22 April 2020

# OVERVIEW OF ERAA CONSULTATION COMMENTS

## Data and transparency

The use and accessibility of data received increasing attention among stakeholders. Many stakeholders request a complete publication of input datasets and assumptions. Some would even like to see the market models used to be shared. On the other hand, others stress the importance to protect commercially sensitive data (e.g. unit-by-unit thermal generators).

**ENTSO-E position**

We thank the stakeholders for their feedback. ENTSO-E is constantly working towards improved models that build on clear and transparent assumptions and input data-sets. Transparency is also key for ENTSO-E: we will publish the assumptions data to the highest possible granularity, while complying with data ownership and confidentiality constraints. Most of the data used are already published with our reports. However, some information (e.g. thermal power plant locations with techno-economic parameters) are commercially sensitive and their publication is constrained by confidentiality considerations;

## Contribution of balancing reserves (FCR, FRR, RR)

With respect to balancing reserves, ENTSO-E has received conflicting comments and views from different stakeholders. On the one hand, there are stakeholders that support the consideration/use of all balancing reserves as being available to prevent adequacy issues. On the other hand, comments by other stakeholders state that all balancing reserves should be excluded;

**ENTSO-E position**

ENTSO-E supports the view that balancing reserves (FCR and FRR) should not be used for adequacy, for reasons explained in the methodology document. For this reason, these resources are subtracted from the available generation, as was the case in the past with the Mid-term Adequacy Forecast. Replacement Reserves (RR), on the other hand, are optional and only used to replace the FRR. Thus, keeping RR outside the adequacy assessment would be considered a conservative assumption for the ERAA.

## Modelling of strategic reserves

Several stakeholders pointed out the contradiction of excluding strategic reserves from the main assessment with capacity mechanisms, because strategic reserves can be considered to be part of capacity mechanisms. In addition, even if out of the market, strategic reserves contribute to adequacy;

**ENTSO-E position**

We acknowledge the feedback of the stakeholders on strategic reserves. Thus, we have updated accordingly the methodology in order to clarify that strategic reserves will be considered in the scenario with capacity mechanisms, whenever feasible and under a specific framework.

## Interconnections

Some comments suggest the consideration of ‘’real network development’’ (projects in the development phase only). They state that this is currently not reflected in ENTSO-E methodology, which mentions that the network development should be in line with projects listed in TYNDP;

**ENTSO-E position**

Network planning is a separate scope from the ERAA. In fact, this is a well-established process within the TYNDP project, whose outputs will be used by the ERAA in an effort to align the assumptions and scenarios with respect to expectations on new projects' commissioning and the status of the grid.

ENTSO-E's position is that projects that are officially planned to be commissioned within the time horizon of an ERAA assessment shall be considered in the corresponding years and in line with the TYNDP listed projects. If this is not the case, then the assessment risks to be unrealistically conservative.

## Consultation on scenarios and input data & assumptions prior to the assessment

Stakeholders ask for an additional consultation phase on the data and scenarios, before the assessment takes place. That way, it is argued, assumptions and input data can be exposed to the community of stakeholders for feedback. In addition, comments show that stakeholders are aware of the need for alignment of scenarios of TYNDP/Scenario Building.

**ENTSO-E position**

We confirm that ENTSO-E will strive in each adequacy assessment to have the most possible up-to-date data. ENTSO-E will use the consultation comments for improving the next ERAA edition. Due to the legal obligation to publish a yearly update of the ERAA, we are not able to have a full sequential process comprising two consultations, feedback and updates within one year. Performing this way would lead to releasing the ERAA reports every 1,5 or 2 years. The rolling update of ERAA every year will allow to continuously improve assumptions, thus allowing security of supply monitoring.

## Economic Viability

The Electricity Regulation requests ENTSO-E to conduct a European Resource Adequacy Assessment that provides additional insight into the economic viability of supply side technologies. Consequently, this specific topic has received various comments and proposals from stakeholders during the consultation process.

Many stakeholders requested a clear criterion for retirement, mothballing and investment decisions. Also, they asked for the possibility of a unit moving from policy to non-policy on the economic viability model. Regarding CMs, we received a proposal on adding extra checks on the applicability of planned CMs considering legislative restrictions such as the Emission Performance Standard of 550 g $CO_2$/kWh. Another recurring comment from stakeholders was the inclusion of sensitivity analyses in the economic viability assessment as a must-do task.

**ENTSO-E position**

The ERAA methodology was updated to clarify that the only criterion for the economic viability assessment is the minimization of the overall system cost, including operational and investment costs. The risk aversion shall be included in these costs.

In the ERAA methodology, we explicitly added a sentence about the possibility of a policy-driven asset to change its status to non-policy. Regarding applicability of CMs, the text is adjusted to consider further legislative restrictions. For sensitivity analyses, the word "might" is replaced with "will" to ensure execution of sensitivity analysis, however, only sensitivities with European relevance;

## DSR representation

Many stakeholders request a clear separation of explicit/implicit demand-side response (DSR) in the methodology and additional explanations on how it will be modelled in the ERAA methodology. DSR is seen as a key ingredient of future power systems in order to balance increasingly variable generation patterns.

In addition, comments of stakeholders' show that a consistent, European-wide applicable methodology is desired to estimate DSR potential and their evolution across market zones.

**ENTSO-E position:**

DSR resources receive increasing attention. The rising availability of digital services and time-differentiated tariff options may grow the use of DSR in the near future. We therefore aim to improve the way DSR is incorporated in our models. We agree with the stakeholder on the importance of DSR in adequacy studies.

Different product definitions and techno-economic assumptions make a consistent European-wide assessment of DSR currently highly challenging. ENTSO-E will continue to work towards improved estimations of explicit and implicit demand flexibility in future MAF/ERAA studies.

## Inclusion of climate change effects

Several stakeholders point to the necessity to reflect climate change in input data and modelling, especially in the context of the Pan-European Climate Database (PECD) currently in use. While some stakeholders doubt that the current database is fit for purpose to model the future climate evolution, other comments contain additional requests for more information on how such effects will be modelled in future studies.

**ENTSO-E position:**

ENTSO-E is aware that historical climate data may be insufficient to assess future conditions that are modelled within ENTSO-E studies such as ERAA. Therefore, ENTSO-E is currently, within a dedicated taskforce, seeking ways to incorporate effects of climate change in its respective databases. As a matter of fact, ENTSO-E envisions to model such effects in future ERAA publications after a proof-of-concept phase has been passed.

However, modelling such effects is not straightforward and needs careful analysis and testing, given the various scenarios of future climate resulting from different global circulation models, spatial downscaling methods and their uncertainties as well as the transformation of aggregated, annual values into hourly time series.

## Implementation roadmap

As the methodology acknowledges that different ERAA requirements have not been implemented yet, several stakeholders asked ENTSO-E to provide an accompanying timeline as a means to transparently communicate about the gradual implementation of the ERAA and the commitments ENTSO-E is willing to take with regard to the timing of the different implementation steps.

**ENTSO-E position:**

ENTSO-E acknowledges the need for an implementation roadmap and is planning to publish a roadmap on its website. This roadmap might be updated during the implementation phase due to the additional complexity of some features of the ERAA methodology, based on the experience gained from internal exercises and proof-of-concepts. We also plan, in each ERAA report, to inform stakeholders about the implementation status of the ERAA methodology.

ENTSO-E will make all the efforts to follow the planned timetable, even though it is possible that the complexity of the task might lead to unplanned delays.