Q&A from the Co-Optimisation R0 Public Consultation webinar

11/06/2025

Q&A Responses

You mention incorporating 'fundamental costs' into the premium. Do you anticipate that MPs will add an economic assessment of certain technical constraints to the premium? This could be necessary (but inefficient) given their potential difficulty of translating them into the bidding language.

- It is understood that the cost structure of single assets or portfolios of assets is often difficult to describe and translate into a given bidding language. NEMOs and TSOs concern is, however, that the bidding language should at least offer an opportunity to describe the most relevant cost structures in sufficient detail, if not exactly. In a market with a reasonable level of competition, this should incentivise market participants to attempt to represent fundamental costs in the premium where relevant.

On the bid linking design, can you pinpoint the differences with the current links and explain why they needed to be modified?

- Based on the first R&D indication, current links will remain, but at least one new type will be necessary: an exclusive group with a given sum of total power. Further work on linked bids may reveal a necessity for other types of links.

Bid design: with the change to 15min granularity, how many bids do you anticipate a market participant to be able to submit, for example for one asset?

- It is not possible to give an exact answer to this question, but it is clear that 15min granularity will increase the total number of bids. Market Participants' estimation of the necessary number of bids can further support NEMOs and TSOs' assessment of the acceptable levels and simulation results.

For bidding BC, would a "roof price" be feasible, above which the bid gets rejected (to avoid too high opportunity costs)?

- A "roof price" of bid cap would imply a form of price-elastic demand from the TSOs. R&D follows the Article 6 of the HCZCAM requirement for TSOs not to put a price on demand for the purpose of the exchange of balancing capacity or sharing of reserves and therefore TSO demand is inelastic. The question is also related to curtailment procedures, which will be addressed in the next R&D phase and reported in the R2 report. The current assumption is that the day-ahead Max/Min price will also apply for the BC because of the single auction process.

Margins for capacity balancing bids can also be negative, correct?

- NEMOs and TSOs assume that the question addresses the fact that bidding for balancing capacity in special cases can decrease the cost of supplying energy and therefore imply a negative premium. This has not been discussed in the R&D, but is clearly related to the cost structures of specific assets. Market parties interested in the matter are encouraged to elaborate this in a response to the Public Consultation on the Co-optimisation R0 report.

Is the aggregation of smaller assets considered? In balancing markets (at least in some countries) it is possible to aggregate assets having different BRPs, but in day-

ahead market bids are tied to a BRP. Is it possible e.g. for an independent aggregator to bid only to balancing markets?

- It will certainly be possible to only bid balancing capacity in a co-optimised SDAC market, either based on specific assets or on aggregated assets, given the rules of the specific national market.

What if the "price of activated energy" changes? One has bid on D-1 e.g. mFRR, with a certain energy price, but conditions change so that the price of the energy should be changed (the asset is e.g. related to an industrial process, and something changes).

- At present, no secondary market for balancing capacity is foreseen, but it may be necessary to investigate that during the ongoing R&D. Of course, it will still be possible to trade in the intraday energy market, but the balancing capacity obligations from the clearing of SDAC will remain firm.

Do you have an estimation of the part of bids that are currently rejected PAB in EUPHEMIA, as well as an estimation of this phenomenon in a co-optimised market?

- One of the objectives of the planned large-scale simulations is to get an idea of the level of paradoxically accepted bids (energy and balancing capacity) in a co-optimised market as the conditions will change significantly.

What's the impact of the "no PAB" choice on the algorithm performance? If any, why were other options discarded at this stage?

- In general, no-PAB increases calculation time. On this background, an alternative approach with side-payments was analysed by NEMOs and TSOs a few years ago with the objective to reduce computation times in EUPHEMIA. The results, however, did not meet the expectations of NEMOs and TSOs and the reduction in computation time was insufficient to compensate for the increased market complexity. In the case of balancing capacity, there is a possibility that no-PAB significantly reduces the number of accepted offers, leading to a potential lack of liquidity. The planned large-scale simulations are expected to shed some light on this issue.

Is looking at linked/combined bids over several MTUs part of the current scope?

- Yes, the current scope is focused on bidding products, bid design as well as pricing. Chapter 3.2.2 of the R0 report, Appendix A, discusses some aspects of intertemporal linking.

Why not evaluate a market-based process in parallel with this co-optimised logic? Particularly given the algorithmic complexity and approximations (premium), it is possible that this solution could undermine the current functioning of the markets, whereas MB offers a more feasible alternative.

- As pointed out in the report, the market-based approach remains one of the possibilities to procure balancing capacity cross-border. Current regulation does not in any case oblige TSOs to procure balancing capacity in a co-optimised SDAC market, even if this would be implemented. Consequently, both approaches may co-exist.

Explicit bidding makes it easier to formulate certain constraints and gives MPs more flexibility and freedom of bidding. Could you consider some explicit bidding in a globally implicit logic? What do you think about considering explicit bidding formats combined with implicit bidding, such as energy-balancing bid packages, which would result in fixed exclusive bids baskets at a fixed price (which would include an opportunity cost calculated by the market participant, but this cost would be calculated anyway to formulate the bids, as you point out in the appendix)?

- The R0 report, and especially the N-SIDE report in the Appendix A, explain why explicit bidding of opportunity costs is problematic. However, the currently proposed premium gives market participants the possibility to include exogenous costs that are not taken into account by the co-optimised algorithm. In principle, the premium should not be used

to include opportunity costs that are covered by the algorithm, and in a competitive market, doing this would indeed be a disadvantage also for the market party, possibly leading to direct losses. Please refer to the R0 report for further details. If there are reasons for explicit bidding, we encourage to elaborate on this in the public consultation.

To what extent can the cost-benefit analysis be realistic without the MPs bids (and premiums), which will be in the hands of the MPs and therefore represent confidential information that they will probably not share in the process?

- This is a crucial question, and TSOs and NEMOs strongly encourage market participants to reveal their cost structures to enable the development of suitable bid formats as part of the R&D. NEMOs and TSOs would then handle the anonymised data for assessment and simulations. In addition, market participants could propose specific bid formats that would cover their needs, without revealing detailed cost structures.

How many linked bids could we have in the linked combined bids format? Would their number be limited?

- Service provider N-SIDE, supporting the Co-optimisation R&D, has made it clear that combined bids will be computationally less demanding. In that context, market participants would be encouraged to use combined bids to the extent possible. Linked bids will require longer computation times, and a limit on their usage may be relevant in the future. NEMOs and TSOs expect that we will know much more about the algorithmic performance after the second R&D-report, R2. For now, it is important that market parties make also suggestions about desirable combined bids.

Will different MTUs for Energy bids and Balancing Capacity bids be a problem?

- The MTU will be the harmonised across co-optimised market. Considering products currently the energy- only market covers the cross- product matching functionality. Product granularity for balancing capacity will be according to the standard products for balancing capacity for frequency restoration reserves and replacement reserves as defined in accordance with Article 25(2) of EB Regulation. This requires further consideration for the Co-optimised market in the future.

Will MTU for Balancing Capacity need to be changed?

- Different markets today have different MTUs for balancing capacity, and a co-optimised market will require a certain level of harmonization. This may imply changes in relevant markets if TSOs decide to use the co-optimised market to procure balancing capacity.

Will there be limits on how much cross-zonal capacity can be used for balancing reserves?

- There is no specific limit on the cross-zonal capacity for this purpose, but the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation may pose limits on the total share of balancing capacity that can be procured outside a specific LFC block which may implicitly limit the CZC allocated to balancing capacity.