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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the assessment of possibilities of streamlining and simplifying the process of applying a capacity mechanism under Chapter IV of Regulation (EU) 2019/943, in accordance with Article 69(3) of Regulation (EU) 2019/943

1. INTRODUCTION

Regulation (EU) 2024/1747[1] of 13 June 2024 amending Regulations (EU) 2019/942 and (EU) 2019/943 as regards improving the Union's electricity market design. Pursuant to Article 69(3) of the amended Regulation (EU) 2019/943 (the 'Electricity Regulation'), the European Commission ('Commission') shall issue a report assessing possibilities to streamline and simplify the process for applying a capacity mechanism and come forward with proposals with a view to simplifying the process of assessing capacity mechanisms as appropriate. *Article 69(3) of the* Electricity Regulation reads as follows:

"By 17 January 2025, the Commission shall submit to the European Parliament and to the Council a detailed report assessing possibilities of streamlining and simplifying the process of applying a capacity mechanism under Chapter IV of this Regulation, so as to ensure that adequacy concerns can be addressed by Member States in a timely manner. In that context, the Commission shall request that ACER amends the methodology for the European resource adequacy assessment referred to in Article 23 in accordance with the process set out in Articles 23 and 27, as appropriate.

By 17 April 2025, the Commission shall, after consulting the Member States, come forward with proposals with a view to simplifying the process of assessing capacity mechanisms as appropriate."

This report assesses possibilities of streamlining and simplifying the process of applying a capacity mechanism under Chapter IV of the Electricity Regulation.

2. EU FRAMEWORK ON CAPACITY MECHANISMS

2.1 EU framework stemming from the Electricity Regulation and CEEAG

Chapter IV of the Electricity Regulation introduced requirements for the justification of capacity mechanisms and rules for the implementation of such measures, to ensure that capacity mechanisms do not unduly distort the Union's internal electricity market and that they are not introduced as a substitute for necessary market reforms in Member States[2].

The EU framework on capacity mechanisms was set up to allow and better coordinate the introduction of a temporary additional tool to enable the power system to provide sufficient (including flexible) capacity to meet demand in the medium to long term, including supporting the decarbonisation of the energy system and the integration of an increasing deployment of variable renewable sources. Moreover, additional concerns have arisen as regards security of electricity supply following the unprecedented energy crisis the Union experienced in recent years. The

[1] Regulation (EU) 2024/1747 of the European Parliament and of the Council of 13 June 2024 amending Regulations (EU) 2019/942 and (EU) 2019/943 as regards improving the Union's electricity market design, OJ L, 2024/1747, 26.6.2024.

[2] See Articles 20 and 21(1) of Regulation (EU) 2019/943.

internal electricity market has been crucial in facing the challenges posed by the crisis, allowing Member States to rely on each other's supplies. In the aftermath of the crisis and in light of the renewed ambition as regards the development of renewables and the EU decarbonisation objectives, well-designed capacity mechanisms can play an important role to guarantee resource adequacy, while at the same time ensuring the well functioning of the internal market, facilitating the deployment of the least carbon-intensive technologies and minimising costs for consumers. The internal electricity market rules are complemented by the EU State aid provisions, notably the State aid framework set out in the Commission's Guidelines on State aid for climate, environmental protection and energy 2022 ('CEEAG')[3] which apply to security of supply measures involving State aid, including capacity mechanisms.

More specifically, the EU framework on resource adequacy and capacity mechanisms can be summarised as follows (Chapter IV of the Electricity Regulation and section 4.8 of the CEEAG):

2.1.1 Market failure and appropriateness

Article 20 of the Electricity Regulation requires that Member States with identified adequacy concerns develop an implementation plan setting out how they intend to address the root causes of the adequacy concern through market reforms and submit it to the Commission for review. Member States are required to monitor the application of their implementation plans and publish the results in annual reports.

2.1.2 Necessity and proportionality

A security of supply objective, also called reliability standard, shall be established by the Member States according to the rules detailed in Article 25 of the Electricity Regulation. The reliability standard is the result of an economic analysis and sets a limit to subsidising overcapacity at the expense of competition and European taxpayers' money, when the cost of additional capacity exceeds the social welfare brought by such capacity. To that end, the Electricity Regulation mandates ENTSO-E to develop a methodology for calculating the Value of Lost Load (VoLL), the Cost of New Entry (CONE) and the reliability standard[4]. The methodology was approved by ACER in October 2020.

The need for a capacity mechanism and the level of capacity to procure should be assessed based on an adequacy assessment[5]. To that end, the Electricity Regulation mandates ENTSO-E to develop a methodology to assess resource adequacy in Europe (the 'ERAA methodology'[6]), which was approved by ACER in October 2020. Every year ENTSO-E shall, based on that methodology, submit a proposal for the annual European Resource Adequacy Assessment ('ERAA') to be approved by ACER. In line with Article 24 of the Electricity Regulation, Member States can also

[3] Communication from the Commission – Guidelines on State aid for climate, environmental protection and energy 2022, C/2022/481, OJ C 80, 18.2.2022, p. 1.

[4] Methodology for deriving the Value of Lost Load (VoLL), the Cost of New Entry (CONE) and the reliability standard: Microsoft Word - VOLL CONE RS - Annex I (europa.eu).

[5] An adequacy assessment is a study of the adequacy of the electricity system to supply current and projected demands for electricity.

[6] Methodology for calculating the European resource adequacy assessment: Microsoft Word - ERAA - Annex I (europa.eu)

base their capacity mechanisms on national resource adequacy assessments ('NRAAs'), which should, however, be based on the ERAA methodology and are subject to a review by ACER in case their findings diverge from those in the ERAA.

The volume procured in reaction to prices of capacity should be established in such a way so that the volume procured does not overreach the reliability standard.

2.1.3 Design features

The current EU framework for capacity mechanisms sets out a number of requirements that must be met. In particular:

- The support should be allocated (and the level of support determined) via a competitive bidding process (Article 22(1) of Electricity Regulation).
- The design of the capacity mechanism should ensure eligibility of all technologies meeting objective technical and environmental requirements. All such technologies should be eligible to participate in a non-discriminatory manner (Article 22(1) of Electricity Regulation). More recently, a provision was introduced to encourage Member States to consider adapting the design of capacity mechanisms to promote non-fossil flexible resources such as demand response and storage (Article 19g of Electricity Regulation).
- The availability requirements (and related penalties) should be sufficient to provide a remuneration that incentivizes availability in times of expected system stress (which may lead to price spikes in case the system is not sufficiently flexible) and is proportionate to the service provided to the power system (Article 22(1) of Electricity Regulation).
- Capacity mechanisms should allow for participation of capacities from across the border (Article 26 of Electricity Regulation). To that end, the Electricity Regulation mandates ENTSO-E to develop a methodology to allow for cross-border participation in capacity mechanisms[7], which was approved by ACER in 2020.
- The participation of fossil fuel technologies is limited by an emission limit (Article 22(4) of Electricity Regulation). More recently, a derogation was introduced for fossil fuel technologies emitting more than the limit (Article 64 of Electricity Regulation). If granted, the derogation allows resources exceeding the emission limit to participate in capacity mechanisms until 31 December 2028 under certain conditions.
- In case of a strategic reserve, it should be clear that the capacity contracted in the strategic reserve will not participate in the electricity markets, even in situations when prices are high (Article 22(2) of Electricity Regulation).

[7] Methodology for cross-border participation in capacity mechanisms: Microsoft Word - XBP CM - Annex I - technical specifications (europa.eu).

2.2 Current approval process

The required steps under the Electricity Regulation and under State aid rules are usually conducted in parallel to facilitate a swift approval:

1. The Member State submits to the Commission a market reform plan (implementation plan), which explains how the Member State intends to solve market failures or regulatory distortions. The Commission shall give its opinion within four months from the formal submission of the plan (Article 20 of Electricity Regulation).[8]
2. The Member State should justify the need for and the proportionality of the capacity mechanism based on two elements:
    - an adequacy assessment. This can be done using the ERAA, as approved by ACER. In case a Member State wants to rely on a NRAA, its assumptions, methodology and results must be verified by the Commission before adopting the State aid decision. More specifically, where the NRAA identifies a concern that was not identified in ERAA, the Member State submits[9] its NRAA to ACER, ACER delivers within 2 months an opinion on whether the differences between the national and European assessments are justified (Article 24 of Electricity Regulation); and;

    - a security of supply objective (reliability standard), calculated based on Article 25 of the Electricity Regulation and the ACER methodology for calculating the value of lost load, the cost of new entry, and the reliability standard (Article 23 (6) of the Electricity Regulation). The reliability standard and its methodology must be verified by the Commission before adopting the State aid decision .

3. The Member State must notify the capacity mechanism to the Commission for assessment under EU State aid rules.

3. STATE OF PLAY OF IMPLEMENTATION OF THE EU FRAMEWORK AND MAIN LEARNINGS

The EU framework for capacity mechanisms has been adopted in 2019 and since then it has required a number of steps to implement the framework fully (i.e. the development of EU methodologies linked to capacity mechanisms[10]). Lessons can be drawn from the Commission's workshops, State aid practice and ACER's security of supply ('SoS') monitoring reports[11]. This includes the length and complexity of the process of applying a capacity mechanism.

[8] Member States often discuss with the Commission the draft market reform plan before formally submitting it, which facilitates a speedy adoption of the Commission opinion on the plan.

[9] Often TSOs and national authorities discuss the national adequacy assessments with ACER before formally submitting their reports. This helps ACER identify early on any issues related to the reports, in terms of assumptions, methodology, etc.

[10] Methodology for determining the VoLL, CONE and reliability standard; methodology for the European resource adequacy assessment; and methodologies for cross-border participation in capacity mechanisms

[11] Available here: https://www.acer.europa.eu/electricity/security-of-supply/monitoring-security-electricity-supply.

This report is based on the practice applied by Member States when contemplating, adopting and operating a capacity mechanism since the adoption of the Electricity Regulation, and the Commission's case practice. The Commission has adopted State aid decisions on two schemes (Belgium[12], Finland[13]) since the entry into force of the Electricity Regulation. It is in pre-notification discussions with a number of Member States on their schemes.

The report also draws on the feedback submitted by stakeholders to the Commission in its public consultation for its proposal on the reform of Electricity Market Design[14], which has been summarized in the Staff Working Document accompanying the Commission proposal [15].

On 22 May 2023 and on 7 June 2023, the Commission organised two workshops with Member States on "Streamlining the EU capacity mechanism framework". A particular focus of the workshops was on the current ERAA methodology and on the capacity mechanisms approval process. The content of these workshops has also been presented by the Commission and ACER to the EU Electricity Regulatory Forum on 8 June 2023 and 27 May 2024. The Forum welcomed the initiative to speed up the approval process for capacity mechanisms and to simplify the ERAA methodology[16].

Finally, the present report elaborates on certain issues raised in the context of the negotiations of the Reform of Electricity Market Design proposal by the co-legislators which led to the requirement from the Commission to prepare this report.

3.1 Market failure and appropriateness

The Commission has developed and issued Guidance[17] for Member States on how to prepare their implementation plans. During the assessment of the plans, the Commission seeks the opinion of stakeholders on Member States' proposed reforms and holds meetings or has written exchanges with Member States to clarify questions or issues as and if they emerge.

The Commission's guidance can facilitate the analysis of possible regulatory distortions and market failures by Member States. The proposed structure in the guidance also allowed the Commission to better understand the functioning and the specific problems of the electricity market in the respective Member State. This enables the Commission to adopt its Opinion on the

[12] This includes two State aid decisions to modify the Belgian scheme, available under case numbers SA.54915 and SA.104336.
[13] Available under case number SA.55604.
[14] Available here: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13668-Electricity-market-reform-of-the-EUs-electricity-market-design/public-consultation_en.
[15] Commission Staff Working Document, Reform of Electricity Market Design, SWD(2023) 58 final, https://energy.ec.europa.eu/system/files/2023-03/SWD_2023_58_1_EN_autre_document_travail_service_part1_v6.pdf.
[16] See the 2023 Forum's Conclusions here: https://energy.ec.europa.eu/events/38th-meeting-european-electricity-regulatory-forum-2023-06-08_en. See the 2024 Forum's Conclusions here: https://energy.ec.europa.eu/events/39th-european-electricity-regulatory-forum-2024-05-27_en
[17] Available here: https://energy.ec.europa.eu/system/files/2020-12/market_reform_plan_guidance_final_0.pdf.

plan faster. To date, many Member States (12 out of 27[18]) have already received Commission Opinions on their implementation plans.

3.2 Necessity and proportionality

The ACER methodology for assessing the European resource adequacy assessment was adopted by ACER in 2020. The development of an ERAA in line with the ERAA methodology required a stepwise implementation by ENTSO-E. While ENTSO-E made considerable progress in the development of the ERAA, ACER did not approve the 2021 and 2022 ERAAs, mainly due to lack of consistency and robustness in the assessment. In 2024, for the first time, ACER approved 'ERAA 2023', concluding that the assessment reached a level of robustness that allows decision makers to rely on its results.

Some Member States[19] have been critical about the complexity of the ERAA methodology, and the fact that under the current methodology it is ERAA's 'central reference scenario' (with two variants – with and without capacity mechanisms) that should be used to identify adequacy concerns. However, it should be taken into account that the ERAA methodology is based on a so-called 'probabilistic' assessment, which already factors in the existence of multiple scenarios and their probability of occurring. Despite this, some Member States consider that having only one central reference scenario to depict the future trajectory is too constraining, as it may give the impression of presenting a "single truth" for the future and placing less emphasis on alternative trajectories. Currently, one of the main criticisms of the central reference scenario is that it is based on the assumption that the objectives in the national energy and climate plans ('NECPs') will be fully met, without taking into account that delays may occur in the implementation of the measures described in the plans and that such delays could affect the system adequacy. The Electricity Regulation refers to "central reference scenarios". This leaves room for introducing an additional central reference scenario which depicts a different pace of the energy transition. It should, however, represent a likely representation of the future to allow State aid decisions, that build upon these central scenarios to justify the necessity and proportionality of the capacity mechanisms.

Because ERAA results were not available before 2024, Member States had to rely on NRAAs (which must be based on the same ACER methodology as ERAA) to justify and size their capacity mechanisms during that period. According to the ACER 2023 SoS Monitoring report[20], some Member States have undergone comprehensive adequacy assessments, but ACER also flagged that other Member States may have applied 'oversimplified' approaches that diverged substantially from the ACER methodology. Interestingly, according to ACER's 2024 SoS Monitoring report, many Member States[21] already include in their NRAAs additional scenarios to the central reference scenario, modelling a different pace of the energy transition. Some Member States[22] include in

[18] Belgium, Bulgaria, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Poland, Spain, Sweden (Estonia is currently going through the process).
[19] Also raised during the two workshops with Member States organized in June 2023.
[20] acer.europa.eu/sites/default/files/documents/Publications/Security_of_EU_electricity_supply_2023.pdf.
[21] Belgium, Bulgaria, Czechia, France, Spain, Portugal (ACER 2024 SoS monitoring report)
[22] Estonia, Belgium, Finland and Sweden (ACER 2024 SoS monitoring report)

their NRAAs scenarios modelling a reduced availability of resources or grid capacities[23] which assess the impact of unlikely conditions with high impact on the electricity system. These scenarios consider deterministic downside risks as opposed to the probabilistic approach foreseen in the Electricity Regulation that attaches the likelihoods to uncertain future events. Finally, the Electricity Regulation envisages that resource adequacy assessments may consider sensitivities on extreme weather events. A few Member States[24] include in their NRAAs such sensitivities.

The ACER methodology for calculating the VoLL, CONE and reliability standard has been adopted by ACER in 2020. Under this methodology, Member States carry out survey studies with different groups of electricity consumers to estimate their willingness to pay for capacity, as well as of capacity providers to estimate the cost of new capacity. The implementation of the ACER methodology at national level significantly differs between Member States.[25] A recent ACER consultancy study[26] found that the significant divergences in the VoLL (assessed using a survey-based approach) and CONE between the Member States can likely not be fully explained by national specificities reflecting structural differences in their economy. It points to possible implementation difficulties[27] and the diversity of outcomes linked to a survey-based approach. These implementation issues can lead to deviations, potentially giving rise to over- or underinvestment in security of supply. Implementing the methodology and carrying out the VoLL, CONE and reliability standard study in each Member State can also be cumbersome and costly, especially for small national authorities, who may lack resources and staff to carry out this exercise.

3.3 Capacity mechanism design features

Based on the case practice, the Commission has identified the following main shortcomings in the *design* of capacity mechanisms.

First, some capacity mechanisms contain requirements in the product design that can make it difficult for new technologies (such as demand-side response and storage) to participate, hence cementing the existing generation mix[28]. These requirements include for instance: availability requirements and restrictive de-rating factors (ie the percentage of the installed capacity of the unit to characterise its effective capacity), minimum eligible capacities, long sustained delivery requirements, and minimum bid sizes.

Second, in some capacity mechanisms it is important that new entry is fostered (e.g. by providing long-term contracts), this can take time in practice. According to ACER's SoS monitoring report 2024, incumbent companies as 'traditional' capacity providers are the main beneficiaries of the

[23] These situations include for example simultaneous failures of multiple grid elements, a disruption of fuel for electricity generation, lower availability of foreign or local nuclear power plants.
[24] Germany, Ireland, Italy and Sweden (ACER 2024 SoS Monitoring report)
[25] ACER SoS monitoring report in 2021 p. 8
[26] https://www.acer.europa.eu/public-events/acer-webinar-implementation-eu-methodology-electricity-adequacy-metrics
[27] This is because Member States have taken decisions based on a number of factors regarding the design of the survey and the processing of associated results
[28] see ACER 2023 Market Monitoring report on barriers to demand response and smartEN Map on resource adequacy mechanisms: smarten.eu/wp-content/uploads/2022/01/the_smarten_map_2021_DIGITAL_final.pdf

support. Specifically, natural gas power plants are the main beneficiaries of capacity mechanisms from 2022 onwards, followed by nuclear and hydro capacity[29]. At the same time, non-traditional capacity providers such as renewables, storage and demand response represent a small share of the capacity remunerated by capacity mechanisms, even though it follows a positive growth trend.[30] It is important to remember though that this is in part because market-wide capacity mechanisms reflect the electricity mix, and the majority of remuneration goes to existing resources in the market.

Third, capacity mechanisms sometimes do not allow for an effective participation of cross-border resources on equal footing with domestic capacity providers, as required by the Electricity Regulation.[31] Except for the Polish capacity mechanism, implementation of the framework for direct cross-border participation is either pending (Belgium, France, and Ireland) or simplified (Italy) in the rest of the market-wide capacity mechanisms. According to some studies[32], this is due to the fact that the current framework for cross-border participation, including the methodologies developed by ACER, is complex and difficult to implement. In addition, the Electricity Regulation stipulates that the maximum allowed entry capacity (MEC) to participate in capacity mechanisms should be calculated by the Regional Coordination Centers (RCCs) and based on the annual ERAA assessments. Until 2023, Member States calculated the MECs themselves (as the calculation process in the RCCs were not established and the ERAA results were not available). In 2024, RCCs produced MEC recommendations for the first time, based on the results of the approved ERAA 2023. However, ENTSO-E currently fully assesses resource adequacy for only four target years out of the ten referred to in the Electricity Regulation. This creates a data gap for the calculation of the MECs.

Fourth, capacity mechanisms in the various Member States apply heterogeneous penalties to incentivise capacity providers to deliver on their commitments. Existing penalty regimes in capacity mechanisms do not always provide sufficiently appropriate incentives to actually guarantee delivery of the contracted service[33]. For example, penalties for delays in building capacity or for a lack of availability, are generally much lower than the VoLL used to identify the costs of a lack of capacity and justify the capacity mechanisms.

Finally, Regulation (EU) 2024/1747 (Articles 19g and 19h) allows Member States to introduce support schemes for non-fossil fuel flexibility. Given that the objective pursued by such flexibility schemes can overlap with the objectives of capacity mechanisms, the interplay between capacity mechanisms and flexibility measures should be considered to deliver the mix of reliable and flexible decarbonised capacity necessary for the future energy system in the most cost-effective way.

[29] Their relative shares in 2023 were around 32%, 24% and 15% respectively.
[30] According to ACER 2023 SoS monitoring report, renewables other than hydro power plants represent just 6 GW or 3% of the total capacity; DSR represents 4 GW, whilst storage is still low at 300 MW in 2022
[31] ACER 2023 SoS monitoring report
[32] Menegatti, E., Meeus, L. (2024),FSR Policy Brief: An easy fix to streamline capacity markets: https://hdl.handle.net/1814/77492
[33] ACER 2023 SoS monitoring report

3.4 Public consultation, transparency and evaluation

Since 1 July 2023, the State aid rules require Member States to consult publicly for 4-6 weeks (depending on the scheme's budget) on any security of supply measures requiring State aid approval[34]. This requirement was introduced (along with a similar requirement for decarbonisation schemes) to ensure that stakeholders are aware of any planned measures and have an opportunity to scrutinize and provide input about the design and key parameters of the planned state-financed capacity mechanisms. For example, this enables market participants to provide views on pre-qualification and capacity availability requirements and penalties, which, as described above, may act as barriers to the participation of certain resources, reducing competition and increasing costs. However, these requirements also add a procedural step for national authorities wishing to introduce capacity mechanisms.

3.5 Duration of the approval process

Member States have considered[35] the process for adopting State aid decisions on capacity mechanisms as a lengthy process. The current capacity mechanism approval process generally has a minimum duration of 6 months. However, case practice has shown that pre-notifications discussions with Member States tended to last longer, i.e. up to 2 years. This was not only due to the "pilot" character of the first procedures under the new provisions of the Electricity Regulation (Articles 20-27), but is also due to the fact that during the pre-notification phase, the design of the scheme tends still to be in the making: initial ideas are still subject to discussion within the Member State and, several rounds of internal exchanges with national stakeholders, as well as with the Commission's services, tend to be necessary to finalise the detailed design of a measure and ensure it meets the requirements in EU legislation.

4. COMMISSION PROPOSALS FOR STREAMLINING AND SIMPLIFYING

4.1 Reviewing the ACER methodology for the ERAA

Pursuant to Article 69(3) of the Electricity Regulation, the Commission shall, based on this report, request ACER amends the methodology for the ERAA as appropriate. To address the concerns related to the ERAA methodology set out above, ACER (in cooperation with ENTSO-E) should review its methodology to assess adequacy in the Union and consider reviewing the methodology for calculating the adequacy metrics, to reduce the implementation burden on the Member States and ease the harmonized implementation of the EU framework.

The methodology should be updated and streamlined in a number of areas to ensure the robustness of the framework, and its ease of implementation by stakeholders (ENTSO-E at EU level and

[34] Point 348 CEEAG.

[35] Member States were preliminarily consulted in June 2023 when the Commission organised two workshops for Member States, as well as during the Electricity Regulatory Energy Forum in Rome 2023.

transmission system operators ('TSOs') or other entities at national level), reflecting on the lessons learnt from the case practice.

The Commission's request to ACER only defines the scope of such simplification of the ERAA Methodology. It is for ENTSO-E to submit the detailed draft proposals of the methodology for ACER's approval, in line with Article 27 of the Electricity Regulation.

4.1.1 The scenario framework

According to the ERAA methodology (Article 3), the identification of the adequacy concerns should be based on one central reference scenario (with variants[36] including or excluding approved capacity mechanisms), while additional sensitivities are only meant to assess the robustness of the identified adequacy concern.

The current central reference scenario is based on the delivery of targets in the NECPs, consisting of political objectives and targets. The NECPs describe the trajectories of the future installed capacity (renewables, storage) and demand (electrification, energy efficiency) according to the EU's ambitious targets. The Member States' NECPs represent the best available plan depicting the future of the energy system during the energy transition. However, this scenario does not take into account that delays may occur in the implementation of the measures described in plans and that such delays could affect system adequacy. In addition, the NECPs are updated every five years and the original trajectories may deviate from the former plan. For example, the development of new assets linked with electricity production (e.g. RES, nuclear), electricity demand (e.g. H2 electrolysis) and crucial infrastructure (national grid, connection of production assets, interconnections) may diverge from the planned in terms of composition or pace.

That is why it could be envisaged to review the scenario framework and introduce an additional 'trends & projections scenario' in the methodology for the identification of adequacy concerns that Member States could use to justify the introduction of a capacity mechanism. This would have the benefit of allowing to consider an alternative view of the future, e.g. one where renewables, nuclear or storage are installed at a different pace and electrification takes place at a different pace.

This 'trends & projections scenario' also determined in a probabilistic manner, would be a scenario which would consider the actual progress towards delivering Member States' NECPs. This includes observed evolution of supply as well as demand (considering e.g. the electrification pace and energy efficiency) and network development, taking into account the risk for some countries that the delivery on the objectives and targets will not materialise on time[37]. For this reason, the second scenario should not include other risks to avoid distorting its purpose, which is to capture the actual pace of energy transition. This purpose also requires that the trends used in the second scenario are not more conservative than the Member States' projections including policies and

[36] Regulation (EU) 2024/1747 strengthened the role of capacity mechanisms in addressing adequacy problems. As a result, the variant that includes these approved capacity mechanisms becomes more relevant than the variant that does not consider those mechanisms. This could inform the efforts to streamline the methodology.

[37] https://www.eea.europa.eu/themes/climate/trends-and-projections-in-europe

measures already adopted and implemented. Moreover, in this expansion of the scenario framework, it is essential to define appropriate comparative indicators to delineate the differences between central reference scenarios; they will also enable stakeholders to effectively compare the main assumptions over the years. The additional scenario must strike a careful balance between realism and conservatism, in order to avoid a risk of increasing costs for consumers without delivering meaningful additional benefits.

For the above reasons, the additional scenario and its assumptions, notably based on historic data[38] and current projections[39], which differ from the objective and targets put forward by Member States to ensure compliance with the Union's 2030 energy and climate targets and its 2050 climate neutrality objective, should be subject to a thorough public consultation. ACER should give guidance on how this public consultation should be done. The TYNDP Stakeholder Reference Group is invited to express its opinion on the consistency of ERAA scenarios with the TYNDP scenario framework.

It is important to recall that there would continue to be a role for NRAAs to make sure that specific developments identified by Member States can be taken into account when designing a capacity mechanism.

4.1.2 The selection of target years

The ERAA methodology (Article 4.1) requires the modelling of each year over a 10-year horizon (based on the requirement of the Electricity Regulation). Having results for each year is important for decision making on the necessity of a capacity mechanism as well as for the calculation of the maximum entry capacity for cross-border participation in capacity mechanisms. However, stakeholders (ENTSO-E) have faced computational difficulties in modelling each of these 10 years. In a spirit of simplification, the model could in the future explicitly model for a limited number of target years which are crucial for decision-making for capacity mechanisms (including calculation of the maximum entry capacity), while other target years can be modelled through extrapolation.

4.1.3 The role of the economic viability assessment

According to the ERAA methodology (Article 6), the economic viability assessment models market entry and exit decisions. Currently, the ERAA model measures the economic viability of resources using the so-called 'system cost' approach which minimizes overall system costs, that is the sum of fixed costs and total operating costs. Such an approach, optimizing the costs for the entire European system in a single step, has given rise to significant computational constraints and to inconsistencies between the capacity entry and exit decisions and the estimated adequacy risks.

[38] e.g.; following Article 18 of the Governance Regulation
[39] Including policies and measures under discussion having a realistic chance of being adopted.

To address these concerns, the economic viability of resources should be based on a 'revenue maximization' approach which measures the difference between expected revenues and costs for each capacity resource[40]. This is already applied by some TSOs in Europe. Allowing to break down the economic viability assessment into smaller, computationally less demanding iterations, is leaner (as an 'iterative approach'[41]) and better models the capacity entry and exit decisions. The ERAA methodology should contain a post-process in order to enable the direct identification of the volume to procure for each bidding zone linked to the adequacy gap identified in the model. Moreover, this approach will ease the application of flow-based capacity calculation, which appropriately reflects cross-border trade opportunities and underlying welfare gains. A further simplification could relate to revising the number of climate years modelled in the probabilistic assessment while ensuring it accurately represents the resource adequacy need.

Currently, ERAA models investment behaviour by calculating a CONE (cost of new entry) using two key parameters: the weighted average cost of capital (WACC) and hurdle rates (i.e. the minimum rate of return required by fund providers (shareholders and/or creditors) to finance investment in the reference technology in the considered geographic area). Some stakeholders highlighted concerns that the assessment may potentially be too optimistic on investment behaviour, i.e. suggesting that risk-averse investors would not be able to finance a project based on extreme price spikes occurring in a few hours per year. Therefore, special attention should also be given to the conditions for investment decision-making process, by appropriately modelling the risk aversion of a rational investor via 'hurdle rates'.

4.1.4 Cross-zonal capacities

The current ERAA (Article 4.7 of ERAA methodology) models cross-zonal exchanges from third countries in two distinct ways: i) for systems which are not modelled at all[42] (Russia, Belarus), no cross-zonal exchange is assumed; ii) and for systems which are 'not explicitly modelled' (Morocco, Moldova, Tunisia, and Ukraine)[43], cross-zonal exchanges must reflect market conditions and expected operational practices (including specific connection agreements). Assumptions linked to those cross-zonal exchanges from third countries should be continuously monitored by ENTSO-E (with ACER oversight) to reflect the level of risk associated with these systems.

[40] The economic viability assessment should be adapted to better capture revenues relevant for new clean flexible resources (including those from ancillary services markets). To that end, close interaction with the relevant stakeholders that understand the actual business models of these technologies is highly important.

[41] Economic dispatch simulation calculates revenues and costs for different resources then investments are adjusted based on the results and dispatch is run again followed by adjustment of capacities etc. until market equilibrium.

[42] These systems are not modelled at all, ie no cross-zonal exchanges are assumed from these third countries.

[43] These systems are modelled as exogenous best estimates of cross-zonal exchanges with modelled zones. Data is provided by TSOs having direct interconnections with those systems and should reflect expected market conditions and operational practices (including specific connection agreements).

4.1.5 Impact of measures contained in Member States' implementation plans

The ERAA methodology (Articles 3.3 and 5.14) contains a requirement that the assessment should align with the measures and actions defined by Member States in the implementation plans pursuant to Article 20(3) of Electricity Regulation. In a spirit of simplification (and in line with Article 23(5) of the Electricity Regulation), the assessment could in the future - instead of aligning with the measures contained in Member States implementation plans - anticipate the likely impact of the measures contained in those plans.

In addition, in case an indirect restriction to wholesale price formation pursuant to Article 10(4) of the Electricity Regulation is identified (and modelled in ERAA), the ERAA methodology (Article 3.7) requires the assessment to contain a mandatory sensitivity to identify whether indirect restrictions to price formation may constitute possible sources of resource adequacy concerns. In the spirit of simplification, this sensitivity could become non-mandatory.

4.1.6 De-rating factors

The ERAA methodology (Article 4.4) contains requirements on availability of supply sources. There should be a common view on the definition of de-rating factors for different technologies. These de-rating factors should be made publicly available by ENTSO-E (with ACER oversight).

4.1.7 Contribution of demand response and storage

The ERAA methodology (Articles 4.3 and 4.5) contains requirements on how to model demand response and storage. However, non-fossil flexible technologies have not been in the focus of the ERAA implementation yet. As the energy transition goes on and their business model develops, sharpening the ERAA implementation towards the consideration of non-fossil flexible resources, and taking account of any resources supported under flexibility measures, becomes more important (e.g. better reflection of ramping constraints for the economic dispatch model, better taking into account ancillary services revenues[44] for the economic viability assessment, better estimation of local resources e.g. heat pumps, EV penetration etc), ERAA can not only properly account for the contribution of demand-side response and storage, but also provide relevant input to the flexibility needs assessment hence avoiding double work for Member States.

4.1.8 Transparency and stakeholder interaction

The ERAA methodology (Articles 9 and 11) already contains requirements on transparency and stakeholder interaction. Efforts to increase transparency should continue. For example, stakeholders and regulators have requested the publication of ERAA results indicating the distribution of energy not served per hour. Such information is key for Member States and stakeholders to understand the extent to which a scarcity event constitutes a serious threat to the security of supply and should be included in the ERAA. Inputs (Article 5 of the ERAA methodology) that are not Member State specific but used as default values across bidding zones

[44] The ERAA methodology (Article 6.9(b)) allows the consideration of all revenue streams, including revenues from ancillary services crucial for storage technologies and demand response. This should be made mandatory.

in the ERAA model (e.g. cost indicators of resources, derating factors) should be made publicly available by ENTSO-E (with ACER oversight).

4.2 Streamlining the Commission approval process for capacity mechanisms

An approval decision from the Commission is required before State aid can be legally granted via a capacity mechanism. Adopting a State aid decision for a national capacity mechanism requires assessing its compatibility with the requirements in the Electricity Regulation (Articles 20 to 27) and in Section 4.8 of CEEAG.

To respond to Member States' concerns and speed up the approval of capacity mechanisms, the Commission proposes to develop a *simplified State aid procedure* for capacity mechanism designs that follow pre-defined off-the-shelf models based on best practice and that can therefore be expected to limit competition distortions. This simplified procedure will be proposed as part of the new State aid Framework mentioned under Pillar 2 of the Competitiveness Compass Communication[45].

To enable the required legal assessment under the Electricity Regulation and the State aid rules, and to provide the guidance necessary in relation to what are usually complex national designs, this simplified procedure would cover a necessary set of design features. While a State aid decision would remain necessary to approve a capacity mechanism, discussions with the Commission could be significantly accelerated for Member States that follow the simplified procedure.

The proposed simplified procedure would cover the two most common capacity mechanism designs – one for market-wide central buyer capacity mechanisms and one for strategic reserves – and would summarise the key elements which Member States are required to provide in the form of a checklist.

Where the Member State's envisaged capacity mechanism design aligns with all elements in the checklist, the Commission would proceed with a swift adoption of a State aid decision, without the need for further discussions about the design.

The requirements for this simplified process may contain the following:

- Member States can apply the simplified process if they *rely on the most recent ERAA report* (approved by ACER) to demonstrate the necessity of the scheme. As outlined under point 4.1, the ERAA methodology will in the future be simplified and additional flexibility will be provided to Member States to justify their scheme on the basis of ERAA.

- As an additional simplification to accelerate the approval process of the capacity mechanism, the Commission will request ACER to calculate a *reference value of lost load* for all Member States, leveraging current experiences to increase efficiency and enhance

[45] 29.1.2025 COM(2025) 30 final: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0030

the consistency of the calculation. ACER should also make available reference cost indicators at the EU level considering existing studies on the cost of new entry and best available economic studies. These reference values (which will be made immediately available by ACER) will enable Member States to establish their reliability standards swiftly if they decide to consider ACER's calculations.

- Regarding the overall process to approve capacity mechanisms, Member States that have not yet adopted their implementation plan, can submit their plan to the Commission well in advance of their proposed scheme. Member States can implement the proposed reforms contained in their plan in parallel to the introduction of the scheme. Member States that have already submitted their implementation plan and received the opinion from the Commission are not required to issue a new implementation plan.

- Finally, regarding the design of the scheme, it should comply with a necessary set of design features. The Commission will detail these best practices as part of the proposal for the new State aid framework.

5. CONCLUSION AND NEXT STEPS

Based on the review of the procedure related to the application for capacity mechanisms under Chapter IV of the Electricity Regulation, the Commission concludes that a number of elements can be streamlined and, under some conditions, the procedure can be simplified.

Pursuant to Article 69(3) of the Electricity Regulation, the Commission shall, by 17 April 2025, come forward with proposals with a view to simplifying the process for assessing capacity mechanisms, as appropriate.

Such proposal is detailed out in Annex I of draft Communication from the Commission on the Framework for State aid measures to support the Clean Industrial Deal (Clean Industrial Deal State Aid Framework – CISAF). Member States will be consulted on the proposal ahead of their adoption.

The Commission's position on this report is without prejudice to any position it may take on the compatibility of any national implementing measure with EU law.