To the kind attention of **Christian Zinglersen**
Director, ACER
CC: **Damian Cortinas** Chair of ENTSO-E Board
Sonya Twohig, Secretary-General of ENTSO-E

2023 European Resource Adequacy Assessment: still a conservative estimation for demand-side flexibility

Brussels, 6 March 2024

Dear Christian,

A robust European Resource Adequacy Assessment (ERAA) is crucial for proactively addressing security of supply risks and facilitating informed decisions to enhance the reliability and sustainability of the European power system. This requires to appropriately account for the contributions of all resources, including from demand-side flexibility (DSF).

Demand management solutions, distributed renewable generation, and decentralised energy storage facilities offer cost-effective flexible capacity replacing outdated and expensive fossil fuel power plants, while supporting the growing daily system flexibility needs. Quantifying their benefits and potential for power system adequacy will encourage the establishment of market-based mechanisms that activate and reward consumers' flexibility.

While smartEn appreciates the improvements made by ENTSO-E in the 2023 ERAA, particularly in the evolution of the Economic Viability Assessment (EVA), smartEn members express the following concerns and call for improvement in the underlying methodology:

- ENTSO-E rightly acknowledges the need for new flexibility tools that facilitate the management of demand to address the increasing variability in supply. However, DSF resources, including existing capacities - are not properly accounted for in the EVA compared to other generation resources[1]. Doing so will allow for a more accurate representation of all the technologies available to meet the system's needs. It will also contribute to the alignment and consistency of adequacy and flexibility assessments.
- The EVA does not consider additional revenues besides those from wholesale electricity market and excludes from the analysis what it considers to be “non-market resources” such as strategic reserves, FCR or FRR, even though they contribute to resource adequacy, as pointed out by ACER[2]. By withholding an amount equal to the total FCR and FRR capacity needs from the wholesale energy markets, the modelling does not recognise the importance of value-stacking, crucial for any solid DSF business model and possible with a seamless market coordination, but assumes the maintenance of persisting barriers for market coordination, resulting in split liquidity. This is not in line with the development of the Network Code for Demand Response and ACER Framework Guidelines, which would ultimately discourage any evolution in that sense.
- Annex I on the input data and assumptions indicates that only load-reducing DSF is accounted for in the ERAA. This is extremely worrisome as it completely overlooks the significant contribution of DSF in shifting demand from peak to off-peak situations, which plays an important role in ensuring the adequacy of the system. Besides, this does not appear aligned with the rest of the methodology that account for demand shifted within time windows. Further consistency is therefore needed on this point.
- The use of the NECPs as the starting point for the EVA requires further scrutiny and does not automatically guarantee the alignment of ERAA with the EU Fit for 55 and Electricity Market Design objectives and regulations. This is notably due to a lack of measures to eliminate barriers to DSF in most of the NECPs. Despite acknowledging that market reforms will be considered in the ERAA scenario, many TSO have not quantified the direct impact of these reforms, potentially leading to an underestimation of DSF's contribution to resource adequacy.

[1] DSF are not put on an equal footing with generation resources in ERAA Annex I on the technologies and capacities subject to the EVA, in particular when considering the installed capacities in the first step of the EVA.

[2] https://www.acer.europa.eu/sites/default/files/documents/Publications/ACER_MMR_2023_Barriers_to_demand_response.pdf

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- Already last year, smartEn acknowledged the progress made by ENTSO-E in combining both ENTSO-E centralised approach and national studies to assess explicit DSF in ERAA to complement the national trends assumptions. However, some concerns persist:
    - The ERAA does not provide sufficient information on the technologies considered for explicit DSF which seems to be limited to large scale storage.
    - The centralised approach is de facto excluding residential DSF, therefore leaving an important gap in assessing the potential of all DSF resources.
- Regarding implicit DSF, only EVs, heat pumps and household batteries are considered as flexible assets. As stated last year, the flexibility potential of other energy smart devices and energy management systems in both buildings and industrial sectors is not taken into consideration, nor the flexibility offered by local initiatives that are self-balancing.
- The chosen 6-hour time intervals, within which consumers are anticipated to shift their consumption, has been maintained even though these are arbitrary and do not align with the observed market use cases.

Given these current limitations, the estimation of installed capacity of DSF for the different target years appears conservative[3].

We urge ACER to consider the points mentioned above in its decision and to request amendments to the 2023 ERAA. These aspects should also be incorporated into the amendment of the ERAA methodology, which ACER will need to undertake upon the entry into force of the revised Electricity Market Design. smartEn stands ready to provide support and looks forward to actively take part in this process.

Yours sincerely,

Michael Villa

Executive Director
smartEn

[3] smartEn and DNV's study on DSF quantification of benefits in the EU assessed that by 2030 the available upward flexibility (increasing generation or reducing demand) is 164GW and the downward flexibility (decreasing generation of increasing demand) is 130GW.

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ABOUT smartEn - Smart Energy Europe

smartEn is the European business association integrating the consumer-driven solutions of the clean energy transition. We create opportunities for every company, building and car to support an increasingly renewable energy system. Our membership consists of the following companies:

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