



CASE STUDY · AUSTRALIAN NEM

Superior Event Value Capture

How stochastic optimisation outperformed Australia's leading storage assets

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Why a Dutch firm bids in the NEM

A quarter of the Netherlands lies **below sea level**.



The Maeslantkering closing the Rotterdam waterway against a surge · Photo: kees torn, CC BY-SA 2.0

Pumps and barriers are set hours ahead, on a forecast that is often wrong.

Over-pump and you burn money. Under-pump and the land floods.

So you pick a setting that holds up whichever way it turns out.

Same problem, same mathematics. We built it for **the Dutch state**; it now dispatches batteries.



the open-source core we created

The NEM is one of several markets

One product, parametrised per market structure.

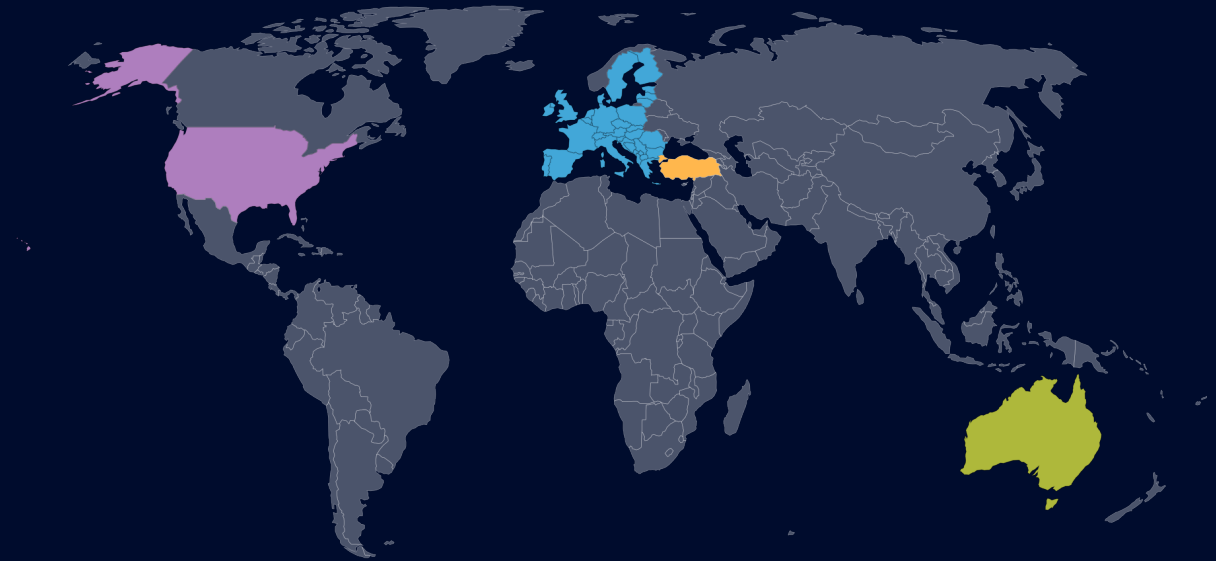
Australia · NEM

Energy + FCAS, shadow-trading every
utility-scale BESS

Europe & GB

Türkiye

United States



PATENT PENDING

What this case study is

A **live shadow run** on real NEM batteries — not a backtest.
South Australia — the **21–22 June 2026** price event, and the months around it.

Same inputs

AEMO pre-dispatch only. The bid goes out before the price is known.

Same asset

The real unit's power, energy and outages. Actual dispatch from AEMO.

Same settlement

Settled price, ramped energy, the unit's own loss factors.

The only thing that differs is **the dispatch decision**.

Live since October 2025 (3-hour SA asset) and April 2026 (2-hour SA asset). Actuals: AEMO NEMWeb.

The year is decided in an hour

70 min

Above A\$10,000/MWh

14 intervals, 21–22 June
2026

A\$20,300

Peak spot price

South Australia, per MWh

A\$13,879

Earned per MW

By our shadow run, in those
minutes

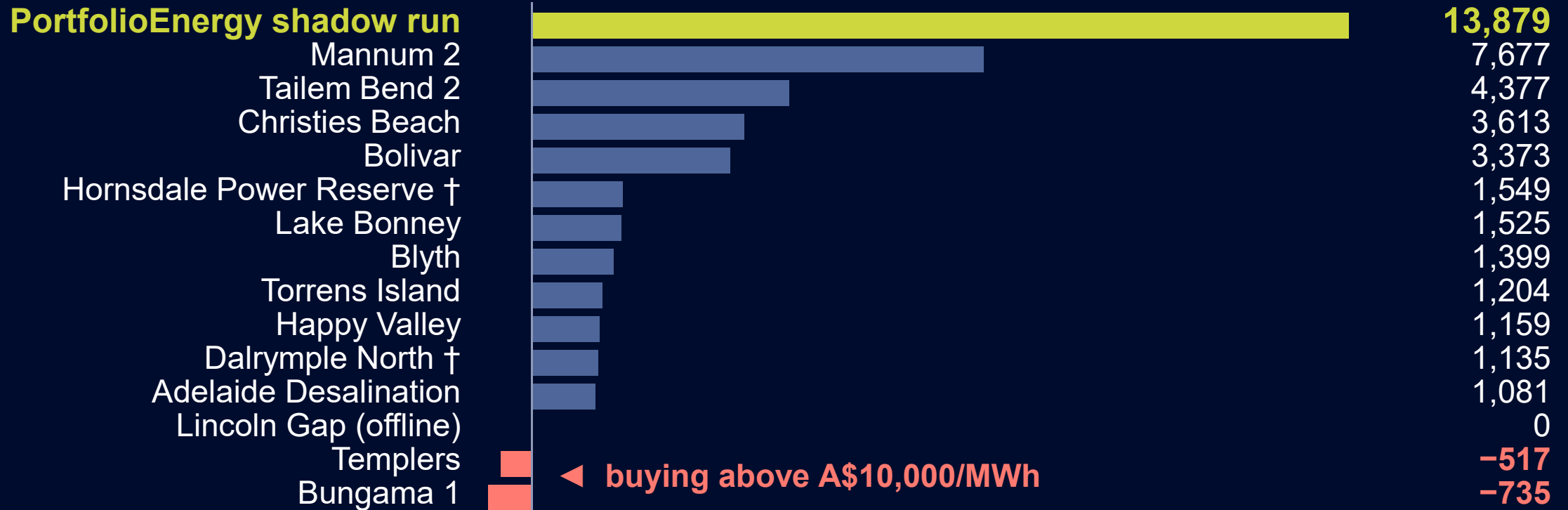
Everyday spreads compress as storage is built. **The share of the year riding on rare events keeps rising.**

MLF-corrected energy revenue in the 14 spike intervals, on an identical basis for every unit. Source: AEMO NEMWeb.

Every SA battery, same two days

Same prices. Same 70 minutes. A\$ per MW in the 14 intervals above A\$10,000/MWh.

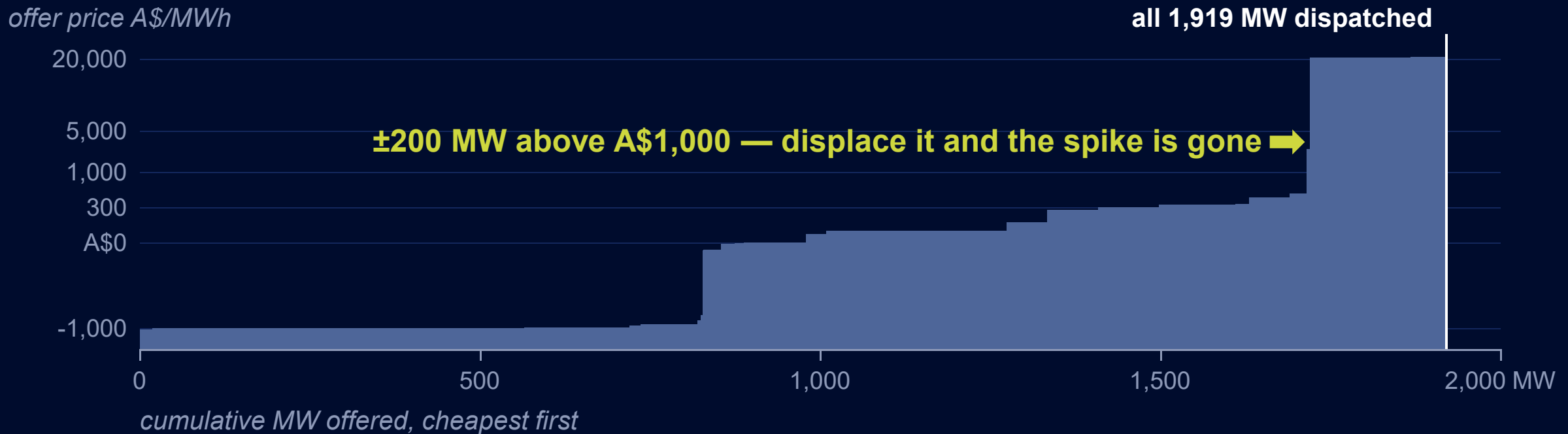
70 minutes, NEM time — 4 intervals within 19:30–20:10 on 21 Jun, and 10 consecutive across 07:15–08:05 on 22 Jun



All SA utility-scale BESS, all durations · our shadow run is a 2-hour BESS. † capacity reserved for SIPS, so less was offered to the market. MLF-corrected energy revenue in those 14 intervals. Our own price impact is on the next slide. Source: AEMO NEMWeb.

South Australia had nothing spare

A shadow run is a **price taker** — so we rebuilt the stack it traded into.

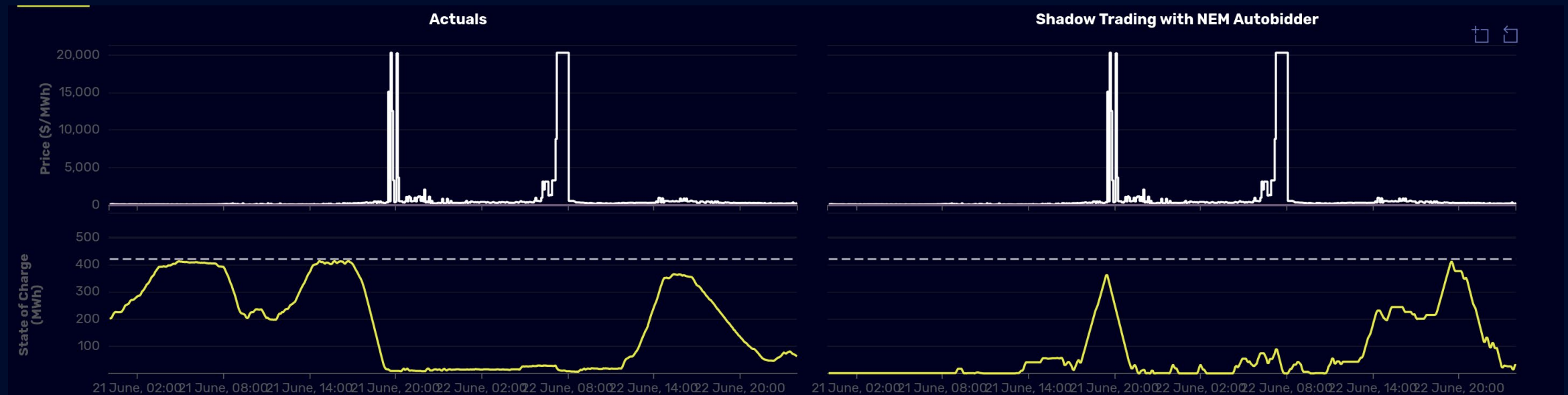


Built from bids alone, the marginal offer is **A\$20,420**. The market cleared A\$20,300.

SA1 generation offers, 07:50–07:55 interval on 22 Jun 2026, capped at dispatch availability. SA was importing 176 MW with both Victorian interconnectors at their limits. Static re-stack, charging offers excluded. Non-linear price axis. Source: AEMO NEMWeb.

The spike is won before it arrives

South Australian spot price (top) and state of charge (bottom), 21–22 June 2026



Empty at both spikes. It discharged before the money arrived.

Full before the evening one. Charged hours before any forecast moved.

PortfolioEnergy NEM comparison dashboard. Actuals from AEMO NEMWeb; shadow run settled on the same basis.

Pre-dispatch missed the evening peak

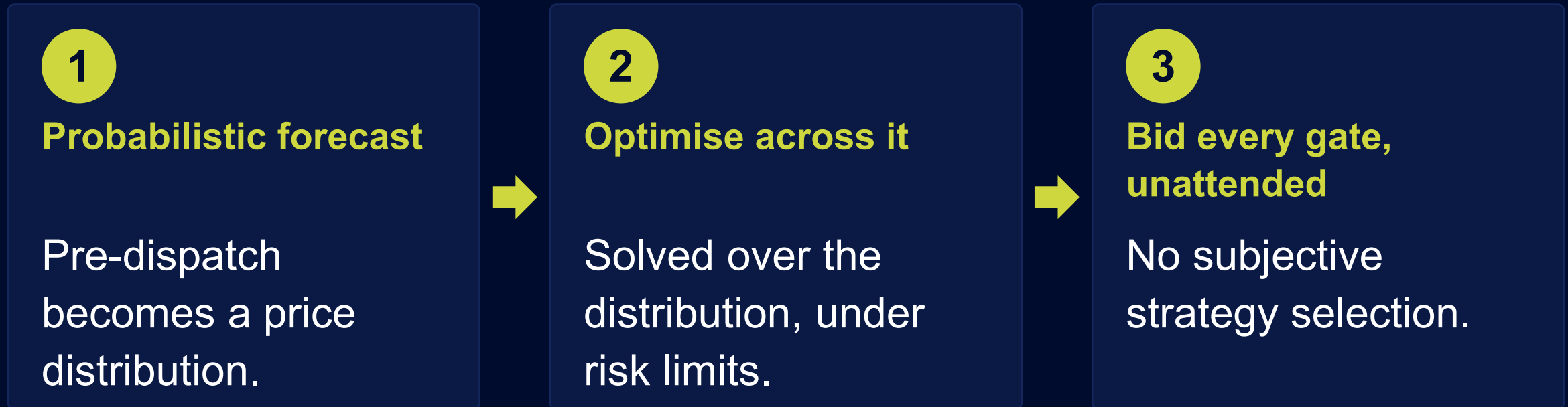
Five-minute pre-dispatch for the 19:40–19:45 interval — **every run, to the last.**



Nine minutes out pre-dispatch said A\$396. Ours gave the spike **non-zero probability** — the position was already in place.

SA1, 21 Jun. Before the last 5-minute run, neither 5-minute nor 30-minute pre-dispatch exceeded A\$521 in the four peak intervals.

Never trade a single future



State of charge stops being a bet and becomes **a hedge** — sized by the optimisation, not by anyone's conviction.

One event proves nothing

2-hour BESS · South Australia

Live since April 2026

	Actual	Shadow
Annualised revenue / MW	A\$33k	A\$63k +89%
Revenue / cycle / MW	A\$109	A\$174 +60%
Cycles per day	0.84	0.99 +19%

3-hour BESS · South Australia

Live since October 2025

	Actual	Shadow
Annualised revenue / MW	A\$119k	A\$158k +33%
Revenue / cycle / MW	A\$461	A\$522 +13%
Cycles per day	0.71	0.83 +17%

More revenue **per cycle** — better-chosen cycles, not more of them.

To 19 August 2026. Outage periods excluded on both sides. Source: AEMO NEMWeb.

This edge decays if everyone has it

Spikes exist because **too little storage is positioned for them.**

Why it got there

A\$20,300 clears only because too little energy was in position.

Crowding erodes it

If every battery held charge into those minutes, it never gets there.

So we ration it

Sold under an MW cap per NEM region. When a region is full, we stop.

Good for the system. Hard for merchant revenue.

The earliest movers capture the most.

Every NEM battery, side by side

Actuals and our shadow run, side by side, on **public AEMO data**.



What it covers

- Every NEM battery, all regions
- Updated as AEMO publishes
- Add your own DUID

nem-comparison.portfolioenergy.com

Or see it running at stand 5.

PortfolioEnergy NEM comparison dashboard. Derived from publicly available AEMO settlement reports via NEMWeb.



Talk to us

We are both here — come and find us at **stand 5**.



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What the forecasts saw, and when

The seven half-hours above A\$1,000 — **warning** from each AEMO product.

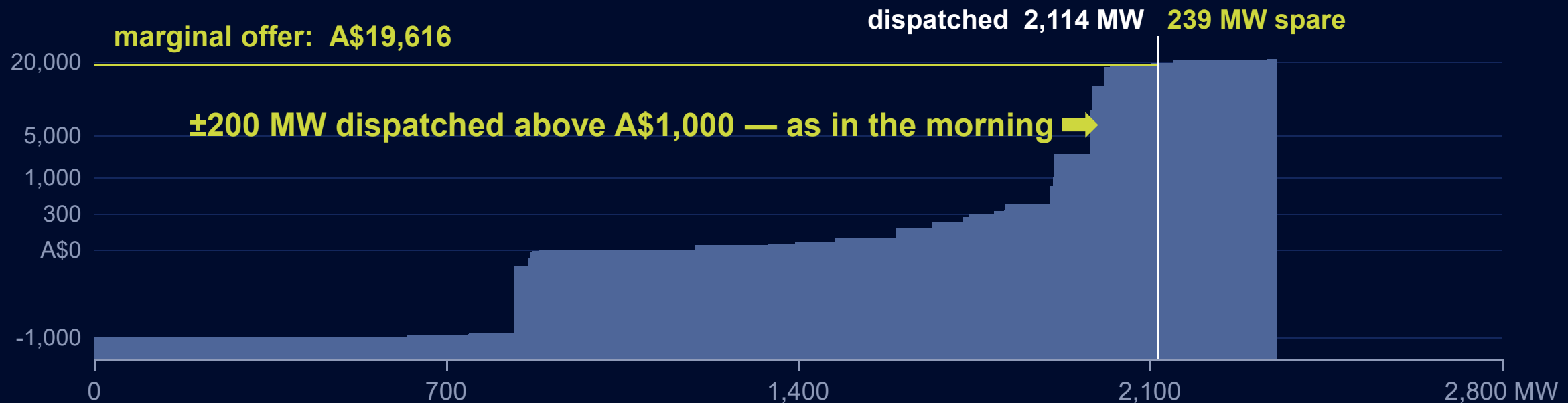
Half-hour period	30-min PD, 1 h out	5-min PD warning	Actual
21 Jun 19:30–20:00	A\$181	4 min	A\$8,689
21 Jun 20:00–20:30	A\$181	9 min	A\$4,323
22 Jun 06:00–06:30	A\$250	59 min	A\$1,727
22 Jun 06:30–07:00	A\$216	59 min	A\$2,248
22 Jun 07:00–07:30	A\$312	59 min	A\$12,713
22 Jun 07:30–08:00	A\$353	59 min	A\$20,300
22 Jun 08:00–08:30	A\$343	59 min	A\$3,836

The 30-minute forecast missed all seven. The 5-minute forecast caught the morning — and **gave 4 and 9 minutes on the evening**.

SA1. 30-min PD: last run ≥ 1 h ahead. Actual: mean of six 5-min prices. Warning: earliest run $\geq$ A\$1,000. Source: AEMO.

The evening peak, same mechanism

Evening peak — 239 MW spare, **all of it above A\$19,600.**



Marginal offer A\$19,616, cleared A\$20,300 — the stack gets almost all the way, **with 239 MW that nobody would sell cheaply.**

SA1 generation offers, 19:40–19:45 interval on 21 Jun 2026, capped at dispatch availability. One SA transmission constraint was binding, none violated. Static re-stack, charging offers excluded. Non-linear price axis. Source: AEMO NEMWeb.