Memo – Connection to European platforms

Secure operation of the future Nordic green power system, European balancing market integration (via the European platforms) and European market harmonisation all together necessitate implementation of extensive changes in the Nordic balancing processes. A brief description of the development of the operational process and the products is given in the "Memo – Process for activating products", which includes a description of why a stepwise transformation is needed.

This memo describes the bid processing and the function of the European Activation Optimisation Function (AOF). It also gives a short explanation of TSOs high level strategy for IT development.

Bid processing

The European balancing market integration is based on a so-called TSO-TSO model. This implies that the BSPs submit their bids to - and get activation requests from - their connecting TSO. The connecting TSO forwards the bids to the European platform, together with available cross zonal capacities between price areas and the balancing energy demand. The bid processing in the future European platform is illustrated in figure 1.

The core of the European bid processing is the AOF. The AOF includes the algorithm applied to optimise the portfolio of balancing energy bids from all connected TSOs that shall be chosen to meet the TSO balancing energy demands. This optimisation then renders bid activation requests together with the cross-zonal capacity, that will be used to exchange balancing energy. Note that this simultaneously allows netting of balancing energy in cases where TSOs have needs in opposite directions and cross zonal capacity is available. The connecting TSO forwards the activation request to the BSP after validation.
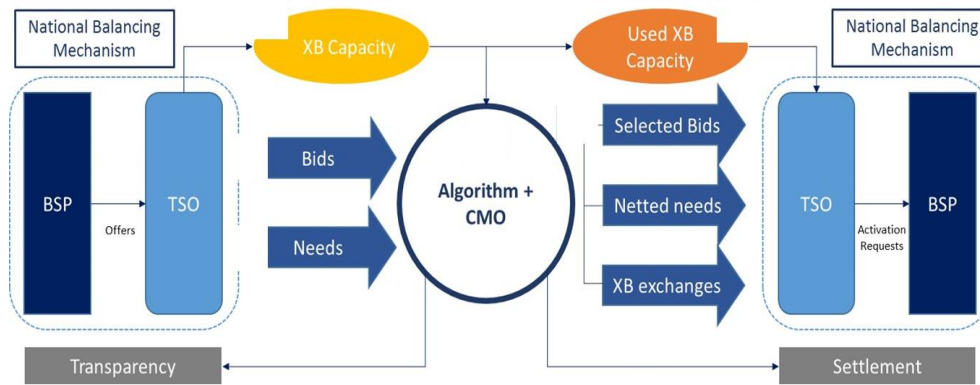
Figure 1: Source: MARI and PICASSO platform projects.

Use of the zonal model for activation of balancing bids is challenging to secure operation in areas with balancing resources connected behind internal congestions on several voltage levels. The congestions are dynamic and complex, e.g. it may be a combination of bid activations that cause congestions. This is especially challenging in Norway, where it is possible that big volumes of competitive bids are located behind internal bottlenecks. In the future solution, this assessment has to be done every 15 minutes. Hence, an automatic solution is needed. The automatic solution is called bid filtering. For transparency reasons, all received bids will be forwarded to the European platform, though those that are behind congestions will be marked as unavailable for activation.

Strategy for development of AOF

The Nordic TSOs have to ensure that the solutions enable secure operation of the Nordic power system. At the same time, the Nordic TSOs are planning to do the development in a way that makes the connection to the European platforms as smooth as possible.

The Nordic TSOs are participating in the European platform implementation projects, both for ensuring that the European solutions are suitable for the Nordics and for ensuring that the parallel Nordic development is consistent with the European development.

The Nordic TSOs plan to base the development of the mFRR energy activation market on the software from the TERRE platform. This enables that the Nordic development can build on the software already developed for TERRE, and that the Nordic development will be as consistent as possible.

The detailed plan for accession is not yet done and will therefore be described at a later point in time when we have more knowledge, both regarding the Nordic and the European development.

After the Nordic TSOs start to use the European platform, the Nordic platform may still work as fall-back.