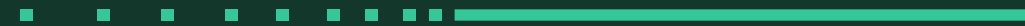




BATTERY ASSET MANAGEMENT SUMMIT - AUSTRALIA

Banking BESS: pricing in investment risk with confidence

PRESENTED BY ALAN COLLIER, HEAD OF APAC & MEA





AUSTRALIA IS THE THIRD LARGEST BESS MARKET IN THE WORLD

Growth and competition **increases uncertainty** on financial outcomes for projects

EARLY FLEET: OPERATIONAL

>15GWh
8GW





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EMERGING FLEET

>150GWh
~45GW





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8GW

~1.5 hours

Early projects shorter duration, power focus
Evolution to energy shifting longer duration

TODAYS BUILD OUT

>20GWh
7.5GW

EMERGING FLEET

>150GWh
~45GW

4+ hours

CIS Tender 8; Average 4 hours
WEM ES00 2028-29; 7 hours





GUESSWORK OR CONFIDENCE

Lessons learnt from global operational portfolio



Capital & Risk



Owners

Measured performance versus contractual assumptions

AVAILABILITY

ENERGY CAPACITY





MEASURED PERFORMANCE: TWO KEY LEVERS

BESS returns founded in availability and energy capacity.
Both run below what the contracts say.

Everything you model, from revenue to coverage ratios to augmentation timing, rests on these two variables

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below contract-derived figures on average

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below what the capacity test implied





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Net effect: the median site enters its first operational year at risk of being able to deliver against modelled volumes

We take each lever in turn, then what closing the gaps is worth.





LEVER ONE – AVAILABILITY

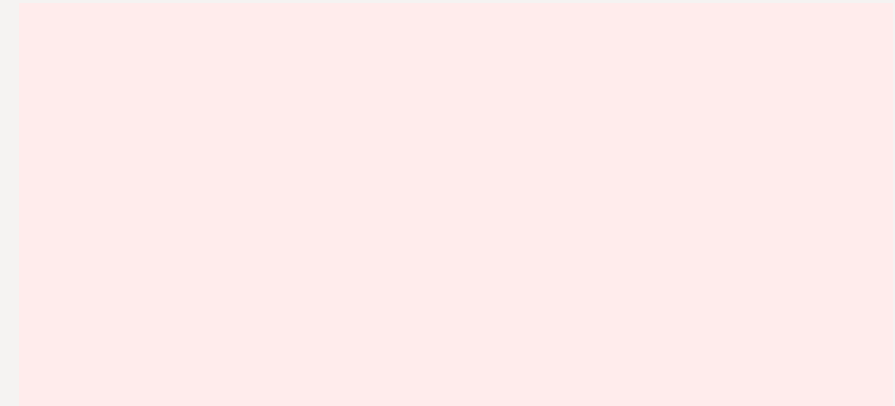
Contracts report **97.4%** availability.

Same assets, same period. The difference is how availability is defined.

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CONTRACT-DERIVED

Units telling EMS it is available





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3 in 4

sites overstate availability

3.7 %

average overstatement

6.2 %

gap at the bottom decile

And contractual availability excludes agreed outages, so true availability accounting for forced outages sits lower still.

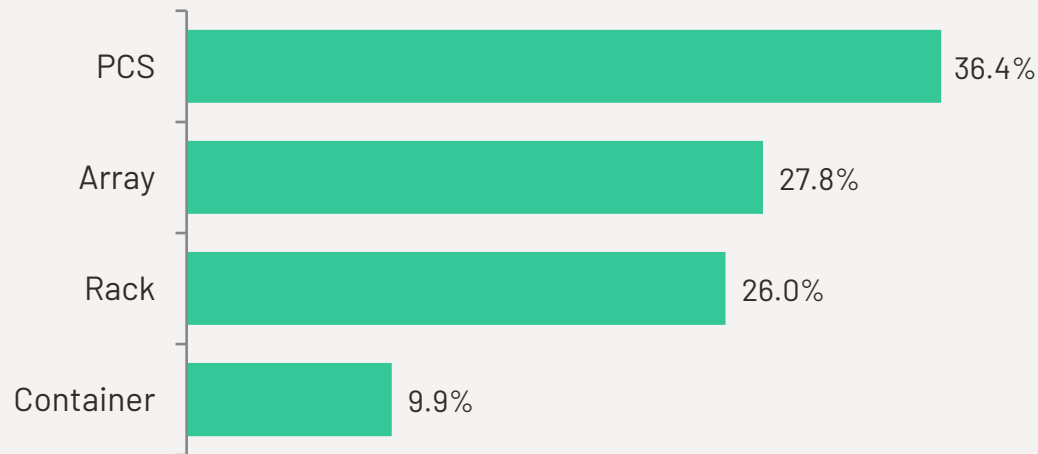




WHAT DRIVES OUTAGE

Most of that downtime was **preventable**, and visible **ahead of outage**

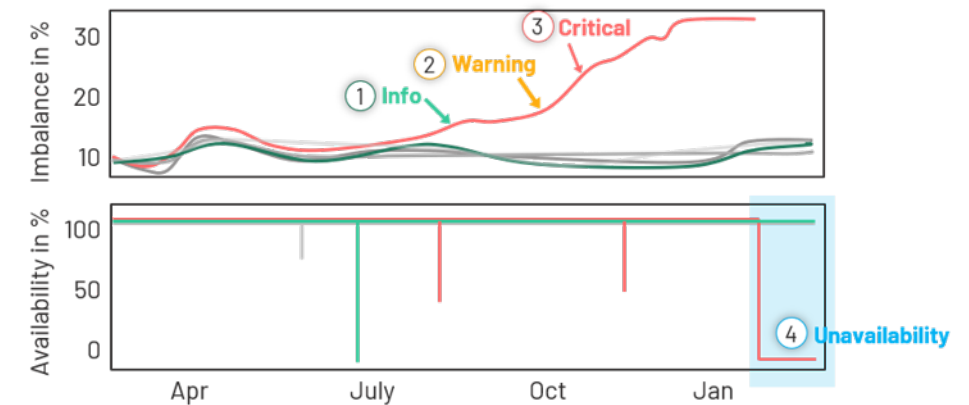
Share of availability issues by component



Issues taking a site offline get the headline
Reality is, a steady drip of smaller, isolated incidents account for the greater share proportional outages

57.6% of downtime is small, recurring outages

ONE ASSET, FIVE MONTHS OF WARNING



A third of hardware issues start with cooling



LEVER TWO – ENERGY CAPACITY

In live operation, sites **less operational energy** than their capacity test implied

Capacity tests are run on an optimal site. Revenue is determined by the operational available capacity





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**On a 500 MWh site, that equates to five battery containers
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WHY THE GAP EXISTS

- Tests are contractual, usually once a year, under controlled conditions.
- Suppliers are typically allowed to optimise the system beforehand, and to remediate after a failure.
- Between tests, dispatchable capacity drifts below the tested figure, through SOC estimation error and cell imbalance.

0.7%

best decile

6.9%

median

12%

weakest decile

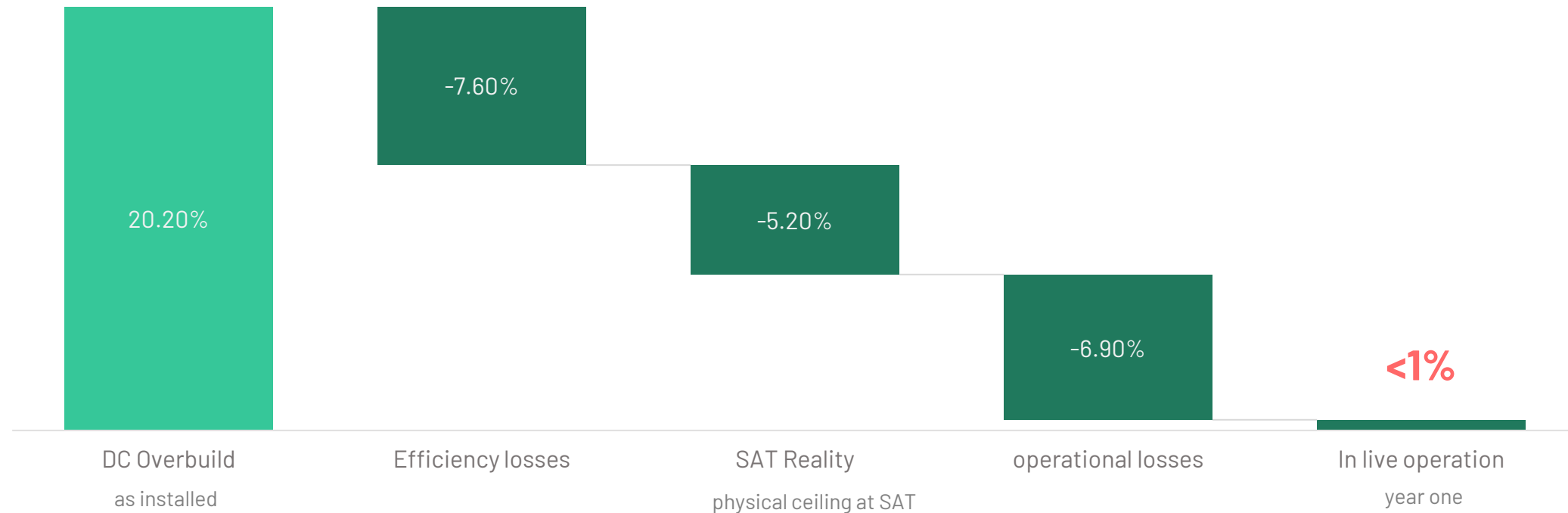
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THE CUMULATIVE EFFECT

You paid for **20% headroom**. By end of year one, the median site has **less than 1%** buffer in live operation.

Margin above nameplate energy, median site across our dataset



Conversion losses, test headroom and the operational performance gap take most of it before the first year is out.





THE UPSIDE

The good news: real ageing **beats the warranty curve**

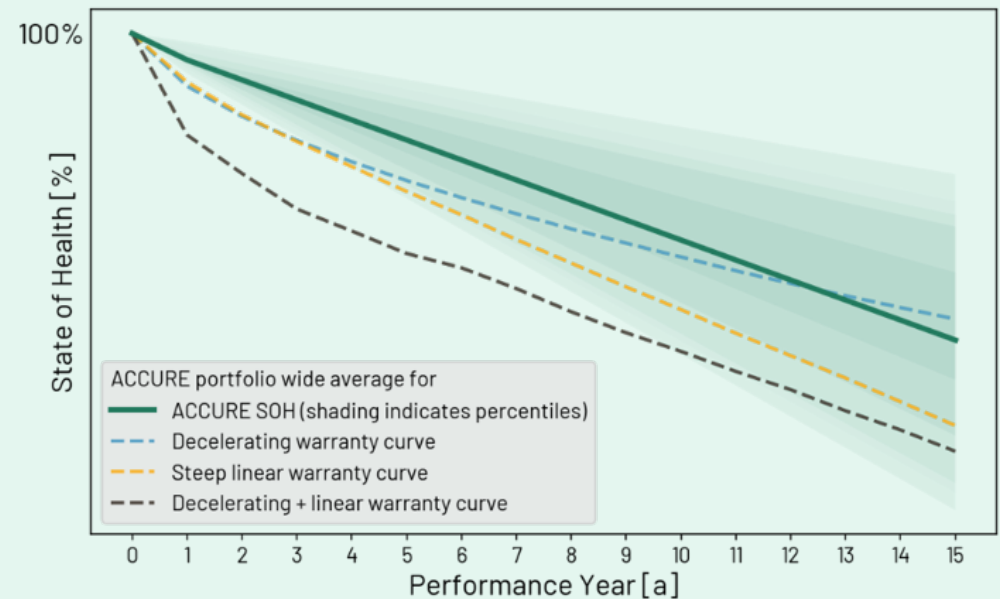
Measured state of health across our dataset, against supplier guarantee curves

+1.8 %

above the average guarantee curve
in the early years of operation

Year 12

before any warranty curve model
crosses our measured average





THE VALUE

What measured performance is **actually worth**

01

WARRANTY RECOVERY

One operator confirmed a 3MWh shortfall against a 70MWh guarantee.

Now eligible for liquidated damages of \$900+ per day.

02

AUGMENTATION DEFERRED

Measured ageing rates, not warranty curves, determine the timing.

Later augmentation is deferred capex.

03

FINANCING TERMS

Independent performance data changes the conversation between owners and lenders, because the baseline is evidence rather than assumption.

None of these require new hardware. They require knowing the real data.

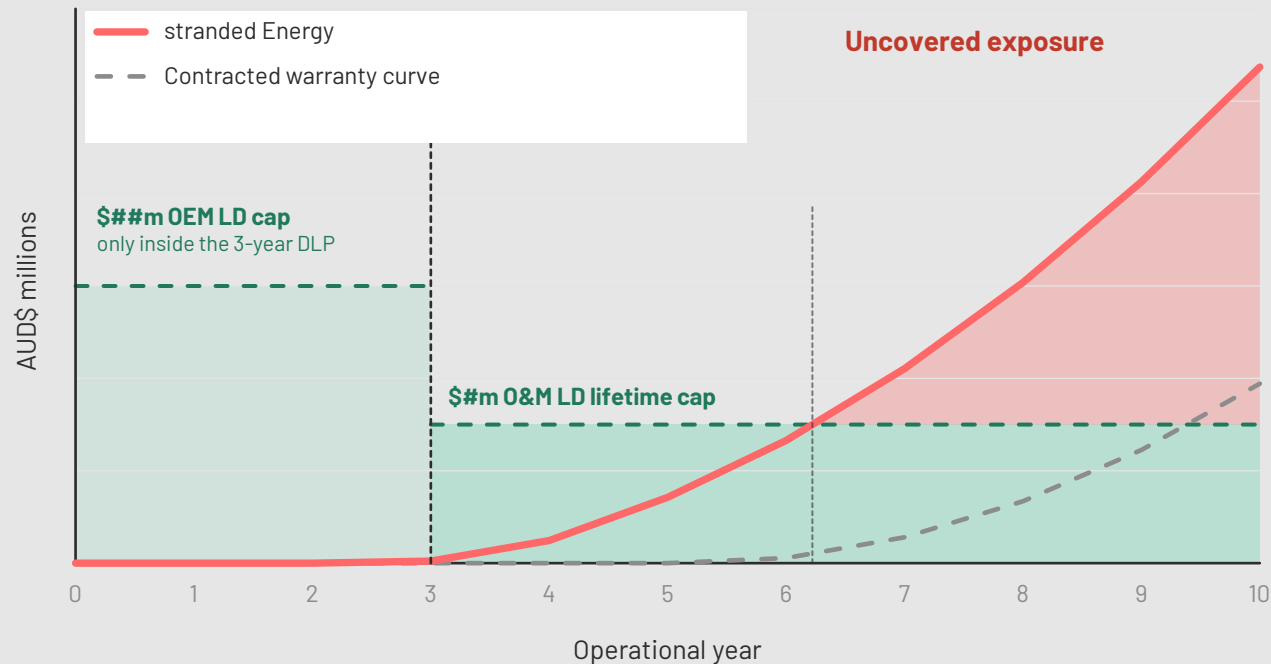


INVESTMENT CONSIDERATIONS

LTSA's and PG's with LD regimes give some relief from forced outages:
prevention is better than cure

Cumulative cost of RCM underperformance vs. contractual cover (AUD m)

DLP ends = first RCM breach



6.9%

Median gap between capacity test and energy available in daily operation leaves exposure to:

- Energy shortfalls to meet contractual commitments
- Potential exposure to early augmentation
- LD caps in LTSA leave longer term unprotected risk

Oversizing, PG definitions, LD triggers and DLP duration are all still negotiable pre-FID – after FID they are fixed for 20 years.



ACTIONS TO TURN GUESSWORK INTO CONFIDENCE

Deploying successfully on **your own portfolio**

01

DESIGN SAFEGUARDS & MITIGATE

Informed, experienced inputs from operational assets used for contracting and modelling before FID

Oversizing, PG definitions, LD triggers and DLP duration are all still negotiable pre-FID. After FID they are fixed for 20 years, risk is aligned to delivery

02

ACCOUNTABILITY: OEM & LTSA

Work with your OEM & O&M providers using independent data analytics that represent you.

Independent data analytics deliver defensible, real insights and understanding of how the asset operates.

This approach produces safer, optimal and longer operations, and with them better economics and better investments.

03

GET WHAT YOU INVESTED IN

The safeguards and mitigations will pay for themselves many times over.

Prevention is always better than cure, but is a cure is required the LD regime is there as a real risk mitigation, rather than revenue buffers



GET THE FULL REPORT WHEN IT LAUNCHES

Banking BESS

Financing lessons for lenders and investors,
from 50+ operating battery projects

Alan Coller

Head of APAC & MEA, ACCURE Battery Intelligence

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SCAN TO BE ONE OF
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