

BESS Monthly Financial Analysis

Breaking down revenue potential in the Czech Republic, Poland, Romania, Hungary and Slovakia

What's inside?



Breakdown of income sources,
including DAM and aFRR



Revenue optimisation modelling
using real market data



Comparison of results
from the previous month





Introduction

This monthly report evaluates the financial performance of standalone 1 MW / 1 MWh and 1 MW / 2 MWh battery energy storage systems (BESS) in five key Central and Eastern European markets: Czech Republic, Poland, Romania, Hungary and Slovakia.

We consider two main revenue streams:

- ▶ **Day-ahead market (DAM)** arbitrage
- ▶ **Automatic frequency restoration reserves (aFRR)** – including reservation and activation (Up and Down)

Methodology

All revenue figures are calculated using an advanced optimisation tool that assumes ideal hourly operation. This allows us to simulate how a battery system could perform in each market under realistic conditions, using real market pricing in April 2026.

Assumptions

Roundtrip efficiency:	94% (charging and discharging 97% each)
Battery availability:	96%
Max cycles/day:	2
Operational window:	0-80% state of charge (to prevent degradation)
Forecasting noise:	5%

Monthly revenues

The tables below compare the monthly revenues for standalone **1 MW / 1 MWh** and **1 MW / 2 MWh** BESS units across four Central and Eastern European markets. Results are broken down by revenue from **day-ahead market** (DAM) arbitrage alone and revenue from **all-market optimisation** (DAM + aFRR services). The decreasing (negative) or increasing (positive) trend with respect to previous month can be observed in columns marked "change".

All figures represent simulated earnings under optimal hourly operation during April 2026, based on typical system availability, roundtrip efficiency, and operating assumptions, country and market specification.

Optimisation results and change from last month – 1 MW / 1 MWh

	Czech Republic		Poland		Romania		Hungary		Slovakia	
	EUR/MW	change	EUR/MW	change	EUR/MW	change	EUR/MW	change	EUR/MW	change
DAM only	3,631.8	33.3%	4,914.0	29.7%	4,411.7	32.2%	6,016.4	43.1%	4,406.4	25.1%
aFRR Up reservation	2,516.4	-35.4%	24,356.0	15.8%	3,004.7	9.5%	238.8	-9.0%	14,490.6	-1.3%
aFRR Up activation*	676.8	34.9%	377.5	89.4%	1,584.5	58.6%	7,197.0	262.6%	321.3	1,273.9%
aFRR Down reservation	259.6	186.5%	48,070.7	178.0%	3,369.6	77.0%	1,543.7	287.2%	4,344.3	0.5%
aFRR Down activation*	874.1	-18.6%	887.3	-27.4%	4,939.6	66.8%	2,011.8	-6.2%	1,404.5	-29.4%
DAM within optimisation	2,963.9	15.6%	3,038.2	-15.9%	3,535.1	12.5%	4,021.6	14.9%	3,274.4	10.0%

Optimisation results and change from last month – 1 MW / 2 MWh

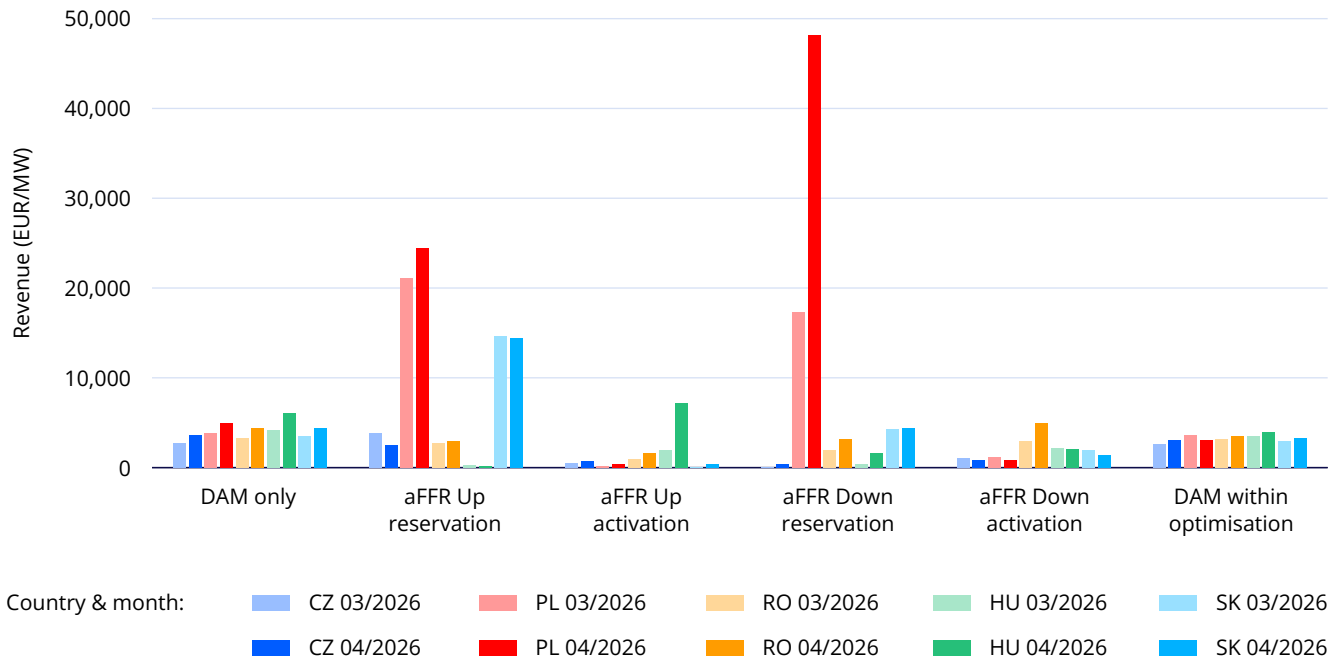
	Czech Republic		Poland		Romania		Hungary		Slovakia	
	EUR/MW	change	EUR/MW	change	EUR/MW	change	EUR/MW	change	EUR/MW	change
DAM only	6,988.6	40.5%	9,378.2	31.0%	8,401.1	31.4%	11,567.1	43.3%	8,482.6	21.3%
aFRR Up reservation	3,160.4	-28.3%	30,126.5	17.4%	3,801.6	11.8%	313.7	-3.1%	17,328.0	-5.9%
aFRR Up activation*	152.9	-40.2%	328.6	222.5%	1,297.7	51.2%	2,138.6	37.4%	262.6	446.3%
aFRR Down reservation	303.1	189.0%	42,161.5	91.1%	3,963.1	69.3%	1,813.3	300.9%	5,472.1	-0.3%
aFRR Down activation*	1,106.3	-17.1%	1,145.2	-18.0%	5,696.2	16.5%	2,142.9	-14.0%	1,724.1	-25.5%
DAM within optimisation	6,334.4	23.8%	7,744.5	5.6%	6,715.5	6.4%	9,076.3	24.3%	6,676.6	8.0%

*Note: The activation portion of income includes the cost of recharging the battery after aFRR Up activation, and the revenue earned from discharging after aFRR Down activation.

Month-on-month comparison

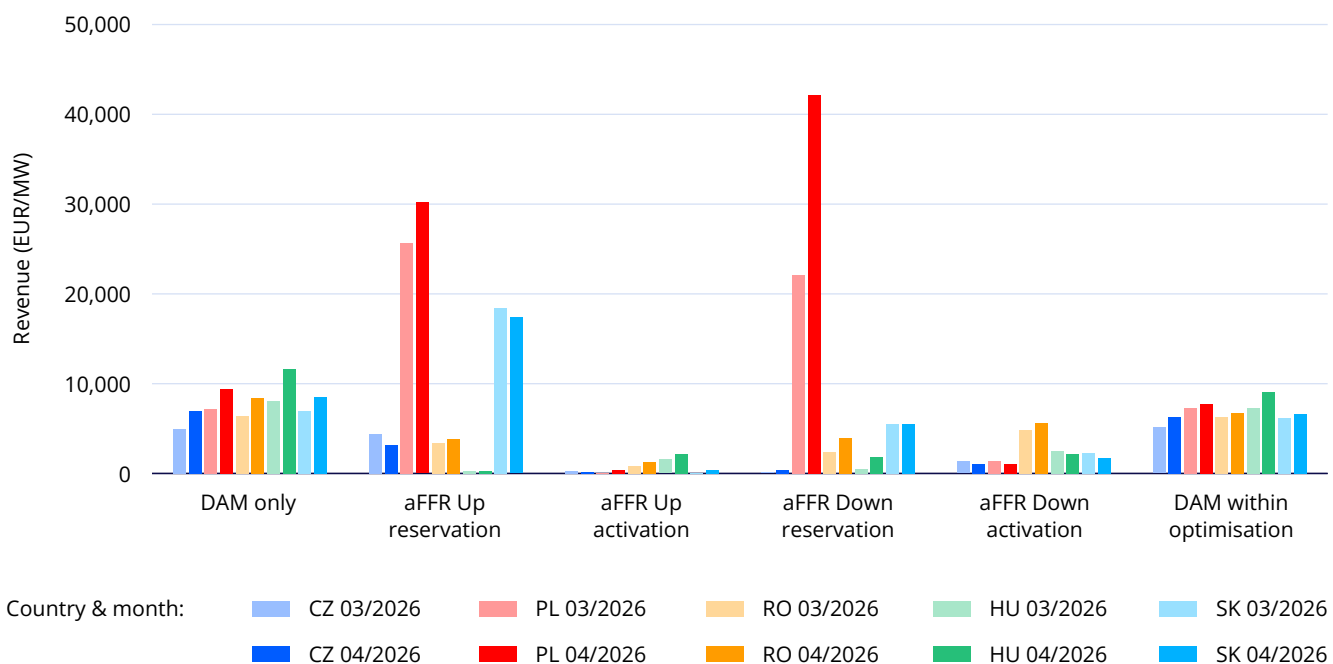
Revenue for April 2026:

1MW / 1MWh standalone battery compared to previous month



Revenue for April 2026:

1MW / 2MWh standalone battery compared to previous month



Market price summary

April 2026

This section presents pricing data from April 2026 across day-ahead and ancillary service markets. These prices form the basis for the revenue modelling presented earlier and help explain changes in financial performance across Central and Eastern Europe.

All prices are reported in **EUR/MWh (or EUR/MW in case of reservation) as monthly averages** and include:

- ▶ Day-ahead market (DAM) prices
- ▶ aFRR reservation (Up and Down)
- ▶ aFRR activation (Up and Down)

This table provides detailed pricing information (in EUR) for different countries and different energy market mechanisms. The table captures a range of statistics for each country, including the **mean, minimum, maximum, and standard deviation**.

Country	Market type	Mean	Min	Max	Std dev
Czech Republic	DAM	83.5	-421.7	243.9	70.2
	aFRR Down reservation	0.7	0.2	3.4	0.5
	aFRR Up reservation	5.9	0.2	21.1	4.5
	aFRR Down activation	48.3	-332.0	198.7	42.7
	aFRR Up activation	100.7	-15.5	4,308.4	170.9
Poland	DAM	83.6	-216.0	303.8	65.1
	aFRR Down reservation	90.1	5.0	611.9	114.6
	aFRR Up reservation	53.8	8.4	239.8	45.4
	aFRR Down activation	49.1	-343.3	187.5	57.6
	aFRR Up activation	97.5	-124.4	380.5	38.9
Romania	DAM	95.7	-97.5	246.5	62.0
	aFRR Down reservation	7.2	4.0	11.7	1.3
	aFRR Up reservation	7.4	6.4	8.7	0.2
	aFRR Down activation	-78.8	-1,499.8	82.2	235.5
	aFRR Up activation	140.6	0.0	1,357.4	164.8

Market price summary

Country	Market type	Mean	Min	Max	Std dev
Hungary	DAM	96.6	-500.0	291.8	82.1
	aFRR Down reservation	3.3	0.0	29.2	4.1
	aFRR Up reservation	0.9	0.0	27.2	2.1
	aFRR Down activation	-14.0	-1,079.9	40.9	53.9
	aFRR Up activation	180.5	0.0	25,000.0	1,071.2
Slovakia	DAM	83.6	-448.7	244.9	69.6
	aFRR Down reservation	9.8	0.0	10.7	1.5
	aFRR Up reservation	32.7	20.0	35.2	3.0
	aFRR Down activation	4.8	-289.6	160.7	33.3
	aFRR Up activation	99.9	0.0	543.8	47.6

Note: The positive Down activation prices represent a situation when the client is paying for charging the battery during activation, the negative Down activation prices represent a situation when client gets paid for charging the battery during activation.

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Whether you're planning a new system or assessing returns in a specific location, our team can model revenues for BESS and hybrid setups including PV, wind, biogas and self-consumption.

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