

Public Consultation: Storage Orders in SDAC

Information Document
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1. Introduction and Context

NEMOs (Nominated Electricity Market Operators) and TSOs (Transmission System Operators) under the MCSC (Market Coupling Steering Committee) would like to ask market participants for feedback on a new order type that is aimed to be introduced on the day-ahead market (SDAC).

NEMOs and TSOs participating in the Research & Development (R&D) stream with regards to the Euphemia algorithm used for the day-ahead market have been working on designing a new type of order that would support bidding for systems that can buy and sell energy during the same day – so-called storage orders. This new order type will expand the possibilities for market participants' bidding in the day-ahead market beyond the current order types. The storage order allows market participants to optimise the storage system bidding with less detailed market forecast and with no risk of losing money.

Currently the expected go-live of the new storage order on the SDAC market is planned for Q4/2027.

A webinar with markets participants to guide them through the questions from the public consultation is planned for June 16th, 2026, from 12:30 to 14:00 CEST.

If you have any questions regarding the public consultation, please send them to the following email address: info@mcsc-communication.eu

1.1 What Is Meant by a Storage Order?

The so-called storage order will be a new order type that will allow market participants to create bids for storage systems. The storage order will be optimally allocated across all day-ahead Market Time Units (MTUs) by the Euphemia algorithm.

Key technical solutions considered for the conceptual design have been batteries and hydro pump stations. However, the order type design in Euphemia is agnostic to the underlying technology, any system that can sell and buy energy during the MTUs of the market coupling session can be used for bidding with this new order type.

The day-ahead market uses the 15-minute resolution. Therefore, the physical asset shall be able to switch between production and consumption between the adjacent market time units.

1.2 Technical Bidding Requirements

From Euphemia performance point of view, it seems to be necessary to group (or aggregate) the individual storage systems as much as possible to maintain the satisfactory performance in the market coupling calculation process. This is the current assumption based on the simulations

performed so far. This means that a single storage order would need to represent several storage systems. Please check below the two separate design options for the storage order aggregation process.

Further details shall be provided by the NEMOs to their market participants closer to the go-live of the storage order.

1.2.1 Storage order input parameters:

A storage order will be defined using the following currently considered input parameters:

- ▶ Required parameters:
 - Maximum energy stored (one per period – MWh)
 - Maximum input power (one per period – MW)
 - Maximum output power (one per period – MW)
 - Cycling costs (one per order – €/MWh)
- ▶ Optional parameters (in case not specified, the default value would be used):
 - Starting energy stored (one per order – MWh) default 0
 - Minimum energy stored (one per period – MWh) default 0
 - Efficiency (one per order – %) default 100
 - Value given to energy stored at the end of the day (one per order – €/MWh) def. 0

1.3 Matching of Storage Orders

The storage order will be optimally allocated across MTUs by the Euphemia algorithm. The storage order will not lose money and shall be profitable across the MTUs of the day-ahead auction. In other words, if a storage order were to change its sell/buy profile, it could not increase its income.

2. Aggregation and De-Aggregation Process

The minimum size of the storage order in MW shall be defined at a later stage, also based on the responses of this consultation. Currently identified options for the minimum size are 5MW or 25MW.

- ▶ The storage systems larger than this limit can be submitted as a single (unaggregated) storage order. This is relevant especially for the hydro pump stations and also for large batteries.
- ▶ The storage systems with storage order capacity smaller than this limit need to be aggregated into a single storage order that exceeds the minimum size. NEMOs and TSOs have identified two options for the aggregation. Either the market participant does the aggregation on their own or individual NEMOs will do the aggregation at the bidding zone level.

2.1 Market Participant Aggregation

The market participant shall aggregate the compatible storage systems into a single storage order that exceeds the minimum required size (either 5MW or 25MW). The storage order aggregation covers an individual bidding zone and the aggregated storage order is submitted to a NEMO.

De-aggregation shall be equally done by the market participants for their own storage systems.

2.2 NEMO Aggregation

Storage orders with smaller size in MW than the predefined threshold could be submitted to NEMOs using pre-defined categories called baskets. Multiple baskets would be available which would represent multiple sets of values for different parameters, as indicated below. Meaning that market participants would have to choose from a list of predefined values of the parameters (=basket), namely the one that is closest to (and compatible with) their system.

Using the baskets for defining such storage orders (with smaller size in MW than the predefined threshold) is necessary so that the aggregation can be performed by NEMOs. Each storage order with smaller size in MW than the predefined threshold needs to be compliant with the chosen basket values of the parameters.

In a market coupling session, each NEMO collects all orders on a bidding zone level. Once all orders are received by the NEMO, the storage orders shall be aggregated before they are submitted to the calculation process. Once the market coupling results are available, the NEMO de-aggregates the results and share them separately with each market participant.

2.2.1 Parameters of the Baskets:

The following parameters will be included in each basket. Market participants would need to choose one of the baskets for submitting a storage order. NEMOs shall define the values of the baskets based on feedback from market participants.

Basket Parameters	Mapping to Input Parameters Defined Above	Basket 1 (Values)	Basket ... (Values)	Basket N (Values)
Power (MW)	Power (MW) (input and output power would be assumed to be equal)	Value to be entered by market participants (no predefined value)		
Power-to-capacity ratio (-)	Power: Power (MW) (input and output power would be assumed to be equal) Capacity: Maximum energy stored (MWh)	Value TBD	Value TBD	Value TBD
Starting volume-to-capacity ratio (-)	Starting volume: Starting energy stored (MWh) Capacity: Maximum energy stored (MWh)	Value TBD	Value TBD	Value TBD
Efficiency (%)	Efficiency (%)	Value TBD	Value TBD	Value TBD

Cycling cost (€/MWh)	Cycling costs (€/MWh)	Value TBD	Value TBD	Value TBD
End-of-day value (€/MWh)	Value given to energy stored at the end of the day (€/MWh)	Value TBD	Value TBD	Value TBD

For the definition of the storage order using baskets, the parameter power is combining the parameters Input and Output Power (listed among the input parameters further above) that are assumed to be equal. Additionally, the parameter Minimum energy stored (listed among the input parameters further above) is omitted in the baskets for simplicity.

3. Background Information

This document has been written as an attachment for the public consultation questionnaire, which will open for market participants to provide inputs from 01/06 until 30/06.

3.1 Terms Explained

- ▶ Euphemia: The algorithm supporting the Market Coupling calculation system
- ▶ MCSC: Market Coupling Steering Committee
- ▶ MTU: Market Time Unit
- ▶ NEMO: Nominated Electricity Market Operator
- ▶ SDAC: Single Day-Ahead Coupling
- ▶ TSO: Transmission System Operator

3.2 Disclaimer to the Questionnaire

- ▶ TSOs and NEMOs will not publish individual feedback answers given by stakeholders. Answers **and positions will remain anonymous.**
- ▶ Storage order is considered to be implemented only in the day-ahead market, therefore the questions (related to bidding, etc.) **refer solely to the day-ahead timeframe** (unless stated in the individual questions otherwise).