

Features for an effective Market Design in the Network Code on Demand Response:

Multi-market access versus bid forwarding

I) A barrier-free commercialization of demand response is needed on day-ahead, intraday, balancing and local flexibility markets to unfold the full flexibility potential

According to the Framework Guideline on Demand Response, the main target of the new Network Code is to “ensure access for demand response [...] to all electricity markets” (chapter 2) and to foster the market-based flexibility procurement for congestion management (chapter 5.2) while at the same time “at no point [...] jeopardize [...] the well-functioning and integration of electricity markets” (chapter 1.1).

Considerable amounts of flexibility are already successfully commercialised today on the European day-ahead and intraday markets and also increasingly on the European balancing markets. This is amongst others the result of smaller product granularity, such as 15-minutes products and shortened lead-times, and of smart and complex type of orders (or bids) made available to market participants on wholesale markets. Yet, there is still a significant unused potential to use demand response to solve congestions in a market-based way on local flexibility markets.

Among the main challenges for demand response, and in particular for small market participants, to access the different market segments in order to make their flexibility available for the entire power system needs and associated markets, one can mention:

- extensive processes to become a Balance Responsible Party (BRP),
- clearing and settlement requirements, and
- sometimes a market design that does not fit well with demand response specificities, e.g. regarding bid size, product granularity, or activation time.

II) What is the definition of a “bid” in energy trading

Before discussing the concept of bid forwarding, it is important to have a clear understanding of what a “bid” in energy trading is. We suggest the following **definition of bid: A bid (or an order) is an electronic document by which a market participant submits the price and the quantity for which it seeks to make a transaction in a contract.** It can be a buy or a sell order. The orders are centralized in an order book by the

trading system. They are ranked based on the execution priority determined by the matching algorithm or the continuous matcher. Depending on the market, different types of orders exist. To only name two:

- Block orders, for example, which are a combination of single delivery periods which depend on each other for their execution. On the auction, block orders can have many other characteristics such as volume profiles, *fill-or-kill* properties, or
- Iceberg orders, for example, are buy or sell orders which are specified by means of their limits, total quantity and peak quantity. The Iceberg Order is placed in the order book in partial orders to the amount of the peak quantity. As soon as a partial order has been executed, a new partial order to the amount of the peak quantity is placed in the order book. This process is repeated until the total quantity of the Iceberg Order is executed.

As illustrated by the examples above, a bid is not a simple object and cannot be associated with “available capacity” on a given asset. Some order types do not have an equivalent from one market to the other, due to market structure being too different. For example, it makes no sense to have an iceberg type of orders in auction markets because there is only one execution moment (i.e. when the auction algorithm is run) and thus no further possibilities to execute new partial orders. As such, bids on auction markets cannot be forwarded to continuous markets and vice-versa as those objects are different. Local flexibility market bids are not even standardized, pushing the concept of bid forwarding even further away from practical implementation. Harmonizing all type of bids across all markets would be inefficient, as it would limit possibilities offered to market participants, incurring higher risks, thus costs for the entire market.

Furthermore, the bidding can be organized in form of portfolio-bidding or asset-based bidding. Portfolio-bidding exists in many European countries, such as Germany and France, and means that a portfolio of assets is commercialized on the market. A sell order cannot be associated with a specific asset. The sell order does contain the information of the price and the quantity which the market participant seeks to make, but not of which asset the electricity will be produced. A kWh sold on one market, cannot be traced back to one specific asset. This is different in countries that apply asset-based bidding. In addition, not every market participant on European day-ahead and intraday markets own assets, there are also pure trading companies without physical assets. This group of market participants brings additional liquidity to the market and thus reducing transaction costs for all market participants.

III) Why the idea of “bid forwarding” is not the right solution

The ACER draft proposal for a new Network Code on Demand Response of 05/09/2024 suggests **mandatory bid forwarding**, but without defining what a “bid” is and without explaining why bid forwarding should be introduced, i.e. leaving it open which concrete barriers for demand response would be solved with bid forwarding. The ACER draft proposal stipulates the following on bid forwarding:

- **Mandatory bid forwarding from local flexibility markets to other markets by system operators:** *“Subject to the service provider’s consent, the procuring system operator **shall** forward bids – combined or not – to other markets [...]” (Art. 42.6)*
- **Introduction of the possibility to use bids from the day-ahead or intraday markets in local flexibility markets:** *“If bids offered in day-ahead, intraday and balancing markets are used for solving congestion issues or voltage issues, the rules for the market-based procurement of local services pursuant to Article 41 shall specify the process for this.” (Art. 43.1) and “If **products from day-ahead or intraday markets or balancing products are used for congestion management** or voltage control, they shall be included in the list of products.” (Art. 48.1)*
- **No double activation of bids:** *“Each service provider shall be allowed to submit the same bid in several markets, but this bid shall not be selected twice. When a bid has not been selected in a market, or the service for which the bid was selected is no longer needed, the service provider shall be allowed to submit this bid to another market. Each service provider shall be allowed to register a controllable unit in different SPGs for different services, following the requirements to ensure that there is no double activation of this controllable unit for the same imbalance settlement period.” (Art. 43.2).*

Pursuant to the above understanding of “bids”, the suggested concept of “bid forwarding” between spot markets and local flexibility markets raises severe practical implementation questions and concerns:

1. For the intraday market, it makes a difference when an order is submitted to the trading system, because it is based on continuous trading. How would the system operator know when the best moment during the trading session is to submit the bid from a flexibility market to the intraday market? At what price? And what volume, e.g. it could make sense to offer the volume in different steps and not all at one time?
2. There are many different types of bids offered to market participants on the different markets, such as complex orders, block orders or iceberg orders, as explained above. Which one is selected to be forwarded? There is the risk that the result does not correspond to the market participant’s interest.
3. If bids result in trades, those trades need to be accounted for in the BRP perimeter associated to a market participant. Depending on the European countries, participants in local flexibility markets do not require to have a link with a BRP. How is this case tackled? Given also that with raising volumes, this questions becomes more relevant.
4. The system operator does not have the overview of the full trading strategy of the market participant whose bid is forwarded and thus of what is needed for the market participant to be balanced until delivery. When system operators become responsible for submitting bids on behalf of market participants to other markets, then how can the market participants ensure to be balanced until delivery? If this is not any more in his hands, there is a risk of non-fulfilment of BRP rules.

5. Who verifies the membership and required collaterals of the market participant whose bid is forwarded to another market of this other market? Collaterals vary from market to market because of different products and risks that are hedged.
6. Will the price and the quantity of the bid chosen by the market participant remain the same for the forwarded bid? The market participant might want to choose a different price or quantity for that different market with different products. Price discovery processes between sellers and buyers vary from market to market.
7. On electricity markets, market participants usually have the possibility to cancel a submitted order. How can a market participant cancel an order that has been transferred by a system operator to another market?
8. You cannot submit an order directly to the European day-ahead and intraday markets SDAC and SIDC, but orders are submitted by market participants to the trading system of the Nominated Electricity Market Operators (NEMOs) who then submit their order books to SDAC and SIDC. Where would a system operator submit a market participant's bid to?
9. What happens with forwarded bids in the originally submitted market, i.e. will they be kept or be deleted? If they are kept, this might cause problems of imbalance. One would need to have an algorithm in place reacting fast.
10. According to the REMIT regulation, each bid submitted to the wholesale spot market need to be economically justified. Who is responsible to ensure that a forwarded bid is economically justified in the market it is forwarded to?

IV) What are better and targeted solutions to the existing challenges for demand response market access?

Given the practical implementation questions and concerns of forwarding bids from one market to another, we argue that there are better and targeted solutions to solve the existing challenges for demand response market access. The same results can be achieved with existing and new set of rules, without creating a blurry concept of bid forwarding with all the negative effects and risks it would imply.

Target	Solution
Easy access for flexibility service providers to wholesale, balancing and local flexibility markets; maximise trading opportunities through easy ways to post bids on markets	<ul style="list-style-type: none"> - Standardization of processes, products (e.g. across local flexibility markets), technical standards, such as CIM - Trading on behalf and or through aggregators - Alternative exchange membership types tailor-made to specific needs of small market participants, such as

	<p>Direct Clearing Participant (DCP) model reducing access requirements and redefining risk controls, or indirect membership trading through an appointed broker, or passport membership and group membership where the market participant can use the clearing set-up of another exchange member or group company, or low usage options. Such options have been developed by EPEX SPOT and are being used by market participants already today.</p>
<p>Liquid local flexibility markets; maximize the offer for SOs to solve congestions most efficiently; not losing liquidity</p>	<ul style="list-style-type: none"> - Innovation is a key lever for the development of liquidity on markets. Let market liquidity develop through innovative market design and product design suitable to the needs of buyers and sellers of flexibility for congestion management. Experiences from the development of liquidity on European day-ahead and intraday markets show that bid forwarding was not required for that. This process, already ongoing across Europe, is necessary before converging to standards.
<p>Avoid conflicting activation of flexibility bids by system operators</p>	<ul style="list-style-type: none"> - TSO-DSO coordination. As a solution, the EPEX SPOT localflex trading platform offers TSO-DSO coordination mechanism to avoid double or conflicting flexibility activation, e.g. by identifying conflicting flexibility bids on the TSO and DSO side, and by coordination rules in the clearing engine.
<p>Avoid double activation of flexibility bids by system operators; avoid selling multiple times the same capacity</p>	<ul style="list-style-type: none"> - This claim is based on a misconception of the functioning and matching of bids on energy markets. One bid in one market can only be matched once, not twice. The trade is then executed and the order disappears from the order book. What the claim on double activation of bids might refer to is to avoid that a market participant sells more flexibility than it can deliver. For this challenge, there are already existing and well-proven instruments, such as BRP rules and imbalance settlement prices setting economic incentives to be balanced until delivery.

<p>Ensure that market participants are balanced until delivery</p>	<ul style="list-style-type: none"> - BRP rules - Imbalance settlement prices setting economic incentives to be balanced until delivery (imbalance settlement price above intraday price) - Baseline methodologies - Facilitate accounting all flexibility trades in relevant BRP perimeters. In European day-ahead and intraday markets, trades need to be accounted for the BRP perimeter associated to the market participant. This is not the case for local flexibility markets in Europe, i.e. depending on the European country, participants in local flexibility markets do not require to have a link with a BRP.
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V) EPEX SPOT conclusions for the Network Code Demand Response proposal

The concept of bid forwarding is based on a misconception of what bids in energy markets are and puts the well-functioning of the European wholesale market at risk, which would be against the Framework Guideline on Demand Response, and this without any necessity because better new or even already existing alternative solutions to achieve the target of multi-market access of demand response to flexibilise the energy system are there. The Network Code on Demand Response should therefore not introduce the instrument of bid forwarding.

Instead, the Network Code on Demand Response should achieve a certain European harmonization to foster the European-wide development of flexibility markets based on innovative market design and state of the art trading solutions, in particular through a clear and strong promotion of market-based flexibility procurement for congestion management over regulated price setting approaches. In addition, the Network Code should focus on general principles, based on lesson-learned from existing local flexibility markets, while the implementation and choice of instruments should be left to the national level. Otherwise, the Network Code risks to suffocate innovation in this nascent market segment.

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