



Battery storage and solar revenues in Greece

The interplay between storage deployment and solar economics

Alexandros Makrysopoulos

Head of Electricity Market Outlook, WSP

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E3-Modelling within WSP



E3-Modelling

Ricardo

Decades of experience

in energy and
economic analysis

January 2023

E3-Modelling joins Ricardo

October 2025

Ricardo joins WSP

The same people behind the models

Now connected to WSP's global engineering and project delivery teams



Our global footprint

74,400*

employees worldwide

650

AFRICA

12,500

CANADA

3,000

ASIA

3,900

CENTRAL EUROPE

7,500

MIDDLE EAST & INDIA

7,600

AUSTRALIA, NEW ZEALAND & PHILIPPINES

18,800

USA

3,800

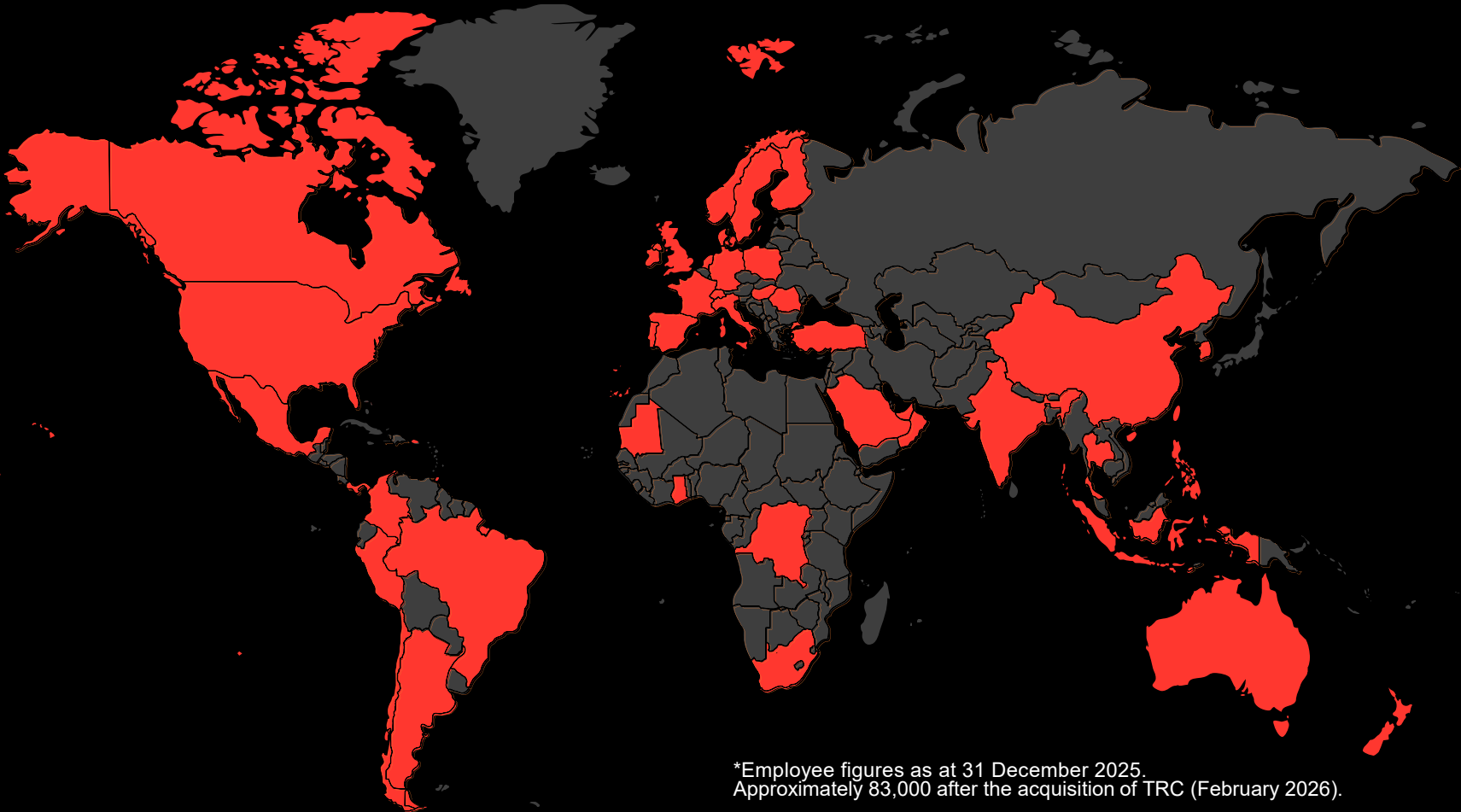
LATIN AMERICA & CARIBBEAN

4,950

NORDICS

11,700

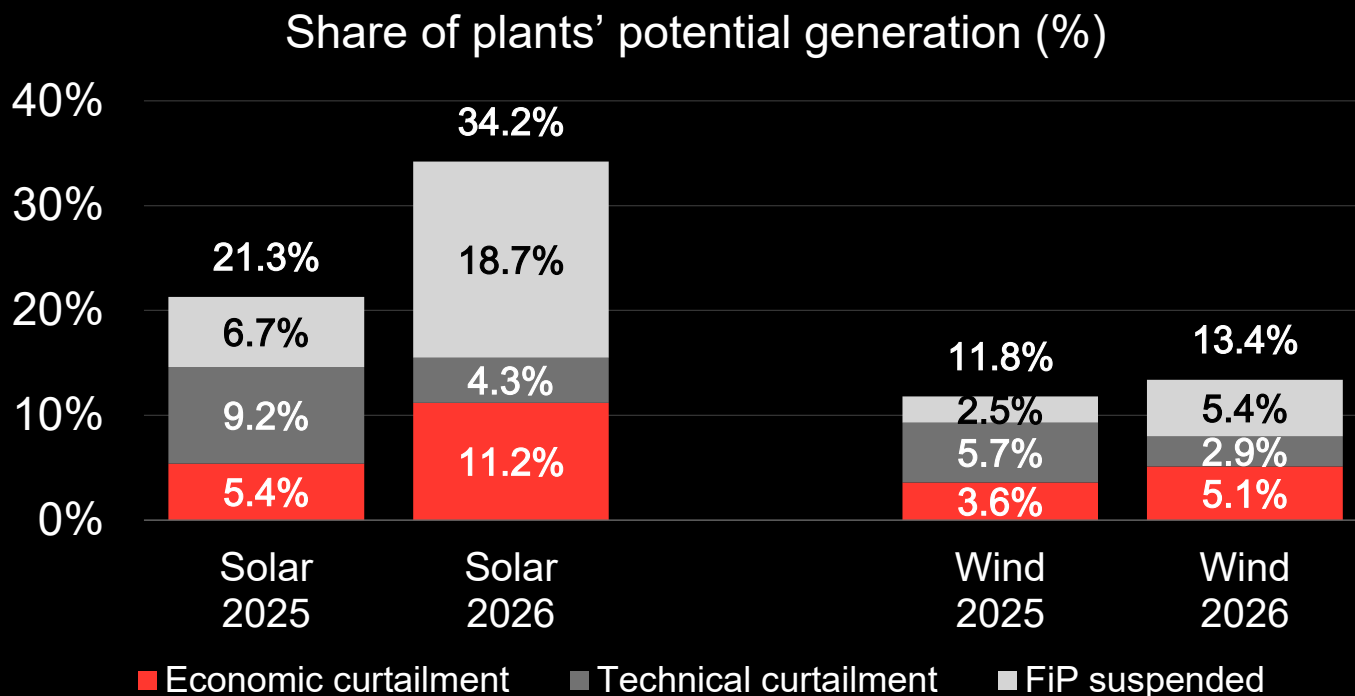
UK & IRELAND



*Employee figures as at 31 December 2025.
Approximately 83,000 after the acquisition of TRC (February 2026).

Non-remunerated energy under FiP rises sharply for solar

Solar and wind, January to September 2025 and 2026, share of FiP plants' potential generation



Summary and assumptions

Economic curtailment: energy not cleared in the day-ahead or intraday market.

Technical curtailment: TSO dynamic curtailment, beyond economic curtailment.

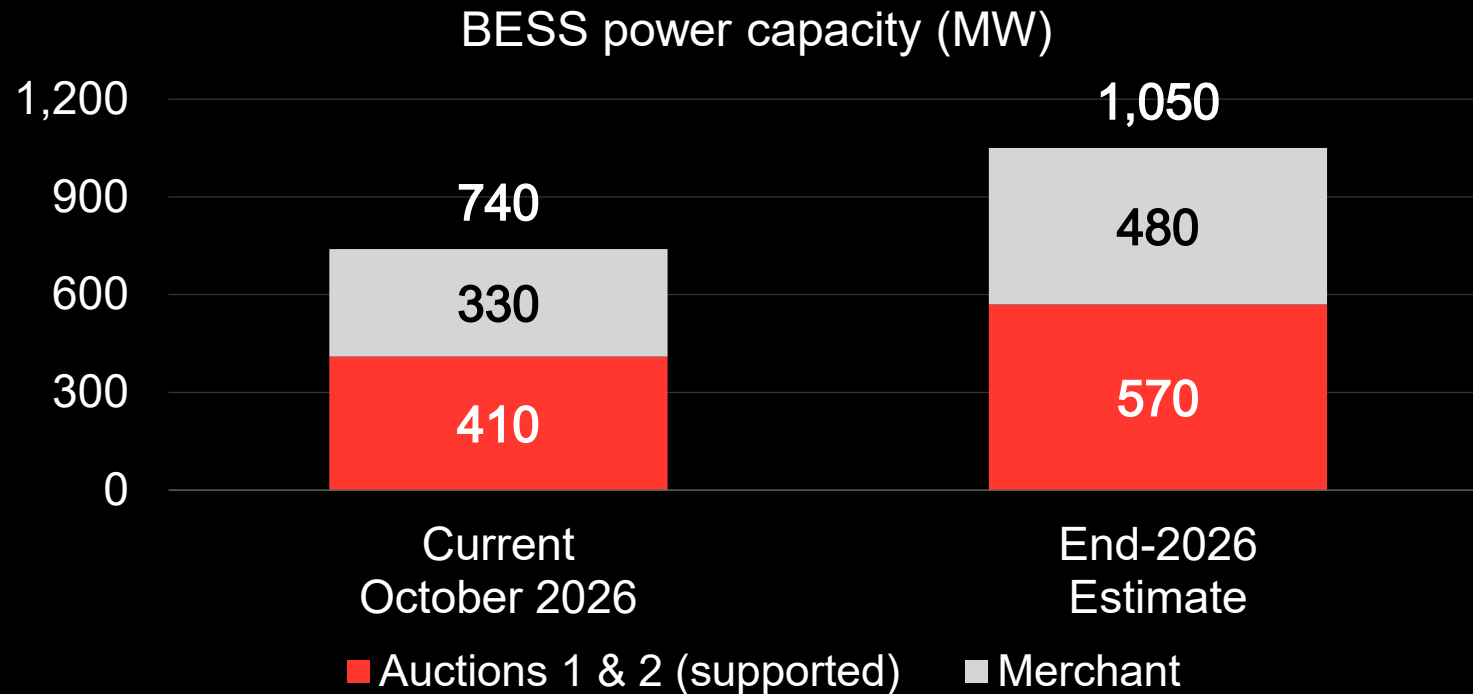
FiP suspension: no premium when day-ahead prices are negative for more than 2 consecutive hours.

Assumption: technical curtailment falls mainly on FiP and merchant plants, not older FiT plants.

- Solar: unpaid energy rises from 21.3% to 34.2%.
- Wind: from 11.8% to 13.4%.

Greek BESS capacity heads towards 1 GW by end-2026

Greece: estimated capacity in operation today and at year-end



- Today: about 740 MW in operation, 410 MW under Auctions 1 & 2 and 330 MW merchant.
- End-2026: about 1,050 MW, assuming the projects now completing construction connect on schedule.
- YTD BESS arbitrage margin 150 EUR/MWh discharged

In operation as of mid-October 2026

Interconnected modelling of European power markets

Greek prices form in a coupled European market; PRIMES-IEM simulates the whole of it.

34

Countries



47

Bidding zones

116

Network nodes

FBMC

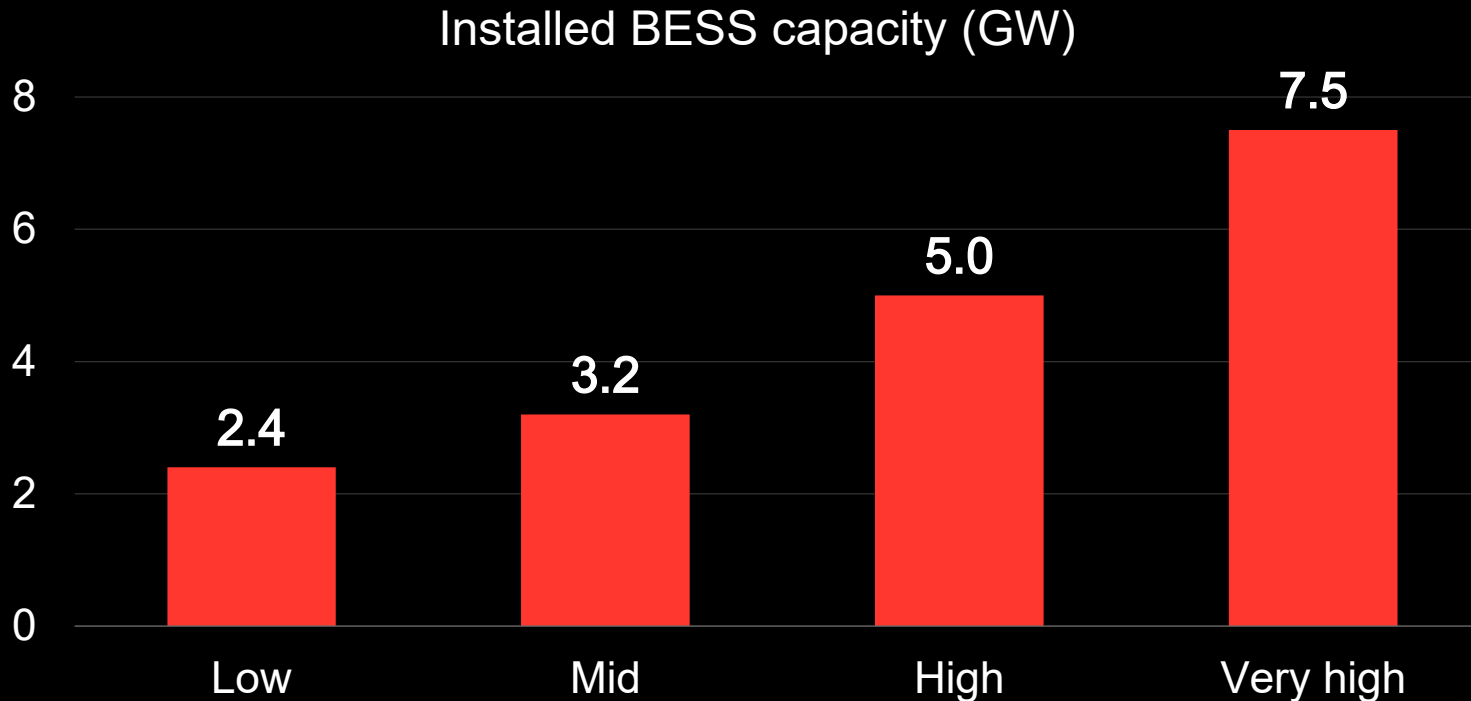
Flow-based market coupling

Simulating market exchanges and price formation within network constraints.

PRIMES-IEM: E3-Modelling's proprietary European electricity market model, part of the PRIMES suite.

Four BESS scenarios for Greece in 2030: 2.4 to 7.5 GW

Installed battery power capacity, PRIMES-IEM scenario inputs



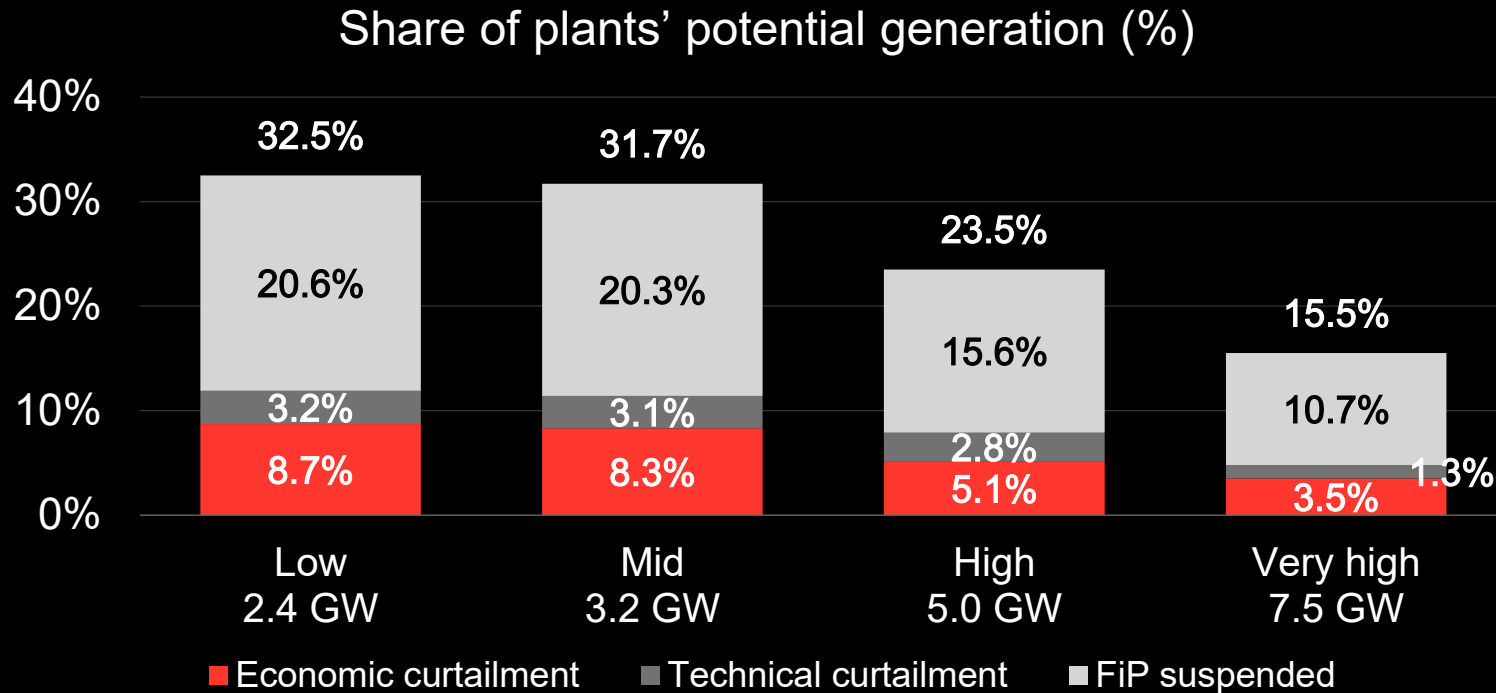
Scenario scope

Four scenarios for installed BESS power capacity in 2030, from 2.4 GW to 7.5 GW.

Only BESS capacity differs between scenarios; demand, RES capacity, fuel and CO2 prices and interconnections are common.

More storage reduces solar's non-remunerated energy

Solar under FiP in Greece, 2030

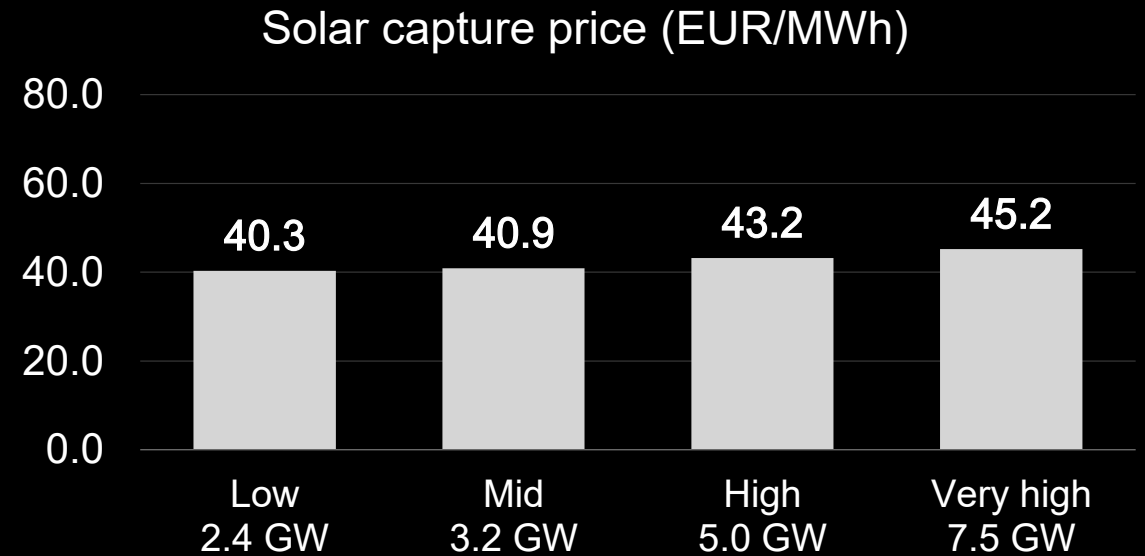
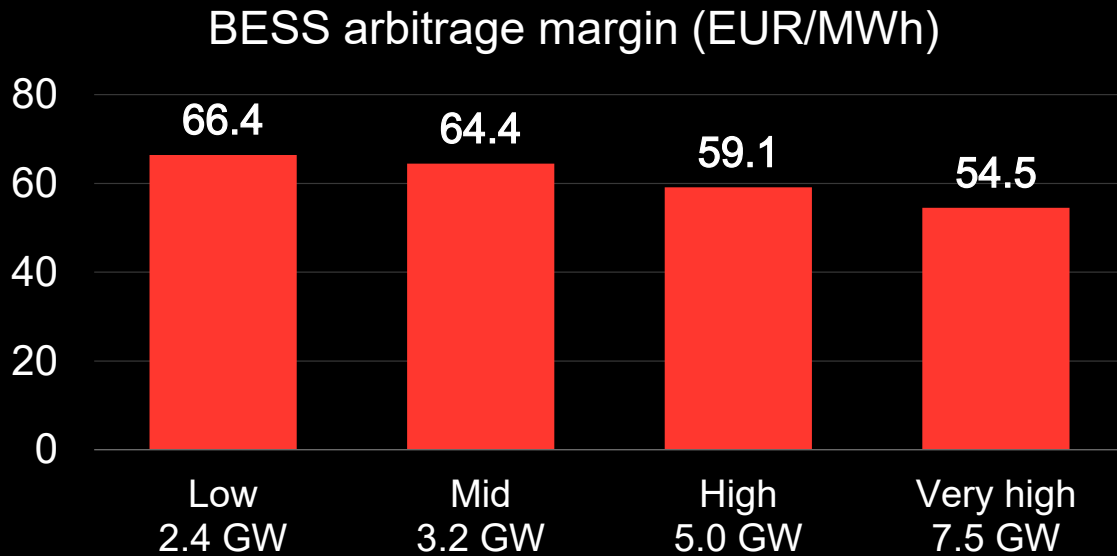


Storage eases the pressure

- Non-remunerated energy roughly halves, from 32.5% (Low) to 15.5% (Very high).
- Most of the gain is fewer FiP suspensions: 20.6% down to 10.7%.
- Even at 7.5 GW, one sixth of potential FiP solar output stays unpaid: storage alone does not close the gap.

Storage lifts solar capture prices as arbitrage margins fall

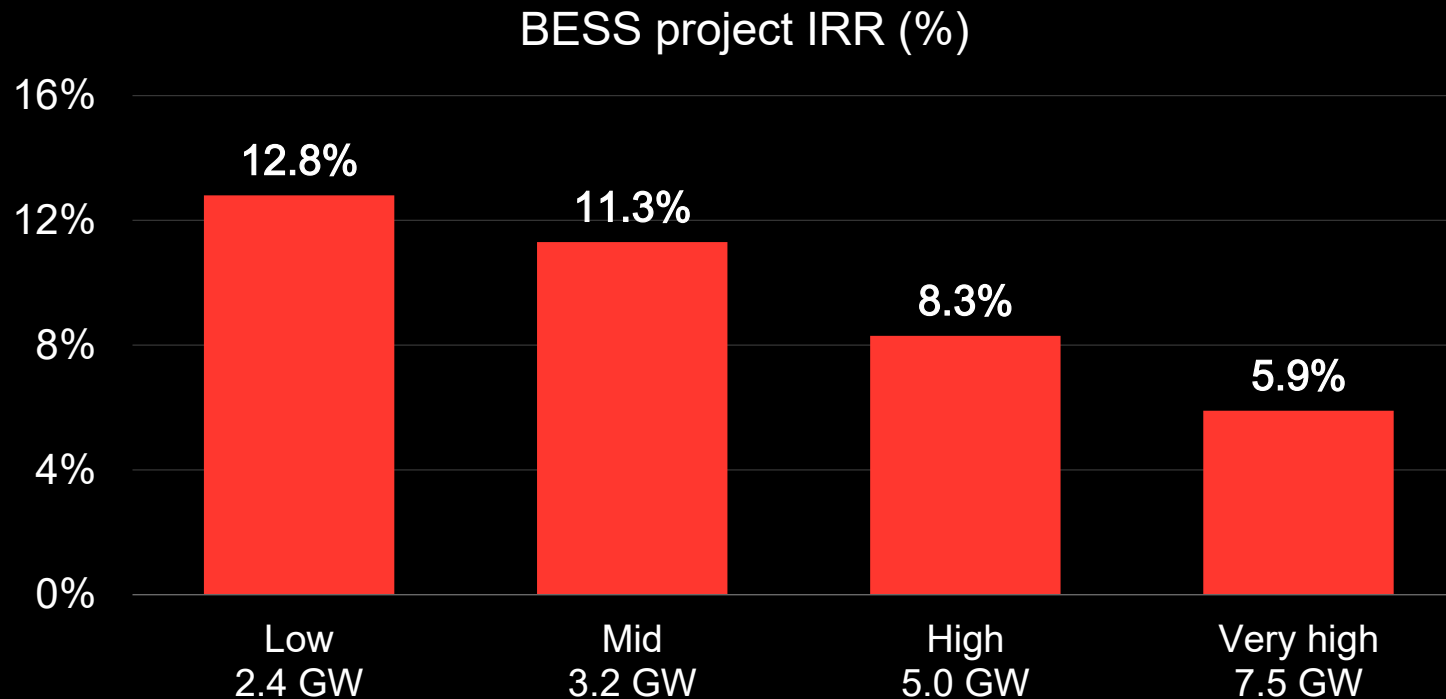
Greece, 2030 scenarios, battery margin per MWh discharged



- From Low to Very high, the battery arbitrage margin falls by 18% while the solar capture price rises by 12%.
- Batteries charge in solar hours and discharge in the evening: they lift midday prices and flatten the peak, helping solar while narrowing their own spread.

Storage investment returns decline as capacity grows

Greece, 2030 scenarios, merchant BESS project IRR



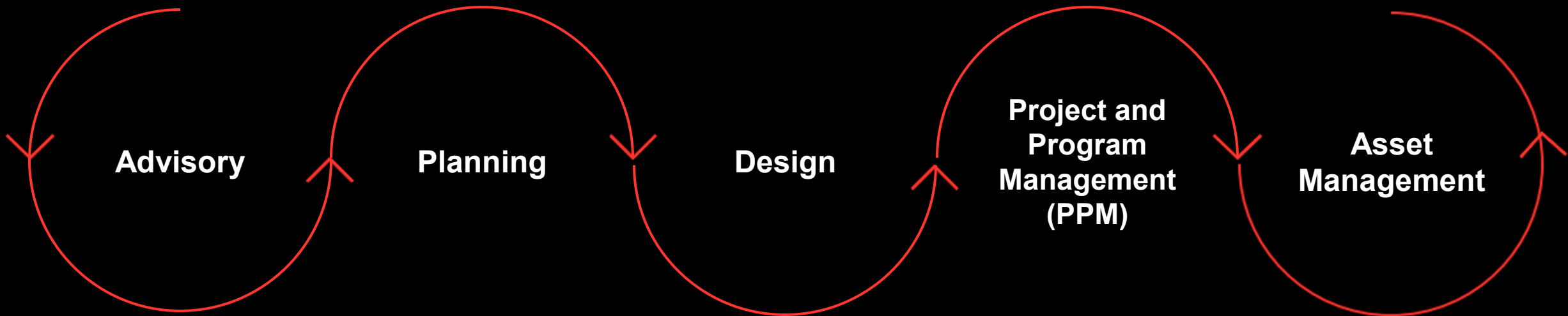
The full revenue stack matters

- Project IRR falls from 12.8% (Low) to 5.9% (Very high), market becomes saturated, with the full revenue stack, simulated in PRIMES-IEM.
- Additional BESS capacity intensifies competition for arbitrage and balancing opportunities, putting downward pressure on revenues across the existing storage fleet.
- The significant decline in project IRR as installed capacity increases may weaken investor appetite for merchant BESS projects and slow further deployment.

Supporting at every stage

For renewables and storage

Market scenarios and revenue analysis
inform engineering and delivery decisions.





Thank you for your attention

Contact us

Alexandros Makrysopoulos

Head of Electricity Market Outlook, WSP

alexandros.makrysopoulos@wsp.com