COMMISSION DECISION (EU) 2022/639

of 27 August 2021

on the aid scheme SA.54915 – 2020/C (ex 2019/N) Belgium – Capacity remuneration mechanism

(notified under document C(2021) 6431)

(Only the English version is authentic)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

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

Having called on interested parties to submit their comments pursuant to the provisions cited above ([1]) and having regard to their comments,

Whereas:

1. PROCEDURE

(1) Following a pre-notification procedure, by letter dated 19 December 2019, the Kingdom of Belgium notified the Commission, in accordance with Article 108(3) of the Treaty on the Functioning of the European Union ('TFEU'), a market-wide capacity remuneration mechanism ('the measure' or 'CRM').

(2) By letter dated 21 September 2020, the Commission informed Belgium that it had decided to initiate the procedure laid down in Article 108(2) TFEU in respect of the measure.

(3) The Commission decision to initiate the procedure ('the Opening Decision') was published in the *Official Journal of the European Union* ([2]). The Commission called on interested parties to submit their comments.

(4) By letter dated 22 October 2020, Belgium submitted its comments on the Opening Decision. The Commission further received comments from 15 interested parties. It forwarded them to Belgium, which was given the opportunity to react. Its comments were received by letter dated 24 December 2020.

(5) On 9 July 2021, Belgium exceptionally agreed to waive its rights deriving from Article 342 TFEU, in conjunction with Article 3 of Regulation 1/1958 ([3]), and to have this Decision adopted and notified in English.

([1]) OJ C 346, 16.10.2020, p. 27.
([2]) Cf. footnote 1.
([3]) Regulation No 1 determining the languages to be used by the European Economic Community (OJ 17, 6.10.1958, p. 385).

2. DETAILED DESCRIPTION OF THE MEASURE

2.1. Overview of the measure

(6) Belgium estimates that it will face an electricity generation adequacy problem from 2025, predominantly resulting from its decision to phase-out all nuclear capacity over the period 2022-2025 and from the decommissioning of thermal generation capacities in Belgium and its neighbouring countries.

(7) Therefore, the objective of the measure is to ensure that there is sufficient capacity for the production of electricity and that such production meets the expected demand of electricity.

(8) Under the CRM, the beneficiaries would be selected though a competitive bidding process and would be remunerated for their availability. The support would take the form of a capacity payment for the duration of the capacity agreement. In exchange, the successful bidders would give their availability to meet the transmission system operator's ('TSO') demand during stress events that could occur.

(9) Belgium has set its national decarbonisation objectives in its National Energy and Climate Plan ('NECP') ([4]). Based on this NECP, the share of renewable energy sources in the Belgian electricity consumption is planned to increase from 17 % in 2017 up to at least 40.4 % in 2030. Reaching these objectives will require integrating significant renewable energy sources ('RES') such as wind and solar, whose intermittent feature may pose a challenge to adequacy and security of supply.

(10) Although the development of RES is not its primary objective, the design of the CRM embraces the ambitious targets to further introduce RES in the Belgian energy mix and acts as a complement to the further development of new intermittent RES.

2.2. Legal basis and government arrangements

(11) The legal basis of the measure is the Electricity Act of 29 April 1999 on the organisation of the Belgian electricity market ('the Electricity Act'), which has been modified by laws ([5]) published on 16 May 2019 and 19 March 2021 in the Belgian Official Gazette.

(12) Additionally, Royal Decrees ([6]) and the Rules on the Functioning of the Belgian CRM ([7]) were prepared to further elaborate the modalities of the CRM:

(1) the Royal Decree of 28 April 2021 to determine the methodology for the capacity calculation and auction parameters in the context of the capacity remuneration mechanism ([8]);

([4]) https://ec.europa.eu/energy/en/content/national-energy-and-climate-plans-necps-belgium

([5]) Law of 22 April 2019 establishing a capacity remuneration mechanism (*Loi modifiant la loi du 29 avril 1999 relative à l'organisation du marché de l'électricité portant la mise en place d'un mécanisme de rémunération de capacité)* ('CRM Law'), and Law of 15 March 2021 amending the Law of 22 April 2019 (*Loi modifiant la loi du 29 avril 1999 relative à l'organisation du marché de l'électricité et modifiant la loi du 22 avril 2019 modifiant la loi du 29 avril 1999 relative à l'organisation du marché de l'électricité portant la mise en place d'un mécanisme de rémunération de capacité*) ('Amended CRM Law').

([6]) These texts are available on the website of the Ministry of Energy, see: https://economie.fgov.be/fr/themes/energie/securite-dapprovisionnement/mecanisme-de-remuneration-de

([7]) The first proposal was subsequently submitted to the national regulator on 13 November 2020. After discussions between the TSO and the regulator, the TSO has submitted a new proposal to the regulator on 30 April 2021. The regulator launched an additional public consultation between 30 April and 7 May 2021, on the modifications it deemed necessary to the proposal of the TSO. The Rules on the Functioning of the Belgian CRM were then set by the regulator by a decision of 14 May 2021 and approved by Royal Decree of 30 May 2021.

([8]) *Arrêté royal du 28 avril 2021 fixant les paramètres avec lesquels le volume de la capacité à prévoir est déterminé, y compris leurs méthodes de calcul, et les autres paramètres nécessaires pour l'organisation des mises aux enchères, ainsi que la méthode pour et les conditions à l'octroi d'une dérogation individuelle à l'application du ou des plafond(s) de prix intermédiaire(s) dans le cadre du mécanisme de rémunération de capacité.*

(2) the Royal Decree of 21 May 2021 on eligibility criteria related to cumulative support and minimal participation threshold ([9]);

(3) the Royal Decree of 4 June 2021 on investment thresholds and eligible costs ([10]);

(4) the draft Royal Decree on the determination of the conditions based on which capacity holders of foreign capacities can participate in the CRM ([11]); and

(5) the Royal Decree of 30 May 2021 on control modalities ([12]).

(13) In August 2020, Elia, the Belgian TSO, carried out a public consultation on the Rules on the Functioning of the Belgian CRM ([13]).

2.3. **Generation adequacy in Belgium**

2.3.1. *Reliability standard*

(14) The primary objective of the proposed CRM is to ensure security of supply, as defined in a reliability standard.

(15) As notified in 2019, the reliability criteria in Belgium was defined by a two-part Loss of Load Expectation ('LOLE') criterion: the anticipated number of hours during which it will not be possible for all the generation resources available to the Belgian electricity grid to cover the load and need for operating reserves, taking into account also demand response, storage and interconnectors, shall not exceed 3 hours for a statistically normal year. As a second criterion, the LOLE shall remain below 20 hours for a statistically abnormal year ('LOLE95') ([14]). These values were also enshrined in the Electricity Act.

(16) The reliability standard is an expression of the estimate of the value consumers attach to avoiding disconnections of their electricity supply ('VOLL'), and the expected cost of new capacity in Belgium ('CONE').

(17) Article 23(6) of Regulation (EU) 2019/943 of the European Parliament and Council of 5 June 2019 on the internal market for electricity ([15]) ('Electricity Regulation') provides for the establishment of a Union methodology for calculating the VOLL, the CONE and the reliability standard.

(18) On 2 October 2020, the Agency for the Cooperation of Energy Regulators ('ACER') approved the methodology for calculating the VOLL ('VOLL methodology'), the CONE ('CONE methodology') and the reliability standard ('RS methodology'). The three methodologies are collectively referred to as the 'VOLL/CONE/RS methodology' ([16]).

(19) On 7 June 2021, Belgium submitted the calculation of the new VOLL, CONE and the reliability standard in accordance with the VOLL/CONE/RS methodology.

([9]) *Arrêté royal du 21 mai 2021 relatif à l'établissement des critères de recevabilité visés à l'article 7undecies, § 8, alinéa 1er, 1° et 2°, de la loi du 29 avril 1999 relative à l'organisation du marché de l'électricité, en ce qui concerne les conditions dans lesquelles les détenteurs de capacité bénéficiant ou ayant bénéficié de mesures de soutien ont le droit ou l'obligation de participer à la procédure de préqualification et en ce qui concerne le seuil minimal, en MW.*

([10]) *Arrêté royal du 4 juin 2021 fixant les seuils d'investissements, les critères d'éligibilité des coûts d'investissement et la procedure de classement.*

([11]) *Projet d'arrêté royal relatif à l'établissement des conditions auxquelles les détenteurs de capacité étrangère directe et indirecte peuvent participer à la procédure de préqualification dans le cadre du mécanisme de rémunération de capacité.* At the time of the adoption of the present decision, this Royal Decree has not been adopted yet.

([12]) *Arrêté royal du 30 mai 2021 déterminant des modalités du contrôle du bon fonctionnement du mécanisme de rémunération de capacité par la commission de régulation de l'électricité et du gaz.*

([13]) See: https://www.elia.be/en/public-consultation/20200828_public-consultation-crm-functioning-rules

([14]) LOLE95 refers to a 95th percentile standard according to which during severe conditions with a chance of 5 % of occurring (i.e. a very cold winter that occurs once in 20 years), the LOLE must be inferior to the given standard, which is, in the case of Belgium, 20 hours.

([15]) OJ L 158, 14.6.2019, p. 54.

([16]) ACER Decision of 2 October 2020 on the Methodology for calculating the value of lost load, the cost of new entry, and the reliability standard: https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual %20decisions %20Annexes/ACER % 20Decision %20No %2023-2020_Annexes/ACER %20Decision %2023-2020 %20on %20VOLL %20CONE %20RS %20- % 20Annex %20I.pdf

(20) On 28 May 2021, the Belgian regulator for energy ('CREG') sent to the Minister of Energy its proposal for a reliability standard for Belgium. The reliability standard proposed by the CREG was 2 hours and 43 minutes.

(21) The Directorate-General for Energy of the Federal Public Service Economy ('FPS Economy') in its opinion of 2 June 2021 recommended to round the reliability standard to 3 hours in order to ensure consistency with previous studies on the adequacy of national and European resources, to enable compliance with the practice of expressing reliability standards in rounded hours as in neighbouring countries and to take account of the fact that the non-marginal deficit identified for Belgium will be filled by an energy mix and not by a single reference technology.

(22) According to the draft Royal Decree on the determination of the reliability standard and the approval of values for the cost of VOLL and CONE, the new reliability standard is set at 3 hours.

(23) The draft Royal Decree also approves the single estimate of the cost of VOLL, on the basis of the value set by the Directorate-General for Energy of the FPS Economy together with the Planning Bureau, and the CONE on the basis of the DSR technology ([17]).

(24) The VOLL will be set at EUR 16 033/MWh and the CONE at EUR 45/kW/year.

(25) The VOLL was calculated using a triangulation method which took into account the production function and a survey on the willingness to pay carried out by the CREG. According to the Belgian authorities, the survey carried out by the CREG was not robust as, among others, the single scenario proposed (at a temperature of less than +5°C) was not representative for most scarcity scenarios. Therefore, the weight put on the results of the survey to estimate the VOLL was limited.

(26) According to the Electricity Act, the calculations relevant for the CRM will be carried out based on the reliability standard in force on 15 September of the year preceding the auction.

(27) In view of the tight timetable, Belgium calculated the volume to be procured in the Y-4 and Y-1 auctions, planned for October 2021 and 2024 respectively, based on the old reliability standard subject to the commitment to adjust the volumes, if needed, should the new reliability standard and the adequacy assessment show a significant lower capacity need.

(28) Belgium also committed to update the VOLL based on a new survey regarding willingness to pay, in line with the CONE/VOLL/RS methodology and, if needed, set a new reliability standard before September 2022, with a view to using the new reliability standard to determine the volume to be procured at the latest for the 2023 auction.

2.3.2. *Adequacy assessment*

(29) According to the Belgian authorities, Belgium will be confronted with an adequacy problem from 2025, predominantly resulting from the nuclear phase-out that is planned between 2022-2025, reinforced by the decommissioning of thermal generation capacities in neighbouring countries. The adequacy problem has been established by way of a national resource adequacy study assuming several scenarios.

(30) The national adequacy study covering the period between 2020-2030, published by the Belgian transmission system operator Elia in June 2019 ('the 2019 Adequacy and Flexibility study') ([18]), identified a systematic need for new capacity of at least 3,9 GW in the High Impact Low Probability (HiLo) scenario (EU-HiLo), by the winter of 2025-2026. This scenario takes account of imported electricity and assumes that several French nuclear units might not be available (on top of 'normal' unavailability). The same scenario was used in the framework of the strategic reserve volume evaluation ([19]). The EU base case scenario ([20]) shows a shortage of 2,4 GW if the existing thermal capacity in the system is maintained (see Figures 4-18 of the 2019 Adequacy and Flexibility study).

([17]) The previous value of the VOLL in Belgium was EUR 23,3/kWh and EUR 65/kW/year was an estimated value of the CONE.
([18]) https://www.elia.be/fr/actualites/communiques-de-presse/2019/06/20190628_press-release-adequacy-and-flexibility-study-for-belgium-2020-2030
([19]) See State aid decision C(2018) 589 final, in case SA.48648 (2017/NN) – Belgium – Strategic Reserve.
([20]) The 'EU-BASE' scenario takes into account the latest known policies of all modelled European countries (nuclear and coal trajectories, expected new built gas generation, demand-side response and storage developments, capacity mechanisms, flow based, rules of the Clean Energy package, expected grid development, etc.).

(31) The results of the 2019 Adequacy and Flexibility study show, for the EU-HiLo scenario that, without intervention, the LOLE would be as high as 10,5 hours in 2025, thereby significantly exceeding the national reliability standard in terms of security of supply. The LOLE95 indicator would even increase to 84 hours. The following table shows the LOLE results, as entailed in the national adequacy study for the EU-HiLo and the EU base case scenarios:

Table 1

LOLE results for Belgium in the Adequacy and Flexibility study

	2025		**2028**		**2030**	
	EU-base	**EU-HiLo**	**EU-base**	**EU-HiLo**	**EU-base**	**EU-HiLo**
Remaining market LOLE (hours)	9,4	10,5	6	6,9	6	6,2
Remaining market LOLE95 (hours)	89	84	63	76	43	51

Source: 2019 Adequacy and Flexibility study

(32) On 11 July 2019, CREG published an analysis of the 2019 Adequacy and Flexibility study ([21]). In this analysis, among others, CREG questioned the use of the EU-HiLo scenario as the main scenario. According to the CREG, the methodology for evaluating the profitability of existing and new capacity should be improved and all available balancing reserves in Belgium and abroad to should be taken into consideration.

(33) In November 2019, the European Network of Transmission System Operators for Electricity ('ENTSO-E') released the Mid-term Adequacy Forecast 2019 ('MAF 2019') ([22]) which shows the following results for Belgium in 2025:

Table 2

LOLE levels for Belgium in MAF 2019

	Base case scenario – 2025	**Low carbon sensitivity** ([23]) **– 2025**
Average LOLE	1,09 hours	1,61 hours
LOLE95	3,15 hours	-

Source: ENTSO-E's 'Mid-term Adequacy Forecast – 2019'

(34) However, according to Belgium, the ENTSO-E's MAF 2019 does not present the LOLE results for Belgium, accurately enough as it assumes the availability of additional 2,5 GW ([24]), which in fact is not guaranteed.

(35) In its final report of April 2020 ([25]), the Pentalateral Energy Forum ([26]) ('PLEF') presented the following results for Belgium in 2025:

([21]) https://www.creg.be/fr/publications/etude-f1957

([22]) https://eepublicdownloads.blob.core.windows.net/public-cdn-container/clean-documents/sdc-documents/MAF/2019/MAF %202019 %20Appendix %201 %20- %20Detailed %20Results %2C %20Sensitivities %20and %20Input %20Data.pdf

([23]) A 'Coal Phase-out' sensitivity is performed. In total, around 23,6 GW of generating capacity were removed from the 2025 Base-Case scenario, mainly through reductions in lignite and hard coal capacities.

([24]) According to Belgium, the study assumed 2,5 GW thermal generation and the choice of technology was arbitrary.

([25]) https://www.benelux.int/files/4515/8998/1576/PENTAreport_FINAL.pdf

([26]) The Pentalateral Energy Forum is the framework for regional cooperation in Central Western Europe between Austria, Belgium, France, Germany, Luxembourg, the Netherlands and Switzerland.

Table 3

LOLE levels for Belgium in PLEF General Adequacy Assessment 2020

	Base case scenario – 2025 ([27])	**Low gas sensitivity – 2025** ([28])	**Low nuclear/CH NTC sensitivity 2025** ([29])
Average LOLE	3,3 hours	8,1 hours	4,6 hours

Source: Pentalateral Energy Forum 'Generation Adequacy Assessment – April 2020 – Final report'

(36) In November 2020, ENTSO-E released the MAF 2020. For the base case 2025 scenario, the MAF 2020 results show an average LOLE of 0,4 hours which therefore meets the legal adequacy criterion for Belgium of LOLE 3 hours.

(37) However, in the countries' comments annexed to the MAF 2020, Belgium indicated that: 'There is a significant amount of assumed 'new built' capacity in MAF 2020 distributed over a large set of countries. It should be noted that there is in general no certainty that these capacities would finally materialize in 2025, hence these assumptions and the results following those as presented in MAF 2020, should be interpreted carefully. Furthermore, Belgium is since several years part of the region where Flow-Based Market Coupling has already been implemented. Whereas a flow-based simulation model has been developed and implemented by Elia, e.g. in the 2019 Elia study and which was also used in the PLEF GAA 2020 study, such approach is not yet used in the present MAF 2020 study'.

(38) In its notification, the Belgian authorities indicated that the methodology and data are aligned on European level so that the 2019 Adequacy and Flexibility study is in line with the MAF 2019.

(39) According to Article 23(3) of the Electricity Regulation, ENTSO-E should develop a methodology which shall be used for the European resource adequacy assessment ('ERAA') and any national resource adequacy assessment ('NRAA') (see Article 24 of the Electricity Regulation). This methodology should be approved by ACER.

(40) On 2 October 2020, ACER approved the methodology for the European resource adequacy assessment ('the ERAA methodology') ([30]).

(41) On 30 June 2021, Elia published a new Adequacy and Flexibility study for the period 2022-2032 ('the 2021 Adequacy and Flexibility study').

(42) In line with the ERAA methodology, Elia integrated the elements of the ERAA methodology outlined below into the framework of the 2021 Adequacy and Flexibility study:

(a) climate years: Elia chose to implement the first option outlined in the ERAA methodology, i.e. relying on a best forecast of future climate projections.

(b) economic viability assessment: Elia developed a method for calculating the economic viability of the different assets in the electricity system, in line with the ERAA methodology.

([27]) Like for MAF 2019, 'for 2025 a need of 2,5 GW new capacity is thus assumed in this study to be delivered under the CRM in 2025 in order to reach adequacy for Belgium.'

([28]) 'For the 'Low Gas Sensitivity' in PLEF for Belgium, the assumed new capacity of 2,5 GW was removed from the PLEF 'Base Case". 'Belgian and French gas capacities are respectively 2,5 GW and 2,2 GW lower than in the base case. For Austria (1,2 GW less gas capacity), the Netherlands (1,6 GW less gas capacity) and Luxemburg (0,1 GW less gas capacity).'

([29]) 'For the Low Nuclear/CH NTC sensitivity, nuclear capacity is 1 700 MW lower in France and 1 190 MW lower in Switzerland. For all other countries, the installed capacity is unchanged compared to the base case. Additionally, NTCs between Switzerland and the neighbouring zones are reduced in order take account increasing unscheduled flows through Switzerland due to the fact that Switzerland may not be included in the flow-based market coupling (FBMC) in 2025.'

([30]) ACER Decision on the ERAA methodology: https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Individual %20decisions %20Annexes/ACER %20Decision %20No %2024-2020_Annexes/ACER %20Decision %2024-2020 %20on %20ERAA %20- %20Annex %20I.pdf

(c) flow-based: Elia's modelling framework integrates all known and planned market design introductions into the flow-based capacity calculation method, such as the extension of the region to Core; 'advanced hybrid coupling'; or the minRAM rules introduced by the Electricity Regulation.

(d) flexibility: the study includes both the calculation of the total system's flexibility needs and means and an assessment of the dimensioning of Frequency Containment Reserves and Frequency Restoration Reserves for each target year to reflect reserve needs that will cover imbalances in line with legal requirements which are modelled in the adequacy simulations. Furthermore, the flexibility characteristics of offshore wind power are refined, and power-to-x technologies are included as new technologies. Finally, specific focus is placed on the impact of the integration of the second wave of offshore generation capacity and cross-border balancing platforms.

(e) sectorial integration: regarding sector coupling, the interfaces between the electricity system and different sectors such as the transport, heating and gas sectors are taken into account through the inclusion of assumptions about electric vehicles, heat pumps and thermal gas unit generation capacities respectively. In order to grasp the implications of using electricity to generate hydrogen in the modelling used in the present study, electrolysers were added as a (flexible) consumption of electricity in Belgium and abroad. Moreover, special attention was given to digitalization of additional electricity consumption from transport and heat.

(f) ten-year horizon: the study is based on the ten-year horizon (2022-2032). In order to reduce the amount of simulations and computations, not all sensitivities and scenarios were simulated for all the years: some key years were analysed more in depth. A large amount of sensitivities were performed on Belgium and abroad in order to grasp and understand the implications of varying certain assumptions. For comparison, the ERAA 2021 is expected to only simulate the years 2025 and 2030.

(g) variants with and without capacity mechanisms: in line with the Electricity Regulation and the ERAA methodology, Elia included scenarios both with and without market-wide capacity mechanisms in Europe.

(43) The Belgian authorities submitted that the main methodological requirements stipulated in the ERAA methodology have been implemented in this study.

(44) Based on the Electricity Regulation, the NRAA must contain the reference central scenarios. Those scenarios shall include, among other, an economic viability assessment of generation assets. The ERAA methodology further specifies that two central reference scenarios are to be defined, one with capacity mechanisms across Europe and the other one without such capacity mechanisms.

(45) Consequently, in the 2021 Adequacy and Flexibility study two central scenarios were explored:

(a) 'EU-BASE': reflects a scenario which takes into account already approved market-wide capacity mechanisms in France, Great Britain, Poland, Italy and Ireland and assumes that these will be in place until the end of this study's timeframe;

(b) 'EU-noCRM': this reflects a scenario that excludes market-wide capacity mechanism revenues, so assuming that no market-wide capacity mechanisms exist in Europe.

(46) The 2021 Adequacy and Flexibility study takes account of the contribution of all resources including existing and future possibilities for generation, energy storage, sectoral integration, demand response, and import and export and their contribution to flexible system operation.

(47) The Belgian authorities submitted that the modelling of the maximum clearing prices performed in the 2021 Adequacy and Flexibility study takes into account all the available legal provisions, such as the currently applicable maximum price limit, the 60 % rule ([31]) as set in Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ([32]), and Decision No 04/2017 of ACER of 14 November 2017.

([31]) Decision No 04/2017 of ACER of 14 November 2017 states that in the event that the clearing price exceeds a value of 60 percent of the harmonised maximum clearing price for Single Day-ahead Coupling in at least one market time unit in a day in an individual bidding zone or in multiple bidding zones, the harmonised maximum clearing price shall be increased by 1 000 EUR/MWh.

([32]) OJ L 197, 25.7.2015, p. 24.

(48) The 2021 Adequacy and Flexibility study models the automatic increase of the maximum clearing price from 2025 onwards. According to the Belgian authorities, it is most probable that no LOLE will occur before 2025, therefore no maximum clearing price increase is modelled before 2025. However, even if price cap increases were to occur, according to the Belgian authorities, the modelling shows that the results of the economic viability assessment for 2025 would not change (see Figures 3-72 of the 2021 Adequacy and Flexibility study). Belgium committed to ensure that the new adequacy study, to be published by June 2023, fully takes into account the methodology for dynamic price increases from the beginning of the simulation time period onwards.

(49) According to the 2021 Adequacy and Flexibility study, from 2025, once the nuclear phase-out is completed, Belgium will face a structural need for new capacity. This need amounts to 2 GW in 2025 in the central 'EU-BASE' scenario, and gradually increases to 3,9 GW by 2032. The increased need is linked to the expected increase in electricity consumption and reduced imports during periods of scarcity in Belgium.

(50) The 2021 Adequacy and Flexibility study provides that only a very small share of the new capacity will be viable via the energy-only market by 2025.

(51) Consequently, the Belgian authorities consider that, with no action, a resource adequacy concern is identified in Belgium from 2025 onwards.

(52) The 2021 Adequacy and Flexibility study represents the latest and best view of the need for the CRM.

2.3.3. *Market failures*

(53) Belgium has identified a number of market failures which hamper a well-functioning, secure, affordable and sustainable electricity market.

(54) A first market failure stems from different factors that prevent efficient price signals and the fact that energy prices are prevented from rising to VOLL and other market design imperfections.

(55) The combination of these market failures and associated regulatory action may tend to 'dampen' price signals in electricity markets so that prices fail to increase to an 'efficient' level at times of scarcity. This leads to a chronic shortage of revenues for plant operators and demand response operators, so that ability to recover their fixed and variable costs is affected, usually referred as the 'missing money', preventing market forces from achieving the required level of adequacy.

(56) 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 regulatory level reflecting the price at which consumers would no longer be willing to pay for energy and allowing generators to receive scarcity rents. However, as a consequence of low demand response, it is difficult to capture the actual VOLL and price spikes face issues of political acceptability.

(57) According to the Belgian authorities, a second market failure results from the risk aversion of investors in a context of increased volatility and high regulatory uncertainty. The increasing penetration of intermittent renewable energy sources makes prices more volatile and increases the uncertainty on the possibility for conventional technologies to recover their fixed costs in the electricity market. According to Belgium, slight variations of conditions related to the level of the introduction of RES, e.g. targets regarding solar, onshore wind and offshore wind, could have significant impact on the revenues of conventional generation technologies. The 'missing money' problem is becoming more severe as the intermittent capacity increases. As a result, according to the Belgian authorities, this increases the economic risk associated with investments in flexible conventional generation technologies. In addition, according to Belgium, energy prices usually do not provide for a more than three-year forward hedging horizon, which is short to build an investment case for investors. Besides, according to the Belgian authorities, even though forward markets could accommodate incremental changes in supply and demand, they would not be able to provide a hedge in case of an important structural shock, such as the planned nuclear phase-out in Belgium.

(58) Third, the reliability of electricity systems has certain features of a public good. This is because investments for a higher level of security of supply benefit all, while, as explained earlier, it is not possible for most individual final consumers to be selectively disconnected by the system operator on the basis of their willingness to pay. Thus, generators will likely have suboptimal incentives to invest in generation capacity, which would therefore ultimately deliver suboptimal levels of system reliability.

(59) According to the Belgian authorities, these issues take a particular form in Belgium, insofar as it is a relatively small and highly interconnected market and thus is also affected by similar supply risks from neighbouring electricity markets. Therefore, according to the Belgian authorities, Belgium's adequacy is largely influenced by the situation in the neighbouring electricity markets.

(60) In 2018, the Commission approved a strategic reserve for Belgium until 31 March 2022 ([33]). The objective of the strategic reserve is to meet peak demand during winter periods when the market fails to do so, by maintaining some existing generation and demand response capacity out-of-market as a back-up only to be activated when the balancing resources are exhausted.

2.3.4. *Market reforms*

(61) On 25 November 2019, the Commission received an implementation plan ([34]) from the Belgian Ministry of Energy prepared pursuant to Article 20(3) of the Electricity Regulation, which requires Member States with adequacy concerns to set out measures to eliminate regulatory distortions or market failures on their markets in an implementation plan. Following a public consultation, the Commission adopted on 30 April 2020 an opinion on Belgium's implementation plan, pursuant to Article 20(5) of the Electricity Regulation ([35]). Belgium adopted and submitted to the Commission a final version of its implementation plan ([36]).

(62) As regards balancing markets, Belgium has introduced a so-called 'alpha component' in its imbalance pricing mechanism. It constitutes an extra imbalance price component laid upon Balance Responsible Parties ('BRPs') to increase the real-time price signal when the system imbalance of the Belgian control zone increases. In its Opinion, the Commission invited Belgium to consider whether the scarcity pricing function should apply not only to BRPs but also to balancing service providers ('BSPs'). This may support security of supply by ensuring that BRPs and BSPs face the same price for the energy produced/consumed, as price differentiation may result in inefficient arbitrage from market players. The Commission also considers that the scarcity pricing function should be triggered by the scarcity of reserves in the system and it should be calibrated to increase balancing energy prices to the VOLL when the system runs out of reserves. The Commission invited Belgium to consider amending its scarcity pricing scheme accordingly by no later than 1 January 2022. Moreover, Belgium is implementing imbalance netting, as well as preparing for joining the EU balancing platforms for aFRR (automatic Frequency Restoration Reserve) and mFRR (manual Frequency Restoration Reserves) which are expected to be in place by end 2021 and 2022 respectively. Besides, Belgium has committed to the following concerning the procurement of balancing and ancillary services:

(a) no later than July 2020, FCR (frequency containment reserves) had to be tendered on a daily basis and procured exclusively regionally.

(b) no later than July 2020, aFRR had to be tendered on a daily basis and all technologies, all players and all voltage levels will be able to participate in the market. Activated balancing energy shall be remunerated through marginal pricing as soon as there will be sufficient liquidity.

(c) since February 2020, mFRR is dimensioned and sized on a daily basis, and activated balancing energy is remunerated through marginal pricing.

(63) In the annual report, submitted by Belgium in July 2021, it is confirmed that these actions have taken place in the meantime.

([33]) See State aid decision C(2018) 589 final, in case SA.48648 (2017/NN) – Belgium – Strategic Reserve.
([34]) https://ec.europa.eu/energy/consultations/consultation-belgiums-market-reform-plan_en
([35]) Commission opinion C(2020) 2654 final: https://ec.europa.eu/energy/topics/markets-and-consumers/capacity-mechanisms_en
([36]) https://economie.fgov.be/sites/default/files/Files/Energy/Belgian-electricity-market-Final-implementation-plan-CRM-22062020.pdf

(64) In Belgium, demand side response is eligible to participate in the wholesale electricity markets (including day-ahead and intra-day) as well as the balancing market and is treated in a similar way as other market participants and balancing service providers. Demand side response can be represented either individually or via aggregators. To further facilitate demand side response, Belgium committed in its implementation plan (submitted in 2019) to a roll-out of smart meters which will be different for each of its regions:

(a) Flanders ([37]):

(1) no later than 2023, 33 % of customers shall have a smart meter.

(2) no later than 2028, 66 % of customers in Flanders shall have a smart meter.

(3) no later than 2034, 100 % of customers in Flanders shall have a smart meter.

(b) Wallonia:

(1) no later than 1 January 2023, there will be a systematic roll out of smart meters (i) for residential consumers in default of payment, (ii) when the meter has to be changed, (iii) for new connections to the grid, (iv) when the consumer requests it.

(2) no later than 31 December 2029, there will be 80 % of smart meter installed for (i) consumers with a consumption equal or above 6 000 kWh, (ii) prosumers, when the net developable electrical power is equal or above 5 kWe; (iii) for charging points open to the public.

(c) Brussels Region: smart meters rolled out (i) when meters have to be changed or (ii) for new connections to the grid.

(65) Belgium had an electricity interconnection rate of 21 % in 2020. With the projects already planned (see Federal Development Plan 2020-2030 ([38])), the Belgium electricity interconnection rate will reach around 30 % by 2030 ([39]). The following Belgian network reinforcements recently became or will become operational in the coming years:

(a) ALEGrO: the ALEGrO project of common interest (PCI) for a 1 GW interconnector between Belgium and Germany was commissioned in 2020 ([40]).

(b) NEMO: the NEMO PCI project for a 1 GW interconnector between Belgium and the United Kingdom has been operational since 2019.

(c) BRABO: the BRABO PCI project concerns an upgrade of the Belgian electricity grid with the aim to, among others, increase the import capacity from the Netherlands.

2.4. **Beneficiaries**

2.4.1. *Eligibility*

(66) The CRM will be open to all capacities that can contribute to resource adequacy, both existing and new capacity, storage and demand response. Aggregation of capacity, including from different technologies will be allowed.

(67) Participation of foreign capacity will also be allowed. The rules are further described in section 2.10.

(68) The beneficiaries of the CRM will be the capacity providers selected in the competitive bidding process.

([37]) In 2020, the Flemish Government decided to speed up the roll-out of smart meters, aiming to replace 80 % of all energy meters in Flemish households by the end of 2024. Moreover, in the amended energy decree of 17 July 2020, the Flemish Government set the ambition that all traditional meters in Flanders should be replaced by digital energy meters by 1 July 2029.

([38]) https://www.elia.be/en/grid-data/grid-development/investment-plan/federal-development-plan-2020-2030.

([39]) These percentages are based on the definitions used by the Interconnection Target Experts Group (ITEG), i.e. interconnection rate = Total import/Total generation capacity, with total import implying 'maximum power flow that the cross-border asset can transmit in accordance with system security criteria.'

([40]) At the end of 2020, the ALEGrO interconnection between Belgium and Germany was completed, enabling the exchange of electricity between the two countries. Since November 2020, this interconnection is available for commercial activities.

2.4.2. *Minimum threshold for participation*

(69) The minimum participation threshold has been set at 1 MW, notably for the following reasons:

(a) alignment with the balancing market;

(b) the value is the result of a continuous dialogue with market participants, including several formal public consultations;

(c) going below the 1 MW-limit implies that many small capacities must start the compulsory CRM prequalification process and face the related costs even though they may have no intention to participate in the CRM auction;

(d) going below the 1 MW threshold also increases significantly the administrative burden.

(70) The Royal Decree on eligibility criteria related to cumulative support and minimal participation threshold foresees to evaluate the level of the minimum participation threshold during the lifetime of the CRM, at least every 5 years.

(71) Aggregation rules enable participation of smaller capacity providers that do not meet the minimum threshold requirement.

2.4.3. *Aggregation*

(72) Multiple capacity providers can choose to aggregate into a single capacity market unit of minimum 1 MW without maximum size limitation. The only limitation is that delivery points for which the energy markets daily programs apply (typically today delivery points with a size of above 25 MW) cannot be part of an aggregated portfolio. Aggregation is allowed across all technologies. In addition, the reallocation of components within an aggregated capacity market unit ('CMU') is allowed to increase the flexibility towards aggregators and to encourage their participation in the auction process.

(73) Aggregation rules will be periodically reviewed and modified if deemed necessary by the Belgian authorities, in order to ensure that the aggregation rules do not constitute an obstacle to the participation in the auction.

2.4.4. *Unproven capacity*

(74) A specific category of 'unproven capacity' is foreseen in the mechanism. It is defined as a capacity, which, at the start of the Y-4 prequalification process, cannot be associated to a delivery point and therefore cannot respect the delivery point prequalification requirements. The category is open to all technologies and aims at fostering the participation of capacities which may have more difficulties to already provide the standard required maturity level in Y-4. Unproven capacities represent less mature projects, e.g. when the delivery point is not known yet; no project execution plan is available and the project only matures further during the pre-delivery period. The Belgian authorities explained that the concept of 'unproven capacity' was introduced at the request of the market and might particularly be of use to aggregators/DSR providers, which consider being able to find such a capacity over the pre-delivery period, but e.g. still have to finalise agreements with demand sites/are considering multiple prospects. An unproven capacity should only be offered in Y-4 auction. This category can only be assigned the standard capacity category of 1-year contract (see recitals (138) and (145)).

(75) To limit the risk to system security by relying on less mature projects, the overall capacity to be accepted in this category is limited to 200 MW for the first auction. The Electricity Act foresees that a decision on this maximum overall capacity is taken per auction. The threshold could further evolve over time based on a positive return of experience.

2.4.5. *De-rating*

2.4.5.1. General rules

(76) The CRM is open to all capacity holders in function of their availability rate and their contribution to the objective of resource adequacy. Indeed, CMUs are not expected to be available 100 % of the time at 100 % of their reference power due to e.g. weather conditions, maintenance cycles, breakdowns.

(77) For this reason, a de-rating factor is calculated for every technology in order to assess its reliability and its contribution to the security of supply during moments that are particularly relevant from an adequacy point of view (so called 'simulated scarcity hours'). Capacity holders can therefore only participate in the auction and are thus only eligible for capacity contracts up to their de-rated capacity ([41]).

(78) The methodology to calculate these de-rating parameters differs per technology and is specified more in detail in the Royal Decree, which sets out the methodology for the capacity calculation and auction parameters. It will depend on the category of capacity:

(a) de-rating factors for thermal technologies with a daily schedule are determined based on statistical analysis from historical data by undercutting the forced outage rate as this parameter is assumed independent from climatic conditions.

(b) de-rating factors for thermal technologies without a daily schedule are determined by measurements. If measurements are insufficient they are simulated by dividing the expected average contribution of those technologies during the simulated scarcity hours by the aggregated nominal reference power of the technology.

(c) de-rating factors for weather dependant technologies with a daily schedule and for the weather dependent technologies without a daily schedule that have not chosen a service level agreement (see point e) below) will be determined by dividing the associated average contribution from those technologies during simulated scarcity hours by the aggregated nominal reference power of the applicable technology.

(d) de-rating factors for technology with a daily schedule which are energy-limited will be determined by dividing the expected average contribution of such technologies during simulated scarcity hours by the aggregated nominal reference power.

(e) service level agreement ('SLA') (typically demand response or small storage but it is also accessible to all technologies without a daily schedule, including RES): the de-rating factor is associated to each SLA selected by the CMU itself during the pre-qualification process (and as fixed in the capacity contract) depending on the selected energy constraints. This allows the technologies without a daily schedule to determine for themselves which SLA suits best their technical constraints, rather than putting them into a pre-defined SLA. In addition, an aggregator can choose a SLA which best fits his portfolio.

(79) On 4 May 2021, Belgium provided updated de-rating factors illustrated in the table below:

Table 4

De-rating factors

Service Level Agreement (SLA)		
Availability/Duration [h]	SLA	Large-scale storage
1h	11 %	11 %
2h	19 %	19 %
3h	28 %	28 %
4h	36 %	36 %
6h	52 %	52 %
8h	65 %	65 %

Thermal technologies with a daily schedule

Subcategory	**De-rating factor**
Combined cycle gas turbine	91 %
Open cycle gas turbine	90 %
Turbojets	96 %

([41]) Capacity providers are only eligible for capacity contracts up to their eligible volume, defined as their reference power (taking into account the opt-out volumes) multiplied by the de-rating factor.

Gas engines	95 %
Diesel engines	93 %
CHP	93 %
Biomass	93 %
Waste	93 %
Nuclear	96 %
Coal	90 %
Energy-limited technologies with a daily schedule	
Availability/Duration [h]	**De-rating factor**
1	11 %
2	19 %
3	28 %
4	36 %
5-6	52 %
7-8	65 %
Weather-dependent technologies	
Subcategory	**De-rating factor**
Offshore wind	15 %
Onshore wind	6 %
Solar	4 %
Hydro Run-of-River	34 %
Thermal technologies without a daily programme	
Subcategory	**De-rating factor**
Aggregated thermal technologies	62 %

Source: Notification ([42])

(80) The de-rating rules can be reviewed yearly and modified if needed. In particular, the TSO will consult upon the list of current technologies existing in the market. If feedback would be received that a new type of technology is missing in the list, this could still be taken into account during the yearly calibration of the de-rating factors. Hence, if needed, the de-rating factors and the technologies will be updated yearly and reviewed.

2.4.6. Rules applicable to cross-border participation

(81) As regard cross-border participation, the maximum entry capacity available for the participation of indirect foreign capacity in a control zone shall be defined by the system operator for each directly electrically connected market zone to the Belgian control area, in accordance with Article 26 of the Electricity Regulation.

(82) Pending the adoption of the relevant strategies, proposals or decisions implementing Article 26 of the Electricity Regulation, the contribution of each market zone directly connected with Belgium is determined by the contribution of those zones during simulated scarcity hours as described in section 2.10.1.

([42]) Available also at: CRM-bijlage-reductiefactoren-veiling-10-2021.pdf (fgov.be)

2.4.7. *Rules applicable to unproven capacity*

(83) To guarantee a level playing field with other contracted capacities in Y-4 auction, Elia will use the de-rating factors known at the moment of the Y-4 auction as an input parameter for the standard prequalification process of unproven capacities (as the standard prequalification process related to those capacities can be organized up to 24 month after the Y-4 auction).

2.5. **Auction process and pricing rules**

2.5.1. *Auctions frequency*

(84) According to the notification, the TSO will organise CRM auctions in function of the level of capacity resources that are needed to guarantee an adequate level of resource adequacy to reach the reliability standard.

(85) A capacity auction is held every year for delivery in 4 years' time in a 'Y-4 auction'. A further year-ahead auction is held in the year immediately prior to the delivery year of the main auction ('Y-1 auction'). The first Y-4 auction is planned to be organised in 2021, while the first Y-1 auction should take place in 2024.

2.5.2. *Determination of the volume to be auctioned*

(86) In an earlier version of the Electricity Act, Article 7 undecies paragraph 2 provided that the methodology defining the parameters determining the quantity of capacity to be purchased was proposed by the TSO. Under the Electricity Regulation, which is applicable since 1 January 2020, the Member State shall approve the volume to auction on the basis of a proposal from the regulator CREG. The CRM committee (FPS Economy, CREG, Elia and the Cabinet of the Energy Minister) therefore decided in 2019 already that the CREG would develop a proposal for the methodology for the parameters determining the volume to be procured in the auctions. The following recitals give more details on the chronology.

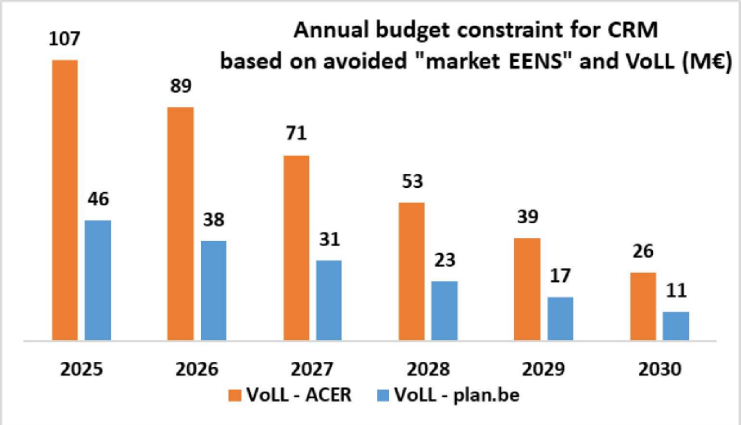
(87) On 22 November 2019, Elia elaborated a draft proposal of a Royal Decree for the determination of the methodology for the auction parameters (such as de-rating factors, strike and reference prices, intermediate price cap), including the process to determine the scenario to determine the capacity needed ([43]). On 6 December 2019, the CREG adopted an opinion ([44]) on Elia's proposal in which it notably explains that the use of the EU-HiLo scenario to determine the capacity to be purchased is inappropriate ([45]) and not in line with Article 24(1) of the Electricity Regulation.

(88) On 18 March 2020, the CREG sent a draft proposal 2064 for the determination of the volume of capacity to be procured to the Belgian Minister of Energy. The draft proposal was largely inspired by the CREG's note (Z) 2024, which was sent to the Minister on 20 December 2019 after a public consultation ([46]). The CREG adopted the final proposal on 24 March 2020 ([47]). The proposal:

(a) derives a budgetary constraint in which the cost of the CRM must be lower than the cost to the consumer due to the expected non-delivered energy (EENS) ([48]) which is avoided by a CRM. The cost of CRM is the cost of the capacity requested to comply with the reliability standard. The expected cost of missing energy is the EENS multiplied by the willingness to pay for customers who unintentionally do not receive this energy (VOLL). In

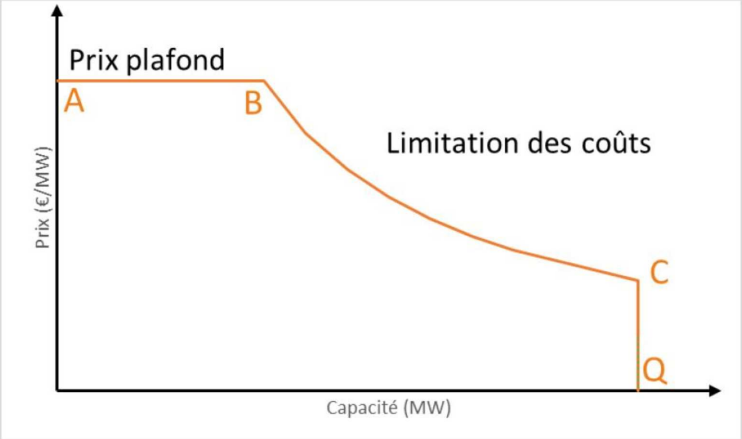
([43]) https://www.elia.be/fr/users-group/implementation-crm
([44]) https://www.creg.be/fr/publications/avis-a2030
([45]) 'The use of a Hi-Lo scenario, in which extreme events are assumed to be the base case, can hardly be considered to be a 'statistically normal year'. On the contrary, a Hi-Lo scenario implies, by definition, an exceptional situation. The CREG does not deny that extreme situations may actually occur, but these must be included with their probability in a probabilistic simulation. Instead, Elia's security of supply analyses based on a Hi-Lo scenario involves a calculation of an average LoLE with a statistically anomalous base assumption (i. e. 'low probability').'
([46]) https://www.creg.be/fr/publications/note-z2024
([47]) https://www.creg.be/fr/publications/proposition-e2064
([48]) Expected Energy Not Served: forecast of annual demand that cannot be provided by resources available on the energy market, expressed in MWh.

the event of a security of supply risk, this VOLL represents the cost of non-supply announced in advance. Using values of VOLL of the Plan bureau ([49]) and of a study by ACER ([50]), the CREG derives the following budgetary constraint:



Source: CREG 'Proposition (E)2064 – 24 mars 2020'

(b) derives the following demand curve, where the targeted volume to be auctioned is C-Q ([51]):



Source: CREG 'Proposition (E)2064 – 24 mars 2020'

(89) Taking into account the results of the public consultation on the CREG note 2024, the Belgian Ministry of Energy concluded that the methodology proposed by the CREG (especially the budgetary constraint) did not provide sufficient guarantees that the CRM objective to 'ensure the required level of security of supply', would be respected in accordance with the legal criteria.

(90) Consequently, the Belgian Ministry of Energy drew up an alternative method defining the parameters determining the quantity of capacity purchased under the capacity mechanism, taking into account Elia's proposal of a Royal Decree mentioned in recital (87) and the CREG's proposal mentioned in recital (88). A public consultation was held on this adapted methodology from 23 March 2020 to 27 March 2020. Pursuant to the Amended CRM Law, the adapted Article 7 undecies, paragraph 2 of the Electricity Act provides that the parameters defining the amount of

([49]) https://www.plan.be/admin/uploaded/201403170843050.WP_1403.pdf
([50]) https://www.acer.europa.eu/en/Electricity/Infrastructure_and_network %20development/Infrastructure/Documents/CEPA % 20study %20on %20the %20Value %20of %20Lost %20Load %20in %20the %20electricity %20supply.pdf
([51]) Other elements of the CREG's proposal can be found here: https://www.creg.be/fr/publications/proposition-e2064

volume to be procured shall be defined in a Royal Decree, on the basis of a proposal from the regulator. The final Royal Decree was published in the Belgian Official Gazette on 30 April 2021, following the approval of the Amended CRM Law ([52]). Recitals (91) to (99) describe the process as provided for in this final Royal Decree.

(91) Each year, the amount of capacity required to meet the reliability standard in a particular future delivery year (i.e. the target volume) will be determined based on a proposal from the regulator. The regulator makes this proposal taking into account data provided by the TSO, but also this data is calculated by the TSO on the basis of a scenario and intermediate values that have been proposed by the regulator and have been determined by the Minister. The target volume is determined on the basis of the legal reliability standard, which corresponds to a certain LOLE value. A scenario is calibrated to ensure that this criterion is met. Once the scenario is calibrated, a market simulation is carried out and leads to the identification of simulated scarcity hours. The target volume is then calculated as the sum of the mean load during the simulated scarcity hours and the balancing need, from which the average EENS during the simulated scarcity hours is subtracted.

(92) The scenario mentioned in recital (91) will be one of the central reference scenarios used to identify the resource adequacy concern, either from the latest ERAA ([53]) or from the latest NRAA ([54]), and will be updated with the most recent information available ([55]). The process for finalising the amount of capacity to procure also needs to respect the relevant parts of the Electricity Regulation.

(93) The Royal Decree provides the following process in order to establish the reference scenario. As input for the decision by the Minister of Energy, the Belgian TSO will publish a recommendation, after public consultation of the market parties on the data and assumptions. Consecutively, the regulator will make a proposal on the reference scenario, taking into account the methodology as foreseen in the Royal Decree. Finally, the FPS Economy will publish an advice on this proposal. The final decision of the scenario choice is the responsibility of the Minister of Energy.

(94) A global auction cap determines the maximum remuneration that can be received by a bid in the CRM auction and is applicable to all capacity categories. By limiting the maximum remuneration that can be received, the global auction cap limits the possibility for abusing market power by submitting inappropriate bids. The global auction price cap is calculated as the multiplication of the net-CONE ([56]) by a factor X. The value of the correction factor X takes into account the uncertainties related to the estimation of the net-CONE, both at the level of the gross cost variability of a new entrant associated with different technologies and in the determination of the annual infra-marginal annuities in the energy market and the net revenues on the market for auxiliary balancing services. The global auction price cap for the first auction is equal to EUR 75/kW/year, which is equal to the net-CONE multiplied with a correction factor of 1,50 ([57]).

(95) The demand curve for the Y-4 auctions is designed on the basis of 3 points, as shown in Figure 1 below:

([52]) https://economie.fgov.be/fr/themes/energie/securite-dapprovisionnement/mecanisme-de-remuneration-de

([53]) Article 23 of the Electricity Regulation.

([54]) Article 24 of the Electricity Regulation.

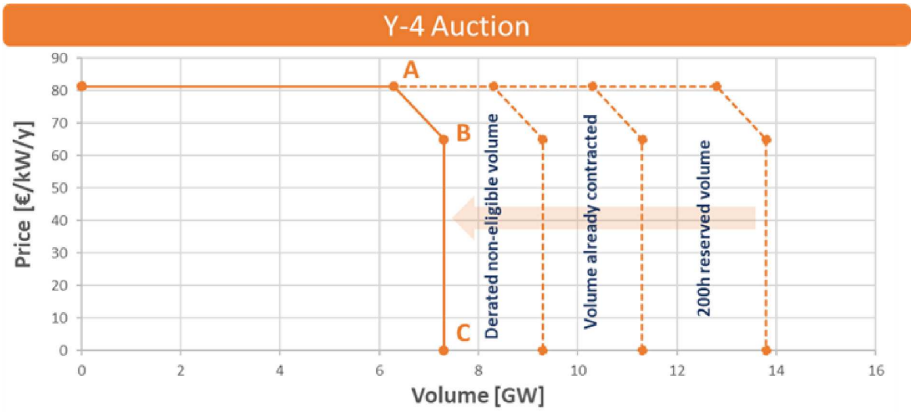
([55]) The reference scenario used for the first demand curve calibration is described in recital (287).

([56]) Net-CONE represents the revenues that the best new entrant technology would need to earn in the capacity market to compensate for its 'missing-money' in the energy market for 1 year. It is calculated by removing market revenues and ancillary service revenues from the Gross-CONE.

([57]) The regulator CREG launched a public consultation from 1 July 2020 to 13 July 2020 on a proposal of values of the CONE for a short-list of reference technologies, the WACC and the correction factor X (see recital (99)(b)).

Figure 1

Indicative estimation demand curve Y-4



Source: Notification

(a) Point B corresponds, in ordinate, to the net-CONE ([58]). In abscissa, point B corresponds to the target volume (taking into account the average load during simulated scarcity hours, the balancing reserves, the average energy not served during simulated scarcity hours, the de-rated non-eligible volume, the volume already contracted and the reservation of part of the volume for the Y-1 auction as described in recital (98)).

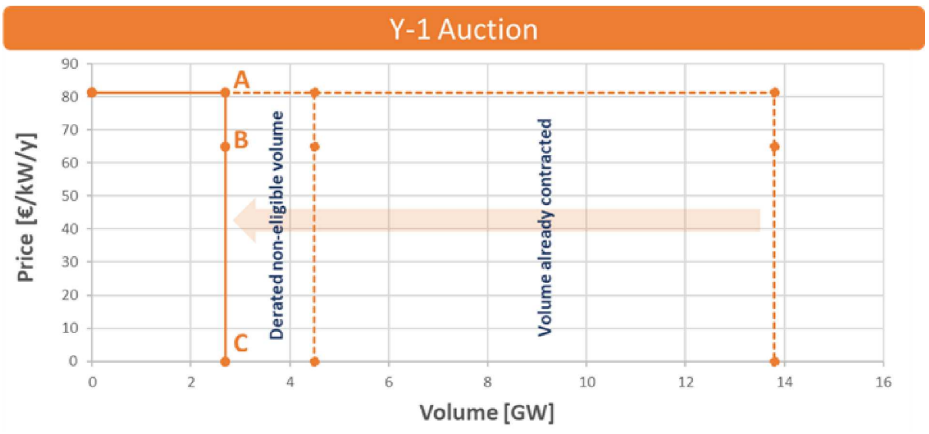
(b) Point C corresponds, in ordinate, to 0 and in abscissa, to the target volume.

(c) Point A corresponds, in ordinate, to the global auction price cap. In abscissa, point A corresponds to a specific volume calculated like the point B volume (see recital (95)(a)), but using a different LOLE ($LOLE_A$). $LOLE_A$ corresponds to the reliability standard (i.e. reference LOLE) multiplied by the correction factor X (see recital (94)).

(96) The demand curve for the Y-1 auctions is designed on the basis of the same points B and C as for Y-4 auctions, but the target volume is adjusted to take into account capacity already contracted in the Y-4 auction corresponding to the same delivery period. Point A corresponds, in ordinate to the global auction price cap, and in abscissa, to the target volume.

Figure 2

Indicative estimation demand curve Y-1



Source: Notification

([58]) Considering CCGT, OCGT and diesels in the short-list of reference technology and assuming average values for gross-CONE, energy market revenues and ancillary services revenues.

(97) The Belgian authorities consider that the design of the demand curves respects two principles:

(a) ensuring security of supply: this means that once Y-4 and Y-1 auctions have been concluded the reliability standard should be met, otherwise the CRM would not meet its objective. As point B corresponds to the volume required to meet the reliability standard it should be ensured that at least this volume is contracted. As after a Y-4 auction, there is still the opportunity to contract further capacities in the Y-1 auction, a sloped curve between point A and point B in Y-4 is possible, allowing to contract less than the amount calibrated for point B in that Y-4 auction. However, contracting less than the volume associated to point B in Y-1 would not guarantee that the reliability standard is met. This explains the vertical section in Y-1 between point A and point B; and

(b) ensuring a proportionate, least-cost mechanism: this means that overall the volume to be procured should not exceed the volume required for meeting the reliability standard as otherwise this would inflate the mechanism's total cost. This explains why the demand curve is vertical between point B and the intersection with the X-axis both in Y-4 and Y-1 auctions.

(98) According to the Electricity Act, a minimum volume of capacity needs to be reserved for Y-1 auctions and be deducted from the target volume for the Y-4 auction. This reserved volume shall be at least equal to the capacity required, on average, to cover the total peak capacity for less than 200 hours of operation per year. According to the Royal Decree to determine the methodology for the capacity calculation and auction parameters in the context of the capacity remuneration mechanism, the capacity necessary to cover the total peak capacity for less than 200 hours on average shall be determined, for each block of 100 MW, by the average number of hours required to comply with the security of supply criterion based on the load duration curve. These are the hours needed by certain capacity needs to meet the maximum electricity consumption. The estimation of the demand curve resulted in the reservation of approximately 2,5 GW for the Y-1 auction foreseen in 2024. According to Belgium, the decision to reserve part of the volume to be procured for the Y-1 auction process reflects its willingness to stress the technical-neutrality and technical openness of the mechanism. This measure encourages the participation of demand response providers as it might be more difficult for these capacities to plan their availability long in advance, possibly complicating their participation in the Y-4 auction. Notwithstanding this shift of capacity volume to the Y-1 auction, all capacity holders are allowed to participate in both the Y-4 and Y-1 auction process for a certain delivery period.

(99) Anticipating the implementation of the final draft Royal Decree:

(a) Elia launched a public consultation on the scenarios, sensitivities and data for the CRM parameter calculation for the Y-4 auction for delivery period 2025-2026. The public consultation was held between 5 May 2020 and 5 June 2020 ([59]). Elia consulted on the data from ENTSO-E's MAF 2019, updated with the most recent available information from public sources and on sensitivities to be included in the reference scenario that can have an impact on the security of supply of Belgium, in accordance with the Royal Decree (see recital (93)). After the public consultation, Elia recommended integrating into the reference scenario a 'low demand' sensitivity and a sensitivity corresponding to the EU-HiLo scenario ([60]) (see recital (30)). On 10 July 2020, the CREG subsequently adopted a proposal of a reference scenario ([61]), in which it notably reiterates its criticisms against Elia's recommendation to include a sensitivity of a reduction of the availability of French nuclear by 4 units (see recital (87)), pointing also to the existing capacity mechanism in France to ensure adequacy and to the risk of an increase in the capacity to be procured. However, shortly after, the Directorate-General for Energy of the FPS Economy adopted an advice to the Minister of Energy ([62]), in which it recommends integrating in the reference scenario a modification of the expected demand as the latter dropped subsequent to the impact of the Covid-19 outbreak. It also included an additional unavailability of nuclear units in France. Thus, the Directorate-General of Energy of the FPS Economy rejected most of CREG's criticisms but still invited Elia to review its analysis in light of what the PLEF has done (see recital (35)).

([59]) https://www.elia.be/en/public-consultation/20200505_public-consultation-on-the-scenarios-sensitivities-and-data-for-the-crm

([60]) '2.2.1 French nuclear availability – The first sensitivity is in line with the 10-year Adequacy and Flexibility study 2020-30 (Elia, 2019) and is presented in §2.6.8. It includes a nuclear availability reduced by 4 units in winter.'

([61]) https://www.creg.be/fr/publications/proposition-c2105

([62]) https://economie.fgov.be/sites/default/files/Files/Energy/avis-dg-energie-projet-proposition-2105-signed.pdf

(b) The CREG organised as public consultation from 1 July 2020 to 13 July 2020 on a proposal about the values of the gross CONE, the weighted average cost of capital (WACC) and the correction factor X ([63]). The Minister of Energy decides yearly on the basis of the CREG's proposal but can depart from it.

(100) The demand curve for the Y-4 auction in October 2021 is based on the central scenario of the MAF 2019, with updated data and corrections based on the 'Generation Adequacy Assessment' performed by the PLEF and published in April 2020 (see also recitals (287) to (289)).

(101) 2021 Adequacy and Flexibility study uses the central scenario of the MAF 2020, complemented with the most recent dataset available for each country and collected within ENTSO-E and public information or updated national studies for other countries. According to Belgium, by using the same source (MAF) as dataset for both the resource adequacy assessments and the demand curve calibration, coherence is insured.

(102) Belgium clarified that the sensitivity used in the calculations of the demand curve for the first auction about the unavailability of the French nuclear capacity (in line with the 'Generation Adequacy Assessment' performed by the PLEF) has also been modelled in the 2021 Adequacy and Flexibility study.

(103) The estimated volume to be procured in the first Y-4 and Y-1 auctions is around 9,5 GW. The overall volume is defined per auction and it based on the methodology described in section 2.5.2. In the demand curve for the Y-4 auction, the Belgian authorities have set aside a significant volume for the Y-1 auction, ensuring that a new calibration will take place closer to the delivery year and avoiding that too much capacity would be auctioned in the first Y-4 auction. This large Y-1 reservation allows the Belgian authorities to cope with slight deviations following new input data and methodological improvements, but also ensures that new and innovative technologies are given ample possibilities to participate, thus ensuring in practice the technological neutrality of the measure.

(104) Overall, about 54 % of the average peak consumption at scarcity moments will be contracted in the Y-4 auction in 2021, thus reducing the targeted volume to what is strictly required.

(105) Belgium committed to cross-check and adjust if need be the volumes to be procured in T-4 auction in 2023 and T-1 auction in 2026 with the results from the NRAA 2023.

2.5.3. *Pre-qualification phase*

(106) A mandatory pre-qualification procedure is applicable to all holders of generation capacity above 1 MW. Nevertheless, prequalified capacities are not obliged to participate in the bidding process (opt-out). To facilitate this mandatory prequalification, a fast track prequalification process is foreseen to enable capacity holders to meet the prequalification obligation at a minimum effort (only a minimum quantity of information is required, such as an identification number, type of delivery point and total installed capacity): capacity holders after a fast track pre-qualification process, the capacity is automatically treated as opt-out.

(107) The pre-qualification requirements include an emission limit: capacity providers that exceed the emission limit below cannot participate in the capacity auction:

(a) for capacities that started production on or after 4 July 2019 an emission limit of 550 gr CO2 of fossil fuel origin per kWh of electricity applies;

(b) capacities that started production before 4 July 2019 can neither emit more than 550 gr CO2 of fossil fuel origin per kWh of electricity, nor more than 350 kg CO2 of fuel origin on average per year per installed kWe.

([63]) https://www.creg.be/fr/consultations-publiques/consultation-publique-relative-au-projet-de-proposition-2086-relative-au

(108) Further, as part of the pre-qualification process, the candidates have to deliver a provisional financial security in order to be allowed to participate in the auction. This provisional financial security becomes effective when the CMU is selected in the auction. If the capacity provider, after selection in the auction, does not respect its contractual obligations or in case he is not willing to sign the capacity contract, financial penalties will be applied as part of the pre-delivery control process. The contractual counterparty has the right to claim financial security in case these penalties would remain unpaid. At the moment of prequalification, the amount of the provisional financial security will be 20 000 EUR/MW for virtual and additional CMUs and 10 000 EUR/MW for existing CMUs, in function of the CMU's eligible volume (given that the contracted capacity is not known yet and ensuring that the financial security is proportional to the size of the project and the consequent risk to system in case of not delivering). If the final contracted capacity of the CMU is lower than its eligible volume, the amount of the financial security is lowered for the positive difference between the eligible volume and the contracted capacity, multiplied by EUR 20 000 (for virtual and additional CMUs) or EUR 10 000 EUR (for existing CMUs).

(109) In addition, parties wishing to apply for pre-qualification for new installations (for a 15-year capacity contract) fired with fossil fuels must recognise that obtaining a capacity contract does not exempt them from current and future legislation and objectives established by the European Union and/or Belgium to reduce greenhouse gas emissions. In addition, they must acknowledge that obtaining a capacity contract commits them to contribute to policy preparation to achieve these objectives. To this end, they need to attach a written declaration in which they undertake to:

(a) study the technical and economic feasibility of reducing greenhouse gas emissions, in accordance with relevant European and Belgian legislation and targets, of the installation concerned by 31 December 2026;

(b) establish, by 31 December 2027, an emission reduction plan indicating how they will contribute to the transition to climate neutrality in 2050, with interim targets for the years 2035 and 2045; and

(c) achieve zero or negative emissions by 2050. The parties involved in the establishment of an emission reduction plan may decide to carry out this study jointly.

(110) Compliance with the commitments set out in recital (109) must be demonstrated to the Directorate-General for Energy of the FPS Economy.

2.5.4. *Specific auction design features*

2.5.4.1. Pricing rule

(111) The competitive auction mechanism makes use of the sealed bid auction format where bidders anonymously submit bids and the market is subsequently cleared in one single round. According to the Belgian authorities, by not providing information to the market during market clearing and not allowing bidders to update their bids, the sealed bid auction format limits the potential for market power abuse. They also indicate that with the sealed bid process, unlike in descending clock auctions, bidders are not tied up for (typically) 2-3 days in which they have to be available to react on the information that is made available for the auction process. The less complex and time-consuming auction process could further lower the entry barrier, especially relevant for new and small players and for demand side response parties whose core business is not the energy market.

(112) All successful bidders will be awarded a capacity remuneration, based on the pay-as-bid pricing rule for all auctions related to at least the initial two delivery periods (Y-4 and Y-1 auctions for delivery periods starting in November 2025 and November 2026). In other words, successful capacity providers will receive their bidding price as capacity remuneration.

(113) Following the presentation to the Parliament of an evaluation report, the pay-as-cleared pricing rule could apply for auctions related to subsequent delivery periods. Under the pay-as-cleared rule, the capacity remuneration equals the bid price of the most expensive bid selected (with the limitation of the intermediate price cap, see section 2.5.4.2).

(114) The Belgian authorities believes that the adequacy situation in Belgium around 2025 will require new capacity (see recital (29)). Therefore, capacity holders presenting very heterogeneous cost structures will probably compete in the initial CRM auctions. Consequently, the Belgian authorities fear that some capacity providers could benefit from high inframarginal CRM rents and hence windfall profits if the pay-as-cleared pricing rule is applied. According to Belgium, in theory, in case of perfect information when market participants can anticipate the would-be market clearing price under pay-as-cleared, a pay-as-bid pricing rule would result in the same outcome, as bidders have an incentive to bid in at this anticipated clearing price. In practice however, a certain degree of uncertainty and unpredictability related to the potential pay-as-cleared market price is inevitably associated with the first CRM auctions. Therefore, under a pay-as-bid pricing rule, market players may act more prudently to avoid the risk of not being selected, and hence pay-as-bid may lead to a less costly result.

(115) However, Belgium considers that the cost-efficiency advantage of pay-as-bid auctions likely diminishes over time, not only because the requirement for new capacity might disappear, but also because recurring pay-as-bid auctions allow market participants to better anticipate the reference market clearing price, resulting in a 'flat' offer curve. Besides, in case the missing money issue were to disappear in the medium to long-term, pay-as-bid could prevent the price to tend to zero since capacity providers have no incentive to bid in at zero under the pay-as-bid pricing rule.

(116) Belgium considers that after subsequent auctions, the pay-as-cleared pricing rule might become the better choice in order to stimulate competition, provide a transparent price signal and allow capacity remunerations to tend to zero when the level of capacity supplied is expected to be adequate to meet the level of capacity demanded. An important feature of the pay-as-cleared pricing rule is that the rational bidding behaviour is to bid in at true costs. Besides, as pay-as-cleared pricing provides a transparent price signal towards the market, this information can be particularly valuable to small units and new market players, as it may give them a better idea about current and future expected market conditions, thereby encouraging participation over time. Additionally, the pay-as-cleared pricing rule facilitates contractual arrangements, especially for aggregations. Therefore, Belgium will foresee a procedure allowing to change to the pay-as-cleared pricing rule when it is shown that it is beneficial to do so.

2.5.4.2. Intermediate price cap

(117) As described in detail in section 2.6, a CMU that requires significant investments can apply for a multi-year capacity contract. For the time being, this rule does not apply to indirect foreign participation, which can only receive a one-year contract (see recitals (143) and (144)). According to the Belgian authorities, CMUs within the one-year contract category are confronted with no or low investment cost requirements to cover for (otherwise they would qualify for a multi-year contract). Therefore, it is foreseen to apply an intermediate price cap to CMUs in the one-year contract category, to avoid windfall profits. This rule will also apply to the contracts attributed to indirect foreign capacity (see in detail in section 2.10.1).

(118) The CMUs within the one-year contract category will not be allowed to bid at a price higher than the intermediate price cap. Furthermore, even under the pay-as-cleared rule (see recital (113)), these CMUs would not receive capacity payments higher than the intermediate price cap.

(119) According to the Belgian authorities, the intermediate price cap will also prevent market actors with significant market power from strategically deciding to mothball or close existing capacity, thereby effectively taking capacity out of the market, influencing the market clearing price. By limiting the maximum capacity remunerations for capacities in the 1-year contract capacity category (among which existing assets), the intermediate price cap would limit the potential for excessive inframarginal rents.

(120) The Belgian authorities indicate that the intermediate price cap, on the one hand, should be sufficiently low to avoid windfall profits, but, on the other hand, it should not be too low as to prevent normal returns for the investors, or even prevent CMUs from participating in the CRM auction and create an unwanted exit signal.

(121) The methodology described in the Royal Decree setting out the methodology for calculating the auction parameters under the capacity remuneration mechanism determines that the intermediate price cap shall be calibrated to the expected 'missing-money' level of the worst performing technology currently in the market, considering both costs and revenues.

(122) The following costs are taken into account:

(a) yearly Fixed Operation and Maintenance ('FOM') costs;

(b) annualized non-yearly maintenance costs (excluding costs related to a capacity augmentation or lifetime extension of an installation);

(c) activation costs for an availability test.

(123) These cost components are divided by the applicable de-rating factors, as the intermediate price cap applies in the auction in which prices are expressed per de-rated MW. The Belgian authorities provided the data presented in Table 5 below ([64]).

Table 5

Total yearly costs for a short-list of existing technologies ([65])

	Yearly FOM costs [EUR/kW/year]			Activation cost for availability test [EUR/kW/year]	De-rating factor ([66])
	LOW	MID	HIGH		
CCGT	29	30	41	0	91 %
OCGT	19	19	40	0	90 %
Turbojet	23	29	29	0	96 %
Market response	5	10	15	0,18	36 %

Source: Notification

(124) The following yearly revenues are taken into account:

(a) yearly infra-marginal rents earned on the electricity market;

(b) yearly net revenues from the provision of frequency-related balancing services.

(125) The Belgian authorities provided the data presented in Table 6 below:

([64]) Elia launched a public consultation on the scenarios, sensitivities and data for the CRM parameter calculation for the Y-4 Auction for Delivery Period 2025-2026 (see recital (99)(a)).

([65]) Figures obtained from the calibration report of Elia. Available at: https://www.elia.be/nl/users-group/implementatie-crm.

([66]) Considering the de-rating factor range for 'large scale thermal' varies between 85 and 95 %, a de-rating factor of minimum 90 % is applied for the *CCGT*, *OCGT* and *Turbojet* technology. For the *Market Response* technology, the de-rating factor represents an average to take into account the variety of possibilities included in the *Market Response* technology.

Table 6

Total yearly revenues for a short-list of existing technologies ([67])

	Total yearly revenues [EUR/kW/year] ([68])		
	LOW	MID	HIGH
CCGT	5	11	20
OCGT	10,2	12,6	15,5
Turbojet	19,3	23,2	27
Market response	14,3	17,1	20

Source: Notification

(126) Finally, 'missing-money' is calculated by subtracting the yearly revenue from the yearly cost values. A 5 % uncertainty margin is added to the derived number, to take into account general uncertainties that are associated with a 'missing-money' estimation, especially given that the calibration of the intermediate price cap requires the generalisation of cost and revenue figures per technology and that this estimation takes place up to several years before the relevant delivery period.

(127) The Belgian authorities provided the data in Table 7. The different 'levels' for the value for 'missing-money' represent the following categorisation: level 1 considers low cost figures and high revenue figures; level 2 considers low cost figures and mid revenue figures; level 3 considers low cost figures and low revenue figures; level 4 considers mid cost figures and high revenue figures; level 5 considers mid cost figures and mid revenue figures; level 6 considers mid cost figures and low revenue figures.

Table 7

'Missing-money' values derived for a short-list of existing technologies ([69])

'Missing-money' [EUR/kWde-rated/year]	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
CCGT	10,4	20,8	27,7	11,5	21,9	28,8
OCGT	4,1	7,5	10,3	4,1	7,5	10,3
Turbojet	0	0	4	2,2	6,4	10,6
Market response	0	0	0	0	0	0

Source: Notification

([67]) Figures obtained from the calibration report of Elia. Available at: https://www.elia.be/nl/users-group/implementatie-crm.

([68]) It is to be noted that only mFRR reservation fees below 10 EUR/MW/h are taken into account towards the overall average value, as prices above this cut-off point are considered to represent periods with adequacy issues and therefore not representative for this analysis. The LOW/MID/HIGH values are calculated as 60/75/90 % of the overall average value, to account for variable costs associated with the reservation of mFRR, such as for instance a cost for making a bid. The net revenues from the provision of frequency-related balancing services, in order to avoid double counting and consider only net revenues, have been considered to the following extent: FCR revenues are not considered, since batteries are likely to become the dominant technology to provide FCR. The Batteries technology is not considered for the calibration of the intermediate price cap, as they are considered to derive a positive business case from the provision of FCR. aFRR revenues are not considered, as it is assumed that technologies who provide aFRR arbitrage between the provision of aFRR and selling energy. Therefore, aFRR reservation fees are assumed not to represent a net revenue on top of the infra-marginal rents earned on the energy market. mFRR revenues are considered relevant for the Turbojet (assumed to provide mFRR standard product) and Market response (assumed to provide mFRR flex product) technologies, as they typically provide these services currently in the market. More specifically, revenues for Turbojet and Market response are determined by a percentage of the average mFRR reservation fee or the infra-marginal rent from the energy market, according to whichever of both leads to the highest value.

([69]) Figures obtained from the calibration report of Elia. Available at: https://www.elia.be/nl/users-group/implementatie-crm.

(128) On the basis of the input and data provided by Elia, and the advice on these data by the regulator, the Belgian authorities have set the intermediate price cap for the first auction, i.e. the Y-4 auction with a delivery period November 2025-October 2026, at EUR 20/kWde-rated/year.

(129) During the formal investigation procedure, Belgium put in place a mechanism allowing for an individual derogation from the intermediate price cap ([70]).

(130) The derogation mechanism has been introduced in the Royal Decree to determine the methodology for the capacity calculation and auction parameters in the context of the CRM. The derogation mechanism applies equally to both national and indirect cross-border capacities.

(131) Based on the Royal Decree, for the first auction, due to the limited time between the design of the derogation mechanism and the preparation of the first auction, the derogation will be granted ex-post, i.e. after the closure of the auction. Belgium explained that potential beneficiaries will apply for derogation before the auctions and submit all relevant information before the auctions. All criteria and rules for the derogation will be transparently established before the auctions. The derogation will not depend on the submitted bids of any auction participant. Finally, if ex-post it is concluded that some units do not qualify for derogation and their payments are reduced, this does not affect the outcome (contract, payment and quantity awarded) for other units that participated in the auction.

2.5.4.3. Clearing rules

(132) The capacity auction should be cleared by selecting the combination of bids that maximizes social welfare, taking into account the demand curve (set in an administrative way) and offer curve (by aggregating the different bids of the capacity holders) and by taking into account the volume and price components of the different bids. Social welfare in this context is calculated as the sum of consumer surplus (surplus for society from satisfying the demand for security of supply at a price below the willingness-to-pay for capacity as defined by the demand curve) and the producer surplus (surplus for capacity providers from the selection of their bids at a price above the bidding price).

(133) If multiple clearing solutions (i.e. a combination of bids) are equivalent in terms of maximizing economic surplus, the solution with the lowest CO_2 emissions is selected. If two solutions are equivalent both in terms of maximizing economic surplus and weighted average CO_2 emissions, the solution with the lowest weighted average contract duration is selected with the goal to limit the lock-in over several years ([71]).

(134) The auction algorithm will also take into account grid constraints, in such a way that it will reject certain combinations of bids which are together not grid feasible. The set of grid constraints related to the TSO grid that will apply during the auction clearing, will be determined before the auction clearing takes place and will be driven by either system security considerations, or physical spacing limitations.

2.6. **Contract duration**

(135) According to the Belgian authorities, a longer capacity contract duration allows the capacity provider to secure long-term funding to spread the investment costs over a longer period of time. This could reduce the capacity remuneration required per year and help ensure that a new project is competitive against existing projects in the market. The potential for new entry at a competitive price is also of the utmost importance for controlling the market power of existing capacity providers.

([70]) A methodology for obtaining an individual derogation was subject to a public consultation carried out in February 2021.

([71]) Capacity providers are required to submit CO2 information about their CMUs during the prequalification process. The Rules on the Functioning of the Belgian CRM (cf. section 18.1.17) provide guidelines to calculate the specific and annual emissions, based on ACER opinion no 22/2019.

(136) However, a longer capacity contract duration can also 'lock-in' a technology in the energy market for a longer period of time. Therefore, the Belgian State has opted for different capacity categories (1 year, up to 3, 8 and 15 years). Consequently, new investments are not immediately granted a capacity contract for the maximum (15 years) period, thereby avoiding that the future energy market would be locked for new (and potentially more environmentally friendly) technologies.

(137) In the Royal Decree of 12 December 2019 ([72]) proposed by CREG, the eligible costs are established as: 'initial and non-recurrent investment expenditure, which is ordered from the date of publication of the auction results in which the bid for that capacity is retained and carried out at the latest on the day preceding the first day of the capacity provision period, necessary for the construction and/or the provision of the essential physical technical elements of capacity, and for the purpose of offering to the Belgian market additional capacity, as of the first delivery period covered by the capacity contract'. For existing capacity, expenditure which has the effect of offering additional capacity is: (i) expenditure made necessary to enable the capacity to comply with environmental standards and thus to maintain it on the market; (ii) expenditure necessary to increase the installed capacity or the technical lifetime of the installation and (iii) for direct foreign capacity, expenditure necessary to connect the unit to a network within the Belgian control area (see section 2.10.2).

(138) The proposed Royal Decree foresees the thresholds presented in Table 8. These investment thresholds have been calculated so as to ensure that the average estimated annualized investment costs are equal between the capacity categories linked to a maximum capacity contract duration of 15, 8 and 3 years. The CREG will propose to update the investment thresholds when it seems necessary and at least every 3 years ([73]). The thresholds take into account the installed capacity rather than the de-rated capacity. According to Belgium, in case the de-rated capacity offered by the CMU instead of the installed capacity would be taken into account for the investment thresholds, capacities with a high de-rating factor would reach the investment thresholds for multi-year contracts more easily, which would be contradictory to the CRM objective.

Table 8

Investment thresholds for long-term capacity remuneration contracts

Contract duration	Thresholds proposed by CREG	New proposal from Belgian Government
Years	*€/kW*	*€/kW*
15	600	360
8	400	239
3	177	106

Source: SPF Economie

(139) The CREG will monitor the investment costs to ensure, both ex ante and ex post unit's submission, that the capacity category assigned to each capacity provider is appropriate. In particular, the capacity provider has to provide an ex post investment file that the regulator can use for its ex-post assessment of the assigned capacity category. If the ex post analysis reveals that the cost criteria were not met (including a limited tolerance range to account for small uncertainties), contractual conditions could be revised (e.g. reclassification of the CMU in the appropriated category of contract). Additionally, in case the ex-post investment file is not provided (on time), reclassification of the CMU in the 1-year capacity category by the regulator is possible as well.

(140) According to the initial proposal, a contract category is also assigned to aggregated offers. If an aggregated offer is made of capacities corresponding to different contract categories, the aggregated offer is assigned the contract category corresponding to the capacity with the shortest contract category.

([72]) https://www.creg.be/fr/publications/proposition-c1907

([73]) The investment thresholds are set by Royal Decree, on the basis of a proposal of the regulator (Article 6, paragraph 2 of the published Royal Decree).

(141) This proposal was revised after the formal investigation procedure. Based on the Royal Decree setting the investment thresholds, the eligibility criteria for investment costs and the ranking procedure, every capacity that is part of an aggregated offer is classified in a capacity category. On the basis of the classification of capacities, the CREG determines, where appropriate, its different classification combinations and links each combination to a maximum nominal reference power corresponding to the sum of the nominal reference capacities of the capacities of the aggregated offer, which are classified in a capacity category that is equal to or higher than the specified capacity category. Based on this, the manager of the aggregated offer chooses the capacity category that applies to the aggregated offer.

(142) Following the formal investigation procedure, Belgium also amended the provisions of the Royal Decree regarding eligible investment costs. The amended Royal Decree states that only costs to adapt to future Union standards will be eligible under the CRM.

(143) According to the Belgian authorities, the possibility for multi-year contracts cannot be foreseen for foreign capacity as, in the long-term, sufficient entry capacity cannot always be guaranteed. The latter does not only depend on the level of interconnection and its availability, but also on the risk of concurrent system stress with neighbouring countries. This latter risk may vary significantly over time, depending on the adequacy and market situation in other countries.

(144) The Belgian authorities committed however to review the possibility for foreign capacities to access multi-year contracts. The first review will be carried out by 15 January 2023 and thereafter every 2 years. If the review shows that the risks related to the level and availability of the interconnector and the risk of stress of the simultaneous system are adequately mitigated, so that contracts of more than one year for indirect foreign capacity do not create unreasonable risks to adequacy, multi-year contracts for foreign capacities may be granted.

(145) Finally, unproven capacity can only be eligible to a one-year capacity contract, because it is difficult to justify precise cost figures that would allow them to be categorised in one of the multi-year contract categories (see section 2.4.4).

2.7. **Obligations**

2.7.1. *Reliability options*

(146) In the Belgian capacity mechanism, the contractual counterparty buys the capacity from the capacity providers in the form of reliability options. The capacity providers that are selected in the auction sell the reliability options to the central buyer and receive a fixed capacity remuneration in return. Whenever the reference price exceeds a pre-defined level, the so-called strike price, the capacity provider has a payback obligation of the difference between the reference price and the strike price towards the central buyer, calculated on the contracted capacity volumes.

(147) As a result, revenues for the capacity provider on the energy only market are capped at the strike price, but capacity providers are ensured a fixed and certain capacity remuneration in return. In other words, the capacity providers give up part of their uncertain scarcity rents to receive a certain capacity remuneration in return, significantly reducing the risk of volatile revenues and therefore the risks related to the investment to be made. The reliability option objective is twofold. Primarily, the payback obligation limits the potential for windfall profits and secondarily, incentivises CMUs to be available in moments relevant for security of supply.

2.7.2. *Reference price*

(148) Belgium has selected the day-ahead market (DAM) price as reference price. According to Belgium, its main advantages are:

(a) the DAM represents the most pertinent market signal related to adequacy issues as most drivers of the market actors' positions are incorporated in the production planning and forecasts;

(b) the DAM has a strong signalling function and represents the strongest, most liquid spot market, because of its granularity and the high accuracy of the assumptions, which is reflected in the exchanged volumes;

(c) after the day-ahead matching in the Belgian system, all Balancing Responsible Parties have to be balanced (nomination DA at 15h00) and at that unique moment, the market is settled. In this way, the DAM is the last opportunity in the electricity product timeline to cross the full remaining demands and offers after the forward market and before the flexibility needs of the intraday and balancing;

(d) due to its timing position in the spot markets, it should allow all technologies (e.g. also slow capacity) to react upon.

(149) Belgium explained that the methodology of the reference price may be reviewed in the future to make sure it sends the most adequate price signal, once the maturity of other spot markets will increase to a level close to the day-ahead market. In particular, intraday market prices may be considered again once the liquidity is sufficient and it is continuous.

(150) Belgium has opted for a single strike price with some corrections to ensure technology openness of the system and limiting windfall profits in the calibration. According to the Belgian authorities, these corrections are necessary to limit the risk of a single strike price for the participation of some technologies to the CRM. Particularly technologies with a short run marginal cost above the strike price may be hindered without these corrections.

(151) As foreseen in Article 7 undecies paragraph 2 of the Electricity Act, the strike price parameter will be calibrated each year by a Ministerial Decree no later than 31 March of that year (both for the Y-4 and Y-1 auction) and based on the methodology that is set in the Royal Decree for the auction parameters.

(152) It will be based on an analysis of the aggregated curves gathering the elastic part of the volume of reaction from the market observed on the DAM weighted over a period of 3 years for the relevant periods during these 3 years (winter weekdays). The methodology indicates that the calibrated strike price should be selected between the corresponding range [75 %; 85 %] of the price-elastic volume of reaction from the market reacting to it and taking into account a number of guiding principles:

(a) first criterion: the short run marginal costs (SRMC) of the technologies with daily schedule should be covered by the selected strike price;

(b) second criterion: the strike price calibration takes the calibration curve shape into account;

(c) third criterion: the strike price calibration takes the energy market evolution into account;

(d) fourth criterion: strike price stability in time; and

(e) fifth criterion: a reasonable chance for the strike price to be reached by the reference price.

(153) For the assessment of the first criterion, this is looked at in the light of the results and hypotheses used in the 2019 Adequacy and Flexibility study, especially in sections 2.9.3 and 2.9.4. The calculation of these SRMC is based on several assumptions: an estimation of the fuel prices, an estimation of the potential evolution of the CO2 price, an estimation of the performance ('efficiency') of the various technologies considered in the 2019 Adequacy and Flexibility study (in this case CCGT, OCGT and diesel generator).

(154) Belgium proposed an indicative calibrated strike price range based on the last 3 winter periods (winter 2016/2017 to winter 2018/2019) to be narrowed to [320; 500] EUR/MWh.

(155) This implies that the strike price may evolve over time (but remains fixed for a CMU's capacity contract duration), in line with evolutions on the energy market, and that capacity contracts as a result of one auction do not necessarily include the same strike price as capacity contracts related to another auction. In any case, the capacity providers will be informed of the applicable strike price prior to each auction, allowing them to factor in this information into their bids.

(156) In addition, Belgium has opted to offer CMUs without individual scheduling obligation (demand side response providers and aggregators typically fall into this category) the possibility to replace the one single strike price by their declared market price (i.e. their short run marginal cost) in the pay-back obligation whenever this would be higher than the one single strike price. In other words, these CMUs without individual scheduling obligation (and thus demand response providers) are only subject to the payback obligation in case the reference price exceeds their

declared market price (DMP), representing the price above which these capacity providers have declared to deliver energy in the energy market. In other words, in case the single strike price calibration would result in a price below their activation cost, these CMUs are not obliged to pay back revenues that were not received in the energy market (in case the reference price would exceed the strike price, but would be below their declared market price). This measure was introduced after the public consultation process to mitigate the concern of demand response providers and other parties that they otherwise would face more difficulty in participating as they may be subject to paybacks without being dispatched and having earned the revenues in the first place. According to Belgium, it also ensures a technology-openness while limiting the windfall profits. In particular, according to the authorities this design element should explicitly facilitate the participation of demand-response in the CRM and any other technology with higher short run marginal costs.

(157) Additionally, CMUs without individual scheduling obligation can decide to declare several day-ahead prices as DMP. This is particularly relevant for aggregators, which may have a portfolio composed of CMUs with different marginal prices and reflect their actual cost curve. This is meant to avoid applying the payback obligation on energy that has not been sold on the market and where no revenue was earned.

2.7.3. *Paybacks*

2.7.3.1. Description

(158) Whenever the electricity price on the wholesale day-ahead market exceeds the strike price, the capacity provider has to pay the difference between the reference price and the strike price to Elia, calculated on the contracted capacity volumes. As a result, revenues for the capacity provider on the energy only market are capped at the strike price, but capacity providers are ensured a fixed and certain capacity remuneration in return.

(159) The capacity provider will be subject to the payback obligation, irrespective of whether it was selling electricity at high prices during the relevant settlement period.

(160) It is important to add that the reliability option is designed in such a way that planned and unplanned outages of the assets duly communicated in advance are exempted from this payback obligation to the extent of the unavailability. Indeed, the payback obligation aims to avoid windfall profits by reimbursing unanticipated revenues from the energy market. However, in case of outages (both planned and unplanned), no energy is delivered. As a consequence, in case of (duly communicated) outages, it is impossible for the capacity provider to capture the higher energy revenues resulting from the high price spikes, so therefore no pay-back obligation should be applicable in these circumstances.

(161) Demand side response units and other capacity without a daily schedule obligation are subject to the payback obligation in case the reference price exceeds their declared market price (see recital (156)).

(162) The Belgian authorities committed to carry out a technical and economic analysis which will examine the bids and the results of the auctions, with a particular focus on the effect of the payback obligation. The analysis will be carried out every 2 years, starting after the first auction in spring 2022. The results of the analysis will be submitted for a public consultation.

2.7.3.2. Stop-Loss Mechanisms

(163) Belgium will also implement a stop-loss mechanism on both the payback obligation (linked to the reliability options) and the penalties for unavailability, which are applied cumulatively (see section 2.8.4).

(164) Such stop-loss mechanism implies that the capacity provider under the CRM will never have to repay an amount exceeding the value of its annual capacity remuneration. In other words, in case the contract value is reduced to zero, there is no payment obligation (not for the reliability options, nor for the availability payments). This principle implies a useful risk limitation for the capacity provider, allowing zero bids in case the 'missing-money' in the energy market is reduced to zero. On the contrary, without such a stop-loss mechanism, the capacity provider would risk to

be subject to a payback obligation and/or a penalty, even in case it would have no missing-money and a capacity contract value of EUR 0. To cover this risk, a capacity provider would never bid at EUR 0/MW/year (even in case he would have no missing-money) without the implementation of this stop-loss mechanism.

2.8. **Availability monitoring, testing and penalties**

2.8.1. *Pre-delivery control*

(165) During the pre-delivery period (i.e. the period after a CMU is selected in the auction but before the start of the delivery period), the selected capacity providers are subject to a set of requirements to ensure that their contracted capacity will be available at the start of the delivery period and contribute to security of supply. They are notably meant to mitigate the gaming risk and cover the uncertainty inherent to new investments (e.g. delay in construction works).

(166) A conditional financial security is required to ensure the requested and punctual fulfilment of all the obligations in respect of the pre-delivery controls arising from the Capacity Contract and/or the Rules on the Functioning of the CRM Market Rules (see recital (108)). In case of non-respect of a Capacity Provider's obligations during a pre-delivery period, the financial security can be invoked.

(167) For existing CMUs, pre-delivery availability tests will be organized, to which penalties apply in case of non-compliance. Furthermore, for additional and virtual CMUs, additional obligations and monitoring requirements between Y-4 and the delivery period are foreseen. The pre-delivery monitoring of these new capacities will be based on the detailed project planning provided by the capacity provider. In case the capacity provider does not meet the milestones set in the project planning, resulting in a residual delay, penalties will apply, including financial penalties (covered by the financial security), or in some cases the reduction of the initially contracted capacity (and thus the capacity remuneration per year) and/or reduction of the capacity contract duration (and thus the number of years during which a capacity remuneration will be received).

2.8.2. *Availability Monitoring*

(168) The Belgian TSO ensures the availability of all the contracted CMUs (taking into account de-rating) to reach the targeted level of security of supply. Given that the main objective of the CRM is to ensure an adequate level of capacity in the system, the availability monitoring takes place during moments that are relevant for security of supply. In this respect, an Availability Monitoring Trigger (AMT) is defined to identify the moments relevant from an adequacy point of view and during which the TSO will monitor the availability of CMUs.

(169) The AMT is based on the day-ahead market price. The reasons for opting for the day-ahead market price are the same as for the payback obligation, as described in section 2.7.2. During AMT moments (i.e. moments during which the day-ahead market price exceeds the AMT), the TSO can verify whether the procured capacity is indeed able to respond to a day-ahead market signal. If the capacity does not meet the obligated capacity ([74]) (based on the terms and conditions in the capacity contract and the functioning rules), the part of the obligation that was not available is liable to penalties, unless the CMU can cover the positive difference between obligated capacity and available capacity ([75]) via the secondary market of the CRM (see section 2.9). By selling obligations on the secondary market, the capacity provider can effectively reduce the obligated capacity to avoid a discrepancy between the obligated and available capacity and thus penalties.

(170) For the calculation of the obligated capacity, a distinction is made between energy-constrained and non-energy constrained assets as they contribute to the security of supply in a different way. An energy-constrained asset (e.g. batteries, demand side response) can only be available during a certain number of consecutive hours, whereas these constraints do not apply for the non-constrained assets.

([74]) The volume that a CMU is obliged to make available during availability tests and availability monitoring.
([75]) The CMU's capacity that is actually available during the availability monitoring mechanism or the availability test.

(171) For non-energy constrained assets (e.g. thermal installations, wind farms), the duration of the AMT moment (expressed in a number of hours) does not affect the available capacity. On average, these assets should be able to deliver at least their de-rated capacity. Therefore, at every AMT hour during the capacity contract, the obligated capacity equals the de-rated capacity of the asset as determined during the pre-qualification phase.

(172) Given that energy-constrained assets (e.g. batteries, demand side response) can only be available during a certain number of consecutive hours, during the prequalification phase these CMUs can select a certain Service Level Agreement (SLA). Therefore, the obligated capacity equals their non-de-rated capacity for hours within their energy constraints. The obligated capacity will equal 0 MW for any other AMT hour in the same day. The CMU retains the liberty to dispatch their asset for any AMT moment of a set of AMT hours they chose as long as they have delivered at least their SLA over all AMT hours of a day.

(173) Capacity providers with a daily schedule obligation in the energy market are presumed to have an available capacity at each AMT hour of maximum power (Pmax) available ([76]).

(174) On the other hand, there is less visibility on the actual availability for capacity providers without such a scheduling obligation. Therefore, these latter capacity providers are always obliged to communicate before day-ahead market closure, a day-ahead price above which they would deliver energy to the market with the CMU in accordance with at least the obligated capacity, which can be above the AMT price. If the market clearing occurs below this price, the unit is presumed to be available (but not delivering energy) according to a declaration. In case of a market clearing above the declared day-ahead price, the TSO will verify energy delivery. In this way, the monitoring does not impose the delivery of energy during all AMT moments, only in case market conditions are favourable for the CMU (i.e. the declared day-ahead price).

(175) Optionally, the capacity provider without a scheduling obligation can also declare other prices to indicate delivery on other markets (intraday or balancing markets) and/or for lower volumes. This is meant to reflect market functioning as part of the energy can be sold closer to real-time. The TSO will monitor availability using the price that corresponds to when the energy was delivered. In case the declared price(s) are never surpassed on their respective market(s), the asset will not be sufficiently visible in the market and will consequently be more prone to testing. The Rules on the Functioning of the CRM will include a right for the TSO to request a certain number of tests during a delivery period (see section 2.8.3).

(176) According to Belgium there are two main drivers for a capacity provider to declare correct prices for their CMUs, as regards the pay-back obligation and the availability monitoring:

(a) successful dispatching of the CMU in response to a declared price contributes to the credibility of the unit's capability to respond to the market. As stated before, this will reduce the chance of availability tests. The costs associated to these tests are borne by the capacity provider (see recital (181)) which creates an incentive to show availability through the declared prices mechanism;

(b) during AMT hours with a payback obligation, the CMU's dispatching will be checked in accordance with the capacity provider declared prices. In other words, the TSO should be able to measure the communicated volume to be delivered as well as the margin to be retained. As an example: if a CMU has indicated that, based on resulting market prices, they would dispatch energy at 90 % of the contracted capacity, 90 % delivery should be measured as well as 10 % margin compared to the technical limit. The result of not respecting either the energy delivery or margin that was communicated will result in availability penalties. This avoids false declaration of prices to omit the payback obligation. Outside of payback obligation AMT hours, such checks will not be made as there is no such potential gain for the capacity provider.

([76]) The maximum power (in MW) that the Delivery Point can inject into (or take off) the Elia grid for a certain quarter-hour, taking into account all technical, operational, meteorological or other restrictions known at the time of notification to Elia with the Daily Schedule, without taking into account any participation of the delivery point in the provision of balancing services.

2.8.3. *Testing*

(177) Elia can verify the availability of a CMU through unannounced availability tests. Such tests will be notified by Elia to the capacity provider between 15:00 CET and 15:30 CET the day before the availability test at the latest, i.e. the same moment at which the identification of AMT hours is communicated.

(178) Elia can test a CMU up to three times successfully during the winter period and one time successfully outside the winter period. Additionally, Elia reserves the right to test at maximum one time the full duration of the SLA (if any) successfully. Elia will not conduct availability tests in a period where they have prior knowledge of planned unavailability for the concerning CMU on the (part of the) capacity which is not available (i.e. the obligated capacity is limited to what is known to be available).

(179) Elia will select the CMU's to be tested according to an internal procedure, which will not be disclosed publicly. Nevertheless, Elia shall base its procedure on criteria including, but not limited to:

(a) the amount of proven availability of the CMU's relative to all other CMUs subject to a capacity contract for the current delivery period;

(b) previously failed availability tests by the CMU;

(c) missing capacity during availability monitoring;

(d) correlation of the CMU's outputs with the declared market prices.

(180) When Elia notifies the availability test along with its expected duration (full SLA duration or 1 quarter-hour) to the capacity provider, it shall also contain its start and end time. Within that period, the capacity provider has the freedom to organise the energy delivery as it suits him best.

(181) Any missing capacity during this period is liable to an availability penalty. Any costs of availability tests are borne by the capacity provider.

2.8.4. *Penalties*

(182) Any missing capacity, i.e. a positive difference between obligated and available capacity, during an AMT hour is liable to an availability penalty.

(183) The total amount of availability penalties a capacity provider can receive for one CMU, for one delivery period and for missing capacity holding a primary market obligation or a secondary market transaction of which the transaction period covers at least one complete delivery period, is limited to the awarded selected bid prices in the auctions for the delivery period multiplied with the contracted capacities in the auctions.

(184) The total amount of availability penalties a capacity provider can receive for one CMU, for 1 month and for missing capacity stemming from a primary market obligation or a secondary market transaction of which the transaction period covers at least one complete delivery period, is limited to 20 % of the awarded selected bid prices in the auctions for the delivery period multiplied with the contracted capacities in the auctions.

(185) In case missing capacity over 20 % of obligated capacity is established during three separate AMT moments and/or availability tests for the same CMU, Elia issues a downwards revision of the capacity remuneration for that CMU proportional to the maximum missing capacity established during that period. The capacity provider however retains an availability obligation and remains liable to possible availability penalties for that CMU as in the original capacity contract. The total contract value is not altered. The original capacity remuneration is reinstated after the CMU has successfully provided its obligated capacity, corresponding to the contracted capacity and SLA in the primary contract, during three consecutive AMT moments or availability tests.

(186) In case the CMU was subject to a downwards revision of capacity remuneration during two subsequent delivery periods and the CMU each time failed to reinstate the original capacity remuneration within 12 weeks of each revision, the CMU will lose the possibility to reinstate original capacity remuneration and all capacity contracts applying to delivery periods starting from the one covered by the first upcoming Y-1 auction after applying this clause are terminated.

2.9. **Secondary market**

(187) Belgium will put in place a secondary market to provide the capacity providers with a mechanism to improve their risk management under the CRM. Indeed, in case a capacity provider faces a lower than anticipated availability (lower than its obligated capacity as calculated in accordance with the Market Rules) it has the possibility to cover the positive difference between its contractual obligated capacity and its available capacity in the secondary market, without being subject to any penalties for unavailability. In case of transactions on the secondary market, a full transfer of obligations, including the strike price of the initial obligation, is performed.

(188) The secondary market will be implemented at the latest 1 year before the start of the first delivery period. The modalities of the secondary market mechanism are described in the Rules on the Functioning of the CRM.

2.10. **Cross-border capacity participation**

(189) Belgium will allow foreign capacity located in a Member State that has a direct network connection with Belgium to participate from the first delivery. The rules are laid down in a Royal Decree ([77]). According to Belgium, as the methodologies, common rules and terms mentioned in Article 26(11) of the Electricity Regulation were only approved in December 2020 ([78]), and as TSOs have not been able yet to conclude the necessary agreements, it has not been possible to organise the cross-border participation as of the first Y-4 auction. According to the Belgian authorities, this will be put in place as soon as possible. In the meantime, a volume has been reserved for the Y-1 auction, ensuring that cross-border capacity can participate as of the first delivery year, i.e. 2025.

(190) Participation will be open to all technologies. It distinguishes two types of foreign capacity – direct and indirect.

2.10.1. *Participation of indirect foreign capacity*

(191) Indirect foreign capacity is capacity located in neighbouring Member States. For each of the neighbouring Member States, a pre-auction is organised. Given the limited capacity on interconnectors, the purpose of the pre-auction is to ensure an efficient prequalification, as it is a precondition of the main auction. Each pre-auction will start no later than 1 June and will be organised by the TSO in accordance with the instruction given by the Minister referred to in Article 7 undecies paragraph 6 of the Electricity Act, and specified by a neighbouring Member State. In his instruction, the Minister may decide, where appropriate, that a pre-auction with a neighbouring Member State should not be organised. The parameters of the pre-auction are the same as the parameters of the corresponding auction. However, the reference price for each neighbouring Member State shall reflect the price that would have been obtained by the indirect foreign capacity provider on the electricity markets managed by the NEMO ([79]) nominated by the indirect foreign capacity.

(192) Each year, the TSO determines the maximum entry capacity available for the participation of indirect foreign capacity of each neighbouring Member State, on the basis of the recommendation of the Regional Coordination Centre referred to in Article 26(7) of the Electricity Regulation, in accordance with the methodology approved by ACER referred to in Article 26(11)(a) of the Electricity Regulation.

(193) Pending the adoption of the relevant strategies, proposals or decisions implementing Article 26 of the Electricity Regulation, the contribution of each market zone directly connected with Belgium is determined by the contribution of those zones during simulated scarcity hours based on ERAA or NRAA.

([77]) Draft Royal decree on the establishment of the conditions under which holders of direct and indirect foreign capacity can participate in the prequalification procedure within the framework of the capacity remuneration mechanism.

([78]) See ACER Decision No 36/2020 of 22 December 2020 on technical specifications for cross-border participation in capacity mechanisms.

([79]) 'Nominated electricity market operator (NEMO)' means an entity designated by the competent authority to perform tasks related to single day-ahead or single intraday coupling – see Article 2 of the Electricity Regulation.

(194) Other conditions governing cross-border participation are provided in ACER decision No 36/2020 on technical specifications for cross-border participation in capacity mechanisms.

(195) If there is a NTC link modelled between Belgium and another electrically directly connected market zone, then:

(a) For each simulated scarcity hour:

(1) If the market zone is exporting to Belgium, its contribution equals the simulated market exchange;

(2) If the market zone is importing from Belgium, its contribution is null;

(b) The maximum entry capacity market zone is defined as equal to the average contribution during simulated scarcity hours.

(196) If a flow-based domain is defined in the simulation that integrates Belgium, then:

(a) First there is a check of the net position of Belgium of the simulated scarcity hours:

(1) If the net position of Belgium is positive, the contribution of other market zones in the flow-based domain is null;

(2) If the net position of Belgium is negative, there is a check of the net position of other market zones:

— if the net position of the other market zones is negative, the contribution of this market zone is null;

— for all the market zones with a positive net position, a weighted average on the net positions is made between market zones in order to reach the level of Belgium's net position.

(b) The maximum entry capacity of a market zone is defined as equal to its average contribution during simulated scarcity hours.

(197) The indirect foreign capacity wishing to submit a bid in the pre-auction shall provide the TSO with the information on the volume of capacity offered after the application of the de-rating factor, the price offered and the CO2 emissions of the capacity concerned.

(198) The indirect foreign capacity whose bid is selected at the end of the pre-auction submits a prequalification file. The assessment of the pre-qualification file will be carried out by the neighbouring TSO in cooperation with Elia, in accordance with the rules laid down in the methodologies referred to in Article 26(11)(f) of the Electricity Regulation and, when applicable, in accordance with the agreement concluded between TSOs.

2.10.2. *Participation of direct foreign capacity located in a neighbouring Member State having a direct connection to the Belgian network and disconnected from the neighbouring Member States' network*

(199) According to the Belgian authorities, direct foreign capacity is capacity located in a neighbouring Member State but having a direct and exclusive connection to the Belgian network and disconnected from that neighbouring Member State's network.

(200) The capacity must also be located in a neighbouring Member State with which Belgium has concluded an agreement on the participation of direct foreign capacity in the CRM, ensuring that:

(a) the participation of any direct foreign capacity depends on a declaration by the neighbouring Member State in which the capacity is located, that the capacity in question meets a number of technical, organisational and financial requirements set out in the agreement and that all the necessary authorisations for the capacity in question have been issued regularly and unconditionally, or will be issued within a reasonable period;

(b) the participation of any direct foreign capacity depends on a declaration by the neighbouring Member State in which the capacity is located, that such participation does not give rise to serious problems in terms of security of supply in the neighbouring Member State or does not deprive it of the necessary infrastructure to adequately address known congestion problems.

(201) In accordance with Article 21(2) of the Electricity Regulation, between October and December 2019, Belgium carried out a consultation with the neighbouring Member States.

2.10.3. *Congestion revenue*

(202) The allocation of the revenues resulting from allocation of cross-border tickets, i.e. access rights for foreign capacity providers to participate in the Belgian CRM, is fully governed by Article 26(9) of the Electricity Regulation.

(203) Belgium indicated that the congestion revenues will be used for the purposes set out in Article 19(2) of the Electricity Regulation as required by Article 26(9) of that Regulation.

(204) Belgium confirmed that it will comply with ACER decision No 36/2020, which among others, sets out the methodology for sharing the revenues arising through the allocation of entry capacity.

2.11. **Cumulation**

(205) According to Article 3 of the Royal Decree on eligibility criteria related to cumulative support and minimal participation threshold, capacity that already benefits from operating aid is excluded from the prequalification phase. Capacities that benefit from such aid can participate in the pre-qualification phase under the condition that they renounce to the aid in case they are awarded with a capacity mechanism contract. A form confirming this commitment to renounce is published by the Ministry of Energy. Furthermore, capacities commit not to apply for other operating aid during the period while they have a capacity contract when submitting an application for the prequalification phase.

2.12. **Budget and financing mechanism**

2.12.1 *Budget*

(206) The precise cost of the measure will be determined by the auctions. According to the most recent cost estimate submitted by the Belgian authorities, which was performed in January 2021 by consulting company Haulogy, mandated by the Belgian authorities, the overall cost of the measure can be estimated between EUR 238 and 253 million per year.

2.12.2. *Financing of the measure*

(207) The Belgian Parliament adopted a resolution on 16 July 2020 ([80]) indicating that the costs of the CRM will be financed via a 'public service obligation' by Elia in the network tariffs.

(208) The Belgian authorities indicate that the CRM is financed via para-fiscal charges or taxes assigned to a beneficiary. According to Article 12 (1) of the Electricity Act, the connection, use of infrastructure and electrical systems and, where appropriate, ancillary services of the system operator shall be subject to tariffs for the management of the transmission system and of networks with a transport function. Moreover, according to Article 12 (13) of the Electricity Act, the system operator shall, as soon as possible, communicate to the users of its network the tariffs which it has to apply and make them available to all persons who so request.

([80]) https://www.dekamer.be/kvvcr/showpage.cfm?section=/none&leftmenu=no&language=fr&cfm=/site/wwwcfm/flwb/flwbn.cfm?lang=F&legislat=55&dossierID=1220

(209) According to Article 12 (5) (11) of the Electricity Act, the net costs of public service tasks imposed by this law shall be taken into account in the tariffs in a transparent and non-discriminatory manner, in accordance with the applicable laws and regulations

(210) According to Article 4 (2) of the decree adopted by the CREG on 28 June 2018 on the basis of Article 12 of the Electricity Act ([81]), and which determine the network tariffs for the period 2020-2023, network tariffs are the prices due by network users to the network operator. According to Article 4 (7) of the same decree, the general tariff structure distinguishes transport tariffs, which cover the total revenue of the system operator, and tariffs for public service obligations. Article 6 of the decree provides that tariffs for public service obligations compensate for the net costs of public service obligations, including management costs and financial charges, imposed on the system operator and in respect of which the law, decree or order, or their implementing decrees, have not provided for a specific compensation mechanism, by means of an overload or other levy, in return for the performance of the system.

(211) On this basis, each year the TSO will submit a tariff proposal for the public service obligation to the CREG for approval, accompanied by a budget including a forecast of all costs (capacity remuneration, the TSO management and development costs) and incomes of the CRM for the following year. The proposed tariff for the public service obligation will also take into account the balance carried over from the previous financial year.

(212) At the end of the year, the TSO will submit a tariff report to the CREG for approval, setting out the actual costs and incomes for the past year and the income resulting from the application of the tariff. After checking the accuracy of the data and the reasonableness of the CRM management and development costs incurred by the TSO, the CREG will determine the balance to be carried forward.

(213) Any revenues linked to the CRM mechanism will be used to cover the costs included in the tariff for the public service obligation, without prejudice to Article 26(9) of the Electricity Regulation.

(214) The tariff is uniformly applied on a EUR/MWh basis to all consumers (directly to the consumer connected to the transmission network or indirectly, via the Distribution System Operator, and the suppliers, for the consumers connected to the distribution network).

(215) The specific CRM-financing modalities will be applied at the earliest 2022 in January 2025, as provided in Article 7 undecies 15 of the Electricity Act.

(216) According to the Parliament's resolution, from 2029 at the latest, the tariff will be levied on the basis of peak power depending on the deployment of smart meters in the regions. Therefore, by the end of 2023 at the latest, the Government will make an analysis of the expected deployment of smart meters.

2.13. **Duration**

(217) Belgium has requested an approval for the CRM for the maximum allowed time of 10 years ([82]) starting from the date of the first auction.

(218) Belgium has committed to introduce in the Electricity Act that, if no new capacity agreement has been concluded for 3 consecutive years in accordance with paragraph 11 of Article 7 undecies of the Electricity Act, no new auctions will be organised from the following year under the CRM.

([81]) https://www.creg.be/sites/default/files/assets/Publications/Decisions/Z1109-10FR.pdf
([82]) See Article 21(8) of the Electricity Regulation.

2.14. **Transparency of the aid and firms in difficulty or subject to an outstanding recovery order**

(219) Belgium submitted that it will comply with the requirements on the Transparency Communication ([83]).

(220) Belgium committed to suspend the award and/or payment of any aid under the notified aid scheme to any undertaking that has benefited from earlier unlawful aid declared incompatible by a Commission Decision.

(221) Belgium submitted that no aid will be granted to beneficiaries in difficulty ([84]).

2.15. **Grounds for initiating the procedure**

(222) The Commission had doubts as to the compatibility of certain aspects of the measure with the internal market.

(223) On the basis of the available information and the elements described in the Opening Decision, the Commission sought clarification and solicited comments on the following matters:

(a) necessity of the measure:

— whether the resource adequacy problem was sufficiently identified and was properly analysed and quantified by the Belgian authorities.

(b) appropriateness of the measure:

— whether the eligibility rules to access multi-year contracts ensure equal opportunities for all technologies, in particular for those having high investment costs and high de-rating factors.

(c) proportionality of the measure:

— whether the volume to be procured in the auction is proportionate to reach the objective of the security of supply.

(d) avoidance of negative effects on competition and trade:

— whether the measure avoided such effects since indirect foreign capacity will only be eligible for one-year contracts and subject to the intermediate price cap.

— whether the measure does not reduce incentives to invest in interconnection capacity.

(224) The Commission had also doubts as to the compliance of the measure with intrinsically linked provisions of Union law, namely Articles 22 and 24 of the Electricity Regulation.

3. **COMMENTS FROM INTERESTED PARTIES**

(225) This section summarises comments received by the Commission during the consultation period from 15 interested parties, in particular from stakeholders active in the energy sector as well as trade associations and non-governmental organisations. Comments were also received from one neighbouring country and its TSO.

3.1. **Necessity of the measure**

(226) Different stakeholders commented on the demonstration of the need for a CRM and the volume calculation for the auctions, sometimes combining both topics.

([83]) Communication from the Commission amending the Communications from the Commission on EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks, on Guidelines on regional State aid for 2014-20, on State aid for films and other audio-visual works, on Guidelines on State aid to promote risk finance investments and on Guidelines on State aid to airports and airlines (OJ C 198, 27.6.2014, p. 30).

([84]) As defined in the Guidelines on State aid for rescuing and restructuring non-financial undertakings in difficulty (OJ C 249, 31.7.2014, p. 1).

(227) Four interested parties disputed that this need has been sufficiently demonstrated. On the other hand, three others confirmed the need and underlined its urgency.

(228) Three interested parties stated that the use of the EU-HiLo scenario does not seem appropriate to determine the level of the resource adequacy problem, since it risks overestimating the problem and distorting the electricity market.

(229) Four interested parties pointed out that the recent ERAA methodology and the VOLL/CONE/RS methodology are fully applicable to the proposed Belgian CRM.

(230) Five interested parties argued that the previous adequacy studies used to demonstrate the need for the CRM are not compatible with the ERAA methodology, in particular:

(a) according to the ERAA methodology, the climate database is to be limited to 30 historical years whereas Belgium used 35;

(b) studies do not take sufficiently into account the expected results of the implementation plan and/or the use of expected market revenues instead of median revenues;

(c) studies do not take into account the expected scarcity function, nor the non-existence of price caps, which would be in breach of Articles 20(3)(c) and 23(5)(e) of the Electricity Regulation;

(d) an accelerated roll-out of smart meters and the development of offshore wind should be taken into account in the NRAA, as recommended in the opinion of the European Commission on the Belgian implementation plan. The analysis of the need for a CRM should also take into account the 70 % minRAM rule.

(231) One interested party claimed that Belgium cannot organise the first auction in 2021 on the basis of an outdated and non-compliant NRAA. In its opinion, the CRM should not even be implemented pending the release of the ERAA.

(232) Four interested parties pointed out that the reliability standard used by Belgium to demonstrate the need for a CRM and/or to calculate the volume for the first auction is not in line with the methodology required by the Electricity Regulation.

(233) One interested party claimed that consistency should be guaranteed in the procedures, methodologies, data and scenarios that, on the one hand, are used to demonstrate the need for a CRM and, on the other hand, are used to determine the required volume to be auctioned under such CRM.

(234) Another interested party pointed out that the reliability standard and methodology to define VOLL and CONE could change between the initial T-4 auction and subsequent auctions, leading to a different volume definition.

3.2. **Appropriateness of the measure**

3.2.1. *Choice of instrument*

(235) Three interested parties believe that a strategic reserve could better address the identified adequacy problem than a market-wide CRM. Some parties stated that the option of a strategic reserve has not been assessed.

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

(236) One interested party proposed to create a T-2 auction in order to avoid over-procurement in T-4 based on excessively safe assumptions, as well as to take into account a changed reliability standard based on the ACER methodology.

(237) One interested party also claimed that capacity holders eligible for participation (such as CHP with a capacity higher than 1 MW) are excluded from participation if, during a given period, they benefit from operating aid through green certificates (GSC) and/or CHP certificates (CHP).

3.3. **Incentive effect**

3.3.1. *Eligible investment costs*

(238) One interested party pointed out that the expenditure enabling the capacity to comply with environmental standards foreseen in Article 3 (2) (1) of the draft Royal Decree on investment thresholds should not be eligible for longer duration contracts.

3.4. **Proportionality**

3.4.1. *Volume to be procured*

(239) According to one interested party, the parameters determining the amount of capacity to be procured in the auction should be approved on the basis of a proposal from the regulator. The same interested party argued that a proposal from the regulator cannot be changed and that the Member State can only reject it and request a new proposal.

3.4.2. *Financing mechanism*

(240) One interested party claimed that storage assets should be exempted from the public service obligation to finance the CRM. The exemption should include both front-of-meter and behind-the-meter storage.

(241) Another party argued that the financing mechanism may influence the volume of capacity of the CRM. For example, linking the charges to finance the CRM 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.

3.5. **Avoidance of undue effects on competition and trade**

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

3.5.1.1. Aggregation

(242) Two interested parties claimed that current eligibility rules for multi-year contracts hamper aggregation, and more specifically the rule that the asset with the lowest contract duration in an aggregated portfolio determines the contract duration for the entire portfolio.

(243) Two other interested parties claimed that the threshold for individual aggregation should be adapted. Currently, the draft Rules on the Functioning of the CRM foresee that capacities subject to a daily schedule obligation cannot be part of an aggregated CMU.

(244) One interested party stated that participation via aggregation is impossible for installations with power above 25 MW. The interested party would therefore like this threshold to be set at 75 MW.

3.5.1.2. Investment thresholds

(245) Three interested parties argued that the level of the investment thresholds for multi-year contracts are not in line with recent market developments and therefore do not respect technology neutrality and will lead to discrimination between certain technology classes (H/HL class over F-class CCGT and OCGT) and between existing and new capacities.

(246) One party argued that investments that create flexibility or increase the de-rated capacity without increasing the installed capacity should also qualify as eligible costs. According to this interested party, investments in submitters, extension of the energy reservoir of an existing battery or in storage capacities for industrial processes would therefore be excluded from multi-year contracts.

3.5.1.3. De-rating factors

(247) Two interested parties claimed that, compared to capacity mechanisms in neighbouring countries, such as France or the United Kingdom, the Belgian de-rating factors risk heavily penalising technologies such as storage, demand response or renewables.

(248) One interested party argued that the de-rating factors contemplated by the Belgian CRM published in the opening decision create severe market entry barriers for storage in particular and energy-limited capacity providers in general.

3.5.1.4. Payback obligation

(249) Two interested parties claimed that the payback obligations in the capacity contracts discriminate between 'full schedule' and 'non-full schedule' Capacity Market Units and breach the 'single strike price' principle.

(250) According to one interested party, the mechanics of the 'payback obligation' discriminate against full-schedule capacity operators, as it fails to take into account these operators' hedging activities, whereby they sell a major part of their expected volume in advance on the forward markets, exposing them to a payback of revenues that they did not earn. In contrast, non-full schedule operators have considerable flexibility effectively to declare individual market prices which act as the strike price, limiting their risk of having to pay back unearned revenues and also providing possible opportunities to avoid the payback obligation.

(251) Another party argued that the payback obligation discriminates between full schedule and non-full schedule CMUs, firstly due to the absence of exemption from the pay-back obligation for capacity that has already been sold on forward markets (and not capturing scarcity prices) and secondly due to the introduction of the 'Declared Market Price' for CMUs that do not submit to full schedules, in practice introducing multiple strike prices.

3.5.1.5. Intermediate price cap

(252) One interested party expressed its concerns that the introduction of an intermediate price cap will distort competition in the auction, because some existing capacities requiring investments to remain economically profitable may not have the guarantee to recover their 'missing-money' and may be forced to exit the market.

(253) According to one interested party, there is a material 'investment gap' between the investment threshold for 3-year contracts, currently 177 EUR/kW, and the intermediate price cap, currently anticipated as being between 21-31 EUR/kW, which leads to discrimination against existing capacities requiring investments that may also have significant 'missing-money'.

3.5.1.6. Direct cross-border capacity

(254) Two interested parties stated that providing for the possibility of direct cross-border participation may have undue negative effects on competition and trade between Member States.

(255) According to these interested parties, direct cross-border participation may reduce incentives to invest in interconnection capacity. Furthermore, the measure may undermine market coupling, as the CRM could lead to a situation where capacity providers seek access to the most attractive market with a direct and exclusive connection. Also the measure should take into account to what extent interconnection could remedy any possible problem of generation adequacy.

3.6. **Compliance with the Electricity Regulation**

3.6.1. *Interpretation of Article 24(1)*

(256) According to Article 24 (1) of the Electricity Regulation, Member States can include sensitivities in their adequacy assessment, which are linked to 'particularities of national electricity demand and supply'. In the Opening Decision the Commission raised doubts as to whether the CRM is in line with Article 24(1), since the Belgian 2019 Adequacy and Flexibility study used the EU-HiLo scenario, based on assumptions about the French electricity supply. Five interested parties criticised the Commission's interpretation of Article 24(1) of the Electricity Regulation, stating that it is too restrictive.

(257) These interested parties argued that the methodology for ERAA confirms that NRAAs must have a regional scope and may include additional sensitivities. It does not specify or restrict the nature of these additional sensitivities. As mentioned in Article 3(6) of the said methodology, these sensitivities can cover a wide range of changes in assumptions over the whole geographical scope considered, including different assumptions relating to input data like installed capacities.

(258) One interested party observed that also the Guidelines on State aid for environmental protection and energy 2014-2020 ([85]) ('EEAG') specifically confirm that the resource adequacy assessment should take into account an '*assessment of the impact of variable generation, including that originating from neighbouring systems*'.

3.6.2. *Administrative phase-out*

(259) Two interested parties pointed out that there is no provision for the phase-out of the CRM in the legislative/regulatory acts.

3.7. **Other comments**

3.7.1. *Sustainability*

(260) Two interested parties claimed that the large share of capacity reserved for gas in the CRM is not compatible with the objectives to decarbonise the Union and phase out fossil fuel subsidies in line with the European Green Deal, the EEAG and the Belgian federal government's support for climate neutrality by 2050.

3.7.2. *Nuclear phase-out*

(261) One interested party pointed out that Belgium is considering keeping 2 GW of nuclear power if the assessment report on the first capacity auctions reveals an unexpected problem of security of supply. According to this party, this raises several issues about the need for and design of the CRM.

3.7.3. *Duration*

(262) One interested party pointed out that the manner in which long-term contracts are awarded should take into account the decreasing adequacy concern over the year and avoid any 'lock-in' effect.

(263) One interested party referred to the length of the contracts (15 years) potentially surpassing the duration of the measure (10 years), which would in its view be contrary to the temporary character of the measure.

4. **COMMENTS FROM BELGIUM**

(264) This section summarises the comments received from Belgium on 22 October 2020 on the Opening Decision and those received on 24 December 2020 on the third parties' observations. It also includes the updated information submitted by Belgium on 28 January 2021, 1 March 2021, 13 and 27 April 2021, 4, 5, 19, 26 May 2021 and 17 August 2021.

([85]) OJ C 200, 28.6.2014, p. 1, as corrected by the corrigendum adopted by the Commission in OJ C 290, 10.8.2016, p. 11. On 2 July 2020, the Commission adopted a communication prolonging the EEAG until 31 December 2021 and amending them. See Communication C(2020) 4355 final.

4.1. **Necessity of the measure**

(265) According to Belgium, its analysis, supported by the view of the TSO, demonstrates that, due to the phase-out of nuclear capacities between 2022 and 2025, which currently account for more than half of the thermal generation capacity in Belgium, the absence of the CRM would adversely affect Belgium's security of electricity supply. Several other studies performed in the course of 2017 to 2020 by academics, technology institutes and the Federal Planning Bureau also confirm this need, independently from the TSO analysis.

(266) Belgium indicated that not only the HiLo scenario, but also the EU base case showed a significant issue with security of supply, i.e. a LOLE more than three times higher than its legal LOLE criterion, and warrants the need for an intervention by means of a CRM.

(267) Belgium pointed out that the methodology on which an ERAA/NRAA should be based was only approved by ACER on 2 October 2020. The ACER methodology includes significant changes, and therefore foresees a gradual implementation, i.e. the first ERAA, which will be published at the end of 2021, will only include certain aspects of the ACER methodology. ENTSO-E foresees that full implementation of the ERAA methodology will take place by 2023.

(268) Belgium submitted that it could not have been expected to fully apply the ACER methodology for the ERAA and NRAA in earlier studies, as the methodology was not yet known at the time. Nevertheless, Belgium pointed out that many important elements stemming from the methodology were already implemented prior to its approval, e.g. economic viability assessment, flow-based modelling, probabilistic modelling and evolutions in other countries.

(269) Belgium contested the claim that the CRM should not be implemented pending the release of the ERAA. According to Belgium, Member States may also carry out complementary national assessments and assess the need for a CRM on the basis of such NRAA, and cannot await the full implementation of an ERAA (foreseen in 2023).

(270) As regards the reliability standard, Belgium pointed out that the methodology for the calculation of VOLL and CONE and the methodology for the determination of the reliability standard, were only published by ACER on 2 October 2020. It is therefore time-wise not possible to pause the CRM while a new reliability standard is being defined. In addition, the final responsibility to set the desired level of security of supply lies with the Member State.

(271) As regards the climate years used in the national adequacy studies, Belgium explained that these studies, in absence of a published methodology, use the same climate database as used in the MAF as a matter of coherence.

(272) Regarding market revenues, Belgium submitted that, in the existing national adequacy studies until 2019, the expected revenues are modelled using the median of the revenues of all simulated years. This approach, albeit simplified, can be seen as a reflection of expected revenues, accounting for price risks, which is recognized in the ACER methodology as a relevant element.

(273) As for the price caps and the entire market modelling in general, Belgium explained that the set-up used in the national adequacy studies is identical to the one used at European level (ENTSO-E, PLEF). It is considered the best possible available approach, reflecting the European market design, including the prevailing technical bidding caps foreseen by the NEMOs.

(274) As for the scarcity pricing function, as pointed out in the updated Belgian implementation plan, Belgium is considering to what extent such initiative could be foreseen. Belgium explained that the NRA and the TSO are undertaking a study in this respect.

(275) Belgium noted that the 2019 Adequacy and Flexibility study already used the best available projections of the roll-out of flexibility and of offshore wind, in accordance with the National Energy and Climate Plan, and applied the 70 % minRAM rule. In the base case scenario, this rule is considered to be met by all European countries on time.

(276) As regards the adequacy concern, Belgium submitted that, while it is correct that the studies indicate a fluctuation in the specifically calculated need for capacity, this does not lessen the fact that the need for capacity in 2025 requires an intervention that is directed towards new capacity as well.

(277) The most recent Adequacy and Flexibility Study shows an increasing capacity need between 2025 and 2032.

4.2. **Appropriateness of the measure**

4.2.1. *Choice of instrument*

(278) Belgium does not share the view of some interested parties that a strategic reserve would be preferable to a market-wide CRM.

(279) Belgium referred to the 2019 Adequacy and Flexibility Study, investigating a scenario EOM + strategic reserve and a scenario EOM + CRM. This study concluded that in the scenario EOM + strategic reserve, the security of supply criterion would not be met.

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

(280) As regards the T-2 auction, Belgium explained that, as is the case in other Member States with a CRM, a T-4 and a T-1 auction allows for all technologies, with a longer or shorter lead time, to participate in the mechanism, and allows the Member State to have relative assurance that enough volume can be procured to ensure security of supply in the delivery year. Splitting the volumes between a T-1 and T-2 auction risks to overly diminish competition in these auctions.

(281) As regards the use of the installed capacity to calculate the investment threshold, Belgium submitted that awarding multi-year contracts to CMUs that contribute more to security of supply is in line with the common objective of the CRM.

(282) According to Belgium, if, instead of the installed capacity, the de-rated capacity offered by the CMU were to be taken into account to calculate the investment threshold, capacities with a high de-rating factor would reach the investment threshold for multi-year contracts more easily. This would result in giving them an advantage compared to others while delivering the same service.

(283) With regard to the ineligibility of capacity providers that benefit from other support measures to participate in the CRM, Belgium pointed out that allowing cogeneration capacities to benefit from both mechanisms would create a risk of overcompensating these capacities, which would also create an unfair competitive advantage in the CRM auctions.

4.3. **Incentive effect**

4.3.1. *Eligible investment costs*

(284) With reference to the observation that expenditure enabling the capacity to comply with environmental standards should not be eligible for longer duration contracts, Belgium clarified that this proposal is directed at ensuring equal treatment between new and existing capacities with respect to the classification of capacities in longer duration contracts.

4.4. **Proportionality of the measure**

4.4.1. *Volume to be procured*

(285) According to Belgium, the choice regarding the CRM volume calibration (reference scenario) for the first auction was made based on the advice from the FPS Economy. This advice considers a reduced French nuclear availability that is less severe than the one recommended by the TSO (and less severe than the dimensioning scenario that has been used in past years to determine the size of the Belgian strategic reserve).

(286) Belgium argued that its high interconnection rate and import dependency constitute a particularity of national electricity supply. It further submitted that inclusion of an unavailability of the French nuclear capacity is the only sensitivity taken into consideration, even though Belgium sees various other risks in the neighbouring countries (e. g. accelerated coal phase-out, delays in commissioning of grid infrastructure or new capacity).

(287) Belgium indicated that Article 4 of the draft Royal Decree concerning the methodology to define the reference scenario for each auction governs the selection of the reference scenario. For each auction, the reference scenario is built based on the three steps described below and submitted to public consultation:

(a) Selection of scenarios/sensitivities from the latest ERAA and/or NRAA.

— For the first (2021) auction, the scenario from MAF 2019 was selected (the latest available European study which was subject to consultation at European level).

(b) Update of data and assumptions from the most relevant available sources.

— For the first (2021) auction, the updates from PLEF 2020 GAA ([86]) were included.

(c) Selection of additional sensitivities that can impact Belgian security of supply

— For the first (2021) auction, the equivalent of two nuclear units in France were removed, based on what was done in the PLEF study to align with the historical/expected observations of the nuclear fleet in France, which are not included in points (a) and (b) above but which are used by the French TSO in the French NRAA ('Bilan Prévisionnel 2019' ([87])).

(288) Belgium indicated that in PLEF 2020 GAA, a 'low nuclear sensitivity' is presented to mimic the base scenario taken by the French TSO for its adequacy assessments. This sensitivity considers 1 700 MW of nuclear capacities as additional unavailability.

(289) Belgium submitted that the sensitivity selected for the CRM corresponds to the data and assumptions from the French NRAA base case. It should therefore equally be assumed as the most appropriate base case for Belgium, as this update is in line with the data and assumptions from the most relevant available sources. It is therefore not to be qualified as a 'HiLo-case' but as a plausible base scenario.

(290) With respect to the claim that that the parameters determining the amount of capacity procured in the auction should be approved on the basis of a proposal from the regulator, Belgium submitted that a modification of the CRM Law has been prepared affirming this. Awaiting the formal approval of this modification, the Electricity Regulation is already respected, i.e. the regulator has published its proposal for the methodology to determine the volume parameters in March 2020 and the regulator will draft a proposal by February 2021 for the demand curve of the first auction.

(291) The Amended CRM Law was published on 19 March 2021. The Royal Decree with the methodology to establish the volume parameters was published on 30 April 2021. The CREG made a proposal of volume parameters on 30 April 2021. A Ministerial Decree with the instructions for the T-4 auction for the delivery year 2025 has been issued on 30 April 2021.

(292) Belgium submitted that the reasoning that a Member State would not be able to deviate from a proposal from the regulator is a statement for which no legal basis can be found in the Electricity Regulation and which would be a contradiction of the Member State's responsibility for security of supply.

4.4.2. *Financing mechanism*

(293) Belgium explained that for the moment there are not sufficient smart meters installed in Belgium to allow for a financing mechanism based on peak load consumption. The CRM law has been modified so that such a model could be introduced in 2025. Belgium further explained that it will reconsider this in 2023 when a report on the roll-out of smart meters will be issued.

([86]) https://www.elia.be/en/news/press-releases/2020/05/20200520_third-regional-generation-adequacy-assessment-report
([87]) https://assets.rte-france.com/prod/public/2020-06/bp2019_synthegse_12_1_0.pdf

(294) Regarding the claim that storage assets should be exempted from the public service obligation to finance the CRM, Belgium explained that this concerns a broader issue of tariffs and levies applied to electricity storage. In that regard, Belgium confirmed that it would apply the guidelines and regulations as foreseen in the Clean Energy Package (e.g. Directive (EU) 2019/944 of the European Parliament) and the exemptions as foreseen in the Energy Taxation Directive (Council Directive 2003/96/EC of 27 October 2003).

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

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

4.5.1.1. Aggregation

(295) Regarding the claim that the current eligibility rules for multi-year contracts hamper aggregation, and more specifically the rule that the asset with the lowest contract duration in an aggregated portfolio determines the contract duration for the entire portfolio, Belgium submitted that the draft Royal Decree and functioning rules will be modified to allow capacities with a longer contract duration that wish to aggregate to choose a longer duration contract.

(296) This was adapted in the Royal Decree setting the investment thresholds, the eligibility criteria for investment costs and the ranking procedure, and in the Rules on the Functioning of the CRM.

(297) As regards the prohibition for capacities that are subject to a daily schedule obligation to aggregate, Belgium stated that it does not seem appropriate at this point to change this design element, however it will request a regular update on this prohibition in the assessments of the CRM, to allow changes if and where appropriate. According to Belgium, units falling into this category have always been and are expected to continue to be subject to special coordination procedures. These procedures include a MW-precise daily scheduling obligation, strict coordination in the outage planning and obligations to put the capacity at disposal for e.g. balancing. This method ensures a well-coordinated real-time operation of the grid. An individual view on such units allows a proper forecasting of the flows and makes it possible to deal with specific constraints as efficiently as possible, whereas in an aggregated pool this view would be 'blurred', making grid operation less straightforward and less efficient.

(298) In addition, the CRM design has been calibrated for capacities falling either in one category or the other, and the availability monitoring is aligned with their context in the energy market. Deviating from this existing distinction could lead to a more complex and potentially less robust design on multiple aspects. For example, it is difficult to envisage how the payback obligation for such a CMU would apply, since the two parts of the aggregated CMU could fall under different regimes.

4.5.1.2. Investment thresholds

(299) Regarding the investment thresholds determining the access to longer term contracts, Belgium stated that it will analyse the various elements more carefully and will communicate its preferred way forward to the European Commission.

(300) On 11 June 2021, Belgium published a Royal Decree that takes into account the remarks made by interested parties regarding the investment thresholds.

(301) As regards the claim that investments which create flexibility or increase the de-rated capacity without increasing the installed capacity should also qualify as eligible costs, Belgium stated that, as the CRM is a capacity market and not an energy market, Belgium departs from the assumption that only investments that maintain or expand the capacity are eligible. By way of example: (i) for demand response, investments that allow an increase in the installed capacity (being the difference between the maximum consumption (max offtake) and the minimal offtake (unsheddable margin) are eligible to obtain a longer-duration contract, and (ii) for thermal units, the investments intended to increase the reliability and hence the de-rating are not eligible, in the same way as they are not in the case of demand response.

(302) Belgium pointed out that, although these costs are not eligible to obtain a longer-duration contract, they may be integrated in the bid price of the capacity.

4.5.1.3. De-rating factors

(303) With regard to de-rating factors, Belgium stated that the explanation for the, at first sight, 'lower' de-rating factors is to be found in the fact that de-ratings of energy-limited technologies are lower when their proportion in the system/country increases. Indeed, with large shares of such technologies, their contribution is not limited to scarcity moments. Belgium has the highest share of energy-limited resources as compared to other countries with a CRM, and this will further increase according to the CRM reference scenario (30 % in 2025, compared to less than 10 % in France, the United Kingdom or Ireland). This trend, i.e. the higher the share of energy-limited resources, the lower the de-rating factor, is also confirmed in other countries/zones, such as Ireland or the United Kingdom.

(304) Belgium further explained that an opinion from the regulator is expected on the proposed de-rating factors and that the TSO organised a specific Task Force meeting on this topic for all interested parties in early January 2021.

(305) In the Ministerial decision giving the instructions for the Y-4 auction for the delivery year 2025, published on 30 April 2021, an updated set of de-rating factors was included, which provided higher de-rating factors for energy limited capacities, taking into account their maximum delivery duration.

4.5.1.4. Pay-back obligation

(306) With respect to the pay-back obligation, Belgium explained that the design of the strike price has been the subject of many discussions in the Task Force on the CRM. The resulting solution aims to strike a balance between two considerations:

(a) on the one hand, the payback obligation is a fundamental characteristic of the Belgian CRM, based on reliability options, and there should be a realistic chance of being exposed to the strike price in the event of peak prices, in order to avoid windfall profits;

(b) on the other hand, capacities should not be excluded from the CRM in case they only activate at a market price higher than the strike price level.

4.5.1.5. Intermediate price cap for national capacity

(307) With regard to the intermediate price cap, Belgium submitted that it is investigating the possibility of the introduction of a derogation mechanism.

(308) The Royal Decree published on 30 April 2021 provides in a derogation procedure and mechanism for parties who can demonstrate to have higher 'missing-money' than can be recovered thanks to the intermediate price cap.

4.5.2. *Congestion revenues*

(309) According to Belgium, the distribution and use of the rents resulting from the allocation of cross-border tickets to the CRM entirely follow the rules set out by the Electricity Regulation, in particular Article 26(9).

(310) Belgium stated that the NRA(s) takes decisions as regards the distribution of the revenues between the TSOs. The use of congestion revenues by the Belgian TSO is governed by the tariff methodology that provides that the total income covers the costs necessary for the continuation of the regulated activities.

(311) Belgium indicated that, when revenues are shared with neighbouring TSOs, the Electricity Regulation governs the use of these revenues.

(312) Belgium also confirmed that it will comply with ACER decision No 36/2020, which among others, sets out the methodology for sharing the revenues arising through the allocation of entry capacity.

4.5.3. *Intermediate price cap for foreign capacity*

(313) Belgium indicated that the limitation towards one-year contracts for foreign indirect capacity seems justified, as it cannot be guaranteed that there will remain sufficient cross-border tickets for a specific border over the span of a multi-year contract.

(314) Belgium indicates that if the general application of the intermediate price cap to foreign indirect capacities results in participants being discouraged to participate, changes to the notified design may be considered (such as foreseeing a mechanism of granting derogations).

(315) The derogation mechanism mentioned in recital (308), also applies to foreign indirect capacities.

4.5.4. *Direct cross-border capacity*

(316) Belgium submitted that a modification to the CRM Law was drafted which foresees that a pre-condition for the participation of direct foreign capacity is the conclusion of an agreement between Belgium and the Member State on whose territory the capacity is situated. This agreement should, on the one hand, assure Belgium that technical, organisational and financial conditions will be respected by the capacity holder, and on the other, assure the host Member State that this participation will not cause problems for its security of supply or congestion management.

(317) The CRM Law, incorporating this modification, was published on 19 March 2021.

4.6. **Compliance with the Electricity Regulation**

4.6.1. *Interpretation of Article 24(1)*

(318) Belgium stated that the available resource adequacy studies include sensitivities on foreign capacities. Belgium believes such inclusion to be fully in line with the Electricity Regulation, as a high import dependency should precisely be considered as a 'particularity of national electricity demand and supply', as mentioned in Article 24(1) of the Electricity Regulation. This is supported by the required regional scope of the NRAA.

4.6.2. *Administrative phase-out*

(319) With regard to the administrative phase-out clause, Belgium argued that, taking into account the design of the CRM, the contracts can and should tend to a zero remuneration.

(320) As stated in recital (218), Belgium has committed to introduce in the Electricity Act a provision stating that if no new capacity agreement has been concluded for 3 consecutive years in accordance with paragraph 11 of Article 7 undecies of the Electricity Act, no new auctions will be organised from the following year onwards under the CRM.

4.7. **Other comments**

4.7.1. *Sustainability*

(321) Belgium explained that the CRM is designed to be technologically neutral and does not reserve any capacity for gas-fired units. Furthermore, many design choices have been made to ensure a level playing field and to actively promote the participation of innovative technologies, such as demand-side management and other forms of flexibility. For example, the design foresees the reservation of a substantial amount of capacity for the T-1 auction, which will better allow technologies with shorter lead times, such as demand-side management or batteries, to participate in the auction. The volume is estimated at more than 1,5 GW 100 % available which is more than 3 or 4 GW after de-rating factors are applied. Compared to other European countries, this share reserved for the T-1 auction is significantly higher, i.e. for delivery year 2018/19, the United Kingdom has set aside 2,5 GW for the T-1 auction, compared to 48,6 GW in the T-4 auction. In the Irish capacity mechanism, it is foreseen that 2 % to 5 % of the capacity requirement is reserved for the Y-1 auction.

(322) As stated in recital (109), the new installations fired with fossil fuels, which will be eligible 15-year contracts, will be bound by the objectives established by the European Union and/or Belgium to reduce greenhouse gas emissions to achieve climate neutrality by 2050.

(323) In addition, Belgium submitted that it has developed an attractive climate for the development of so-called energy-limited technologies (e.g. via the possibility to participate in the ancillary service markets or facilitated through a transfer of energy mechanism). This has led to high shares of demand-side management, a trend which will increase even further as additional storage and demand response is foreseen to be added in the system towards 2025.

(324) Lastly, Belgium currently has an electricity interconnectivity level of about 24 %, with an expectation to rise towards 33 % by 2030.

4.7.2. *Nuclear phase-out*

(325) Belgium submitted that the notification remains based on the full nuclear phase-out. It further explained that that any proposal for adjustments, following an evaluation by the end of November 2021, will be notified.

4.7.3. *Duration*

(326) Belgium argued that the primary reason why long-term contracts have been introduced is thus to create a level playing field between existing, refurbished and new capacities. The concern to ensure such a level playing field is as much valid in the first auction as in subsequent ones.

(327) Regarding the length of the contracts (15 years) and the temporary character of the measure (10 years), Belgium noted that a distinction must be made between the contract length on the one hand and the approved organisation of auctions on the other.

5. **ASSESSMENT OF THE MEASURE**

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

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

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

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

(331) Article 107(2) and (3) TFEU list specific circumstances in which aid is or may nonetheless be considered compatible with the internal market. The Commission's assessment of whether any of those circumstances apply in this case is set out in section 5.3.

5.1.1. *Imputability to the State and financing through State resources*

(332) For measures to be qualified as State aid within the meaning of Article 107(1) TFEU, (a) they have to be imputable to the State and (b) they have to involve State resources. The latter condition means that the aid must be granted directly by the State or by a public or private body designated or established by the State ([88]). As explained in section 2.2, the CRM was put in place by the federal law, adopted on 22 April 2019 modifying the federal Electricity Act of 29 April 1999 on the organisation of the Belgian electricity market (primary legislation). Several implementing provisions for

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

this capacity mechanism are foreseen via secondary legislation such as Royal Decrees, Ministerial Decrees and regulatory approved Market Rules and contracts. All this secondary legislation has its legal basis in the above mentioned Federal Electricity Act. Consequently, the measure is imputable to the Belgian State.

(333) In the Opening decision, the Commission expressed its preliminary view that the CRM is financed from State resources. Belgium did not contest that view.

(334) With the financing mechanism described in section 2.12.2, the Belgian State creates a system where the costs incurred by the TSO due to the CRM are fully compensated through the network tariffs, which present the characteristics of a para-fiscal levy. Indeed, the State establishes by law a surcharge on electricity consumption through the network tariffs (see recitals (208) and (209)). On the one hand, the Electricity act provides that the TSO is obliged to collect these tariffs directly from network users (see recital (208)). On the other hand, network users on which the tariffs are levied have to pay it (see recital (210)). In addition, as highlighted in recital (208), the compulsory network tariffs originate from the State in the sense that the State did not limit itself to rendering compulsory for a group of private persons a contribution that was introduced and administered by an association of such private person as in the *Pearle* ([89]) and *Doux Élevage* ([90]) case-law. Consequently, in line with the Court of Justice's judgment in the case *Germany v European Commission*, the network tariffs qualify as a levy imposed by law ([91]).

(335) Consequently, the Commission takes the view that the CRM is financed from State resources since it is financed from the proceeds of a para-fiscal levy imposed by the State and which are managed and apportioned in accordance with the provisions of the legislation. Indeed, if national law requires a charge to be passed on a given group of persons, the charge is compulsory and thus the funds raised are State resources ([92]).

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

(336) 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 ([93]).

(337) The successful bidders in the CRM auctions receive remuneration through the CRM, which they would not receive if they continued to operate in the electricity market under normal economic conditions selling electricity and ancillary services only. The measure therefore confers an economic advantage on undertakings, which have been successful in the CRM auctions. This advantage is selective in that it favours only certain undertakings, namely the successful bidders in the CRM auctions, that are in a comparable factual and legal situation to other capacity providers that either could not, or did not participate in the CRM auctions, or did participate but were not successful.

(338) Moreover, the measure confers a selective advantage only on certain undertakings able to help tackle the identified adequacy problem because capacities smaller than 1 MW (see recital (69)) are excluded from participating directly in the CRM (i.e. without aggregation, see recital (72)), even though they can also help reduce the identified adequacy problem. For the future, the existence of a minimum threshold to participate in the CRM, even if reduced (recital (70)), will continue to exclude some capacities from a direct participation (i.e. without aggregation) in the CRM. Furthermore, foreign capacities located in non-neighbouring Member States will be excluded from the CRM (see recital (199)). Consequently, also from this perspective, the measure confers a selective advantage.

([89]) Case C-345/02, Pearle and Others [2004] ECLI:EU:C:2004:448.
([90]) Case C-677/11, Doux Élevage and Coopérative agricole UKL-ARREE [2013] ECLI:EU:C:2013:348.
([91]) Case C-405/16 P, Federal Republic of Germany v European Commission [2019] ECLI:EU:C:2019:268, paragraph 68.
([92]) See case C-405/16 P, Federal Republic of Germany v European Commission [2019] ECLI:EU:C:2019:268, paragraphs 68 and 72; case C-706/17 Achema and Others [2019] ECLI:EU:C:2019:407, paragraph 57 and case T-217/17 FVE Holýšov I and Others v Commission [2019] ECLI:EU:T:2019:633, paragraph 111.
([93]) Judgment of the Court of Justice of 11 July 1996, SFEI and Others, C-39/94, ECLI:EU:C:1996:285, paragraph 60; Judgment of the Court of Justice of 29 April 1999, Spain v Commission, C-342/96, ECLI:EU:C:1999:210, paragraph 41.

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

(339) 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 Union ([94]). Therefore, any advantage from state resources to any undertaking in that sector has the potential to affect intra Union trade and to distort competition.

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

(340) The measure therefore constitutes State aid within the meaning of Article 107(1) TFEU.

5.2. **Lawfulness of aid**

(341) By notifying the measure before its implementation, the Belgian authorities have fulfilled their obligation according to Article 108(3) TFEU.

5.3. **Compatibility of the measure with the internal market**

(342) The Commission has assessed the notified measure on the basis of Article 107(3)(c) TFEU and the EEAG. In particular, it has assessed the measure under section 3.9 of the EEAG ([95]), which set specific conditions for aid to generation adequacy.

(343) Article 107(3)(c) TFEU provides that the Commission may declare compatible 'aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest'. Therefore, compatible aid under that provision of the Treaty must contribute to the development of certain economic activity. Furthermore, the aid should not distort competition in a way contrary to the common interest.

5.3.1. *Contribution to the development of an economic activity*

(344) Under Article 107(3)(c) TFEU, the measure must contribute to the development of certain economic activity ([96]).

(345) The notified measure supports the development of economic activity in the electricity sector by directly stimulating sufficient investments in new and existing generation, storage and demand response capacity to ensure security of electricity supply. As a secondary effect, the security of electricity supply supported by the measure can be expected to stimulate economic activity more generally, since a secure electricity supply provides benefits to various economic activities that rely on electricity as an input.

(346) The notified scheme contributes to the development of an economic activity, as required by Article 107(3)(c) TFEU.

5.3.2. *Facilitation of an economic activity and incentive effect*

(347) An aid has an incentive effect if it incentivises the beneficiary to change its behaviour towards the development of a certain economic activity pursued by the aid and if the change in behaviour would not occur without the aid ([97]). More specific guidance as to the interpretation of this criterion is set out in point 227, read in conjunction with section 3.2.4 of the EEAG.

([94]) See the Electricity Regulation and Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125).

([95]) In point (16) of the EEAG, the following sentence was added in Communication C(2020) 4355 final: 'These Guidelines shall, however, apply to undertakings which were not in difficulty on 31 December 2019 but became undertakings in difficulty in the period from 1 January 2020 to 30 June 2021.'

([96]) Judgment of 22 September 2020, *Austria v Commission*, C-594/18 P, EU:C:2020:742, paragraphs 20 and 24.

([97]) See in that sense points 49 and 144 of the EEAG.

(348) Belgium provided a generation adequacy assessment showing that, in a counterfactual scenario without the measure, generation adequacy would have reached critical levels in 2025, as shown in recital (49). In other words, without the measure, the capacity providers would not have made the necessary capacity available to meet the reliability standard set by Belgium to deliver energy at times of stress. As explained in recital (227), some interested parties confirmed the need for the CRM and underlined its urgency.

(349) According to the 2021 Adequacy and Flexibility study, only a very small share of the additional capacity will be viable via the energy-only market by 2025 (recital (50)).

(350) The measure therefore has an incentive effect for new capacities to enter the market. The measure incentivises new and existing market players to contribute to the objective of security of supply.

(351) In addition, in accordance with point 52 of the EEAG, the aid is awarded on the basis of a competitive bidding process. The auction process described in section 2.5 is non-discriminatory and open to all types of capacity.

(352) Moreover, the payback obligation described in section 2.7.3 creates a financial incentive to be available at times of scarcity. Moreover, Belgium has introduced monitoring procedures for availability before and during the delivery period (see sections 2.8.1 and 2.8.2) and appropriate testing and penalties (described in sections 2.8.3 and 2.8.4) to ensure compliance with the availability obligation.

(353) Lastly, the Commission agrees with the comments received from an interested party pointing out that the investments required to enable the capacity to comply with environmental standards that have already been adopted should not be eligible for longer duration contracts in line with point 53 of the EEAG (see recital (238)).

(354) Therefore, the Commission welcomes the amendment to the Royal Decree setting the investment thresholds, the eligibility criteria for investment costs and the ranking procedure. The amended Royal Decree states that only costs to adapt to future Union standards will be eligible under the CRM (see recital (142)).

(355) The Commission considers that the measure has an incentive effect that changes the behaviour of its beneficiaries towards the development of a certain economic activity pursued by the aid.

5.3.3. *Compliance with other provisions of Union law*

(356) State aid which contravenes provisions or general principles of Union law cannot be declared compatible ([98]).

(357) If a State aid measure (including its method of financing, if hypothecated to that aid) entails aspects which are indissolubly linked to the object of the aid and which breach other provisions of Union law, such a breach could affect the assessment of compatibility of that State aid ([99]). In the present case, this issue could arise with respect to Articles 30 and 110 TFEU, as well as certain provisions of the Electricity Regulation. The Commission therefore needs to verify whether that Union law might be breached by aspects of the CRM and, in the affirmative, whether such aspects are indissolubly linked to the object of the aid under the CRM.

5.3.3.1. Compliance with Articles 30 and 110 of the Treaty

(358) In the Opening Decision, the Commission expressed the preliminary view that the financing mechanism of the notified aid measures does not introduce any restrictions that would infringe Article 30 or Article 110 TFEU. The Commission did not receive any comments contesting that view.

([98]) Judgment of 22 September 2020, *Austria v Commission*, C-594/18 P, EU:C:2020:742, paragraph 44.

([99]) See recital (25) of the Commission Decision in State aid case SA.40029 (2014/N) 'Reintroduction of the winding-up scheme, compensation scheme, Model I and Model II – H1 2015' (OJ C 136, 24.4.2015, p. 4). See recital (29) of Commission Decision in State aid SA.42215 (2015/N) 'Prolongation of the Greek financial support measures (Article 2 law 3723/2008)' (OJ C 277, 21.8.2015, p. 11).

(359) 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.

(360) As explained in recital (334), the Belgian State creates a system where the costs incurred by the TSO due to the CRM are fully compensated by the network tariffs, which present the characteristics of a para-fiscal levy. As explained in recital (214), the tariff is uniformly applied on a EUR/MWh basis to all consumers. The Commission therefore considers that these tariffs are very similar to a tax on the electricity consumed.

(361) With regard to Articles 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 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 ([100]).

(362) As explained in section 2.10, in line with the Electricity Regulation, Belgium will allow foreign capacity located in a Member State that has a direct network connection with Belgium to participate in the CRM from the first delivery, i. e. 2025.

(363) Given the openness of the measure to cross-border capacity, the Commission concludes that the financing mechanism of the notified aid measures does not introduce any restrictions that infringe Article 30 or Article 110 TFEU.

5.3.3.2. Compliance with the Electricity Regulation

Compliance with Article 20 the Electricity Regulation

(364) According to Article 20(1) of the Electricity Regulation, Member States shall monitor resource adequacy within their territory on the basis of the ERAA referred to in Article 23. For the purpose of complementing the ERAA, Member States may also carry out a NRAA pursuant to Article 24.

(365) The Commission notes that ENTSO-E has not yet complied with its obligation under Article 23 of the Electricity Regulation to deliver an ERAA. Accordingly, the resource adequacy concern in Belgium has been identified solely on the basis of the NRAA. The comparison between the NRAA and the ERAA pursuant to Article 24(3) of the Electricity Regulation, which aims at identifying possible divergences between both assessments, could not be carried out. As provided in Article 24(1) of the Electricity Regulation, also the NRAA should be based on the methodology agreed upon for the ERAA, referred in Article 23 of the Electricity Regulation.

(366) On 25 June 2021, Elia published a new resource adequacy study which is based on the ERAA methodology. The 2021 Adequacy and Flexibility study identifies a resource adequacy concern for Belgium from 2025 onwards.

(367) Before introducing capacity mechanisms, Member States are required to identify any regulatory distortions or market failures that have caused or contributed to the resource adequacy concern. Member States are required to adopt measures to eliminate the identified distortions, and to publish a timeline for their implementation (Article 20(2) of the Electricity Regulation).

(368) As described in section 2.3.4, Belgium developed and published an implementation plan setting out measures to eliminate regulatory distortions or market failures on the Belgian electricity market.

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

(369) Based on the implementation plan, the Belgian authorities have committed to several market reforms, notably with a view to strengthening balancing markets (see recital (62)), facilitating demand-side response (see recital (64)) and increasing interconnection capacity (see recital (65)).

(370) Belgium also committed to publish the plan and to monitor its application, publish the results of the monitoring in an annual report and submit it to the European Commission. Lastly, Belgium committed to adhere to the implementation plan even after the identified resource adequacy concern has been resolved.

(371) Following a public consultation, the Commission adopted on 30 April 2020 an opinion on Belgium's implementation plan, pursuant to Article 20(5) of the Electricity Regulation ([101]). In its opinion, the Commission found that Belgium should further improve the working of its balancing markets by amending its scarcity pricing scheme by considering applying the scarcity pricing function also to balancing service providers (BSPs) as mentioned in recital (62), but also recognised that several improvements have been recently implemented or are planned to be implemented. As mentioned in recital (62), Belgium introduced a so-called alpha component in its imbalance pricing mechanism, implemented imbalance netting and is preparing for joining the Union balancing platform for aFRR and mFRR. Regarding demand-side response, the Commission found in its opinion that Belgium should continue the rollout of smart meters with the necessary functionalities to facilitate the uptake of price-based demand response. As mentioned in recital (64), Belgium committed to a further roll-out of smart meters in the future. These measures are sufficient to eliminate the regulatory distortions or market failures that were identified in Belgium's implementation plan, in line with Article 20(5) of the Electricity Regulation.

(372) The measure complies with Article 20 of the Electricity Regulation.

Compliance with Article 21 the Electricity Regulation

(373) According to Article 21(1) of the Electricity Regulation, to eliminate residual resource adequacy concerns, Member States may introduce a capacity mechanism, only as a last resort, notably subject to the conditions in Article 21(2) to (8).

(374) In accordance with Article 21(2) of the Electricity Regulation, between October and December 2019, Belgium conducted a study on the effects of its mechanism on neighbouring Member States by consulting its neighbouring Member States.

(375) According to Article 20(3) of the Electricity Regulation, Member States shall assess whether a capacity mechanism in the form of a strategic reserve is capable of addressing the resource adequacy concerns.

(376) As mentioned in recital (60), Belgium currently has a strategic reserve which will be in place until 31 March 2022. The objective of the strategic reserve is to meet peak demand during winter periods when the market fails to do so, by maintaining some existing generation and demand-response capacity out-of-market as a back-up, for activation only when the balancing resources are exhausted.

(377) As explained in the Final Report of the Sector Inquiry on Capacity Mechanisms ([102]), where long-term adequacy concerns are identified, the most appropriate capacity mechanism to address the problem is likely to be a volume-based, market-wide scheme. As explained further in the same report, a strategic reserve would not solve the investment problem identified for new plants. In contrast, market-wide capacity mechanisms can be more effective in encouraging investment to address longer-term adequacy concerns.

(378) Given that the 2021 Adequacy and Flexibility study identified a structural need for new capacity (see recitals (49) and (50)), the Commission considers that a capacity mechanism in the form of a strategic reserve would not be capable of addressing the resource adequacy concern identified in Belgium from 2025 onwards.

([101]) Commission opinion C(2020) 2654 final: https://ec.europa.eu/energy/topics/markets-and-consumers/capacity-mechanisms_en.
([102]) Final Report of the Sector Inquiry on Capacity Mechanisms, SWD(2016) 385 final.

(379) According to Article 20(3) of the Electricity Regulation, Member States shall not introduce capacity mechanisms before the implementation plan referred to in Article 20(3) of the Regulation has received an opinion by the Commission as referred to in Article 20(5).

(380) As described in recital (371), the Commission adopted an opinion on Belgium's implementation plan on 30 April 2020. Belgium has started preparatory steps for the first auction Y-4 but it not yet introduced the CRM.

(381) In accordance with Article 21(7) of the Electricity Regulation, which requires the provision for an effective phase-out of the capacity mechanism where no new contracts are concluded during 3 consecutive years, Belgium introduced a clause stating that no new auctions will be organised under the CRM, if no new capacity agreement has been concluded during 3 consecutive years in accordance with paragraph 11 of Article 7 undecies of the Electricity Act (see recital (218)).

(382) As described in recital (217), Belgium seeks State aid clearance for a period of 10 years, i.e. for the maximum period prescribed by Article 21(8) of the Electricity Regulation.

(383) Lastly, Belgium has committed to apply the implementation plan referred to in Article 20(3) of the Electricity Regulation after the introduction of the capacity mechanism, as required by Article 21(8) of the Regulation.

(384) The Commission concludes that the measure complies with Article 21 of the Electricity Regulation.

Compliance with Article 22 of the Electricity Regulation

(385) Article 22 (1) of the Electricity Regulation defines specific design features that any capacity mechanism shall meet. According to that Article, a capacity mechanism shall: (i) be temporary, (ii) not create undue market distortions and not limit cross-zonal trade, (iii) not go beyond what is necessary to address the adequacy concerns, (iv) select capacity providers by means of a transparent, non-discriminatory and competitive process, (v) provide incentives for capacity providers to be available in times of expected system stress, (vi) ensure that the remuneration is determined through the competitive process; (vii) set out the technical conditions for the participation of capacity providers in advance of the selection process, (viii) be open to participation by all resources that are capable of providing the required technical performance, including energy storage and demand-side management, and (ix) apply appropriate penalties to capacity providers that are not available in times of system stress.

(386) In the Opening Decision, the Commission expressed doubts as to whether the measure is in line with Article 22(1)(c) of the Electricity Regulation, which provides that a capacity mechanism should not go beyond what is necessary to address the adequacy concerns.

(387) The notified CRM is temporary, as explained in recital (385).

(388) The CRM is designed in such a way as to limit the impact to what is necessary to achieve the policy objectives and avoid undue distortions of the electricity market. The CRM is open to all existing and new generators, demand-side response and storage operators. Also, the CRM is open to cross-border capacity. Moreover, the design of the CRM includes several measures that are specifically adopted to avoid abuses of market power, e.g. reliability options, price caps and competitive auction process (see sections 2.5 and 2.7). In addition, the openness to new capacity and the availability of long-term contracts is expected to ensure that existing dominance is not unduly strengthened (see recitals (66) and (117)).

(389) As regards the condition that the CRM should not go beyond what is necessary to address the adequacy concerns, the parameters determining the amount of capacity to be procured in the CRM have been approved by Belgium based on the proposal from the regulatory authority, in accordance with Article 25(4) of the Electricity Regulation (see recitals (88) and (290)).

(390) As stated in recital (92), the process for finalising the amount of capacity to procure needs to respect the relevant parts of the Electricity Regulation. To determine the volume to be procured in the first Y-4 auction for delivery period 2025-2026, Belgium used the MAF 2019 scenario updated according to the updates from PLEF 2020. Belgium clarified that the same sensitivities about the unavailability of the French nuclear capacity were used in the 2021 Adequacy and Flexibility study in the 'EU-BASE' scenario, (recital (102)).

(391) Moreover, as stated in recital (103), the Belgian authorities have set aside a significant volume for the Y-1 auction, ensuring that a new calibration of the demand curve will take place closer to the delivery year and avoiding that too much capacity would be auctioned in the first Y-4 auction. This large Y-1 reservation allows the Belgian authorities to cope with slight deviations following new input data and methodological improvements.

(392) The Commission observes that only about 54 % of the average peak consumption at scarcity moments will be contracted in the Y-4 auction in 2021 (see recital (104)).

(393) The Commission also observes that the reliability standard determines how much capacity is auctioned in the capacity market and that the new reliability standard, calculated according to the RS methodology, does not deviate from the old reliability standard (recital (22)).

(394) As stated in recitals (28) and (105), Belgium committed, if needed, to set a new reliability standard before September 2022, with a view to using the new reliability standard to determine the volume to be procured at the latest for the 2023 auction. Belgium also committed to cross-check and adjust if need be the volumes to be procured in T-4 auction in 2023 and T-1 auction in 2026 with the results from the NRAA 2023. The Commission invites the Belgian authorities to consult ACER when updating the reliability standard and the NRAA, in order to better understand the related ACER decisions mentioned in recitals (18) and (40).

(395) In view of the above, in particular additional comments provided by Belgium during the formal investigation procedure, the Commission considers that the CRM does not go beyond what is necessary to address the adequacy concerns.

(396) Based on the Rules on the Functioning of the Belgian CRM, capacity will be procured by means of a transparent, non-discriminatory and competitive process.

(397) The CRM provides incentives for capacity providers to be available at times of expected system stress (see recitals (182) to (186)).

(398) Moreover, the remuneration is determined through the competitive bidding process and the auction process described in section 2.5 is non-discriminatory and open to all types of capacity.

(399) Belgium set the technical conditions for the participation of capacity providers in advance of the selection process. These conditions are set out in the Rules on the Functioning of the Belgian CRM (see recital (12)).

(400) The CRM will be open to all capacities that can contribute to resource adequacy. It will be technology-neutral, and will be in particular open to both existing and new capacity, storage and demand-response. Also, the CRM will be open to cross-border capacity.

(401) Lastly, as explained in recital (182), the CRM foresees penalties for unavailability in times of system stress.

(402) The Commission therefore concludes that the requirements laid down in Article 22(1) of the Electricity Regulation are met.

(403) According to Article 22(3) of the Electricity Regulation, capacity mechanisms shall in addition: (i) be constructed so as to ensure that the price paid for availability automatically tends to zero when the level of capacity supplied is expected to be adequate to meet the level of capacity demanded, (ii) remunerate the participating resources only for their availability and (iii) ensure that capacity obligations are transferable between eligible capacity providers.

(404) The notified measure is a market-wide, technology-neutral capacity mechanism, under which all eligible capacity providers compete in a single capacity auction to discover the lowest sustainable price at which the necessary capacity can be supplied. The competitive nature of the auction should drive prices to zero if there is sufficient supply to meet demand.

(405) As explained in recital (8), the capacity fee paid to capacity providers with a reliability option consists of a fixed payment for maintaining the contracted capacity available for any periods of scarcity. It thus remunerates the availability of the capacity and does not include remuneration for the amount of electricity the capacity providers will offer on the market.

(406) As described in recital (187), Belgium will put in place a secondary market to provide the capacity providers with a mechanism to improve their risk management under the CRM. In case of transactions on the secondary market, a full transfer of obligations will be ensured.

(407) The Commission therefore concludes that the requirements laid down in Article 22(2) of the Electricity Regulation are met.

(408) Lastly, Article 22(4) of the Electricity Regulation sets out the requirements relating to CO2 emission limits.

(409) As explained in recital (107), the pre-qualification requirements include an emission limit: capacity providers that exceed the following emission limits cannot participate in the capacity auction:

(a) capacities that started production on or after 4 July 2019 are subject to an emission limit of 550 gr CO2 of fossil fuel origin per kWh of electricity;

(b) capacities that started production before 4 July 2019 are subject to an emission limit of 550 gr CO2 of fossil fuel origin per kWh of electricity and a limit of 350 kg CO2 of fossil fuel origin on average per year per installed kWe.

(410) The Commission concludes that the measure complies with Article 22 of the Electricity Regulation.

Compliance with Article 24 the Electricity Regulation

(411) According to Article 24(1) of the Electricity Regulation, NRAAs shall have a regional scope and shall be based on the methodology referred in Article 23(3) of the Regulation, in particular points (b) to (m) of Article 23(5).

(412) In this regard, the Commission observes that the most recent resource adequacy study for Belgium, i.e. the 2021 Adequacy and Flexibility study, has a regional scope and is based on the methodology referred in Article 23(3).

(413) According to Article 12(1) of the ACER decision, the ERAA methodology shall be fully implemented by the end of 2023. Therefore, the ACER decision provides for a gradual implementation of the ERAA methodology, on the basis of a roadmap describing the implementation phase set out in Article 11(8) of the ACER decision.

(414) Although the ERAA methodology was approved a short time before Belgium carried out the 2021 Adequacy and Flexibility study, it integrated various elements of the ERAA methodology outlined in recital (42).

(415) The Commission observes however that the 2021 Adequacy and Flexibility study models automatic increase of the maximum clearing price only from 2025 onwards. Nonetheless, as demonstrated by Belgium, even if the automatic increase of the maximum clearing price start from 2022 onwards, the results of the economic viability assessment for 2025 would not change. Moreover, Belgium committed to ensure that the new adequacy study to be published by June 2023 fully takes into account the methodology for dynamic price increases from the beginning of the simulation time period onwards (see recital (48)).

(416) The 2021 Adequacy and Flexibility study is based on appropriate central reference scenarios, in accordance with Article 24(1) of the Electricity Regulation (see recital (45)).

(417) According to Article 24(1)(a) of the Electricity Regulation, Member States may include sensitivities in their adequacy assessment that are linked to the particularities of national electricity demand and supply.

(418) In the Opening Decision, the Commission expressed doubts about the compliance of the CRM with Article 24(1) of the Electricity Regulation, as the 2019 Adequacy and Flexibility study used the EU-HiLo scenario, which is based on assumptions about foreign electricity supply, i.e. additional unavailability of French nuclear plants.

(419) Several interested parties criticised the Commission's interpretation of Article 24(1) of the Electricity Regulation, stating that it is too restrictive. According to the interested parties, the ERAA methodology confirms that NRAAs must have a regional scope and may include additional sensitivities. It does not specify or restrict the nature of these additional sensitivities. As mentioned in Article 3(6) of the said methodology, these sensitivities can cover a wide range of changes in assumptions over the whole geographical scope considered, including different assumptions relating to input data, such as installed capacities (see recitals (256) to (258)).

(420) Belgium argued that its high interconnection rate and import dependency constitute a particularity of national electricity supply (see recitals (286) and (318)).

(421) The Commission observes that the 2021 Adequacy and Flexibility study includes sensitivities about the unavailability of the French nuclear capacity which are in line with the data used by the French TSO in the French NRAA (see recitals (287) to (289)).

(422) The Commission notes that Article 24(1) of the Electricity Regulation and the ERAA methodology require NRAAs to have a regional scope and that Article 3(6) of the ERAA methodology allows to complement the central reference scenarios with additional scenarios and/or sensitivities. Moreover, point 224(a) of the EEAG requires the Member State to provide an assessment of the impact of variable generation, including that originating from neighbouring systems.

(423) In view of this the Commission considers that the use in NRAAs of additional sensitivities relating to foreign electricity supply is not precluded by Article 24(1)(a) of the Electricity Regulation.

(424) As explained in recital (365), the required comparison between NRAA and ERAA pursuant to Article 24(3) could not be carried out due to the failure of ENTSO-E to submit the ERAA.

(425) The Commission concludes that the measure complies with Article 24 of the Electricity Regulation.

Compliance with Article 25 the Electricity Regulation

(426) According to Article 25(1) of the Electricity Regulation, when applying capacity mechanisms Member States shall have a reliability standard in place.

(427) As stated in recital (22), Belgium has a reliability standard in place which is set at 3 hours LOLE.

(428) Article 25(2) of the Electricity Regulation provides that the reliability standard shall be set by the Member State or by a competent authority designated by the Member State, following a proposal by the regulatory authority. The reliability standard shall be based on the methodology set out in Article 23(6).

(429) The reliability standard was set by the Royal Decree on the determination of the reliability standard and the approval of values for the VOLL and CONE following the proposal by the regulatory authority (see recital (20)). The set reliability standard slightly departs from the one proposed by the regulatory authority for the reasons explained in recital (21). This is however not precluded by Article 25 of the Electricity Regulation.

(430) Belgium calculated the reliability standard based on the methodology set out in Article 23(6).

(431) According to Article 25(3) of the Electricity Regulation, the reliability standard shall be calculated using at least the VOLL and the CONE over a given timeframe and shall be expressed as 'expected energy not served' and 'loss of load expectation'.

(432) Under Article 2(9) of the Electricity Regulation, VOLL means an estimation, in EUR/MWh, of the maximum electricity price that customers are willing to pay to avoid an outage.

(433) As stated in recital (25), the CREG carried out a survey on the willingness to pay, however, given the limitations of the survey, its results to determine a single estimate of the VOLL could only be used to a limited extent. Belgium committed to update the VOLL based on a new willingness to pay survey and, if needed, set a new reliability standard before September 2022 (see recital (28)).

(434) The Commission therefore finds that the reliability standard has been set based on the estimate of VOLL and the expected CONE (see recitals (23) and (24)), in line with Article 25(3) of the Electricity Regulation.

(435) According to Article 25(4) of the Electricity Regulation, when applying capacity mechanisms, the parameters determining the amount of capacity procured in the capacity mechanism shall be approved by the Member State or by a competent authority designated by the Member State, on the basis of a proposal of the regulatory authority.

(436) As explained in recitals (86) and (290), the methodology for determining the parameters determining the volume of purchases in the capacity mechanism was proposed by the CREG.

(437) The Commission concludes that the measure complies with Article 25 of the Electricity Regulation.

Compliance with Article 26 the Electricity Regulation

(438) According to Article 26(1) of the Electricity Regulation, capacity mechanisms other than strategic reserves and where technically feasible, strategic reserves shall be open to direct cross-border participation of capacity providers located in another Member State, subject to the conditions laid down in this Article.

(439) Article 26(2) of the Electricity Regulation however allows Member States to require foreign capacity to be located in a Member State that has a direct network connection with the Member State applying the capacity mechanism.

(440) Belgium will allow foreign capacity located in a Member State that has a direct network connection with Belgium to participate in the CRM from the first delivery year, i.e. 2025. According to Belgium, the methodologies, common rules and terms mentioned in Article 26(11) of the Electricity Regulation were only adopted in December 2020 and a reasonable time should be allowed for their implementation and the necessary preparations for cross-border participation. Given that TSO's have not been able yet to conclude the necessary agreements, it has not been possible to organise the cross-border participation as of the first Y-4 auction. Nevertheless, according to the Belgian authorities, a volume has been reserved for the Y-1 auction, ensuring that cross-border capacity can still participate and contribute as of the first delivery year (see recital (189)).

(441) In the Opening Decision, the Commission sought clarification on the use of the capacity congestion revenue and the share of these revenues between TSOs.

(442) Belgium clarified that congestion revenues will be used and shared according to the rules set out in the Electricity Regulation, in particular Article 26(9).

(443) In addition, Belgium confirmed that it will comply with ACER decision No 36/2020 which sets out technical specifications for cross-border participation in capacity mechanisms, including the methodology for sharing the revenues arising through the allocation of entry capacity.

(444) The measure therefore complies with Article 26 of the Electricity Regulation.

5.3.3.3. Conclusion on the compliance with other provisions of Union law

(445) The measure complies with Articles 30 and 110 of the Treaty and the Electricity Regulation.

(446) The notified measure does not, therefore, infringe relevant Union law.

5.3.4. *The aid is designed in order to limit its effects on competition and trade*

5.3.4.1. Need for State intervention

(447) According to subsection 3.2.2 of the EEAG, the Member State needs to demonstrate that there is a need for the State intervention and, in particular, that the aid is necessary to remedy a market failure that otherwise would remain unaddressed.

(448) In the Opening Decision, the Commission expressed its doubts whether the resource adequacy problem has been identified precisely enough and whether it has been properly analysed and quantified by the Belgian authorities, in particular with regard to points 221 and 222 of the EEAG. These doubts were supported by several interested parties which also questioned the necessity and/or the dimension of the planned CRM (see recitals (227) to (234)).

(449) According to the 2021 Adequacy and Flexibility study, from 2025, once the nuclear phase-out is completed, Belgium will be confronted with an adequacy problem and face a structural need for new capacity. This need amounts to 2 GW in 2025 in the central 'EU-BASE' scenario, and gradually increases to 3,9 GW by 2032 (see recital (49)). The 2021 Adequacy and Flexibility study was published in June 2021 and is based on the ERAA methodology (see point 221 of the EEAG).

(450) Now that the ERAA methodology has been approved by ACER (see recital (40), the Commission's doubts about the emphasis on the EU-HiLo scenario in the 2019 Adequacy and Flexibility study or the lack of a proper counter-factual scenario to estimate the extent of the resource adequacy problem in MAF 2019 for Belgium are not pertinent anymore, since the methodological differences have now been unified in one common, more robust, methodology, confirming the existence of an adequacy concern.

(451) While two interested parties argued that the past Belgian resource adequacy studies did not take into account the expected scarcity function (recital (230)), at the time there was no such requirement. According to the Commission's opinion on the implementation plan of Belgium, Belgium is however invited to consider amending its scarcity pricing scheme accordingly and by no later than 1 January 2022. In this regard, the Commission takes note of the current work undertaken by the regulatory authority and the TSO regarding the introduction of the shortage pricing function for balancing in Belgium.

(452) Belgium currently has an electricity interconnectivity level of about 24 % with an expectation to rise towards 33 % by 2030. As stated in recital (323), Belgium also facilitated the development of so-called energy-limited technologies, e.g. via the possibility to participate to the ancillary service markets or facilitated through a transfer of energy mechanism. This has led to high shares of demand side management.

(453) Furthermore, as described in section 2.3.4, the Belgian authorities have committed to several market reforms, notably with a view to strengthening balancing markets (see recital (62)), facilitating demand side response (see recital (64)) and increasing interconnection capacity (see recital (65)).

(454) Despite these reforms, the 2021 Adequacy and Flexibility study identifies risks for the Belgian resource adequacy, with reference to the reliability standard described in recital (22). The 2021 Adequacy and Flexibility study provides that only a very small share of the new capacity will be viable via the energy-only market by 2025.

(455) Therefore, the Commission considers that Belgium has demonstrated why the market cannot yet deliver the adequate capacity in the absence of intervention, in line with point 223 of the EEAG.

(456) Point 224 of the EEAG requires the Commission to take account of various assessments to be provided by the Member State, relating to the impact of variable generation, demand side participation, interconnection and any other element causing or exacerbating the generation adequacy problem.

(457) The 2021 Adequacy and Flexibility study integrates all the ongoing and planned market developments and the most recent projected policy targets as integrated or referred to in the implementation plan, regarding all four elements mentioned in point 224 of the EEAG.

(458) As explained in recital (454), despite these reforms, the 2021 Adequacy and Flexibility study identifies risks for the Belgian resource adequacy as compared to what would be needed to achieve the 3-hour LOLE target.

(459) The Commission considers that the notified measure is necessary, in line with section 3.9.2 of the EEAG.

5.3.5. *Appropriateness of the measure*

(460) As a general principle, a State aid measure is appropriate if it is designed in a way as to properly address the market failures identified. The EEAG further specify in points 225 and 226 that in the context of aid for generation adequacy this implies that the aid should remunerate solely the service of pure availability provided by the generator and that the measure should be open and provide adequate incentives to both existing and future generators and to operators using substitutable technologies, such as demand response or storage solutions.

(461) This section first analyses whether a market-wide CRM is the most appropriate among the various options to address the identified adequacy concern (section 5.3.5.1 of this Decision). It then analyses whether the specific design of the CRM is in line with the abovementioned specific EEAG requirements (section 5.3.5.2 of this Decision).

5.3.5.1. Appropriateness of the CRM as instrument

(462) As mentioned in recital (235), some interested parties indicated that a strategic reserve could better address the identified adequacy problem than a market-wide CRM. In contrast, Belgium considered that a strategic reserve would not tackle the underlying market failures (see recitals (278) and (279)).

(463) As mentioned in recital (60), Belgium has currently a strategic reserve which will be in place until 31 March 2022. The objective of the strategic reserve is to meet peak demand during winter periods when the market fails to do so by maintaining some existing generation and demand response capacity out-of-market as a back-up only to be activated when the balancing resources are exhausted.

(464) As explained in recitals (377) and (378), a market-wide CRM, which would involve a capacity market complementing the energy market, appears to be the most effective solution for ensuring security of supply in Belgium in the context of structural change such as the phase-out of nuclear generation.

5.3.5.2. Appropriateness of the specific design of the CRM

Remuneration solely for the service of pure availability of capacity

(465) According to point 225 of the EEAG, the measure should remunerate solely the service of pure availability.

(466) In the Opening Decision, the Commission reached the preliminary view that the measure remunerates the service of pure availability of capacity. Neither Belgium nor any interested party questioned the Commission's view.

(467) The CRM remunerates the availability of the capacity and does not include remuneration for the amount of electricity the capacity providers will offer on the market.

(468) Therefore, the measure complies with point 225 of the EEAG.

Openness of the measure to all relevant capacity providers

(469) Point 226 of the EEAG determines that capacity mechanisms should be (i) open to different technologies, (ii) take into account to what extent interconnection capacity can help remedy the generation adequacy problem identified, and (iii) provide adequate incentives for both new and existing capacity.

(470) As set out in recital (66), the measure is planned to be open to all capacities that can contribute to resource adequacy, be technology-neutral, and be in particular open to both existing and new capacity, storage and demand response. Aggregation of capacity, including from different technologies will be allowed. All technologies can also participate in all auctions (both Y-4 and Y-1) for a delivery period.

(471) Belgium took a number of measures to ensure the possibility for all technologies to participate in the auctions. In particular, the Commission notes the decision to reserve part of the volume to be procured for the Y-1 to encourage the participation of demand response providers. Moreover, a specific category of 'unproven capacity' (open to all technologies not requiring daily programs and individual participation due to their system relevance) is foreseen in Y-4 to also foster the participation of capacities which may have more difficulties to already provide the standard required maturity level in Y-4 (see recitals (83) and (98)).

(472) With respect to RES, the existing or new RES capacity providers are eligible to participate in the CRM, except if they receive operating aid though dedicated State aid schemes (see recital (205)).

(473) Following the Opening Decision, one interested party argued that capacity holders eligible for participation (such as CHP with a capacity higher than 1 MW) are excluded from participation if, during a given period, they benefit from operating aid through green certificates (GSC) and/or CHP certificates (CHP) (see recital (237)).

(474) The Commission considers that the CHP certificates are already designed to cover necessary costs of the CHP operators and incentivise their continued operation. To prevent the cumulation of aid and the resulting overcompensation, generators should not be recipients of other support measures, e.g. RES or CHP support schemes that already sufficiently cover these beneficiaries operating costs, as described in recital (205).

(475) As stated in recital (205), if these operators cease to benefit from the RES/CHP operating aid then they become eligible to participate in the CRM.

(476) The rules described in recital (205) do not lead to the exclusion of capacity providers which do not receive such aid.

(477) As regards cross-border participation, the participation of cross-border capacity located in a Member State that has a direct network connection with Belgium will be allowed from the first delivery period onwards (see recital (189)).

(478) Additionally, the participation of new capacities or existing capacities that require significant capital expenditures in order to remain available is enabled by offering multi-year contracts, subject to a demonstration that a pre-defined level of investment costs is required to develop and construct these new installations or refurbish the existing ones (see recital (138)).

(479) The investment thresholds are based on a set of eligible investment costs as described in recital (137). The thresholds take into account the nominal installed capacity (i.e. maximum capacity that the unit is designed to run) instead of the de-rated installed capacity (i.e. their pre-defined availability rate and their contribution to the objective of resource adequacy).

(480) In this regard, in the Opening Decision, the Commission expressed its doubts about the use of the nominal installed capacity to calculate the investment thresholds. According to the Commission, such design feature is likely to discriminate against technologies with high de-rating factors, notably intermittent solar and wind renewable energy sources. De-rated installed capacity is the measure that reflects the effective contribution of a technology to overall capacity and would allow equal chances for all technologies regarding their possibility to access multi-year contracts.

(481) Notwithstanding the initial doubts, given the current situation of the Belgian electricity market and the absence of comments from interested parties on this point, the Commission has no evidence at this point to conclude that the design of the mechanism will in practice lead to discrimination of certain technologies in this specific case. Moreover, Belgium committed to keep the Rules on the Functioning of the CRM under review to ensure that they do not lead to a possible discrimination of technologies in the light of the market developments.

(482) As stated in recital (236), one interested party suggested to create a T-2 auction in order to avoid over-procurement in T-4 auction.

(483) In this regard, Belgium explained that an auction split into two periods (T-4 and a T-1) already allowed all technologies, with a longer or a shorter lead time, to participate in the mechanism and the Member State to have relative assurance that enough volume can be procured to ensure security of supply in the delivery year. Splitting further the capacity volumes and adding a T-2 auction would risk to overly diminish competition in these auctions (see recital (280)).

(484) The Commission considers that the authorities' choice to procure capacity though two auctions Y-4 and Y-1 is legitimate.

(485) The Commission takes note of the authorities' commitment to keep the Rules on the Functioning of the CRM under review to ensure that they do not lead to a possible discrimination between technologies in the light of the market developments.

(486) The emissions limit described in recital (107) applies to all technologies and is a way for Belgium of respecting point 220 and point 233(e) of the EEAG. Finally, the new installations fired with fossil fuels, which will be eligible 15-year contracts, will be bound by the objectives established by the European Union and/or Belgium to reduce greenhouse gas emissions to achieve climate neutrality by 2050 (see recital (109)).

(487) Therefore, the Commission considers the aid to be appropriate.

5.3.6. *Proportionality*

(488) The aid amount is proportionate if it is limited to the minimum needed to achieve the objective pursued. The EEAG specify this requirement for generation adequacy measures in points 228 to 231, which aim to ensure that beneficiaries do not earn more than a reasonable rate of return and that windfall profits are excluded.

5.3.6.1. Competitive bidding process

(489) In the Opening Decision, the Commission expressed concerns with regard to the possible discrimination against capacities with high de-rating factors (described in recitals (480) and (481)) and consequently to the competitive bidding process.

(490) Notwithstanding prima facie doubts, as explained in recital (485), the Commission has no evidence at this point to conclude that the design of the mechanism will in practice lead to discrimination between different technologies in this specific case and consequently impair the competitive bidding process.

(491) The notified measure is a market-wide, technology-neutral capacity mechanism, under which all eligible capacity providers compete in a single capacity auction to discover the lowest sustainable price at which the necessary capacity can be supplied. The competitive nature of the auction should drive prices to zero if there is sufficient supply to meet demand. The process is subject to transparent, non-discriminatory criteria, including the eligibility criteria. The main reason for ineligibility is when capacity providers benefit from other support measures that would lead to cumulation and possible overcompensation. As for the duration of the contracts, most capacity providers are only eligible for one-year capacity agreements. New and refurbished capacity, which involves intensive investment capital costs, is eligible for longer capacity agreements to allow these investors to secure the necessary financing (see recitals (117) and (326)).

(492) A market-wide capacity market design mirrors the likely outcome produced by an efficient energy market. The auctions will be organised as pay-as-bid for the first two auctions (Y-4 auctions for the first 2 delivery years) and pay-as-clear afterwards (see recitals (112) and (113)). Two different price caps are included in the CRM to avoid windfall profits and to limit the abuse of market power: (i) the global auction price cap and (ii) the intermediate price cap (see section 2.5.4.2). The objective of the caps is to mitigate market power and thus to limit the amount of aid to what is a reasonable remuneration for the service of availability.

(493) Consequently, the Commission concludes that the measure is designed as a competitive bidding process on the basis of clear, transparent and non-discriminatory criteria and that it also fulfils the requirement of preventing windfall profits.

5.3.6.2. Volume to be procured

(494) As mentioned in recital (223), in the Opening Decision, the Commission expressed doubts as to whether the use of an unrealistic scenario to calculate the volume in the CRM will lead to financing unnecessary capacity.

(495) One interested party argued that the financing mechanism may influence the volume of capacity of the CRM. For example, linking the charges to finance the CRM 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 (see recital (241)).

(496) As explained by Belgium (see recital (293)), for the moment there are not sufficient smart meters installed in Belgium to allow for a financing mechanism based on peak load consumption. The CRM law has been modified so that such a model could be introduced in 2025. Belgium also explained that it will review the existing financing mechanism in 2023 when a report on the roll-out of smart meters will be issued.

(497) The Commission has also received reassurances from Belgium on the methodology to be used to set the demand curve for the auction as set out in section 2.5.2. Belgium further confirmed that they would procure an amount of capacity proportionate to the updated adequacy concern and would adjust the amount to be procured over time to reflect updates in the adequacy assessment and the reliability standard, while ensuring the competitiveness of the auctions. In particular, Belgium committed to adjust the volumes, if needed, to reflect the updated adequacy assessment and reliability standard as described before. In view of the above, and the reasoning set out in recitals (395) and (400), the Commission considers that the CRM does not to go beyond what is necessary to address the adequacy concerns.

5.3.6.3. Conclusion on proportionality

(498) The Commission concludes that the measure is proportionate.

5.3.7. *Distortion of competition and balancing test*

(499) The negative effects of the CRM on competition and trade in the internal electricity market must be sufficiently limited such that the overall balance of the measure is positive. The Court has clarified that in order to assess whether a measure adversely affects trading conditions to an extent contrary to the common interest, the Commission must weigh up the positive effect of the planned aid for the development of the activities that the aid is intended to support and the negative effects that the aid may have on the internal market ([103]).

5.3.7.1. Positive effects

(500) On the positive side of the balance, the Commission notes that the scheme has positive effects in terms of maintaining the existing capacity in the electricity market or creating new capacity and therewith security of electricity supply. In this regard, ensuring security of energy supply is one of the aims of the Union's energy policy, pursuant to Article 194 TFEU.

([103]) Judgment of 22 September 2020, *Austria v Commission*, C-594/18 P, EU:C:2020:742, paragraph 101.

(501) Furthermore, the Commission notes that a generating installation that emits more than 550 g CO2 per kWh of electricity cannot be contracted under the CRM (see recital (107)) and that eligible installations will have to pledge to climate neutrality by 2050. It can thus be concluded that the CRM gives preference to low-carbon generators, in line with point 233(e) of the EEAG.

5.3.7.2. Negative effects

(502) On the negative side of the balance, support to the capacity providers may distort competition and trade in the electricity market, including between undertakings receiving the support and their competitors in the same sector.

(503) The EEAG specify the requirement to avoid undue negative effects on competition and trade in points 232 and 233, which underline the need for broad participation in the scheme and the avoidance of market-undermining effects, such as strengthening dominance or affecting investment decisions.

(504) The measure is open to all existing and new generators, demand-side response and storage operators. Also, the measure is open to cross-border capacity.

Openness to aggregation of demand and supply

(505) Point 232(a) of the EEAG states that the generation adequacy measure should be open to potential aggregation of both demand and supply.

(506) As mentioned in recital (242), some interested parties indicated that the current eligibility rules for multi-year contracts hamper aggregation, more specifically, the rule that the asset with the lowest contract duration in an aggregated portfolio determines the contract duration for the entire portfolio.

(507) The Commission recognises that the current eligibility rules for multi-year contracts may hamper aggregation. It therefore welcomes Belgium's proposal to amend the Royal Decree setting the investment thresholds, the eligibility criteria for investment costs and the ranking procedure (see recital (141)). The amendment stipulates that the manager of the aggregated offer can choose the capacity category that applies to the aggregated offer.

(508) With regard to the comment by an interested party relating to barriers to aggregation for assets with a daily schedule obligation (see recital (243)), the Commission notes the arguments presented by Belgium (recitals (297) and (298)) and the interested party (recital (243)). Given that capacities subject to a daily schedule obligation are affected by special coordination procedures, the Commission considers that Belgium's approach to these capacities is justified to take into account their specific features in the electricity market. Belgium will nonetheless carry out regular assessments of the CRM to allow changes if and where appropriate, including the possibility for assets with a daily schedule obligation to aggregate.

Investment thresholds

(509) As regards the comments by some interested parties relating to the level of the investment thresholds for multi-year contracts and alleging that these may lead to discrimination between certain classes of technology, the Commission notes Belgium's commitment to update these thresholds in case new evidence, including the interested parties' observations, were to show a need for it. The new investment thresholds for multi-year contracts, which were subject to the public consultation, are set out in recital (138). The CREG will update the investment thresholds when it appears necessary, but at least every 3 years. Consequently, the Commission has no grounds to consider that the new thresholds for multi-year contracts will lead to discrimination between technologies.

De-rating factors

(510) As mentioned in recitals (247) and (248), some interested parties argued that the current de-rating factors risk heavily penalising technologies such as storage, demand response or renewables.

(511) Belgium explained (see recital (303)) that the de-rating factors of energy-limited technologies are lower when their proportion in the system/country increases. Hence, the difference between the de-rating factors in Belgium, France and the United Kingdom mentioned by the interested parties. Nevertheless, to accommodate the interested parties' concerns, Belgium updated the de-rating factors following advice from the regulatory authority and a specific Task Force meeting of all interested parties on this topic held in early January 2021. The updated de-rating factors are set out in recital (79). Consequently, the Commission has no grounds to consider that the revised de-rating factors are inappropriate.

Payback obligation

(512) As regards the comments of some interested parties that the mechanics of the payback obligation discriminate against full-schedule capacity operators (recitals (250) and (251)), Belgium submitted that the CRM strikes a balance between including the payback obligation and avoiding discrimination towards capacity that can only be activated at a price higher than the strike price.

(513) The Commission notes that Member States which have similar market-wide capacity mechanisms have diverging practices as regards the payback obligation. The Commission also notes that the mechanism of the payback obligation in the Belgian CRM has been significantly modified and improved following public consultations.

(514) The Commission therefore considers that the mechanism of the payback obligation strikes the appropriate balance between the two competing goals referred to in recital (512).

Intermediate price cap

(515) In the Opening Decision, the Commission expressed doubts about whether the introduction of an intermediate price cap for capacity in the 1-year contract category, without the possibility of an individual derogation, could exclude certain capacity holders from the CRM. These doubts were supported by some interested parties (see recitals (252)).

(516) Accordingly, the Commission welcomes Belgium's undertaking to put in place a derogation mechanism. The derogation mechanism was subject to the public consultation and has been introduced in the Royal Decree setting investment thresholds and eligibility criteria for investment costs. The derogation mechanism will apply equally to both national and indirect cross-border capacities (see recital (129) and (130)).

(517) As stated in recital (131), the derogation for the first auction will be granted ex post, i.e. after the closure of the auction. Given the arguments advanced by Belgium in recital (131), the Commission considers that the ex-post derogation from the intermediate price cap for the first auction is justified.

Conclusion on the openness of the measure to all technologies

(518) The measure allows the participation of generators using different technologies and of operators offering measures with equivalent technical performance, in line with point 232(a) of the EEAG.

Cross-border capacity

(519) Point 232(b) of the EEAG contains safeguards to ensure that operators from other Member States are able to participate in a measure.

(520) In the Opening Decision, the Commission expressed concerns that limiting the eligibility of indirect cross-border capacity to 1-year contracts, which are subject to the intermediate price cap, might discourage operators from other Member States from participating in the CRM.

(521) The Commission accepts Belgium's arguments in relation to this concern. In particular, in the long-term, sufficient entry capacity cannot always be guaranteed, as it is dependent on various factors set out in recital (143). The Commission welcomes Belgium's commitment to review the possibility for foreign capacities to access multi-year contracts (see recital (144)).

(522) As mentioned in recital (516), the derogation mechanism from the intermediate price cap, introduced by Belgium after the Opening Decision, applies equally to both national and indirect cross-border capacities.

(523) As regards direct cross-border participation in the CRM, two interested parties argued that such participation could reduce incentives to invest in interconnection capacity and undermine market coupling (recitals (254) and (255)).

(524) As explained by Belgium (see recital (316)), changes in the CRM law have been made to accommodate the concerns raised by the interested parties. According to the new rules, a pre-condition for the participation of direct cross-border capacity in the CRM will be the conclusion of an agreement between Belgium and the Member State on whose territory the capacity is situated.

Congestion revenues

(525) In the Opening Decision, the Commission also sought clarification on the use of the capacity congestion revenues and the sharing of these revenues between TSOs.

(526) Belgium clarified that congestion revenues will be used and shared according to the rules set out in the Electricity Regulation, in particular Article 26(9).

(527) Belgium also confirmed that it will comply with ACER decision No 36/2020, which among others, sets out the methodology for sharing the revenues arising through the allocation of entry capacity (see recital (204)).

Conclusion on the openness of the measure to cross-border capacity

(528) The Commission concludes that the measure does not reduce incentives to invest in interconnection capacity or market coupling, in line with point 233(a) and (b) of the EEAG.

(529) With regard to the undue strengthening of market dominance (point 233(d) of the EEAG), the design of the CRM comprises several measures that are specifically intended to prevent the abuse of market power, e.g. reliability options, price caps and competitive auction process (see recitals (94), (111) and (147)). In addition, the openness to new capacity and the availability of long-term contracts is expected to ensure that existing dominance is not unduly strengthened.

(530) Finally, with regard to giving preference to low-carbon generators where they offer equivalent technical and economic parameters (point 233(e) of the EEAG), the Commission notes that 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 recital (205).

(531) The measure is in line with section 3.9.6 of the EEAG.

5.3.7.3. Conclusion on distortion of competition and balancing test

(532) The Commission concludes that the measure has significant positive effects in terms of facilitating an economic activity while ensuring security of supply and not leading to undue distortions of competition and trade. It follows that the positive effects of the aid outweigh its negative effects on competition and trade. Therefore, the proposed aid facilitates the development of certain economic activities while not adversely affecting trading conditions to an extent contrary to the common interest, as required by Article 107(3)(c) TFEU.

5.3.8. *Transparency of the aid and firms in difficulty or subject to an outstanding recovery order*

(533) Belgium has committed to apply the transparency conditions specified in section 3.2.7 of the EEAG insofar as applicable to the aid granted under the CRM (see recital (219)).

(534) In line with point 16 of the EEAG, no aid will be awarded to firms in difficulty (see recital (221)).

(535) In line with point 17 of the EEAG, under the CRM, no aid can be granted to undertakings subject to an outstanding recovery order following a previous Commission decision declaring aid illegal and incompatible with the internal market (see recital (220)).

6. **CONCLUSION**

The measure is compatible with the internal market on the basis of Article 107(3)(c) TFEU and the relevant provisions of the EEAG.

HAS ADOPTED THIS DECISION:

Article 1

The aid in the form of the capacity remuneration mechanism which the Kingdom of Belgium is planning to implement is compatible with the internal market on the basis of Article 107(3)(c) of the Treaty. The aid scheme is authorised for a maximum period of 10 years starting from the date of the first auction.

Article 2

This Decision is addressed to the Kingdom of Belgium.

If the Decision contains confidential information which should not be published, please inform the Commission within 15 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 the Decision. Your request specifying the relevant information should be sent electronically to the following address:

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

Done at Brussels, 27 August 2021.

For the Commission
Margrethe VESTAGER
Member of the Commission