



EASE Response to DSO Entity and ENTSO-E Public Consultation on the EU Flexibility Needs Assessment Methodology

December 2024



Introduction

EASE would like to share its full consultation response below because the official consultation platform's use of character limits restricted a full elaboration of EASE's response, particularly for question 18.

1. [Do you have any comments on Article 01 – Subject Matter?](#)
2. [Do you have any comments on Article 02 – Definitions?](#)
3. [Do you have any comments on Article 03 – Roles and responsibilities?](#)

Article 3 makes no reference to the national designated entity responsible for completing the report. Does this imply that the analysis by TSOs and DSOs is merely a hand-off, with no planned exchange with the national designated entity? Can the national designated entity request changes or specify requirements regarding how the analysis is conducted? Is there a governance framework envisioned to involve national stakeholders in the development of the analysis?

4. [Do you have any comments on Article 04 – Confidentiality obligations?](#)

Confidentiality requirements must not compromise the transparency regarding FNA inputs and outcomes.

5. [Do you have any comments on Article 05 – Data needed to run the analysis – General provisions?](#)
6. [Do you have any comments on Article 06 – Needs covered – General provisions?](#)

First, for the sake of clarity, we suggest the following addition to Article 6.3: “Flexibility needs pursuant to paragraph 1 and 2 shall be expressed in a technologically neutral manner through indicators with relevant metrics, including capacity, energy, and duration. **To ensure their definition remains technologically neutral, metrics shall be strictly limited to technically relevant aspects, avoiding any non-essential criteria that would unduly narrow the range of technologies capable of meeting the flexibility need in question.**”

Second, inertia and restoration are critical flexibility needs explicitly recognised during the methodology's development but not addressed in the draft methodology. According to Article 6(2), “TSOs and DSOs may, if they deem it relevant, extend the analysis to other flexibility needs.” The transition to a highly decarbonised electricity system with significant shares of non-synchronous generation demands greater attention to system services supporting grid



stability, which should be appropriately valorised. Given the limited timeline for methodology development, it is understandable that devising a novel approach to quantify these excluded flexibility needs within a MS-level analysis may be too complex. However, significant differences between flexibility resources in terms of their capabilities and costs to provide these ‘out-of-scope’ flexibility needs or other critical system services should at least be highlighted in the guiding criteria. As detailed in Article 19h(g) of the electricity regulation, a non-fossil support scheme, if introduced, can take “into account possible system integration costs and grid congestion and stability”. If the application of the FNA methodology can help inform this criterion for a non-fossil support scheme, it would be valuable.

7. Do you have any comments on Article 07 – System needs – General provisions?

Regarding Article 7(1) on the scenarios to be used for the assessment:

The choice of a scenario, “either consistent with the reference scenario of the ERAA or the NRAA” appears to be deliberately ambiguous. On the one hand, respecting the principle of subsidiarity, using the NRAAs as a reference scenario acknowledges Member States’ rights to plan their energy mix. On the other hand, using the ERAA as a reference scenario seeks to ensure coordinated planning across the European Union. While both objectives are legitimate when defining a common reference scenario for the FNA, establishing a firmer requirement likely exceeds the scope of this methodology and would rest with policymakers to refine.

EASE therefore agrees that at least one scenario should align with the reference scenario of the ERAA or the NRAA. However, to ensure the methodology is future-proof, FNAs should incorporate contrasted scenarios to account for a wide range of possible futures. Members States should not only be permitted but explicitly encouraged to include additional scenarios, as selecting the appropriate scenarios for projecting national pathways is a fundamental aspect of their responsibilities.

We therefore suggest the following addition to article 7.1: “TSOs may run the assessment for additional scenarios, either included within the set of reference scenarios of the ERAA or additional ones; **TSOs are encouraged to do so, particularly where they identify the need to test complementary scenarios reflecting the rapidly evolving realities of decarbonisation (e.g., technology advancements, economic adjustments).**”

8. Do you have any comments on Article 08 – System needs – RES integration?

Several arguments could be made to challenge how this flexibility need is quantified and what can be inferred from the results. While these arguments should inform a more cautious



interpretation of the findings, the RES integration need should ultimately remain in the assessment, as it serves as a key indicator of RES curtailment. The challenges most pertinent to energy storage technologies (with or without electricity output, as defined in the Clean Energy Package) in quantifying this need are detailed in response to Question 18.

It is important to note that Article 8(4) states, “National target for RES integration shall be derived from the latest approved National Energy and Climate Plan or other relevant national regulation/source.” The only legally binding objectives for RES integration are those derived from the Renewable Energy Directives (RES as a share of final energy consumption), which is a cross-sector target. In contrast, the ERAA and the FNA focus solely on the electricity sector. Moreover, many Member States lack a renewable electricity target enshrined into national law, making the derivation of a national target for RES integration a complex task. Consequently, some Member States may benefit from additional guidance (for example, on how the deployment of additional storage and/or electrification of energy usages can be considered as possible ways to reduce RES curtailment and increase RES integration).

9. Do you have any comments on Article 09 – System needs – Ramping needs?

Article 9(1) and Article 9(2) recognise that economic dispatch results may already account for the technical constraints of flexible generation units, such as ramp-up and ramp-down limits, start-up and shut-down times, and minimum and maximum power constraints. These technical constraints are listed in Table 1 of Article 7. However, if the dispatch results do not include all of these technical constraints, Article 9(3) only mandates that the minimum and maximum power constraints of flexible generation units be considered. This raises several points requiring clarification. First, are minimum and maximum power constraints the only technical constraints of flexible generation units that must be considered to quantify ramping needs? Second, which assets fall under the definition of “flexible generation units”? For instance, does this term include battery storage, electrolysers, EVs, and other technologies? It would be helpful if Article 9(3) provided guidance on how to incorporate all the technical constraints outlined in Table 1, to quantify ramping flexibility needs and specified how to assess their relevance.

It would also be beneficial to clarify the units and data types for ramp-up and ramp-down limits in Table 1. Typically, the technical ramping rate is expressed as (%Pmax) for each technology type. However, it is currently presented as an aggregate MW per min value, assumed to remain constant across all time periods. Regardless of the approach used, it is essential to consider the appropriate technical constraints, identify the assets that are dispatched and available, and determine their aggregate ramping constraints to calculate the system’s ramp-up and ramp-down capabilities. Additionally, the rapid response capabilities of battery storage should be explicitly recognised in such analyses.



10. Do you have any comment on Article 10 – System needs – Short-term flexibility needs?

Several issues arise from using the economic dispatch results from the ERAA/NRAA, which ultimately affect the quantification of short-term flexibility needs. First, the ERAA 2023 methodology ([page 36](#)) employs a capacity withholding approach to procure FCR and FRR capacity. When implemented, this led to assumptions by TSOs (as seen in the Excel tab '[Reserve Requirements](#)' in PEMMDB data), where battery storage does not provide any FCR or FRR in any country. This is an unrealistic and biased assumption that impacts the economic dispatch in the ERAA, and thus indirectly and negatively impacts the starting point of the FNA. Second, as already mentioned in response to Article 9, the ERAA/NRAA simplify several technical constraints, which may be reasonable when assessing resource adequacy needs. However, this simplification may lead to an infeasible market dispatch result in the ERAA/NRAA once these constraints are added. It would be helpful for Article 10(2) to clarify how to incorporate all the technical constraints listed in Table 1 to quantify short-term flexibility needs across the multiple time frames, and how to assess the relevance of these constraints.

Article 10(2) requires the analysis to “assess the upward- and downward ramping capability in at least one time frame between 5 minutes and 5 hours per dispatchable unit capped following minimum and maximum power constraints.” However, multiple time frames should be examined, not just one. These time frames should span 1 minute to 8 hours, with several intermediate time steps, in order to fully capture the ramping capabilities of different technologies and account for the complete range of RES forecast errors.

The relationship between the system needs analysis and balancing markets, as outlined in Article 10(4), requires further clarification. The methodology should clearly explain how reserve dimensioning (FRR) is derived from the system needs analysis, ensuring transparency and coherence.

Balancing Service Providers (BSPs) would greatly benefit from a clear projection of estimated balancing capacity demand for the target years. If this information is not currently included, it should be incorporated as a key outcome of the FNA to improve market predictability and support investment decisions. This would align the FNA with the operational and planning needs of BSPs, encouraging efficient market participation.

11. Do you have any comments on Article 11 – DSO flexibility network needs (DFNN)?

The initiative of DSOs leveraging DNDPs and considering network planning in a way that incorporates flexibility resources is a positive step. However, concerns remain regarding the interaction between network needs and system needs, as well as the broad discretion given to



DSOs to “fine-tune” the results. Given the mixed quality of data on network needs and the lack of established methods for conducting this “fine-tuning”, a more cautious approach would be to present the final analysis both with and without the inclusion of network needs.

12. Do you have any comments on Article 12 – TSO network flexibility needs?

The initiative of TSOs considering network planning in a way that incorporates flexibility resources is a positive development. However, concerns persist regarding the interaction between network needs and system needs, as well as the broad discretion given to TSOs to “fine-tune” the results. Since the methods for conducting this “fine-tuning” are not yet established, a more cautious approach would be to present the final analysis both with and without the inclusion of network needs.

13. Do you have any comments on Article 13 – Delegation – DSOs?

14. Do you have any comments on Article 14 – Guiding criteria ?

This article is missing from the consultation document, and as such, EASE is unable to provide a response. However, we remain available to offer further feedback if the missing article is proposed at a later stage.

15. Do you have any comments on Article 15 – Derogations?

This article is missing from the consultation document, and as such, EASE is unable to provide a response. However, we remain available to offer further feedback if the missing article is proposed at a later stage.

16. Do you have comments on Article 16 – Implementation of the regulation at national level?

Article 16 implies that analysis by TSOs and DSOs is a simple hand-off without any opportunity to exchange with the national designated entity. Can the national designated entity make any request concerning how the analysis is conducted? Is there any governance framework foreseen that would involve national stakeholders in its elaboration? The FNA methodology should consider adopting governance best practices of other European methodologies or processes.

17. Do you have any comments on Article 17 – Updates/refinements of the methodology?



ACER should periodically conduct an open consultation on the FNA methodology to collect feedback and recommendations from stakeholders about potential revisions to the FNA methodology.

18. Do you have any general feedback on the draft methodology?

The European Association for Energy Storage (EASE) welcomes the opportunity to respond to the open consultation on the Flexibility Needs Assessment methodology. The following general remarks contextualise the detailed responses provided above.

Significant challenges lie ahead to make the electricity system more flexible to integrate variable renewables and achieve a cost-efficient path to meet the European Union's decarbonisation objectives. The deployment of energy storage technologies will grow significantly and play an indispensable role in this transformation. EASE had two expectations about why the FNA methodology was necessary to develop and for what the methodology would be used once applied. First, the methodology would define and quantify new flexibility needs that are insufficiently addressed in resource adequacy studies. Second, once applied, it would inform the setting of indicative non-fossil flexibility (and energy storage) targets and help to determine whether investments are sufficient to reach these indicative targets. Unfortunately, the draft methodology does not sufficiently meet these expectations. On these two expectations, EASE would like to highlight what it finds to be fundamental problems with the methodology and try to offer some potential solutions to consider.

First, without straightforward guidance in the methodology on what is the relevant data to use and how to use it, it is unclear whether flexibility needs are captured and whether ERAA results are simply duplicated. The draft methodology leaves significant room for interpretation about what to analyse and how, it lacks detail on the computations required and gives a wide discretion to TSOs and DSOs to carry out "fine-tuning." Moreover, the absence of any governance framework between TSOs/DSOs conducting the analysis—who are not obliged to consult the designated national entity producing the report or national stakeholders—implies a lack of oversight or stakeholder engagement.

Second, EASE finds that the methodological requirements detailed in Article 19e(4,b) are not well respected. The methodology for the analysis by TSOs and DSOs of the flexibility needs should take into account at least, "all available sources of flexibility in a cost-efficient manner in the different timeframes..." and "planned investment in interconnection and flexibility at transmission and distribution level". The impact of such oversights is a serious concern because it is not well understood by stakeholders if the FNA is a simple planning exercise for



TSOs and DSOs or instead it will be employed in some way as a tool to determine non-fossil investment needs.

Ease would like to highlight in what ways the methodological requirements are not respected. There are several simplifications made in ERAA that are arguably less relevant for studying resource adequacy needs but become oversimplifications as a starting point for the FNA methodology to quantify flexibility needs. It is important to recognise that resource adequacy and flexibility needs are inextricably linked, no matter how hard the FNA methodology tries to decouple them.

A first critical oversimplification that carries over from ERAA to the FNA is that investments in flexibility resources are simply assumed to materialise to align with NECP projections. This assumption implies that either policy measures are already in place or these investments are inherently profitable. Consequently, a likely outcome is that the NECP projections determine indicative targets in a circular way. If the FNA results were intended to either inform targets or the necessity of a policy measure, like a non-fossil support scheme, then this critical assumption unintentionally makes the FNA methodology redundant. After quantifying the needs based on this assumption, the necessity of a non-fossil support scheme is left inconclusive and the system may be exposed to unknown risks should the assumed non-fossil flexibility investments not materialise. Potential risks include the undersupply or oversupply of non-fossil flexibility that could exacerbate price volatility or force the need to resort to fossil-based flexibility to the detriment of meeting decarbonisation objectives. It is disputable and difficult to comprehend how NECP projections can be considered as planned without meaningful policy measures to realise them, such as non-fossil support schemes. Hence, a classic chicken and egg problem arises, which comes first the need or the policy measure?

A second oversimplification that carries over from ERAA to the FNA concerns the exclusion of several pivotal energy storage technologies that are crucial for quantifying flexibility needs across time scales. On the one hand, the ERAA and FNA focus solely on the electricity system, disregarding thermal energy storage and hydrogen storage. On the other hand, only mature energy storage technologies are assumed to be installed, namely PHS and battery storage, excluding any potential role for multi-day storage or other long duration energy storage technologies. For these reasons, the quantification of system needs is neither technology neutral nor aligned with the requirements of the legislation.

A third oversimplification concerns ignoring the feedback loop between taking FNA results and considering what this implies for the validity of ERAA's economic dispatch result. Any difference in the FNA that would predictably impact resource adequacy metrics or the economic viability of capacity resources already established in ERAA, would imply the ERAA economic dispatch solution should be reconsidered, which again is the starting point of the



FNA. Differences could emerge from, for example, changes in the installed capacities to resolve a RES integration need, a network need interfering during peak scarcity hours, or ramping infeasibilities only detected upon adding technical constraints to the FNA. This requires further exploration and understanding to avoid unintended consequences or the risk of drawing incomplete or incorrect conclusions.

Lastly, striving for robust results should be welcome. The energy transition has always been full of surprises challenging long-held beliefs and expectations (thanks to technology innovation, business model development, social commitment, etc). In recent years, the unpredictability increased even more, with the global pandemic, supply chain disruptions and increasing military conflicts. Therefore, it is important to underline that examining additional viewpoints is not only tolerated but explicitly encouraged, meaning that the TSO has the role to verify that the used scenarios are up to date and cover all relevant evolutions that need to be considered.

Indeed, allowing and encouraging a variety of scenarios, as suggested by EASE in this consultation, is important for various reasons. In particular since the Flexibility Needs Assessment methodology and notably Article 8 only allows to compare “RES generation curtailment in the system” with “RES integration targets”, even though Article 19e of Regulation EU/2024/1747 mandates the evaluation of “different types of flexibility needs, at least on a seasonal, daily and hourly basis, to integrate electricity generated from renewable sources in the electricity system, inter alia, different assumptions in respect to electricity market prices, generation and demand”. Indeed, this formulation of Article 19e can be understood as a reference not only to addressing excessive production but also lacking RES production (for example the risk of several consecutive weeks with high demand and low wind/solar production). It is understandable that the risk of lacking production is considered to be addressed by existing Resource Adequacy studies (hence the focus of the Flexibility Needs Assessment methodology on RES curtailment and not on RES backup), nevertheless if a Member State wants to test alternative Resource Adequacy scenarios, for ex. as a stress test to see how the flexibility resources would react, the Member State should be allowed to do so.

EASE would like to propose some solutions for further consideration.

First, all stakeholders should be aware, including policymakers who receive the FNA report, of the modelling limitations and what can and cannot be inferred by the analysis. The draft methodology could add an Article for TSOs and DSOs to make an ‘authorship statement’ to contextualise their analysis which can be used in the national report placed next to the executive summary. As a stakeholder, EASE does not fully grasp how the results of this FNA analysis will be interpreted by policymakers in the final report. There is a potential risk that policymakers will make firm decisions about the necessity of non-fossil support schemes



based on a single reference scenario that has the shortcomings outlined above. The following key questions should be answered by European stakeholders involved in developing the methodology and eventually approving future non-fossil support schemes:

- Is the FNA methodology and analysis irrelevant in determining the necessity of a non-fossil support scheme, as defined in Article 19g(1)?
- Should the implementation of the FNA methodology be utilised to justify the necessity of a non-fossil support scheme, and if so, what are the steps to follow?

Second, should conclusions about non-fossil support schemes be expected from the FNA, then significant improvements would be needed in ERAA to make the economic viability assessment suitable for other capacity resources. It would require shifting away from a system cost minimisation approach and instead assess groups of capacity resources considering several revenue streams, enlarging the scope to include sector coupling details like thermal energy storage, and carefully modelling longer duration energy storage technologies, among the improvements.

Third, to avoid that the short implementation timeline limits the ambition and usefulness of the methodology once applied, a phased implementation of the methodology could be considered that makes some methods or simplifications acceptable in the first cycle of implementation. The end goal would remain clear with less room for interpretation, as well as more clarity and detail on the computations to be used.



About EASE

The European Association for Storage of Energy (EASE) is the voice of the energy storage community, actively promoting the use of energy storage in Europe and worldwide. It supports the deployment of energy storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. EASE seeks to build a European platform for sharing and disseminating energy storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe.

For more information please visit www.ease-storage.eu

Disclaimer

This response was elaborated by EASE and reflects a consolidated view of its members from an energy storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.

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