ACER
European Union Agency for the Cooperation of Energy Regulators

ACER Decision on ERAA 2023: Annex II.a

DECISION No 06/2024

OF THE EUROPEAN UNION AGENCY

FOR THE COOPERATION OF ENERGY REGULATORS

on the European Resource Adequacy Assessment for 2023

Amendments to ERAA 2023 Executive Report – with track changes

2 May 2024

Scenario A (Central Reference): the climate year representation in the economic viability analysis is calibrated based on the Loss of Load Expectation (LOLE) of the ERAA 2022 adequacy results aiming at the consistency of this indicator throughout the economic viability and adequacy analyses. This scenario ~~results in~~ aims at exposing ~~substantial~~ investors~~ment reaction~~ to a similar amount of price spikes in both modules of ERAA.

Scenario B (Sensitivity): the climate year representation in the economic viability analysis is calculated according to the ERAA 2022 methodology, aiming at the consistency of the total system costs throughout the Economic Viability Assessment. This scenario exposes~~results in comparably measured~~ investors~~ment reaction~~ to a lower amount of price spikes in the Economic Viability Assessment than in the Economic Dispatch module.

Both central reference scenario and sensitivity provide relevant information ~~shall be read in conjunction~~. They are the outcome of an economic viability assessment implemented on the same three climate years but with different weights assigned to each of them. ~~The selected weights serve the different purpose of each scenario described above.~~The central refence scenario provides the basis for the identification of resource adequacy concerns. The sensitivity complements the central reference scenario. In particular, it illustrates the extent to which the adequacy assessment is sensitive to the weights assigned to the climate years.

Simulating investment decisions is an inherently difficult task and the ERAA methodology is still under development in that aspect. ~~While~~ The central reference ~~S~~scenario ~~A~~ aims to alleviate the inherent modelisation bias between the Economic Viability and Economic Dispatch studies, and it leads to ~~creates another bias on that a single extreme climatic year becomes dominant in the~~ investment/ decommissioning decisions importantly driven by price spikes. T~~he results of t~~his approach improves ~~therefore cannot be interpreted in isolation for the identification of adequacy concerns in Europe and needs to be complemented with a sensitivity that maintains~~ consistency between the Economic Viability Assessment and the Economic Dispatch modules of ERAA~~on the investment driver (revenues) and thus relies more moderately on a single climate year. Both scenarios together can therefore provide a more robust picture of the risks~~.

2 Main findings of the ERAA 2023

This section presents the main findings of the assessment, whereas more detailed results are available in Annex 3. Assessing the adequacy situation in the ERAA takes place over two steps: 1) the economic viability of the capacity resources is assessed solving a long-term planning optimisation problem, and 2) the adequacy situation is evaluated on viable scenarios conducting a Monte-Carlo[1] analysis of the economic dispatch problem.

Two complementary scenarios derived from the same input data have been addressed in the ERAA 2023:

- **Scenario A (Central Reference):** the climate year representation in the economic viability analysis is calibrated based on the Loss of Load Expectation (LOLE) of the ERAA 2022 adequacy results aiming at the consistency of this indicator throughout the economic viability and adequacy analyses. This scenario results in substantial investment reaction to price spikes.

- **Scenario B (Sensitivity):** the climate year representation in the economic viability analysis is calculated according to the ERAA 2022 methodology, aiming at the consistency of the total system costs throughout the Economic Viability Assessment. This scenario results in comparably measured investment reaction to price spikes.

Both central reference scenario and sensitivity shall be read in conjunction. They are the outcome of an economic viability assessment implemented on the same three climate years but with different weights assigned to each of them. The selected weights serve the different purpose of each scenario described above.

Simulating investment decisions is an inherently difficult task and the ERAA methodology is still under development in that aspect. While Scenario A aims to alleviate the inherent modelisation bias between the Economic Viability and Economic Dispatch studies, it creates another bias on that a single extreme climatic year becomes dominant in the investment/decommissioning decisions. The results of this approach therefore cannot be interpreted in isolation for the identification of adequacy concerns in Europe and needs to be complemented with a sensitivity that maintains consistency on the investment driver (revenues) and thus relies more moderately on a single climate year. Both scenarios together can therefore provide a more robust picture of the risks.

For more information on the scenario selection methodology see Annex 2. Note that both scenarios account for capacity mechanisms that already hold a capacity mechanism contract granted in any previous auction of any existing or approved capacity mechanism at the time of the assessment.

The ERAA is characterised by a significant degree of uncertainty and computational constraints. Thus, modelling decisions and assumptions, in addition to the probabilistic nature of the assessment, must be considered when interpreting the results. All modelling assumptions and decisions are described in Annex 2 of this report, together with the uncertainty characterising the assessment stemming from the climate variables and forced outages on thermal generators and cross-border interconnectors.

The ERAA is still in the implementation phase, and the 2023 edition features considerable improvements over the previous one. In addition, the assumption for a same given target year can evolve fast from one edition to another, due to the ongoing accelerating energy transition. Consequently, successive edition results must be compared with specific care and in view of all the updates and differences between the two products; these include updates and changes in the assumptions and scenarios, but also modelling improvements with significant impact on the adequacy results.

1 Conducted over 15 scenarios of unplanned outages