Ampere Labs

WEM Annual Market Review

1 January 2025 – 31 December 2025

22 January 2026

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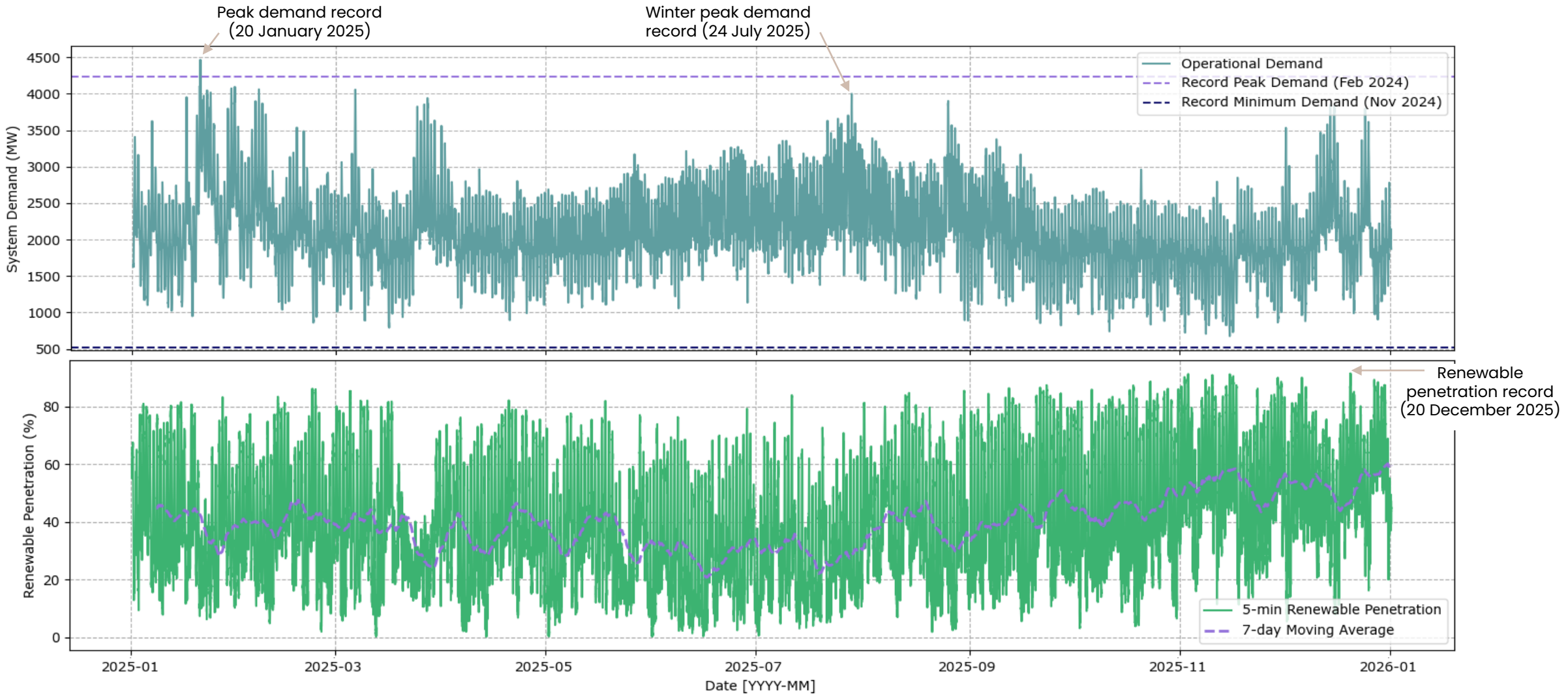
Summary

Trends and highlights from 2025

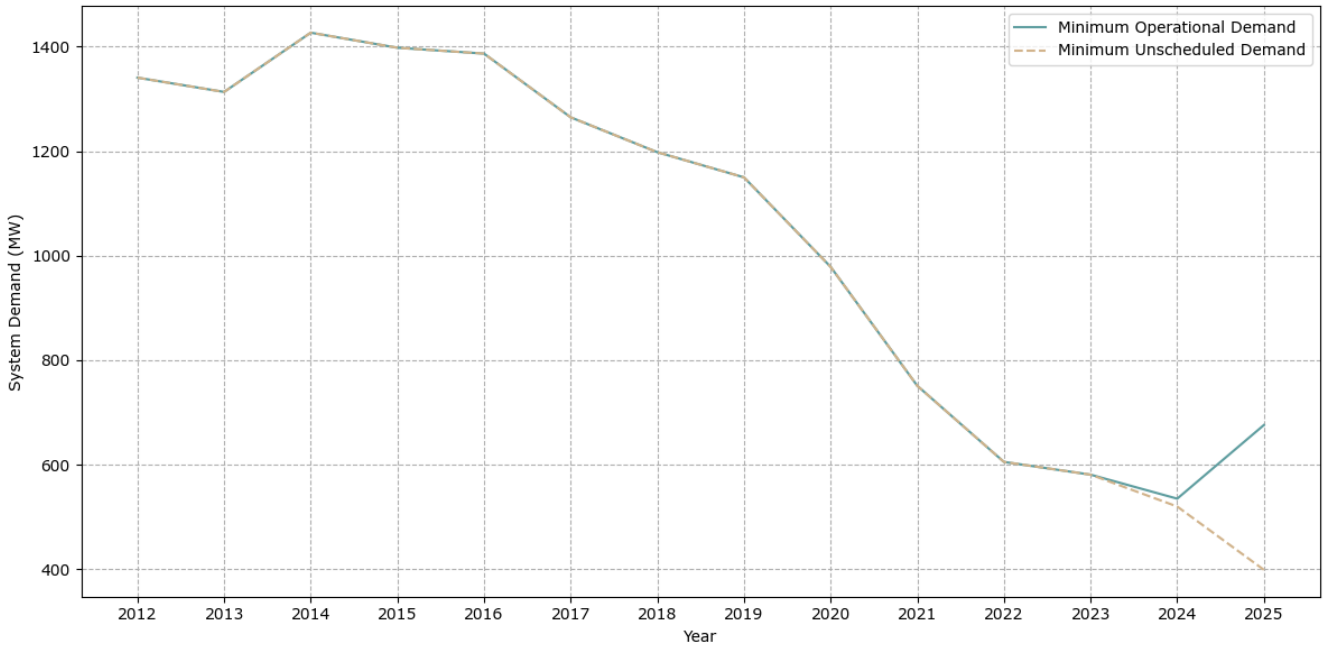
Peak operational demand and renewable penetration records were broken in 2025



But the minimum operational demand record wasn't broken in 2025

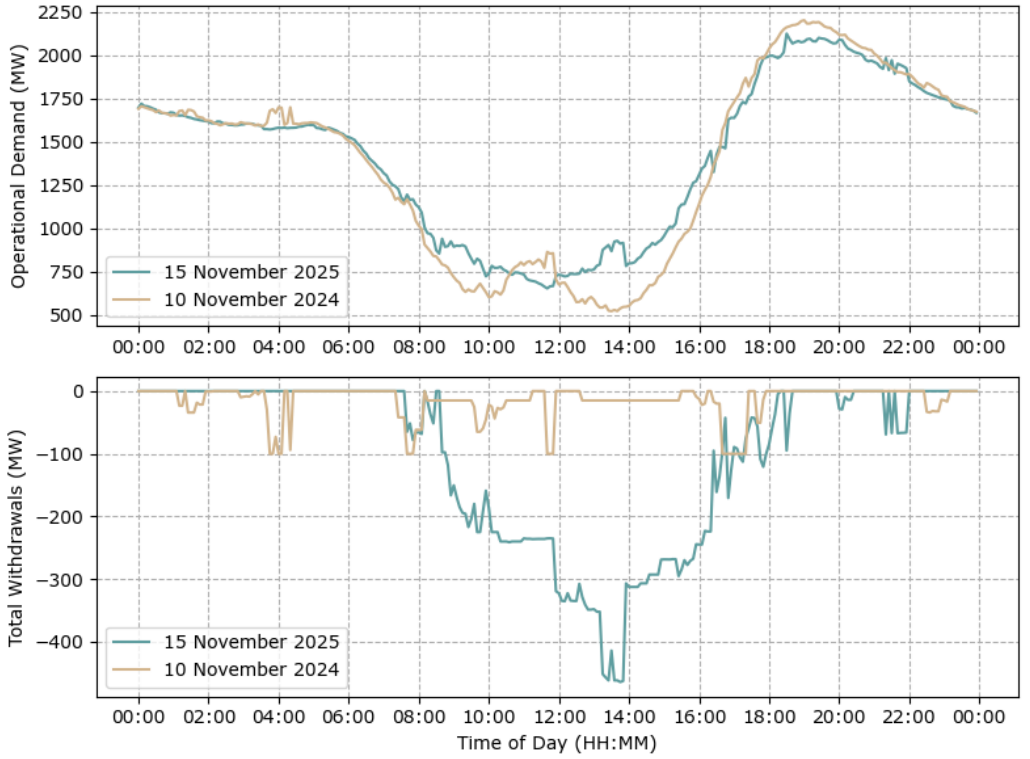
This was the first time since 2017 that the minimum operational demand wasn't broken, but it would have been were it not for the substantial increase in large BESS charging

Minimum operational and unscheduled demand (2012 – 2025)



Unscheduled demand refers to system operational demand excluding the influence of scheduled loads (e.g. BESS charging)

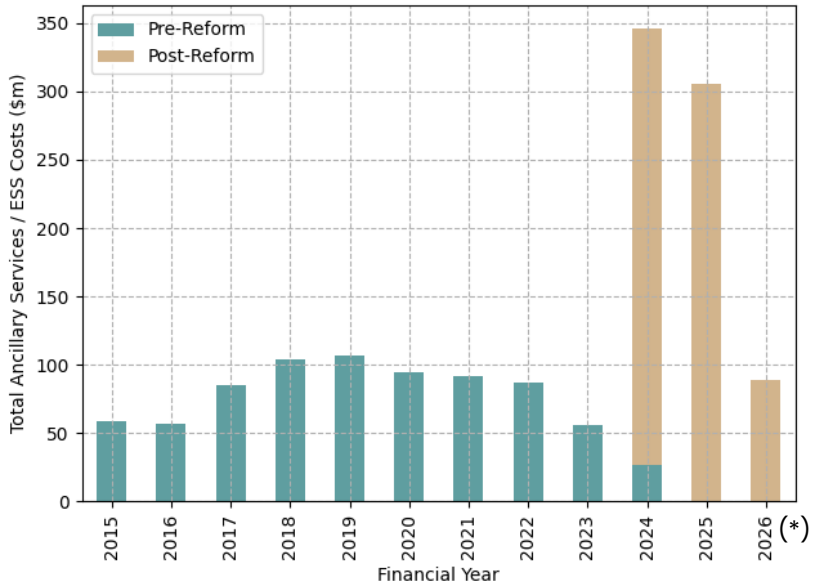
Operational demand and BESS charging traces during the minimum demand days in 2024 and 2025



Essential System Services costs are normalising back to pre-reform levels

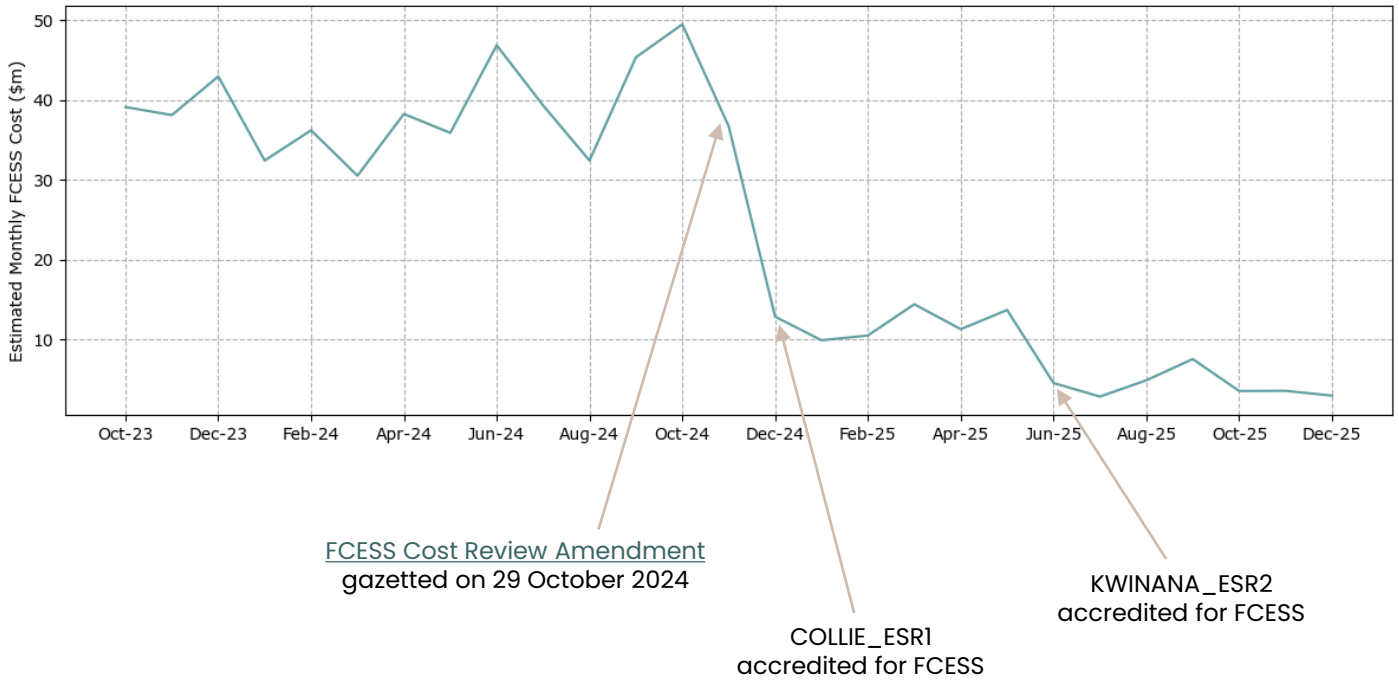
ESS costs ballooned in the first 2 years after WEM Reform, but have come down significantly since November 2024, driven by major reductions in Frequency Co-optimised Essential System Services (FCESS) costs

Total ESS costs (by financial year)



(*) FY 2026 is estimated based on pro-rata costs from the first quarter of FY 2026.

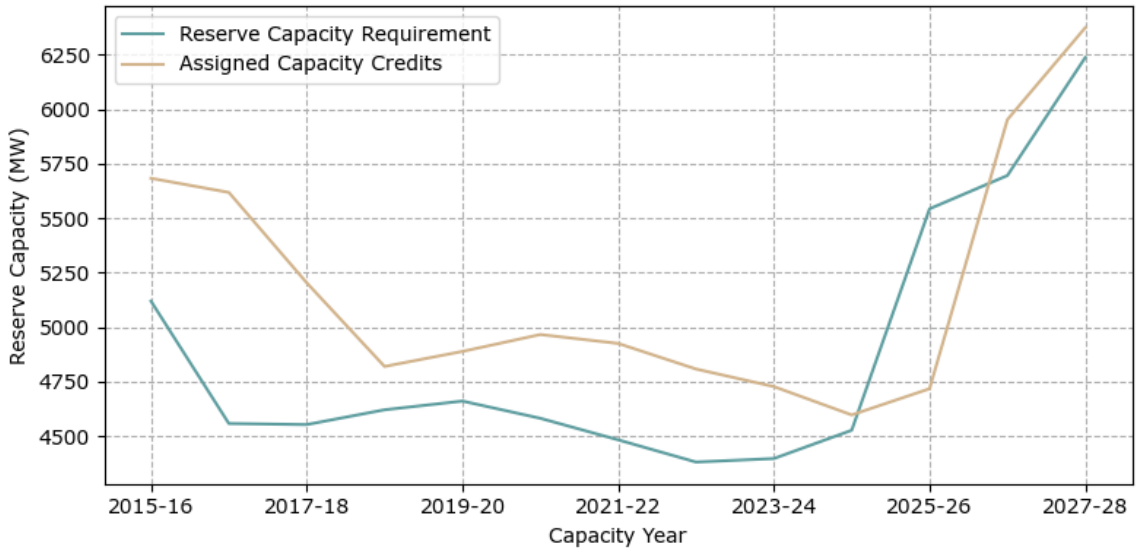
Estimated monthly FCESS costs – October 2023 to December 2025



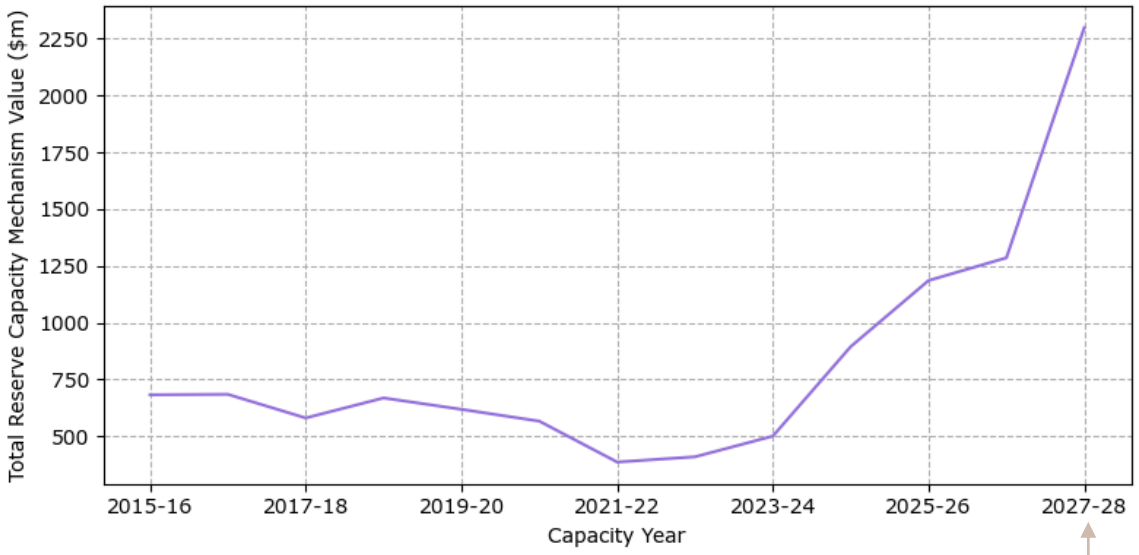
Peak Reserve Capacity margins remain tight

Meanwhile, the total value of the Reserve Capacity Mechanism has more than quadrupled since the 2021-22 Capacity Year

Peak Reserve Capacity Requirement vs Assigned Capacity Credits



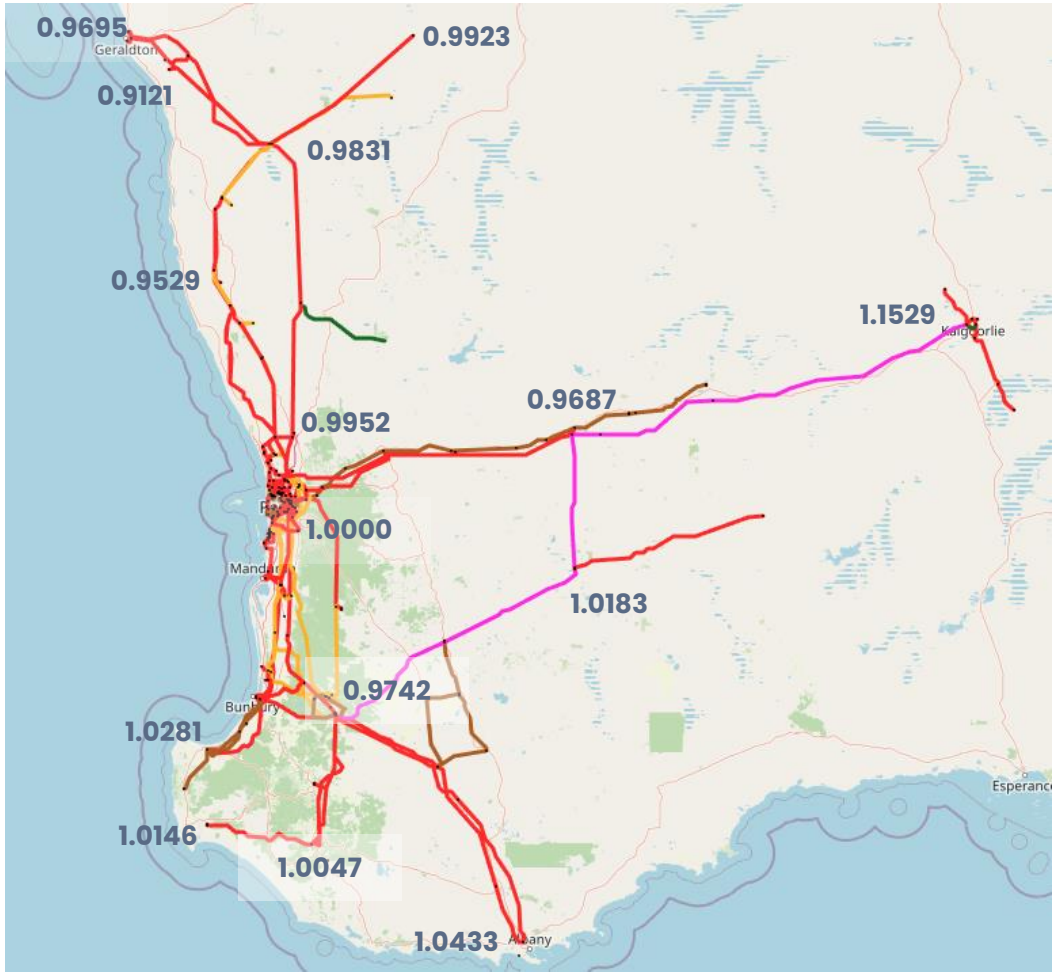
Total Value of Reserve Capacity Mechanism



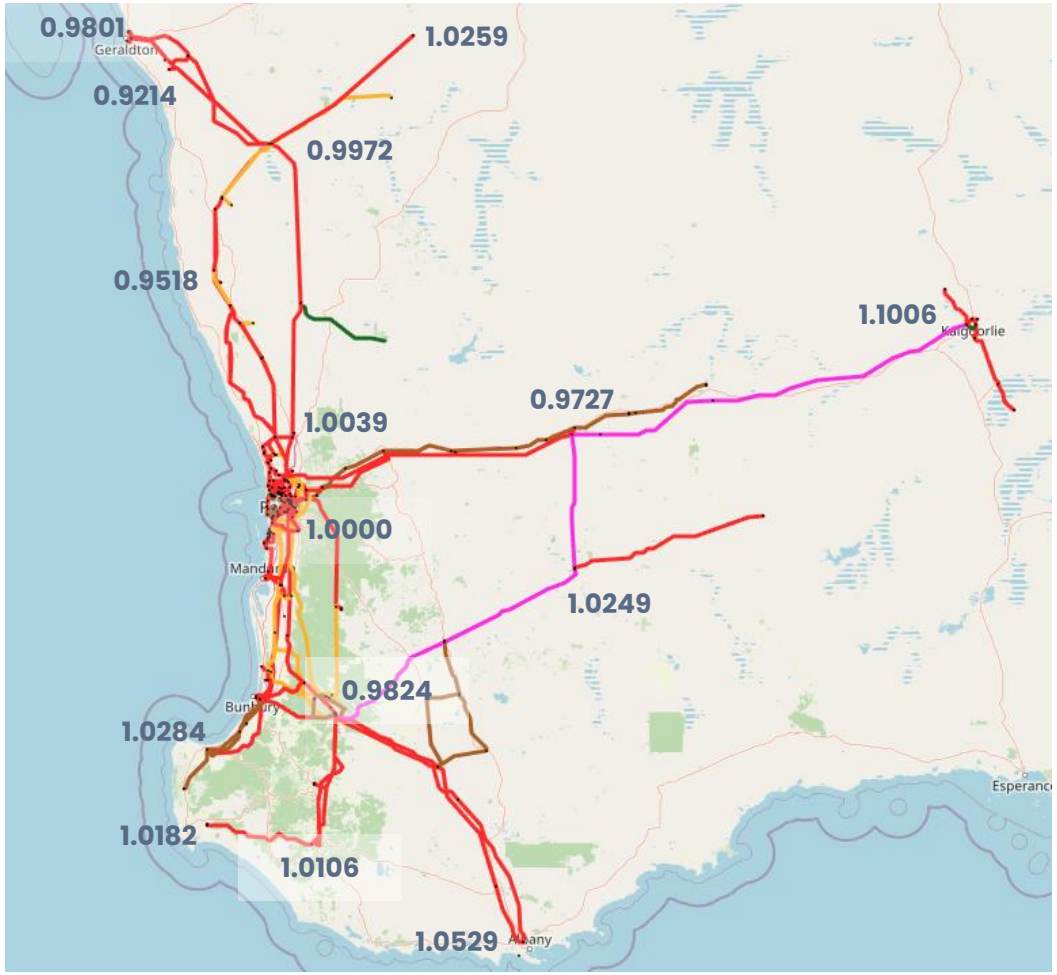
Change of reference technology from a 160 MW open cycle gas turbine to a 200 MW / 800 MWh BESS

Transmission loss factors for generators have generally improved across the SWIS

Transmission Loss Factors for 2023-24

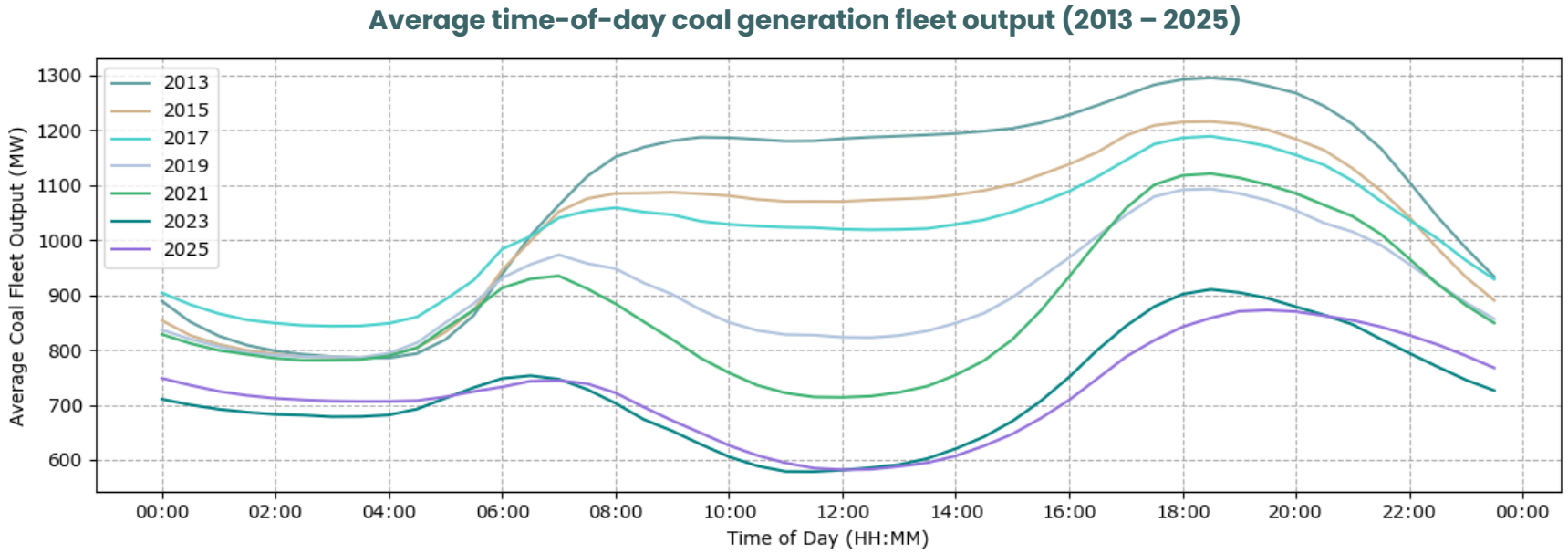


Transmission Loss Factors for 2025-26



The coal generation fleet is required to flex less than in previous years

Average daily change in aggregate coal output (trough to peak) was the lowest in 2025

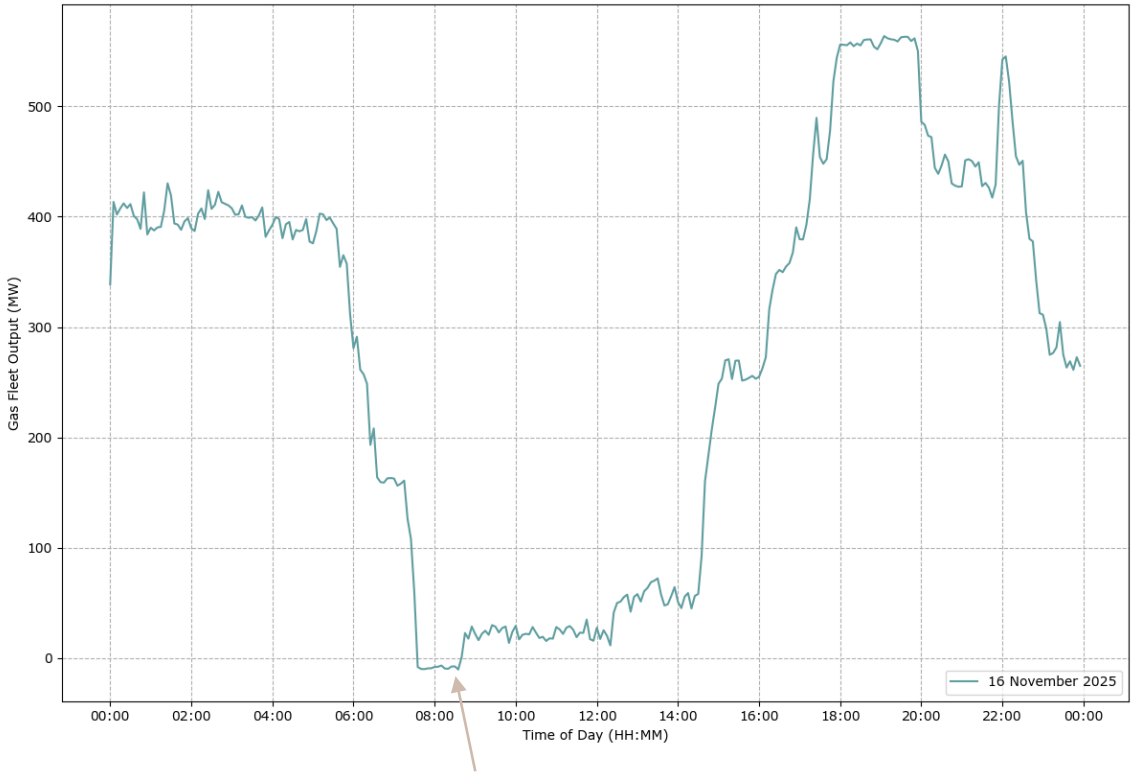


Year	Average Trough to Peak Change (MW)
2007	395
2009	435
2011	356
2013	509
2015	430
2017	346
2019	306
2021	407
2023	331
2025	290

But the gas fleet is facing increased pressure

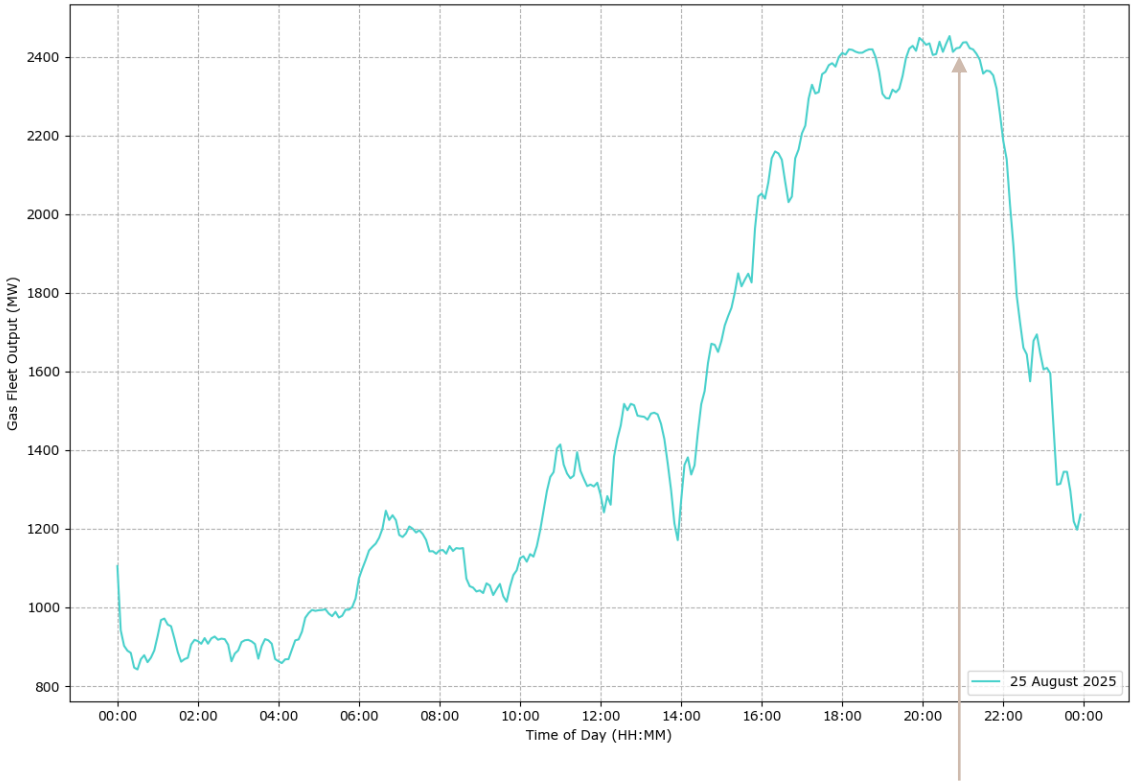
A tale of two days showing the gas fleet operating at its extremes

16 November 2025: Negative gas fleet output



Alinta Pinjarra operating in motoring mode with all other gas units offline.

25 August 2025: Dampier to Bunbury gas pipeline at its limit

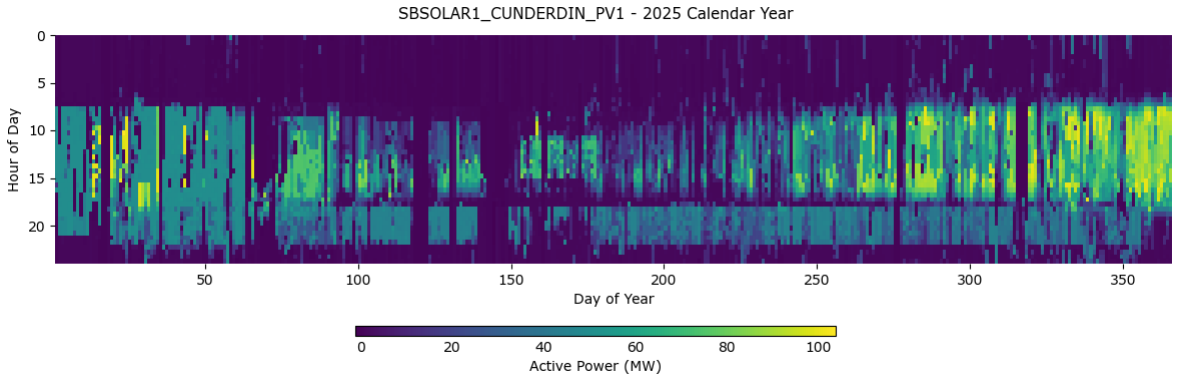


AEMO intervenes in the market between 21:00 and 23:35 to manage limitations on the Dampier to Bunbury gas pipeline. Refer to this AEMO slide pack for more details.

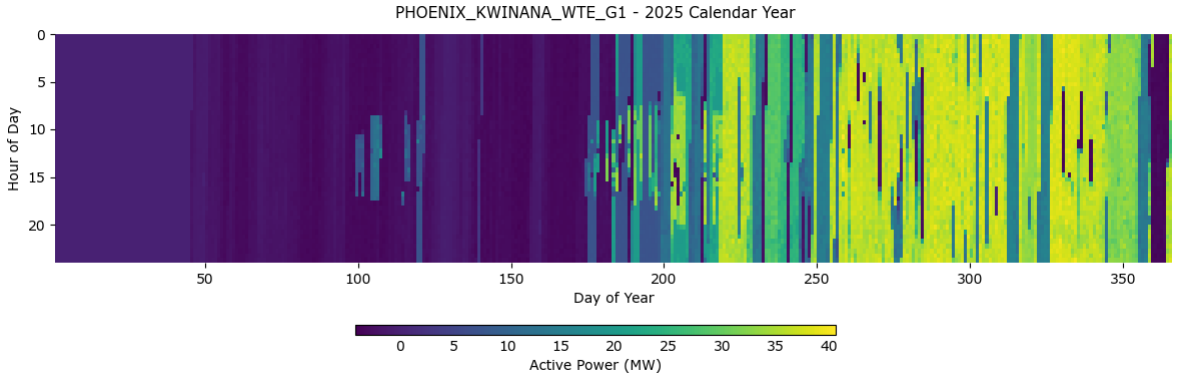
Four new facilities were commissioned in 2025

Firmed renewables, base load bioenergy and 4-hour batteries

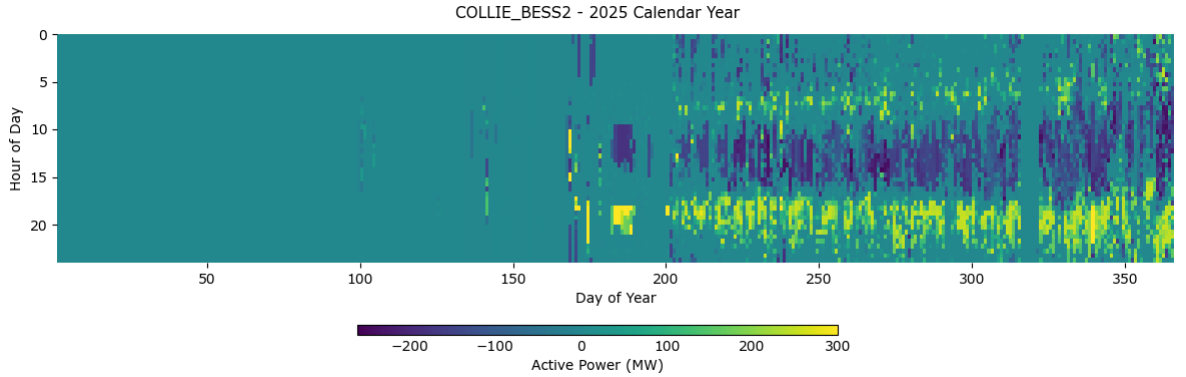
Cunderdin Solar PV / BESS (125 MWp / 100 MWac PV, 55 MW / 220 MWh BESS)



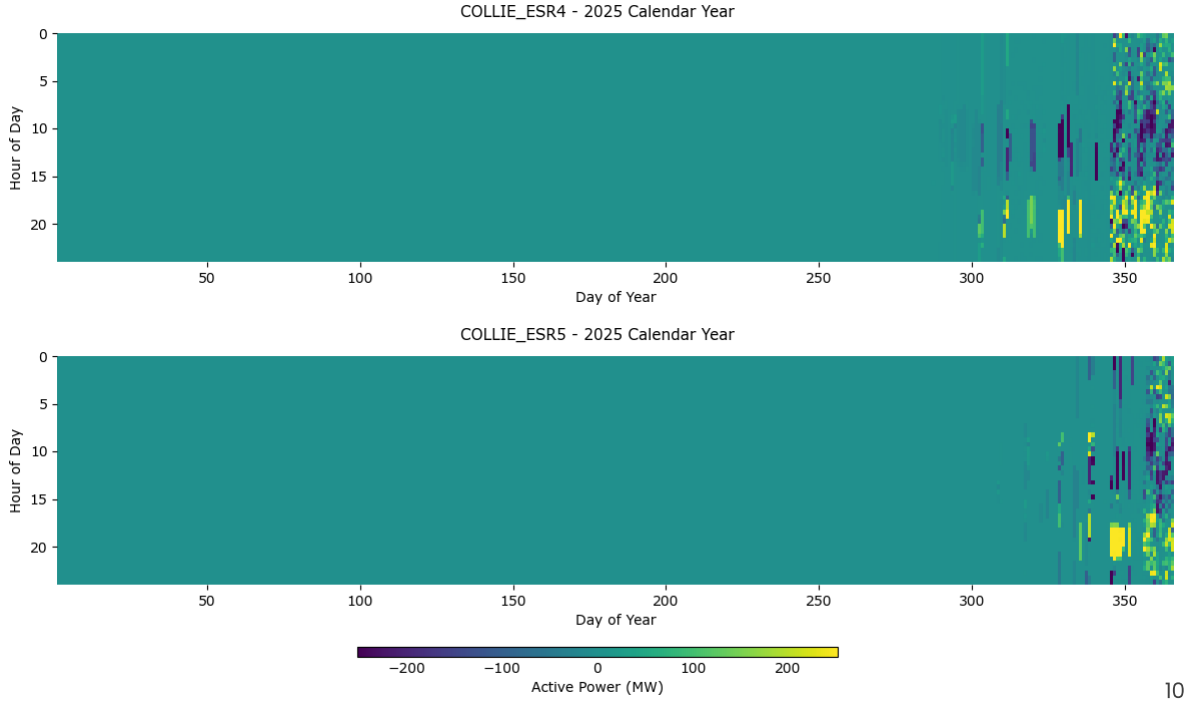
Kwinana Waste-to-Energy (38 MW)



Neoen Collie Battery Stage 2 (341 MW / 1,363 MWh)

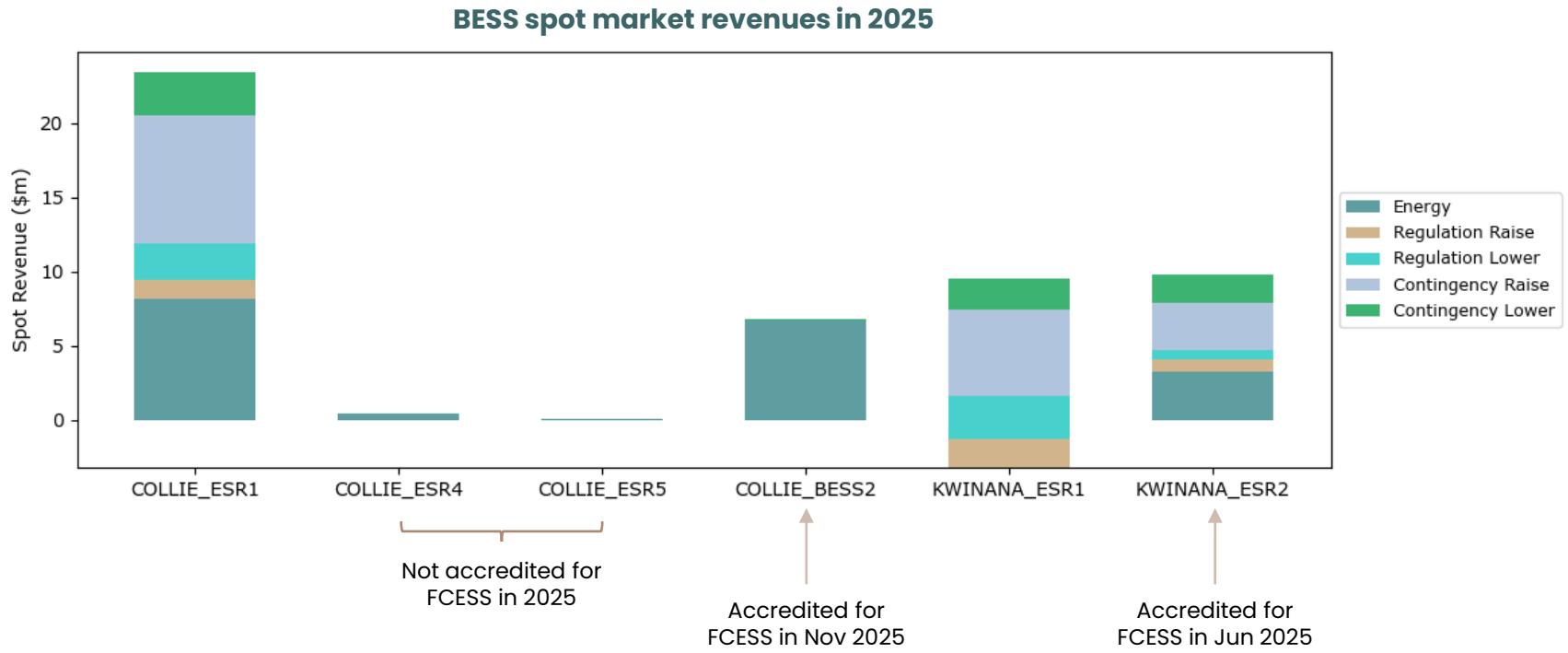


Synergy Collie BESS (500 MW / 2,000 MWh)



WEM batteries are participating in the market in different ways

They earn market revenues via energy arbitrage, FCESS or a combination of both



Note that COLLIE_ESR4, COLLIE_ESR5, KWINANA_ESR1, KWINANA_ESR2 are part of a larger Synergy portfolio and may be optimised for the profitability of the entire portfolio and not necessarily the individual assets.

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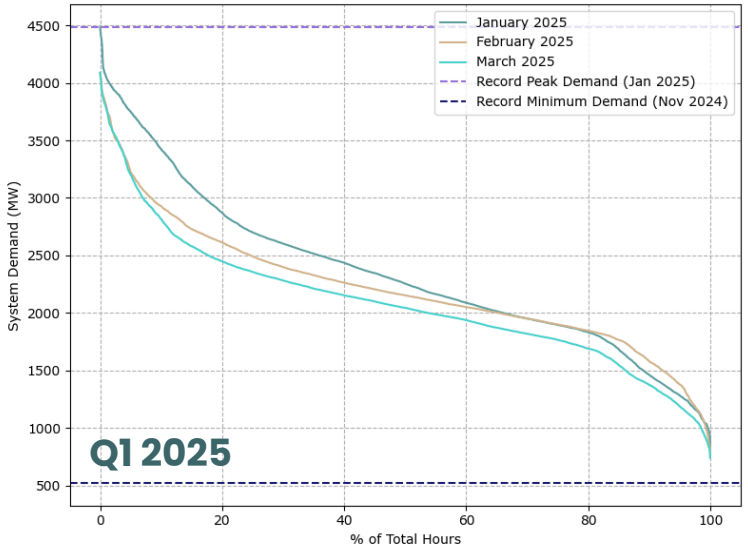
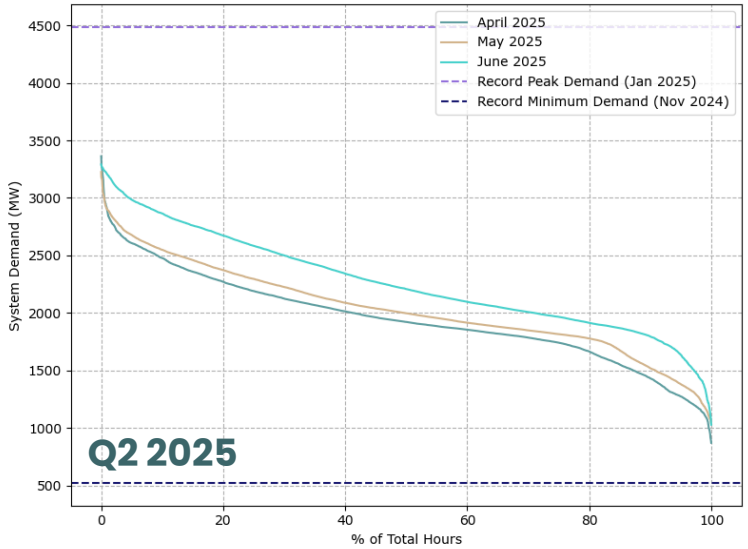
Charts and Data

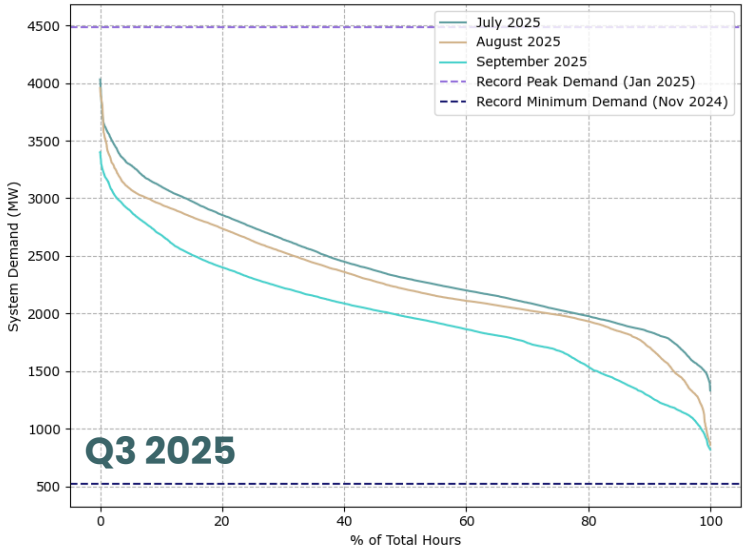
Aggregate system level outcomes for 2025

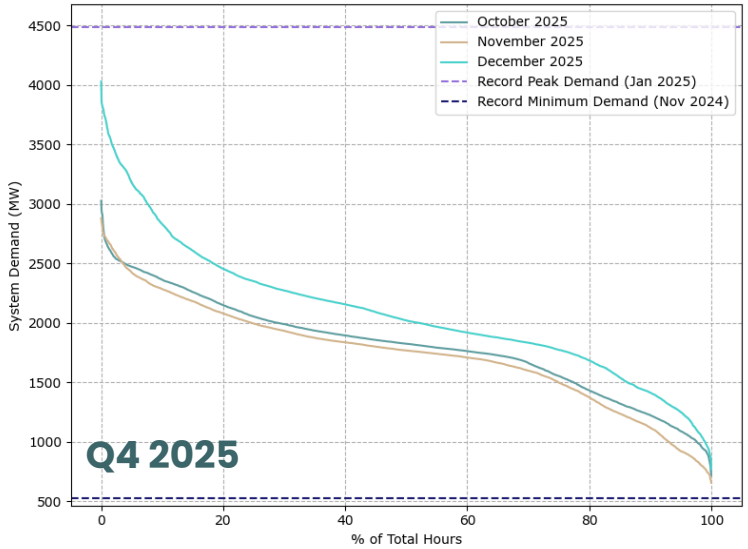
System Operational Demand

System operational demand duration curves



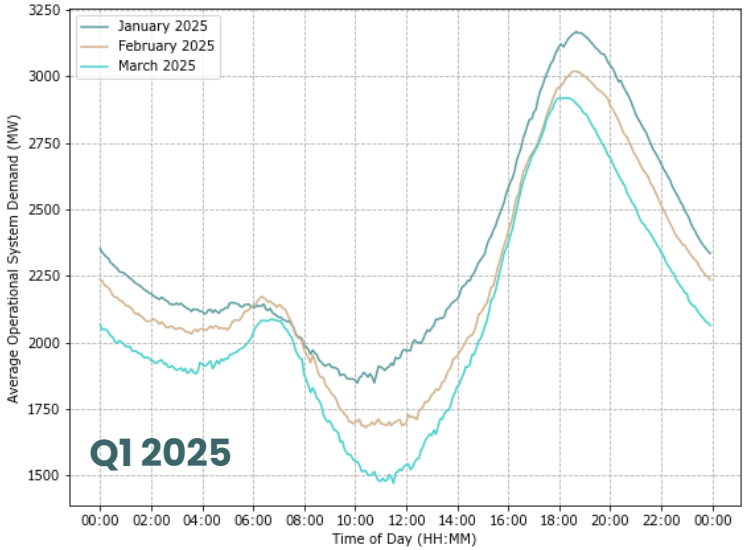


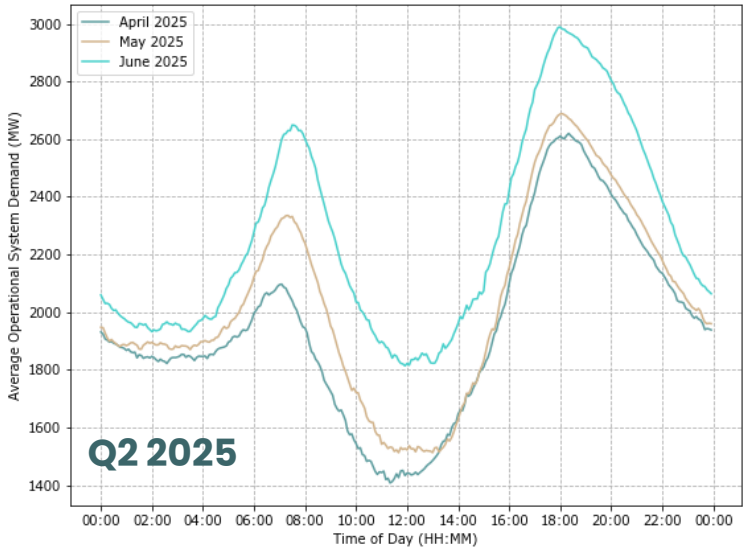


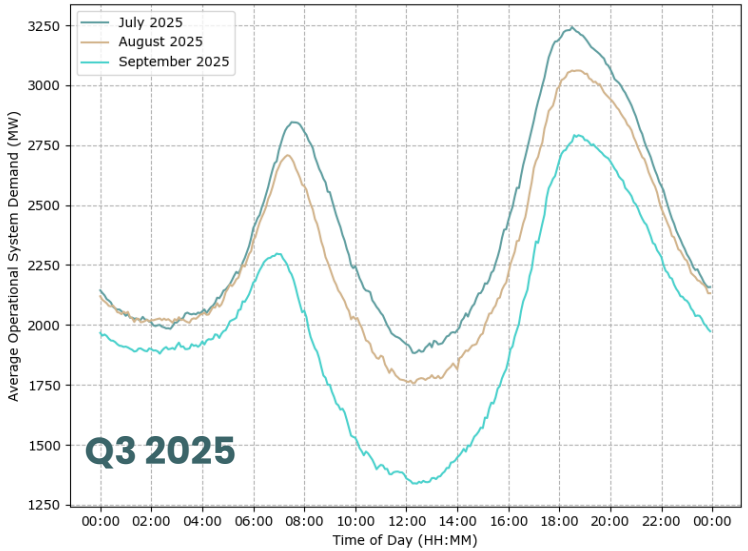


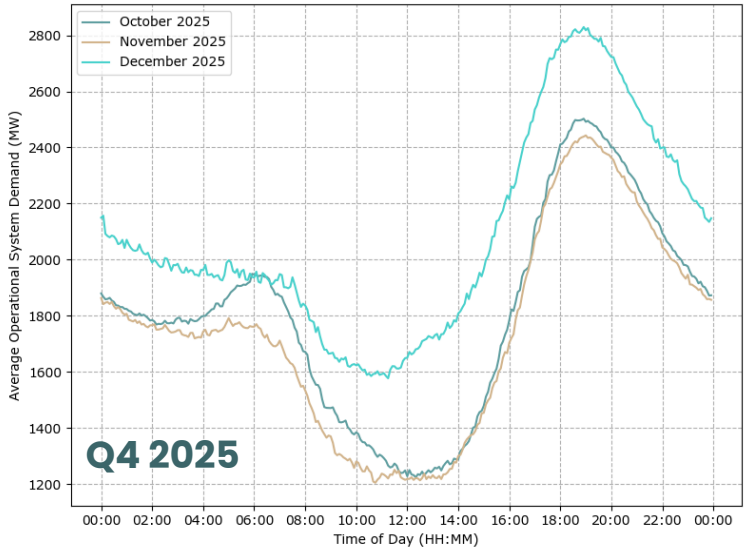
System Operational Demand

Average time-of-day system operational demand



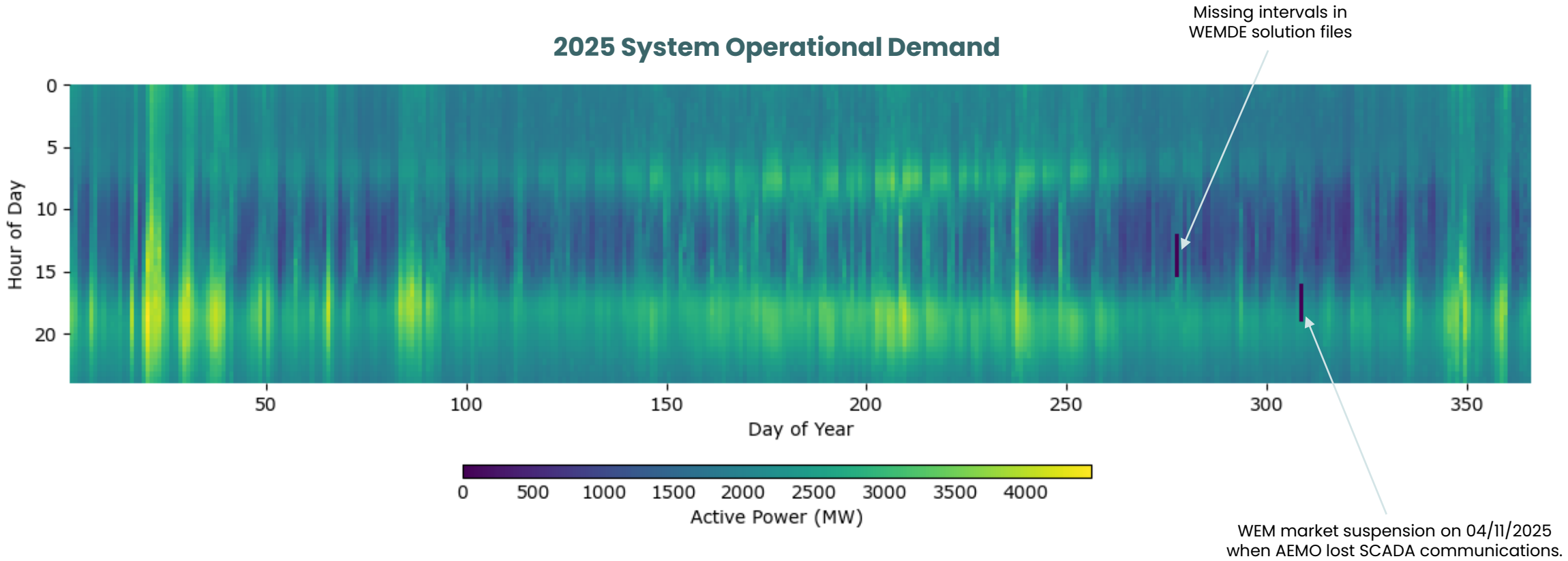






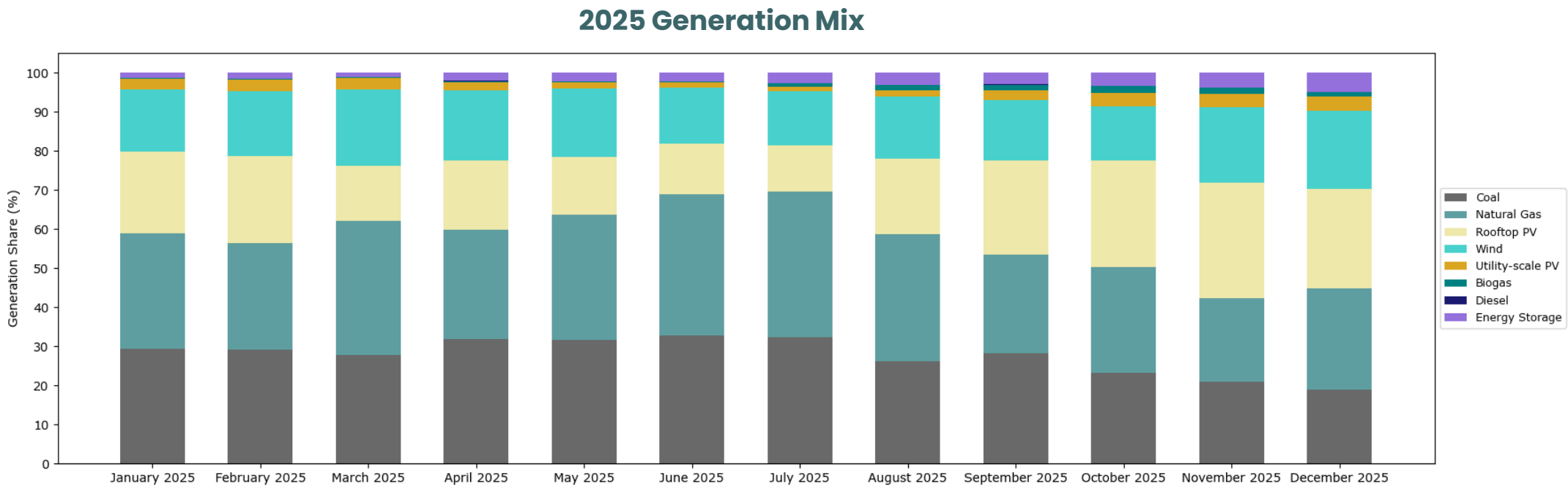
System Operational Demand

System operational demand heatmap (30-minute intervals)



Generation Mix

Categorised by fuel / technology type



Generation Mix

Categorised by fuel / technology type

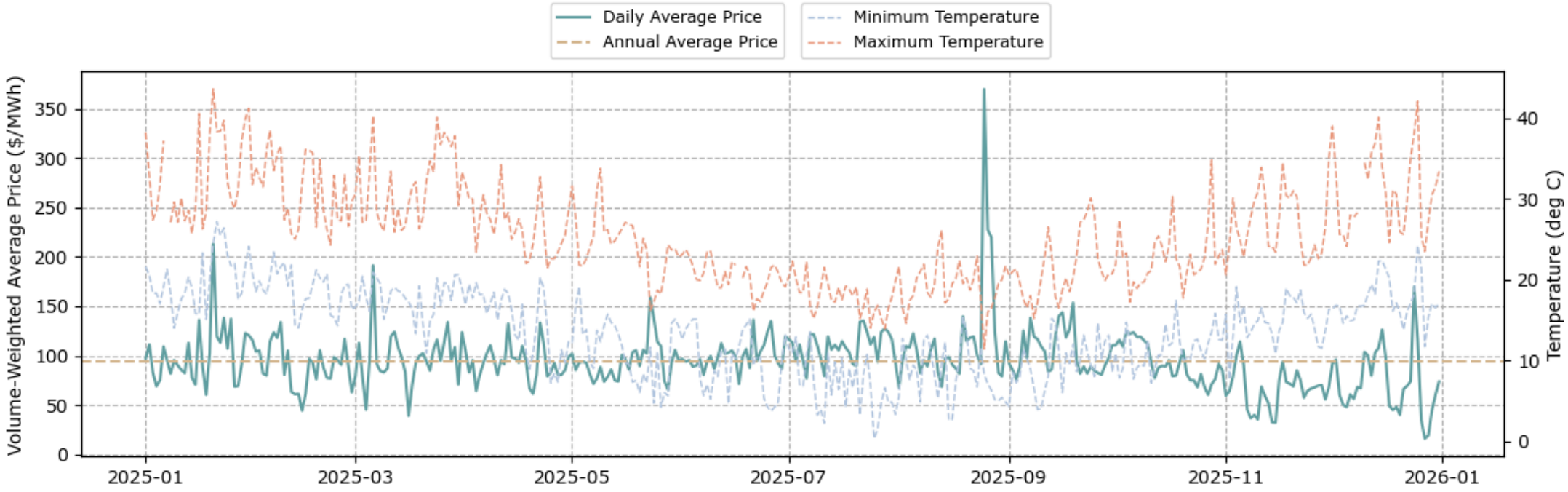
2025 Generation Mix Breakdown

Category	Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025	Nov 2025	Dec 2025
Coal	645 GWh (29.2%)	556 GWh (29.1%)	501 GWh (27.8%)	542 GWh (31.9%)	556 GWh (31.5%)	616 GWh (32.8%)	655 GWh (32.4%)	549 GWh (26.2%)	531 GWh (28.2%)	426 GWh (23.3%)	371 GWh (21%)	394 GWh (19%)
Natural Gas	652 GWh (29.5%)	522 GWh (27.3%)	617 GWh (34.3%)	475 GWh (27.9%)	570 GWh (32.2%)	675 GWh (36%)	752 GWh (37.2%)	680 GWh (32.5%)	472 GWh (25.1%)	494 GWh (27%)	374 GWh (21.2%)	535 GWh (25.8%)
Rooftop PV	464 GWh (21%)	423 GWh (22.1%)	252 GWh (14%)	301 GWh (17.7%)	258 GWh (14.6%)	246 GWh (13.1%)	238 GWh (11.8%)	401 GWh (19.1%)	455 GWh (24.2%)	497 GWh (27.2%)	524 GWh (29.7%)	530 GWh (25.5%)
Wind	348 GWh (15.8%)	318 GWh (16.6%)	352 GWh (19.6%)	307 GWh (18%)	309 GWh (17.5%)	267 GWh (14.2%)	280 GWh (13.8%)	335 GWh (16%)	289 GWh (15.3%)	257 GWh (14%)	339 GWh (19.2%)	414 GWh (19.9%)
Utility PV	60 GWh (2.7%)	56 GWh (2.9%)	51 GWh (2.8%)	33 GWh (1.9%)	28 GWh (1.6%)	26 GWh (1.4%)	26 GWh (1.3%)	36 GWh (1.7%)	50 GWh (2.7%)	61 GWh (3.4%)	61 GWh (3.5%)	74 GWh (3.6%)
Biogas	7 GWh (0.3%)	6 GWh (0.3%)	5 GWh (0.3%)	6 GWh (0.3%)	5 GWh (0.3%)	6 GWh (0.3%)	17 GWh (0.9%)	25 GWh (1.2%)	26 GWh (1.4%)	31 GWh (1.7%)	28 GWh (1.6%)	24 GWh (1.2%)
Diesel	2 GWh (0.1%)	1 GWh (0.1%)	0 GWh (0%)	2 GWh (0.1%)	1 GWh (0.1%)	0 GWh (0%)	1 GWh (0%)	1 GWh (0%)	0 GWh (0%)	1 GWh (0%)	1 GWh (0.1%)	1 GWh (0%)
Storage (*)	28 GWh (1.3%)	29 GWh (1.5%)	20 GWh (1.1%)	36 GWh (2.1%)	40 GWh (2.3%)	42 GWh (2.2%)	55 GWh (2.7%)	68 GWh (3.2%)	58 GWh (3.1%)	64 GWh (3.5%)	67 GWh (3.8%)	104 GWh (5%)
TOTAL	**2,206 GWh**	**1,911 GWh**	**1,798 GWh**	**1,702 GWh**	**1,767 GWh**	**1,878 GWh**	**2,024 GWh**	**2,095 GWh**	**1,881 GWh**	**1,831 GWh**	**1,765 GWh**	**2,076 GWh**

(*) Energy storage is only counted when discharging.

Energy Prices

Daily volume-weighted energy prices and daily min/max Perth temperatures (*)



Annual volume-weighted average energy price = $94.78 / MWh

(*) Daily temperatures are based on BOM observations at the Perth Metro site.

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