

# Public Consultation on the Draft methodologies for the European resource adequacy assessment and for calculating the value of lost load, the cost of new entry for generation, or demand response and the reliability standard

ACER consultation

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## ERAA

*1.1 Do you think that policies and measures contributing to indirectly restricting wholesale price formation (as referred to in Article 10(4) of Reg. (EU) 2019/943) should be reflected in ERAA?*

Yes

No

### *1.2 Please elaborate on your previous answer*

To perform a correct analysis, we believe that every market rule that is in force at the time of ERAA execution - wholesale price restriction policies included - must be taken into account. Yet, these policies should automatically be reflected in ERAA only if their impact on price formation is straightforward and unequivocally recognized. Moreover, it should be considered that some of the measures mentioned in Article 10(4) are aimed at ensuring the correct functioning of wholesale and balancing markets so they should not be considered as inducing undue limitations to price formation. These measures - whilst contributing to an efficient short-term dispatching - are not expected to be relevant for the long-term choices (investment, maintenance, retirement), hence they are not impacting on ERAA conclusions. In fact, the level of scarcity prices (maximum magnitude of it) is not expected to solve the missing money issue (i.e. the inherent uncertainty in predicting scarcity events and related difficulty in budgeting new peak investment or even discourage retirement decisions on the mere basis of scarcity rent expectations).

Similarly, the effects of limited wholesale prices on demand elasticity (in terms of spot-price responsiveness without capacity remuneration mechanisms assigned to demand resources) could be reflected on the CRM parameters (e.g. adequacy demand by the TSO), but not on the necessity of the CRM itself. In addition, these effects should be appropriately estimated to reflect the uncertainty of the extent of the DSR pure spot-price responsiveness. We therefore believe that:

- Testing these effects for a significant period of time (at least some years) is required to verify their reliability for adequacy evaluation;
- Until adequacy benefits in the occurrence of real scarcity events are confirmed the impact of these policies should be neglected.

Consequently, in our opinion the above-mentioned reforms don't affect the need of CRM, but they only have an influence on the quantification of similar parameters (I.e. demand for capacity and VOLL level).

*1.3 How should policies and measures contributing to indirectly restricting wholesale price formation be reflected in ERAA?*

We believe that policies and measures contributing to indirectly restricting wholesale price formation should be considered within the Economic Viability Assessment. Since the ERAA is a long-term analysis with consequent degree of uncertainty about the regulatory framework in force, the possibility of introduction/repealing of price restrictions should be merely reflected as a decreasing factor of the scarcity prices probability.

Furthermore, in order to improve the robustness of ERAA given the unpredictability of scarcity prices - to the extent the economic viability assessment of a given (new or existing) asset relies on scarcity prices - that asset has to be excluded in the "without CRM" reference scenario.

*1.4 What would be the impact on price formation during scarcity hours?*

See our previous answer

*1.5 Do you think that, actions taken by a regulatory authority or designated competent authority aimed to eliminate identified policies or measures which could serve to restrict wholesale price formation (as referred to in Article 10(5) of Reg. (EU) 2019/943) should be reflected in ERAA?*

Yes **YES**

No

*1.6 Please elaborate on your previous answer*

As we previously stated in our answer to Q.1.2., all the relevant regulatory framework must be considered if their impact can be modelled without compromising the accuracy of the ERAA results (for example the suppression of price limits) and if they derive from legally binding decisions. Nonetheless, we believe that CRM are independent from - and therefore not affected by - policies such as the introduction and removal of price limits.

*1.7 Do you think that scenarios for ERAA should reflect the timeline for adopting measures to eliminate any identified regulatory distortions or market failures as a part of the State aid process included in the implementation plans as referred to in Article 20(3) of Reg. (EU) 2019/943?*

Yes **YES**

No

*1.8 Please elaborate on your previous answer*

As we previously stated about the price restriction policies, we believe that the EERA must be based on the relevant regulatory framework in force at the time of the assessment. Therefore, National Implementation Plan (NIP) proposals should not be taken into account neither until the Member States start their implementation, nor before their approval by the EU Commission.

We however believe that - since the signaled missing money issue isn't likely to be substantially influenced by the "expected impact" of these policies - the hypothesis on the NIP shouldn't negatively affect the solidity of the ERAA conclusions overall (economic viability assessment and adequacy concerns).

*1.9 How should scenarios for ERAA reflect the timeline for adopting measures to eliminate any identified regulatory distortions or market failures as a part of the State aid process included in the implementation plans?*

We believe ERAA should reflect the effects of the measures included in the implementation Plans in the most realistic way possible. We suggest that these measures should be included in the ERAA simulations with a certain delay with respect to the declared implementation timeline (e.g. if a certain measure had to be implemented during the year Y, ERAA should consider its effects starting from the year Y+1). In this way the risk of delays in the application of the implementation plan would be adequately considered in the assessment.

*1.10 How do you expect the measures referred to in questions 1.1 and 1.5 would affect price formation, especially during scarcity situations (i.e. when unserved energy occurs)?*

As we stated in our previous answers, we believe that a robust assessment of the capacity remuneration mechanism necessities wouldn't be affected by such policies, given their low impact on the unpredictability (frequency, duration, time and location) of scarcity events.

*1.11 The Proposal for ERAA mentions that Replacement Reserve (RR) is fully available to avoid unserved energy, whereas FRR is fully unavailable for this purpose. Do you agree with this proposal?*

Yes **YES**

No

*1.12 Please elaborate on your previous answer*

In our opinion, both Frequency Restoration Reserve (FRR), Frequency Containment Reserve (FCR) and any other emergency/defense resources should not be taken into account as adequacy contribution, in line with the prescriptions of the EU Regulation 2017/1485 System Operation Guidelines. Their objective is not ensuring adequacy, but - independently from the adequacy or inadequacy of the system – simply preserving the system security by containing and restoring frequency deviations. Furthermore, we highlight that the time resolution of these services ( $\leq 15$  minutes) is much shorter than the period considered for adequacy calculation (1 hour).

*1.13 What do you think should be the FRR purpose (and use) at times of unserved energy and how should ERAA reflect this use?*

As we stated in our previous answer, FRR and FCR should be ready to be deployed to preserve the system security - especially in occurrence of inadequacy - in order to avoid further unserved energy related to an improper containment and restoration of frequency deviations and to preserve scheduled cross-border exchanges.

*1.14 Do you agree that unused (normatively estimated based on the historical difference between available and activated for other purposes, see example below) Frequency Restoration Reserves (FRR) upwards should be used in ERAA as resource with the aim to reduce unserved energy (which ultimately materialises as imbalance)*

Yes

No **NO**

*1.15 Please elaborate on your previous answer, eventually with a proposal for the normative estimation of unused FRR.*

Reserve requirements have to be always fulfilled according to system operation guidelines, therefore the use of unused FRR as a source of adequacy could disrupt the system security by potentially increasing the amount unserved energy and negatively impacting on cross-border scheduled flows.

*1.16 What should be the price for unused FRR in ERAA?*

See our previous answer

1.17 Do you have any views for the selection of a relevant and representative set of climate years as input for the Monte Carlo approach?

1.18 Do you have any other major observation on the ERAA Proposal? (if so, please indicate clearly the related Article, paragraph of the proposal, and add a sufficient explanation)

Art.6, par. 3 lett. b

*Technologies subject to national subsidies, support schemes, policies or incentives shall be considered as exogenous input and shall not be eligible in the ERAA economic viability check."*

We believe that the assets subsidized for all the time horizon of the EERA - or at least to an extent sufficient to cover their fixed costs – should be the only ones to be excluded by the viability check.

Art. 4.1 lett. f) perfect foresight hyp (I.e. ignoring scheduling error forecast) and art. 5.10:

We think that imbalance costs should be considered in the Economic Viability Assessment. Art. 5.10 do not mention these costs that are relevant and expected to increase in coming years as the balancing effort will grow due to non-programmable RES widespread.

Art.4 par 3 lett 4 and Art.4 par 5

*"Additional demand during charging of storage units is determined through the simulation model and **shall be considered as an element responding to market signals**. Such demand may result from pumped-hydro storage power plants, market-participating batteries, power-to-gas units or electric vehicles among others."*

In our opinion, a correct estimate of the market signals responsiveness of technologies such as storage should consider:

- the expected availability during the different hours of the day (i.e. this is particularly relevant for V2G which is more available during night hours)
- for hydro resources, the expected constraints for other uses (potable, agriculture ecc.) with the seasons.

These effects should also be modelled coherently with climate change scenarios.

Art. 6 economic viability assessment

The economic viability assessment (EVA) is an important instrument to check of the likelihood of the Scenarios without CRM because it evaluates the long-term economic sustainability of not-subsidized existing capacity and the feasibility of new investments in the energy only market.

Both nowadays and in the future market scenarios, the issue of risk-aversion and related missing money for not-subsidized capacity is and is expected to be very relevant. The present uncertainty on scarcity events probability could worsen because of the temporal and spatial development of renewables (with unpredictable impact on congestions impacting on the energy prices for programmable not-subsidized resources).

Consequently, we believe that the EVA central scenarios should consider only the realization of the new capacity whose projects have been already approved. No other investment decisions can be reasonably assumed in the “no-CRM” scenario. On the contrary, different approaches may lead to overestimate the future system adequacy. Finally, the development of new capacity assumed in the EVA could be considered as a sensitivity analysis but not in the central scenario.

At the same time, a clearer definition of the economic conditions of both the mothballing and decommissioning of the power plant is needed to better understand the hypothesis behind the results provided by the simulations.

Lastly, we deem that market simulations should incorporate the higher uncertainty for the forward values (i.e. commodities) that must be estimated for delivery without real forward prices.

## VoLL/CoNE/RS Proposal

*2.1 In the CoNE Proposal, an initial list of technologies is set up; only technologies which fulfil criteria to become candidate Reference Technologies are then thoroughly studied.*

*Do you agree with the way some technologies (e.g. Demand Side Response (DSR), RES, storage, etc.) are considered in the methodology for calculating the CoNE (Title 3 of VoLL/CoNE/RS Proposal)?*

Yes **YES**

No

### *2.2 Please elaborate on your previous answer*

We think that an approach of selection of various technologies based on economic efficiency (as the one mentioned in art. 16) is sufficiently effective. As foreseen in the methodology, reference technology should be sufficiently mature. Consequently, even if DSR and storage contribute to achieve adequacy target by participating in CRM, the actual use of these technologies as reference technologies for the calculation of CONE should be excluded or at least carefully assessed.

In fact, we deem unlikely that DSR or storage can be chosen as reference technologies for setting the reliability standard for the following reasons. DSR cost functions variability across different DSR technologies makes it difficult to estimate one CONE for many different types of DSR and the requirement of being a standard technology, mentioned in art. 10, cannot be met. There is a further problem which applies both to storage and DSR: you cannot – even in theory – run a power system on storage or DSR alone, as you also need some generation. It is therefore not appropriate using them as reference technologies because it should be assumed (at least to some extent) the full availability of other generating sources (hypothesis that is met only for “policy asset”).

Despite not being a reasonable reference technology, both DSR and storage effectively contribute to efficient outcomes of CRM and their participation have to be granted.

### *2.3 How would you suggest that these technologies should be considered?*

*2.4 Do you agree with the provisions of Article 15 of the VoLL/CoNE/RS Proposal according to which Member States can rely on their own relevant, recent and representative WACC estimates, instead of using a binding common methodology to calculate the WACC for all Member States?*

Yes **YES**

No

*2.5 Please elaborate on your previous answer*

Because of the varying market realities in the EU Member States, we believe that the main objective should be implementing a harmonized methodology to obtain WACC, but not necessarily obtaining the same WACC value.

*2.6 Do you think that the main technical parameters used to calculate CoNE should be harmonised across MSs?*

Yes

No **NO**

*2.7 Please elaborate on your previous answer*

The derating factors of some technologies derive from the specificities of each system (energy and capacity constraints). Similarly to what we stated in Q.2.5, we believe that it's the methodology to determine those technical parameters that should be harmonized, not the parameters themselves. Differences between countries may emerge because of the different availability of policy asset (subsidized with schemes other than CRM) and grid constraints. The same given technology could provide different adequacy contribution because of the mentioned factors.

*2.8 What are the main technical parameters used to calculate CoNE that could be different?*

See previous answer.

*2.9 Do you think that renewal or prolongation of existing resource capacity should be considered as a candidate technology that can address the required capacity needs and thus be taken into account in the calculation of the reliability standard (Annex 2(iii) of VoLL/CoNE/RS Proposal)?*

Yes

No **NO**

*2.10 Please elaborate on your previous answer*

Despite its contribution to adequacy, we believe that the renewal or prolongation of existing resources is constrained to existing capacity and it consequently has a limited possible rate of development.

Moreover, renewal and prolongation of existing assets may be subject to contradicting political decisions and unexpected evolutions of the economic conditions and regulatory frameworks (e.g. environmental regulation,



etc.). Hence, it is difficult to anticipate whether these investments will be undertaken to meet the expected capacity needs. Furthermore, prolongation of existing assets may be limited in time (e.g. 10 extra years) while new capacity is able to ensure adequacy over a longer period.

For the abovementioned reasons, it seems unreasonable to consider *renewal or prolongation of existing resource capacity* as a Reference technology

*2.11 Do you agree with the provisions Annex 3 of the VoLL/CoNE/RS Proposal that a range of values of VOLL and CONE should be used to defined the reliability standard?*

Yes

No

*2.12 Please elaborate on your previous answer*

In our opinion the use of a range of values to define the reliability standard is a good approach to consider the uncertainties in the estimation of these values (based on various assumptions). So, it seems logical the VOLL and CONE should also be communicated in ranges, which will also result in a range of reliability standards, leaving the ultimate translation of these values as a political question for each individual Member State which is in the end responsible for its own security of electricity supply.

*2.13 How should the methodology define the approach for extracting a single value from each range when defining the reliability standard?*

During the hours of scarcity and inadequacy, load shedding/brown out plan foresee interruption of “discrete” quantity of demand (the resolution of interrupted load is normally based on discrete level of load capacity curtailed). As a direct consequence the effective EENS for a fixed LOLE value will be higher than the theoretical one. On the other hand, the capacity need related to that LOLE should be adequately increased, as it seems to be referring the art. 7.13. In conclusion, the net benefit of procuring marginal capacity is higher than the pure LOLE (there is in fact an incremental saving on unserved energy). Similar considerations are mentioned art. 7.3 referring to load shedding plans).

Moreover, given the stochastic distribution (in terms of dEENS and dLOLE) of one incremental MW, the average LOLE expected near the target load should be compared with the LOLE target. If the expected average LOLE is higher, the reliability standard should be increased accordingly (or adequacy demand should be adjusted).

We also believe that WTA represents a better estimate of VOLL when compared to the WTP, hence we recommend basing the estimation of VOLL on WTA, or at least giving the WTA estimation a higher relevance in comparison to other methodologies and values.

The Direct Worth Method mostly estimate only the monetary costs of electricity interruptions, and the data collection is based on surveys. Customers are asked to estimate the expenses they incur in due to a hypothetical or experienced interruption or voltage disturbance. Besides monetary costs, we highlight that there also are qualitative consequences for electricity interruptions that should be reflected in the VOLL.

As reported in the study: ["Guidelines of good practice on estimation of costs due to electricity interruptions and voltage disturbances"](#), *"qualitative consequences for end-user companies that are affected by electricity interruptions could be lost goodwill and lost confidence by their customers to deliver products in the future. For households, qualitative consequences could be lost comfort. It is important that these kinds of consequences are not forgotten. [...] Many different methodologies using WTP and WTA can be found in the literature. [...] More recently, some have argued that requiring individuals to state their WTA for a disruption may provide a better estimate of 'true VoLL' than WTP (see for example London Economics (2013)70)."*

The London Economic study state that *"using the WTA estimates is most appropriate in the context of valuing security of supply for electricity; the WTA indicates consumers' inconvenience value if the reliable service they already enjoy were interrupted. Consumers will typically not be willing to pay more to improve the service (i.e., avoid the outage) but when an outage occurs may feel that the involuntary disruption is worth some form of payment for the service they provide. However, in terms of setting energy policy, we believe the degree of 'consumer impact' an outage would cause is the most important factor, and this points to the WTA estimates."*

The study concludes that: *"Our best judgment is that the WTA results are both more statistically robust and more appropriate (than the WTP results) in policy terms for setting a VoLL as an input to security of supply."*

As last step of the process, we believe that the extraction of a single value from the range to define the reliability standard should be a political choice of the Member States based on both adequacy assessments undertaken at national and European level.

*2.14 Do you have any other major observation on the VoLL/CoNE/RS Proposal? (if so, please indicate clearly the related Article, paragraph of the proposal, and add a sufficient explanation)*

*1) Appropriate evaluation of elastic demand (art. 7)*

Even though we understand the purpose of the consumer segmentation in different categories, we don't agree on the assumption of excluding all price elastic customers from the VOLL calculation (i.e. all the consumers participating in DR programs) because:

- Only a part of their demand may be elastic and
- The demand of these customers is elastic only under very specific circumstances, such as the frequency, timing, scheduling and advance notice of the curtailment. This is particularly important when looking at future scenarios where an increasing share of demand is expected to become elastic.

Excluding all price elastic customers and assuming that such consumers "are not considered to suffer ENS", would misrepresent the actual VOLL of the system and distort the calculation of the reliability standard. If the

difficulties in distinguishing the share of “elastic consumers” or “DSR” over the adequacy assessment period were also to be taken into account, we believe that a single approach to VOLL estimate based on consumers segmentation would be the preferred solution.

Price elastic consumers will help in reducing ENS only if market will lead the price above their demand curve (hence incentivizing quantity reduction according to elasticity function): if this is not the case, the consumer “becomes” inelastic and then should not be excluded from the VOLL calculation for that category. Therefore, excluding elastic price consumers at all and assuming that such consumers “are not considered to suffer ENS” would mis-represent the actual VOLL of the system and distort the efficient calculation of the reliability standard.

## *2) VOLL estimation: coherence between reliability standard in CRM and Network Planning documents*

We believe that the CRM reliability standard estimated with the proposed methodologies should be coherent with the parameters utilized in the national network development plans, given that grid and generation both contribute to adequacy.

### *On both proposals*

#### *3.1 Do you see an interplay between economic viability checks performed in ERAA and reliability standard calculation?*

Yes **NO**

No

#### *3.2 Please elaborate on your previous answer*

We generally don't see an interplay between the two, because we believe that adequacy targets estimation through VOLL/CONE/RS is separate from checking at what extent these targets can be achieved relying solely on energy-only markets (economic viability check).

#### *3.3 How should this interplay affect CoNE, VoLL and maximum clearing price, in order to ensure a realistic and consistent modelling framework?*

#### *3.4 Do you think that the proposed involvement of stakeholders in both Proposal is sufficient to guarantee robustness and transparency on scenario assumptions, input datasets, modelling approaches (e.g. with respect to the links with national energy policy targets and plans, DSR modelling), etc.?*

Yes

No

*3.5 Please elaborate on your previous answer*

*3.6 how should stakeholders be involved to guarantee robustness and transparency on scenario assumptions, input, datasets, modelling approaches, (e.g. with respect to the links with national energy policy targets and plans, DSR modelling), etc.?*

*3.7 How should stakeholders be involved to support the implementation of the methodologies described in the Proposals?*

*3.8 How would you increase stakeholder interaction with the aim to improve the methodologies towards possible future updates?*

Conclusion

*4. Please provide any further comment*