longer than one year in order to allow them to participate fully in the capacity market. According to the GC judgement[52], the difference in the contracts lengths offered to DSR operators and to generators may indicate that there are doubts as to the compatibility of the measure with the internal market. The Commission must therefore examine whether the absence of longer term capacity contracts for DSR operators reduces their chances to contribute to solving the UK capacity adequacy problem.

(161) Second, the Commission notes that the T-1 auctions are particularly important for DSR operators due to those operators' lead times. The process used to "set aside" capacity for the T-1 auctions is described in recital (55). Following the GC judgement[53], the Commission notes that there is no legally binding guarantee that the UK will organise a T-1 auction or that it will procure through the T-1 auction at least 50% of the volume initially reserved for that auction.

(162) While Regulations 7(4)(b), 10 and 26 of the Electricity Capacity Regulations 2014, read together, mean that the Secretary of State may decide not to organise T-1 auctions, the text is silent on the guarantee to auction at least 50% of the volume of capacity initially reserved for those auctions. The Commission notes however that since the implementation of the Capacity Market in 2014, and as described in

[52] Cf. case T-793/14, points 184, 192-193.

[53] Cf. case T-793/14, points 242 and 243.

recital (56), 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.

(163) Nevertheless, in the light of the assessment above and based on the GC judgement, the Commission seeks 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.

(164) Finally, the Commission notes the minimum threshold of 2MW as a requirement for the participation in the Capacity Market for both generating and DSR units, as described in paragraphs (23)-(24) above. The Commission also notes the UK arguments that the threshold is low. Furthermore, as explained in recital (61) above, the UK tested a lower participation threshold for the second transitional auction. Since only 8 CMUs below 2 MW qualified, providing less than 3% of the overall capacity secured in this auction, the UK indicated that the original rationale for establishing the minimum threshold at 2 MW was sound. According to the UK, projects below 2 MW are making a trivial contribution to security of supply and so policing the compliance could be disproportionately costly, and there appears to be limited demand to lower the threshold in practice, presumably given smaller sites can be aggregated.

(165) Nevertheless, in light of the GC judgement[54], the Commission considers it appropriate to seek clarification whether this minimum threshold might present a barrier to entry to the capacity market 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 (as described in paragraphs (23)-(24) above), it should be noted that they are liable to pay a bid bond on the whole of the 2 MW, if even only a proportion of that volume is unproven DSR capacity (as detailed in recital (34) above). According to the GC judgement[55], the amount of the bid bond might constitute a barrier to entry for new DSR operators in particular as all participants in the capacity market had to commit to covering open-ended capacity events while DSR operators might have more difficulty than generators in covering an ongoing capacity event. Due to the higher perceived default risk of DSR operators, they might have more difficulties in financing the amount of the bid bond.

(166) Consequently, on the basis of the GC judgement, the Commission seeks clarification with regard to the technology neutrality of the measure and, in particular, whether the measure provides adequate incentives to allow DSR operators to participate effectively in the Capacity Market. It is therefore necessary to examine in greater detail the effectiveness of the participation of all types of capacity providers in the Capacity Market before reaching a conclusion that the measure is compatible with the internal market.

(167) The Commission invites views from the UK authorities and interested parties on all issues described above.

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54 Cf. case T-793/14, point 118.

55 Cf. case T-793/14, point 257.

Participation of foreign capacity

(168) In 2014, the UK submitted evidence that at that stage it was not possible to include foreign capacity without implementing additional cross-border arrangements. The amount of interconnected capacity was however considered in the calculation of the amount of capacity to procure. Moreover, the UK enabled interconnected capacity to directly participate in the Capacity Market as of the second auction in 2015, in particular by allowing new interconnectors to bid and compete for Capacity Payments against other capacity providers.

(169) The UK explained that due to the specificities of interconnectors capacity and differences between such capacity and generators it was necessary to develop new features in the design to allow new interconnectors to bid directly, as if they were generators. In particular, an adequate duration for the capacity payment needed to be defined, as well as the operational rules for monitoring, delivery and the penalty regime. Ultimately, the UK modified the design of the measure to enable new interconnectors to directly participate starting from the second auction in 2015.

(170) In December 2018, the UK indicated that it regarded the interconnector participation as an interim solution until a common EU approach for the direct participation of cross-border capacity is introduced.

(171) However, the Commission notes that interconnector operators are also by definition transmission system operators, and that capacity on interconnectors is allocated in accordance with internal electricity market legislation, and in particular market coupling. The Commission reiterates the importance of not undermining the operation of market coupling, including intra-day and balancing markets. Furthermore, the Commission recalls that the EEAG require schemes to be adjusted in the event that common arrangements are adopted to facilitate cross-border participation in such schemes.[56]

(172) Furthermore, the Commission notes that other Member States have since 2014 implemented market-wide capacity mechanisms with the prospect of allowing direct participation of foreign capacity. For example, in Ireland and France, two Member States to which the UK is already connected via interconnectors, the market-wide capacity mechanisms were approved by the Commission under State aid rules in 2016 and in 2017 with commitments by both countries to endeavour to implement direct participation of foreign capacity after a three-year transition[57]. Therefore, as for France and Ireland, while the Commission accepts the UK's arguments for excluding the direct participation of foreign capacity for the past and for using an "interconnector led" model since 2015 instead, it has doubts whether cross-border participation in the UK capacity mechanism should continue to be limited to interconnectors in the future.

(173) The Commission invites views from the UK and interested parties on this question.

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[56] See footnote 97 in EEAG. Also note that as described in SWD 2013 (438) Generation Adequacy in the internal electricity market - guidance on public interventions of 5 November 2013, while it may be necessary as an interim measure to allocate the contribution of interconnectors towards security of supply to interconnector operators, the aim should be to facilitate full cross border participation by capacity providers

[57] See Commission decision C(2016) 7086 final from 8.11.2016 (SA.39621 2015/C (ex 2015/NN)) and Commission decision C(2017)7789 final from 24.11.2017 (SA. 44464 (2017/N))

Concerns raised in the third parties' submissions

(174) Regarding the submission by the long-term STOR provider, the Commission does not consider the exclusion of long-term STOR providers as discriminatory. The Commission notes that such plants may in fact participate in the Capacity Mechanism provided that, if successful in the auction, they relinquish their long-term contract with the System Operator. While this may require a renegotiation of financing terms, the Commission considers, based on the UK's explanation that no penalties would apply, that this is a feasible option for long-term STOR providers.

(175) Regarding the submission by the existing operator that the measure would unduly discriminate against existing generators, the Commission:

- Agrees with the UK that differentiation between new and existing capacities may be justified since, in contrast to existing capacities, new capacities are likely to need to secure financing for capital expenditure and since one-year capacity agreements have other benefits;

- Finds the UK's analysis that existing capacities (apart from uncompetitive ones) should generally tend to bid lower than new capacities in auctions plausible, and therefore would expect the vast majority of successful bids to come from existing, and not new, capacities. Indeed, in the past auctions, this expectation was verified: in all four T-4 auctions, existing capacities represented between 66% and 94% of the total capacity auctioned, and they represented between 53% and 70% of the total number of CMU beneficiaries and

- Notes that the requirement for existing capacities to justify price maker status is intended to mitigate market power, and as such considers that the restriction on bidding behaviour can be justified with reference to the policy objective. The Commission further notes that the requirement to price-maker status entails little additional administrative burden in practice and that, even in the event that existing capacities set the clearing price in an auction, existing capacities are not prevented from earning a rate of return deemed necessary, since this may be included in their justification of price-taker status.

(176) Regarding the submission by DSR providers, the Commission notes that the exclusion of DSR providers holding a capacity agreement for the enduring regime from participating in the transitional auctions for DSR is in fact intended to promote the development of the DSR sector, as confirmed by the General Court in its judgement[58]. In addition, in light of the objective pursued by the scheme, the Commission finds the lack of additional remuneration for the savings in transmission and distribution losses from DSR justifiable, as confirmed by the General Court in its judgement[59].

3.3.3. Incentive effect

(177) The Commission will assess whether the measure has an incentive effect as required by Section 3.9.4 of the EEAG and by cross-reference, to points (49) to (52) of the EEAG. An incentive effect occurs when the aid induces the beneficiary

[58] Cf. case T-793/14, points 230-235

[59] Cf. case T-793/14, points 260-266

to change its behaviour to improve the functioning of a secure, affordable and sustainable energy market, a change in behaviour which it would not undertake without the aid.

(178) 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 as of 2018/2019, as shown in recital (92) and Figure 4. The UK therefore argued that without the measure the capacity providers would not have made available the necessary capacity to meet the reliability standard set by the UK to deliver energy at times of stress.

(179) The UK maintains its position regarding the future and, as discussed in paragraphs (94) to (96), it argues that the generation adequacy problem remains: without the capacity market, the expected LOLE range would breach the 3 hours LOLE reliability standard in all years to 2030.

(180) As the aid is granted on the basis of a competitive bidding process, the measure is also assumed to meet the conditions set out in points (50) and (51) of the EEAG.

(181) The Commission therefore reaches the preliminary conclusion that the measure has an incentive effect, as required by EEAG.

3.3.4. Proportionality

(182) According to section 3.9.5 EEAG, a measure is considered proportional when it meets the following conditions: i) the compensation allows beneficiaries to earn a reasonable rate of return. When the measure is designed as a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria, it will be considered as leading to reasonable rates of return under normal circumstances; ii) The measure should also have built-in mechanisms to ensure that windfall profits cannot arise.

(183) First, the UK argues that the measure is a market-wide, technology-neutral capacity mechanism where all eligible capacity providers compete in a single capacity auction to discover the lowest sustainable price at which the necessary capacity can be brought forward. The competitive nature of the auction should drive prices to zero if there is sufficient supply to meet demand. The UK claims that the process is subject to transparent non-discriminatory criteria including the eligibility criteria and the duration of the contract agreements. The main reason for ineligibility is when capacity providers benefit from long-term support measures that would lead to cumulation and eventual overcompensation. As for the duration of the contracts, most capacity providers are only eligible to one-year capacity agreements. New and refurbished capacity -which involves intensive investment capital costs- are eligible to longer capacity agreements to allow these investors secure the necessary financing. Table 9 below presents the T-4 auction outcomes, by length of the contract agreement.

Table 9: Summary of Capacity Market Auction Outcomes by length of agreement

	Auction acquired capacity (GW)
2014	**49.3**
1 year	43.7
3 year	3.1[60]
14 year	0.032
15 year	2.4[61]
2015	**46.4**
1 year	45.4
14 year	0.013
15 year	0.970
2016	**52.4**
1 year	49.78
12 year	0.033
15 year	2.6
2017	**50.4**
1 year	49.8
3 year	0.01
14 year	0.01
15 year	0.64
2017 T-1	5.80

(184) Furthermore, the Commission points to the fact that unlike generating units, DSR operators cannot bid for capacity contracts longer than one year, as discussed in recital (160) above. According to the GC judgement[62], this difference in treatment between different capacity providers in terms of the length of the capacity contracts offered to DSR operators and generating capacity could be considered a disadvantage of DSR providers and reduce their potential role in the mechanism. According to the GC judgement, this provision may give rise to doubts on the proportionality of the mechanism because it may influence the total amount of capacity to be auctioned and the total amount of aid necessary for the Capacity Market.

(185) With regard to the second requirement, a market-wide capacity market design mirrors the likely outcome produced by a perfectly efficient energy market. The auction follows a pay-as-clear descending clock design where successful bidders are paid the clearing price. Paying the clearing price is one of the designs specifically mentioned in the definition of 'competitive bidding process' in point (43) of the EEAG and hence presumed to have built-in features to minimise the risks of windfall profits. Furthermore, the following features are deemed to contribute to minimising the risk of windfall profits: an overall price cap of GBP

60 Almost all of this capacity (3,082MW) subsequently reverted to 1 year agreements.

61 1,656MW of this new build generation capacity subsequently had its agreement terminated.

62 Cf. case T-793/14, points 184, 192-193.

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.

(186) With regard to the existing operator's submission that the lower contract duration for existing generators could result in more aid being paid than necessary by increasing the requirement for new plants, the Commission finds it likely that (as noted in recital (175) above) competitive existing plants are likely to bid lower prices than new plants in the majority of cases and as such, the number of new plants should be limited to the minimum necessary, in turn limiting the aid to the minimum necessary.

(187) According to the GC judgement[63], the cost recovery method may influence the volume of capacity of the Capacity Market. For example, linking the charges to finance the Capacity Market to the consumption of electricity during demand peaks could be seen as an incentive for the parties concerned to reduce their consumption during demand peak, leading to a reduced need for capacity to be auctioned. 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. In this regard and based on points 27 (e) and 69 of the EEAG, the General Court estimates that the Commission should have doubts as to whether the cost recovery, finally implemented by the UK, based on electricity consumption between 16.00 and 19.00 each weekday in winter is the most appropriate solution to ensure that the amount of aid is proportional and that DSR operators are not disadvantaged. In particular, according to the GC judgement, the Commission should have examined whether such a method might make it difficult for consumers not to contribute to Capacity Market costs by reducing their consumption, that is to say their demand, at the relevant time, taking into account the fact that that consumption is inevitable for businesses and families. That might be particularly the case given that small businesses and residential consumers could not avoid capacity market costs through DSR due to the fact that, in the UK, they would be categorised according to their profile and not according to the settlement of their consumption, which is divided up into half-hour periods. When assessing this issue, the Commission will also take into account point 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, which does not entail any reference to the financing of generation adequacy measures.

(188) Consequently, the Commission seeks clarification whether the measure at issue is proportionate and, consequently, as to whether it is compatible with the internal market due to differences in the treatment of DSR operators from the generating capacity with regard to the length of capacity contracts, which might allegedly breach the non-discriminatory criteria, and due to the cost recovery method selected, which might fail to sufficiently incentivise consumers to reduce their consumption during demand peaks and therefore does not allow the total amount of aid to be limited to the minimum amount necessary.

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63 Cf. paragraphs 194 to 213 of the GC judgement.

3.3.5. *Avoidance of negative effects on competition and trade*

(189) The measure must meet the following conditions of section 3.9.6 EEAG for it to be considered as not resulting in undue distortion of competition and trade: i) when technically and physically possible, be open to all capacity providers subject to meeting the proportionality principle; i) not reduce the incentives to invest in interconnectors and not undermine market coupling; ii) not undermine investment decisions that preceded the introduction of the measure; iii) not unduly strengthen market dominance and iv) give preference to low-carbon technologies in case of equivalent technical and economic parameters.

(190) First, the Commission notes that the measure is meant to be technology neutral and open to all existing and new generators, DSR and storage operators subject to the eligibility requirements listed in recitals (22) to (25). The UK is supporting market integration in particular through participating in the development of the EU network codes. However, for the reasons discussed in paragraphs (156)-(166) above, and on the basis of the General Court's judgement, the Commission seeks clarification whether with regard to the technology neutrality of the measure.

(191) As explained in recital (27), the UK enabled the participation of interconnectors as of 2015. However, as explained in recital (172), the Commission has doubts whether for the future cross-border participation in the UK capacity mechanism should still be limited to interconnectors.

(192) Second, according to the modelling submitted by the UK, the introduction of the capacity market 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 Capacity Market 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 as new plants to acknowledge the intensive capital investment undertaken.

(193) As in any change in market design, it can be expected that some of the existing plants may be impacted more substantially 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 Capacity Market, 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 Capacity Market, 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 Capacity Market should provide in relation to capacity – a price signal which would not exist without the measure and would need to be gauged indirectly, through the price of electricity.

(194) Third, the Commission notes that sufficiently long term duration of capacity contracts for new investments allows new entrants secure the necessary financing hence countering the risk of market dominance. Moreover, the strong price-discovery feature in a pay-as-clear, descending clock design reduces the risk of exercising market power in the auction. However, as already discussed in paragraphs (157)-(160), the Commission notes that long term contracts are reserved for generating units. According to the GC judgement, the absence of long term contracts for DSR operators raises doubts as to the potential discriminatory

treatment of DSR capacity over generating capacity. The Commission will therefore further investigate whether such treatment may unduly distort competition.

(195) Fourth, the Commission considers that the measure gives preference to low-carbon generators in case of equivalent technical and economic parameters, consistent with point 233(e) of the EEAG:

- 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 (25) and (26).

- 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 (60) above), reducing their probability of success in an auction[64].

- While the Commission considers that carbon costs associated with the EU ETS represent economic parameters for the purposes of point 233(e) of the EEAG and are therefore insufficient to demonstrate that a measure gives preference to low-carbon generators, 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, which results 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.

(196) With regard to the STOR operator's submission that the exclusion of long-term STOR providers is not based on objective technical criteria, inconsistent with point (232)(a) of the EEAG, the Commission notes that this point is without prejudice to point (228) of the EEAG, which states that the "…calculation of the overall amount of aid should result in beneficiaries earning a rate of return, which can be considered reasonable". The UK has provided evidence to show that participation of long-term STOR providers in the Capacity Market would result in windfall profits, i.e. a rate of return in excess of what might be considered reasonable, while exclusion would not undermine the original business case. Further, should they be able to persuade their lenders of an additional commercial opportunity of doing so, these operators could participate in the Capacity Market and in the annual auctions for short term STOR contracts, and subsequently (if successful in the Capacity Market auctions) exit their long-term STOR contracts with no penalty.

(197) With regard to the existing operator's submission that the imposition of price taker status on existing plants unduly restricts competition, the Commission notes that the restriction may be justified to ensure proportionality and that, in any case, existing plant are given the opportunity to justify being a price maker. With regard

[64] 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

to the operator's argument that limiting existing plants to one-year capacity agreements would restrict consumer choice, the Commission's view is that such a restriction can be justified by the UK's argument that longer capacity agreements for existing plant would increase the risk of overcompensation and would decrease liquidity in the auctions.

3.3.6. Compliance with Article 30 and 110 TFEU

(198) As indicated in point 29 of the EEAG, if a State aid measure or the conditions attached to it (including its financing method when it forms an integral part of it) entail a non-severable violation of Union law, the aid cannot be declared compatible with the internal market. In the field of energy, any levy that has the aim of financing a State aid measure needs to comply in particular with Articles 30 and 110 TFEU. The Commission has therefore verified if the financing mechanism of the notified aid measures complies with Articles 30 and 110 TFEU.

(199) As explained in recital (80) 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 tax is very similar to a tax on the electricity consumed.

(200) With regard to Article 30 and 110 TFEU, 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 TFEU, 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.[65]

(201) A discriminatory treatment against imports from other Member States presupposes that similar situations are treated differently, so that one needs to determine if imports are in a similar situation to the national production. The Commission notes that the UK has included interconnectors since 2015.

(202) In the light of the above, the Commission reaches the preliminary conclusion that the financing mechanism of the notified aid measures does not introduce any restrictions that would infringe Article 30 or Article 110 TFEU.

3.3.7. Duration

(203) Subject to the outcome of the formal investigation procedure, the Commission would authorise the aid scheme for a maximum period of 10 years starting from the

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

date of the first implementation of the measure in 2014 (following the adoption of the 2014 Commission decision)[66].

4. SUMMARY CONCLUSION

(204) On the basis of the currently available information and the elements described above, the Commission seeks clarification and solicits comments, in particular, concerning the following elements:

- Appropriateness of the measure: whether the measure is 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; whether the participation of interconnected capacity should continue to be limited by the use of an interconnector-led model.
- Proportionality of the measure: whether the measure is proportionate due to potentially discriminatory differences in the treatment of DSR operators compared to generators in the form of contract duration; whether the cost recovery method fails to sufficiently incentivise consumers to reduce their consumption during demand peaks and therefore does not minimise the total amount of aid;
- Avoidance on negative effects on competition and trade: whether the measure avoids such effects since long term contracts are reserved for generating units, limiting the openness of the measure, and since the direct participation of foreign capacity is currently not permitted in the UK capacity mechanism.

In the light of the foregoing considerations, the Commission, acting under the procedure laid down in Article 108(2) of the Treaty on the Functioning of the European Union, requests the United Kingdom to submit its comments and to provide all such information as may help to assess the measure, within one month of the date of receipt of this letter. It requests your authorities to forward a copy of this letter to the potential recipient of the aid immediately.

The Commission wishes to remind the United Kingdom that Article 108(3) of the Treaty on the Functioning of the European Union has suspensory effect, and would draw your attention to Article 16 of Council Regulation (EU) 2015/1589, which provides that all unlawful aid may be recovered from the recipient.

The Commission warns the United Kingdom that it will inform interested parties by publishing this letter and a meaningful summary of it in the Official Journal of the European Union. It will also inform interested parties in the EFTA countries which are signatories to the EEA Agreement, by publication of a notice in the EEA Supplement to the Official Journal of the European Union and will inform the EFTA Surveillance Authority by sending a copy of this letter. All such interested parties will be invited to submit their comments within one month of the date of such publication.

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

If this letter contains confidential information which should not be published, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to publication of the full text of this letter.

Your request should be sent electronically to the following address:

European Commission,
Directorate-General Competition
State Aid Greffe
B-1049 Brussels
Stateaidgreffe@ec.europa.eu

Yours faithfully
For the Commission

Margrethe VESTAGER
Member of the Commission