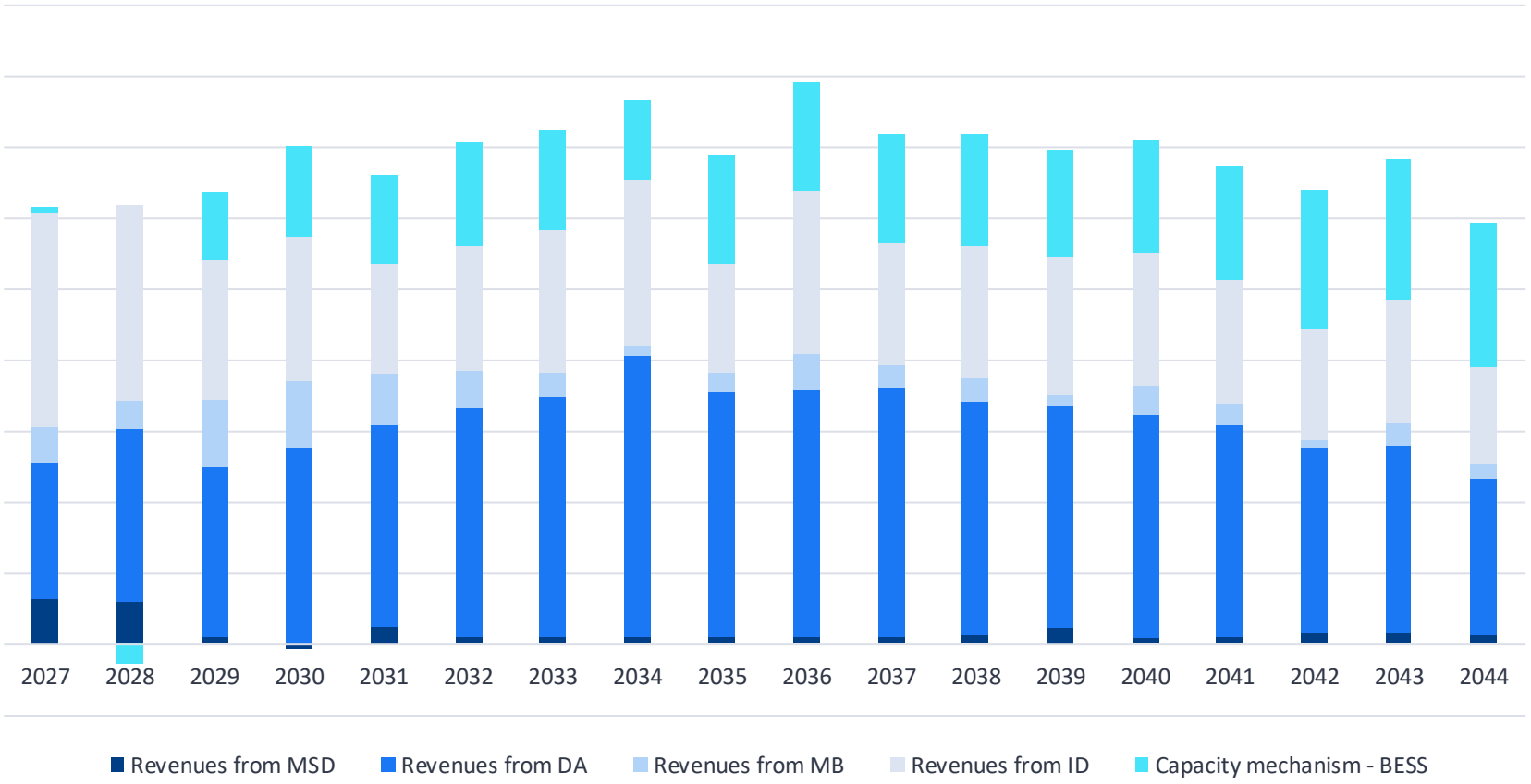
Revenue stack

Revenue Stack for a 50 MW/200 MWh BESS – SUD Zone Central Scenario

In k€/MW – real values 2025



Revenue Analysis

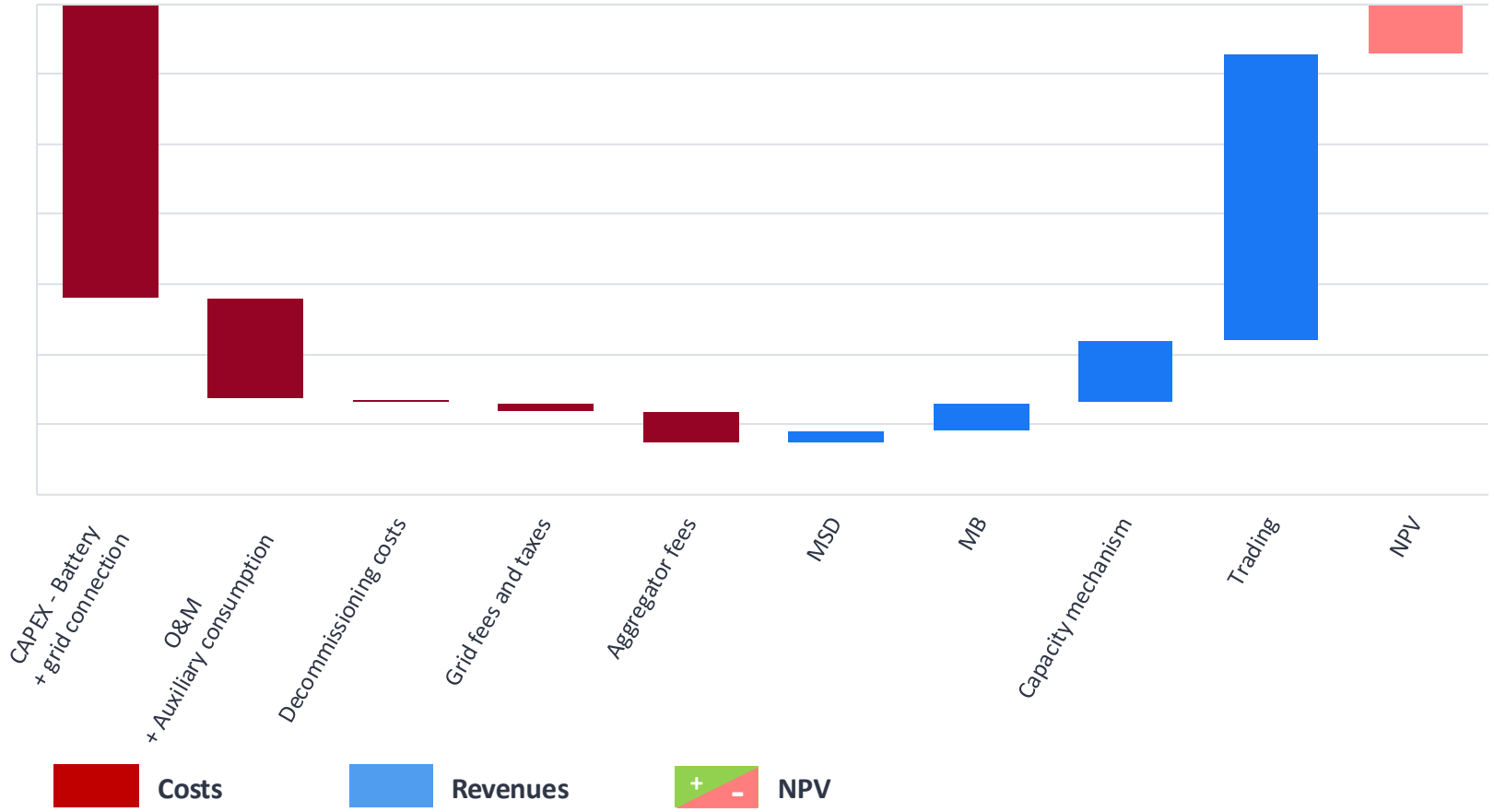
The Day-ahead (DA) is the leading revenue stream, followed by the intraday (ID) market, and by the capacity mechanism.

The capacity mechanism can attract payback obligations if the day-ahead price is higher than the strike price which is the based on the marginal cost of activation of an OCGT plant. This can reduce capacity mechanism revenues.

Discounted cashflow

Discounted costs and revenues of the 50 MW/200 MWh BESS project – SUD Zone Central scenario
In k€ – real values 2025

Project IRR – real 2025: ***7.3%***



Cost Analysis

Battery CAPEX represents a significant amount (67%) of the total cost of the project.

A 4-hour battery generates most of its revenues through arbitrage over the intraday and day-ahead ones.

Based on considered project costs and accessible revenue streams, plus minimal IRR targets that reflect the risk nature of a merchant project (10% IRR target) a 4-hour BESS is not profitable in Italy's SUD market zone.

Changes from S1 2025 to S2 2025 prices and revenue stack - Assumptions

Long term gas prices have been reduced, in line with most recent long term markets for gas	Gas prices have been reduced in the long term resulting in lower marginal cost of gas powerplants and therefore lower peak prices, reducing the long term day ahead spreads.
Land lease costs have been slightly increased	Land lease cost have been increase from 20 000 €/hectare to 30 000 €/hectare, to take account of the growing demand for land near substations. The impact on business models is negligible, as the land lease cost represents less than 1% of total annual costs.
BESS CAPEX have been slightly decreased, in line with latest industry values	BESS CAPEX have droped slightly due to a decrease of the energy part of the BESS, resulting in increased profitability, namely for longer duration BESS.
Installed capacity update	In this edition, Clean Horizon has updated renewable capacity installation scenarios. Onshore wind curve has been adjusted downward to reflect the negative signal from the undersubscribed transitory FER X auction's wind segment. Offshore wind forecast has also been adjusted downwards post a review of the interconnection queue.
Electricity demand lowered	CHC has lowered the 2040 demand from 390 TWh to 373 TWh and the 2050 demand has decreased from ~450 TWh to 420 TWh. This intermediate trajectory discounts the electricity consumption for H2 production, which would represent an additional ~25 TWh in 2040.
BESS deployment reassessed	The BESS deployment and distribution of the BESS (and flexiblity in general which includes pumped hydro) has been reassessed based on capacity mechanism auction, planned MACSE auctions, planned projects etc.

Changes from S1 2025 to S2 2025 prices and revenue stack – Price forecast methodology

Intraday methodology has been upgraded	Intraday auction and continuous revenue projections now take into account the growth of the intraday volume with the increasing renewable production in Italy as well as the cannibalisation effect of BESS on the revenues. The methodology also now takes into account the fact that revenues on the intraday are higher for 3 and 4h BESS than for 2h BESS.
Flexibility methodology has been upgraded	Future flexibility is now estimated accounting not only the net technical flexibility demand, but also the cost rationality of installing flexible storage assets, by comparing the Levelized Cost of Storage with the daily spread on the day-ahead market.
Dispatching fees now applied only on losses	Dispatching fees which was previous applied on all energy charged is now applied only on energy losses.

Changes from S1 2025 to S2 2025 prices and revenue stack – COSMOS

COSMOS tool was upgraded to allow asymmetrical prequalification on aFRR and mFRR	Asymetric prequalification to aFRR and mFRR is now enabled in COSMOS, enabling the BESS to capture higher revenues on aFRR and mFRR when prices are higher in one direction.
COSMOS has been improved to enable higher cycling of the BESS	Clean Horizon COSMOS dispatch strategy has been optimised to maximise BESS cycling.

Geographical coverage for electricity and ancillary services price forecast

COUNTRIES COVERED AS OF Q3 2025

France

Germany

Belgium

Spain

Portugal

Finland

Baltic states: Lithuania, Latvia and Estonia

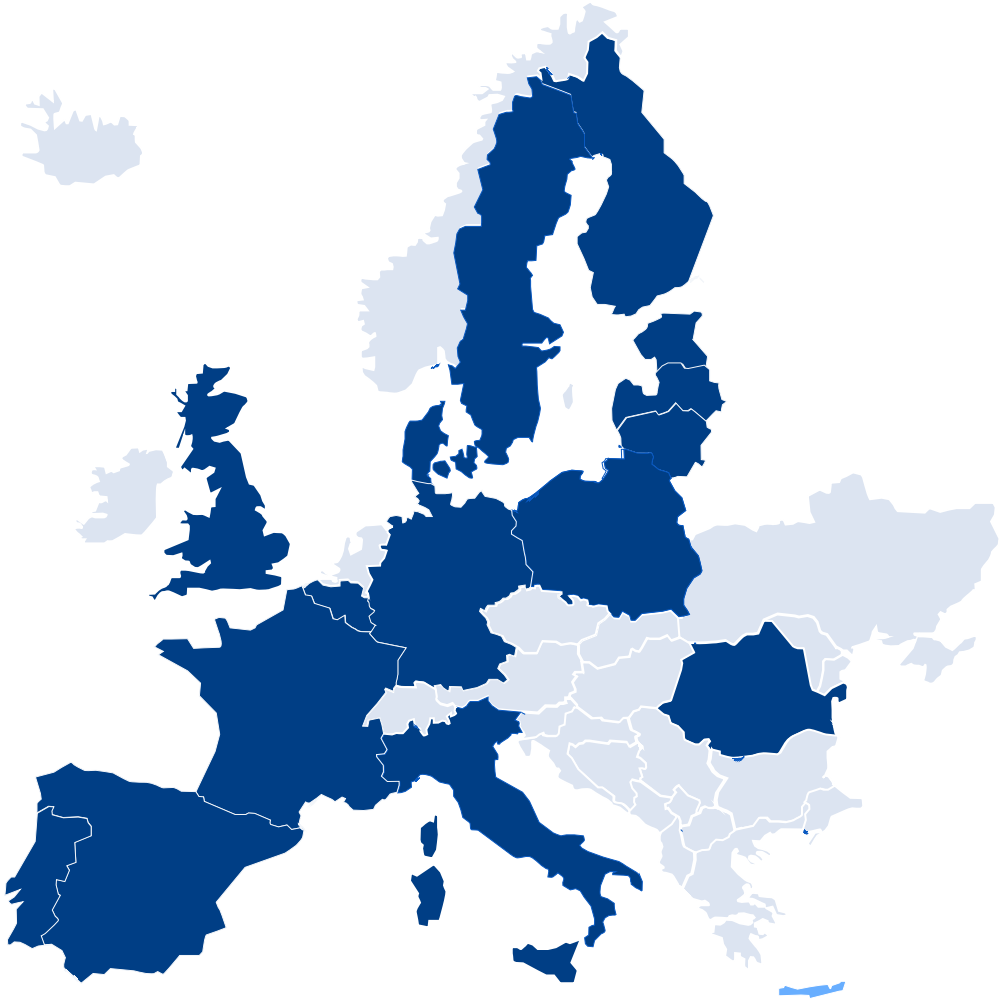
Poland

Sweden

Denmark

Italy

Romania

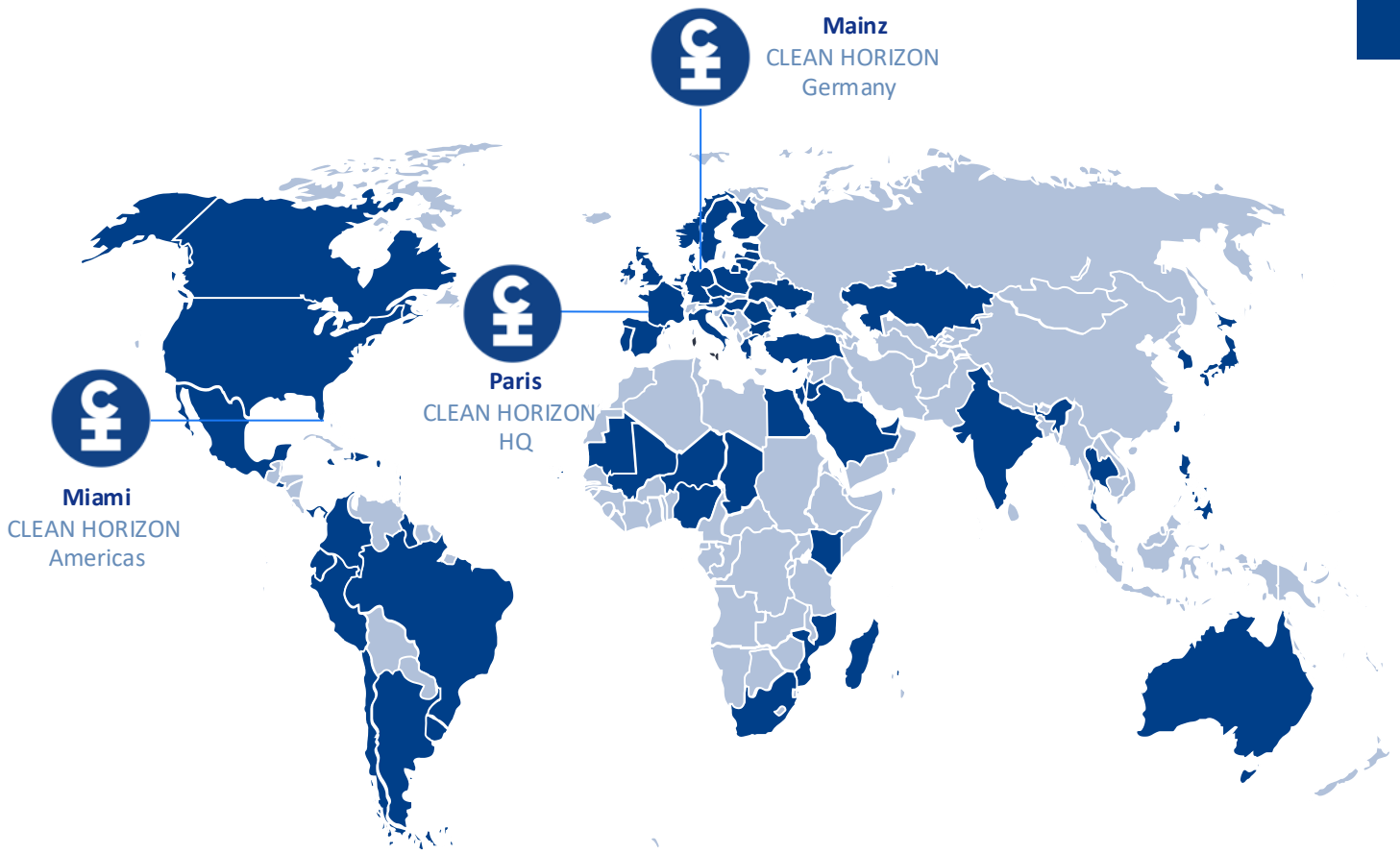


Clean Horizon is active in energy storage worldwide

3
INTERNATIONAL OFFICES

15
YEARS OF EXPERTISE IN ENERGY STORAGE

22,068
MWh, ESS DESIGNED AND AUDITED



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