

Aurora’s Battery Benchmark is a backcast of our software Chronos, and reflects historical battery performance

Description

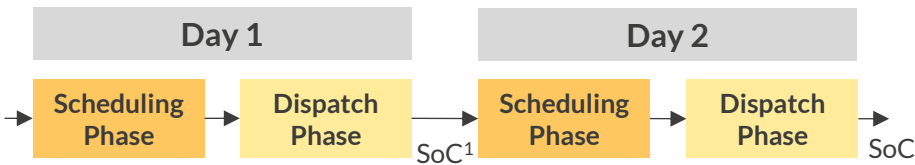
- Our battery profitability benchmark reflects the margins that a battery asset would have earned in a given month by trading in the Day-Ahead, Intraday¹, aFRR and FCR markets. Trading in the Continuous Intraday markets is not included.
- We use Chronos, Aurora’s in-house model, to simulate the optimised dispatch behaviour based on historical prices for wholesale and balancing markets. This is the same model that we use in our revenue forecasts.

Technical parameters of the battery system

	2h Battery Benchmark	1h Battery Benchmark
Daily cycles ²	1.5 cycles per day	1.5 cycles per day
Market access ³	DA ⁴ , ID ⁵ , FCR, aFRR energy, aFRR capacity	DA ⁴ , ID ⁵ , FCR
Duration	2h	1h
RTE	86%	86%
Availability	99%	99%
Degradation	No degradation	No degradation
Asset size	Up to 50 MW	Up to 50 MW

Overview of trading strategy utilized⁶

Chronos is solved in blocks of 1 day, determining all actions for each block before moving onto the next block.



Scheduling Phase

The Scheduling Phase includes the markets with dispatch decisions the day before delivery (Day-Ahead, FCR, aFRR capacity). It is solved with an optimisation approach, with up to 32h foresight, while accounting for the opportunity cost of participating in the Intraday and the aFRR energy markets.

Dispatch Phase

Day-Ahead, FCR, and aFRR capacity commitments are fulfilled first. The commitments of the Intraday and the aFRR energy markets are determined using a heuristic price threshold approach based on upcoming Day-Ahead prices. No foresight for the Intraday and the aFRR energy markets is assumed.

Aurora’s Battery Benchmark can be used to:

- Compare the margins between different months to see if the performance of your battery is following the market trends.
- Evaluate how well your trading strategy performs versus Aurora’s benchmark.

Our benchmarks do not consider:

- Continuous trading of multiple products within the Intraday market.
- Costs or revenues not coming from energy or capacity trading, such as fixed costs.

If you would like to use Chronos to forecast the revenues of your asset, please [reach out](#).

1) EPEX ID1 index is used. 2) Cycle rates are enforced monthly. 3) We assume 1h batteries do not participate in the aFRR energy and capacity markets due to the restrictiveness of the pre-qualification requirements. 4) Day-Ahead. 5) Intraday. 6) More details can be found in our [German Flexibility Energy Market report](#).