August 2025

Quarterly investment report: Large-scale renewable generation and storage Q2, 2025

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Highlights

- The second quarter of the 2025 calendar year (Q2) marked another soft quarter of renewable energy investment activity across Australia for large-scale electricity generation, as well as energy storage projects.
- Four generation projects totalling 615 MW of capacity secured financial commitment in Q2 2025, which is the critical lead-indicator for new power projects.
- Three storage projects worth 334 MW (capacity) / 1,168 MWh (energy output) reached financial close, which marks the lowest quarterly result for storage projects since Q1 2023.
- Five generation projects were commissioned in Q2 2025 with a total operating capacity of 312 MW.
- Two storage projects were commissioned in Q2 worth 325 MW / 760 MWh. The rolling average energy output for commissioned storage projects reached a new height in Q2 2025, at 584 MWh.
- There are currently 83 renewable electricity generation projects, which are in the financial commitment or under construction pipeline, representing 13.1 GW of capacity. There are also 73 committed storage projects (either standalone or hybrid projects) currently in this pipeline, equivalent to 12.8 GW / 33.3 GWh in capacity / energy output.
- In total, just 1,173 MW of new utility scale generation projects have been committed so far in the first half of 2025, which represents roughly one third of the run-rate required (6-7 GW per annum) for Australia to stay on track to reach its 82 per cent renewable energy target by 2030.
- No onshore wind farm has yet been committed in 2025.

Clean Energy Council project status definitions

Financial commitment: *Publicly available information stating that a project's financing agreements have been signed, and the owner can begin drawing on the financing to commence work on the project. Typically, this aligns with execution of a connection agreement and generator performance standards with the relevant network service provider and Australian Energy Market Operator.*

Under construction: *Publicly available information that a project has started construction work.*

Commissioned: *Publicly available information that a project is fully completed and operational (a project that is currently operational but not commissioned falls under the category under construction).*

Another poor quarter for new wind and solar commitments puts pressure on second half of 2025

Quarter 2 2025 marked another soft quarter of investment activity across Australia for both large-scale electricity generation and energy storage projects.

Just four electricity generation projects, representing 615 MW in new capacity secured financial commitment. This result followed 558 MW of new financial commitments in Q1 and brings the total generation commitments for the first half of the year to only 1,173 MW; well short of the pace required to meet Australia's 82 per cent renewable energy target by 2030.

No onshore wind farm has as yet been committed in 2025 underscoring both the higher degree of cost and complexity and the lengthy planning and environmental assessment processes associated with onshore wind projects.

Announced in March and held on 3 May, the Federal Election and pre-campaigning created considerable political and policy uncertainty for clean energy investors in the first half of the year and is likely to have contributed to the weak results in the first half of the year.

A range of other challenges exist for renewable energy projects including the slow transmission roll-out, inconsistent environmental and planning assessment processes, and a lack of long-term offtake and revenue certainty. With a large number of projects in the pipeline, addressing these issues will be key to their progression.

Meanwhile, five generation projects commenced construction in Q2, representing 701 MW of future capacity. The largest generation project to commence construction was Vena Energy's Stage 2 of the Wandoan South Solar Farm in Queensland with a capacity of 240 MW. Total investment from these five projects was $736 million. As a result, the rolling 12-month quarterly average for investment of under construction renewable generation projects decreased by 28 per cent to a newly revised average of $1.1 billion.

Table 1. Breakdown of generation project investment by development stage reached, nominal terms

	Financially committed	Under construction	Commissioned
Q2 investment	$520 million	$736 million	$302 million

Note: Projects which reach multiple stages have been included in each stage.

Storage projects experience slower quarter after strong start to 2025

Three projects representing 334 MW (capacity) / 1,168 MWh (energy output) reached financial commitment in Q2, marking the lowest level of investment in large-scale storage since Q3 2023 and less than a quarter of the levels seen in Q1 2025 of 1,510 MW / 5,016 MWh.

Despite posting a weaker quarter, this continues a run of nine consecutive quarters in which the energy output of newly financially committed storage projects has exceeded 1,000 MWh. Year-to-date investment decisions for utility scale storage also remain on track to meet and beat the deployment levels required by the Australian Energy Market Operator (AEMO) Step Change scenario.

The largest storage project to reach an investment decision was the four-hour Reeves Plains Energy Hub Battery in South Australia, with a size of 250 MW / 1,000 MWh. The Fulham Solar Farm Battery Energy Storage System (BESS) in Victoria (64 MW / 128 MWh), and the Mulwala Solar Farm BESS in New South Wales (20 MW / 40 MWh) were the other two projects to reach financial commitment for the quarter. Both of these projects are storage components of larger hybrid solar projects.

Three battery storage projects commenced construction in Q2 2025, totalling 589 MW / 1,153 MWh. Meanwhile, two storage projects were commissioned this quarter, totalling 325 MW / 760 MWh. The newly revised 12-month quarterly average for energy output of fully commissioned storage projects increased from the last quarter by 39 per cent to 584 MWh, a new record.

Q2 2025 project tracker

Table 2. Generation and storage projects reaching financial commitment and/or commencing construction

Name	Owner	Type	State	MW (MWh)
Generation				
Cloudbreak Solar Farm	Fortescue Metals Group	Solar	WA	190
Forest Glen Solar Farm	X-Elio	Hybrid (solar, battery)	NSW	90 (25)
Fulham Solar Farm	Octopus Australia	Hybrid (solar, battery)	VIC	80 (128)
Mulwala Solar Farm	European Energy	Hybrid (solar, battery)	NSW	25 (40)
Port Latta Wind Farm	Aquila Group	Onshore wind	TAS	21
Wandoan South Solar – Stage 2	Vena Energy	Solar	QLD	240
Storage				
Liddell Battery	AGL Energy	Storage	NSW	500 (1,000)
Reeves Plains Energy Hub Battery	Alinta Energy	Storage	SA	250 (1,000)

Table 3. Generation and storage projects reaching commissioning

Name	Owner	Type	State	MW (MWh)
Generation				
Crookwell Wind Farm – Stage 3	Global Power Generation	Onshore wind	NSW	58
Cunderdin Solar Farm	Global Power Generation	Hybrid (solar, battery)	WA	128 (220)
Kingaroy Solar Farm	Metlen	Solar	QLD	40
Mannum Solar Farm – Stage 2	Epic Energy	Solar	VIC	30
Mokoan Solar Farm	European Energy	Solar	VIC	56
Storage				
Western Downs Battery Energy Storage System	Neoen	Battery	QLD	270 (540)

Note: Projects that have reached multiple stages in the same quarter have only been included in the latest stage

Project pipeline

There are currently 83 renewable electricity generation projects that have either reached financial commitment or are under construction, representing over 13 GW of capacity in this pipeline. There are another 73 storage projects (either standalone or hybrid projects) in the pipeline, equivalent to 12.8 GW / 33.3 GWh in capacity / energy output.

Since 2017, 241 generation and storage projects have been commissioned, representing 18.4 GW of installed electricity generation capacity and 2.6 GW / 4.7 GWh of energy storage.

A breakdown of all projects currently in financial commitment or under construction stages across the states and territories is shown below.

Table 4. Current generation and storage projects either in financial commitment or under construction, by state

State	Project count	Total project capital investment ($M)	Generation project capacity (MW)	Storage project capacity (MW)	Storage project energy output (MWh)
ACT	2	471	0	350	700
NSW	37	8,079	3,533	3,675	8,800
NT	5	102	45	41	39
QLD	29	10,752	4,740	3,120	7,902
SA	17	2,465	813	1,995	5,030

TAS	1	50	21	-	-
VIC	28	9,448	2,962	2,153	5,862
WA	24	6,497	937	1,478	4,930
TOTAL	**143**	**37,863**	**13,050**	**12,812**	**33,263**

Table 5. Current onshore wind projects either in financial commitment or under construction

State	Project count	Total project capital investment ($M)	Generation project capacity (MW)
ACT	-	-	-
NSW	1	820	414
NT	-	-	-
QLD	8	6,071	2,882
SA	1	435	412
TAS	1	50	21
VIC	2	4,000	1,333
WA	2	913	208
TOTAL	**15**	**12,289**	**5,270**

Table 6. Current solar projects either in financial commitment or under construction

State	Project count	Total project capital investment ($M)	Generation project capacity (MW)
ACT	-	-	-
NSW	18	3,457	3,034
NT	3	49	45
QLD	7	1,130	1,432
SA	6	534	401
TAS	-	-	-
VIC	15	2,275	1,624
WA	3	712	374
TOTAL	**52**	**8,157**	**6,910**

Generation projects

Q2 2025 analysis

Four generation projects totalling 615 MW of capacity secured financial commitment in Q2 2025.

Five projects across five states commenced construction in Q2, totaling 701 MW of capacity. Early works commenced on the 21 MW Port Latta Wind Farm in Tasmania, the first renewable project to start construction in that state since the Bell Bay Solar Farm in November 2023.

Cumulatively, since the Clean Energy Council commenced reporting in 2017, onshore wind and utility-scale solar have reached financial commitment on 11.7 GW and 16.4 GW worth of capacity respectively.

Chart 1. Financially committed generation projects and capacity, quarterly MW

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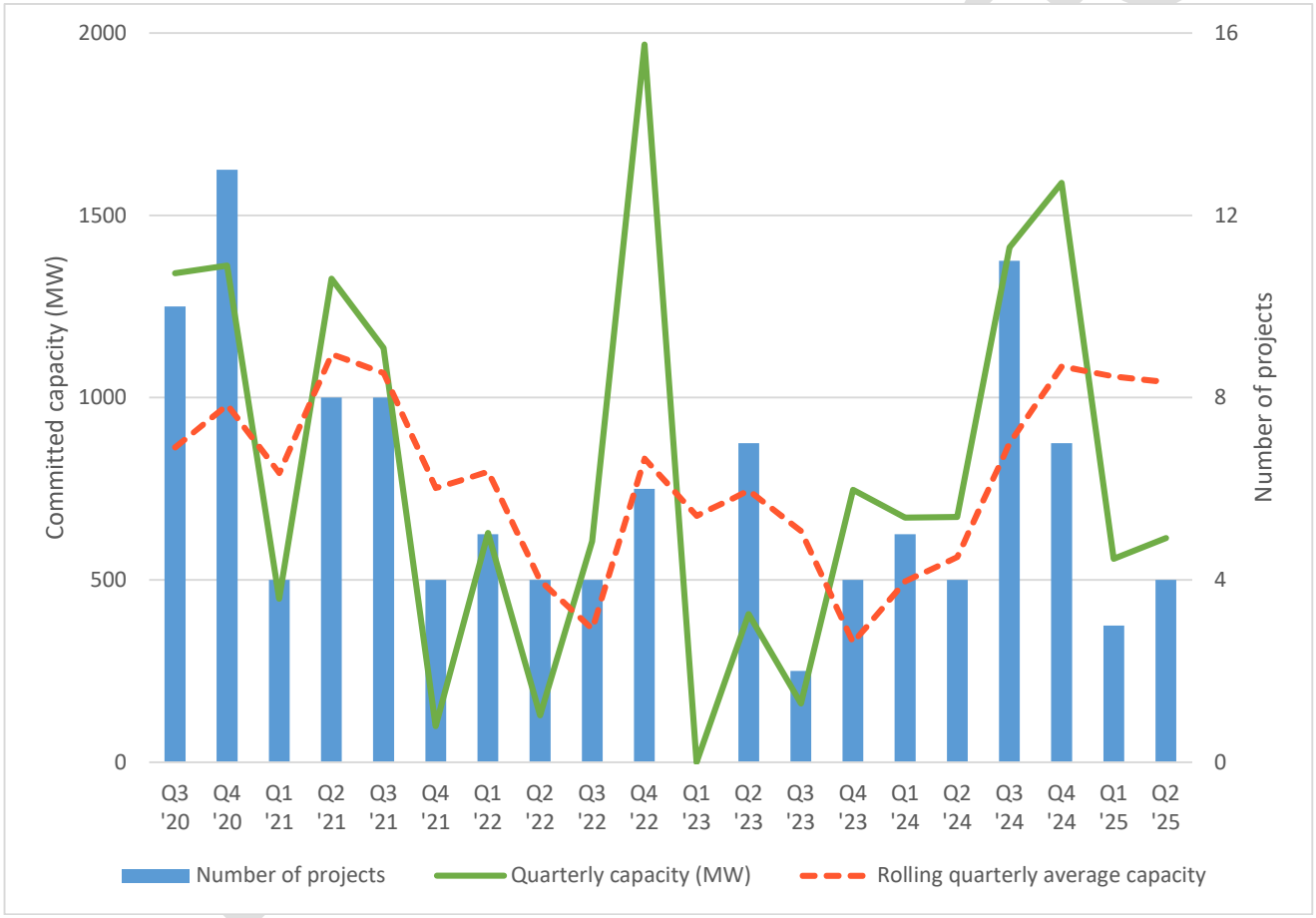
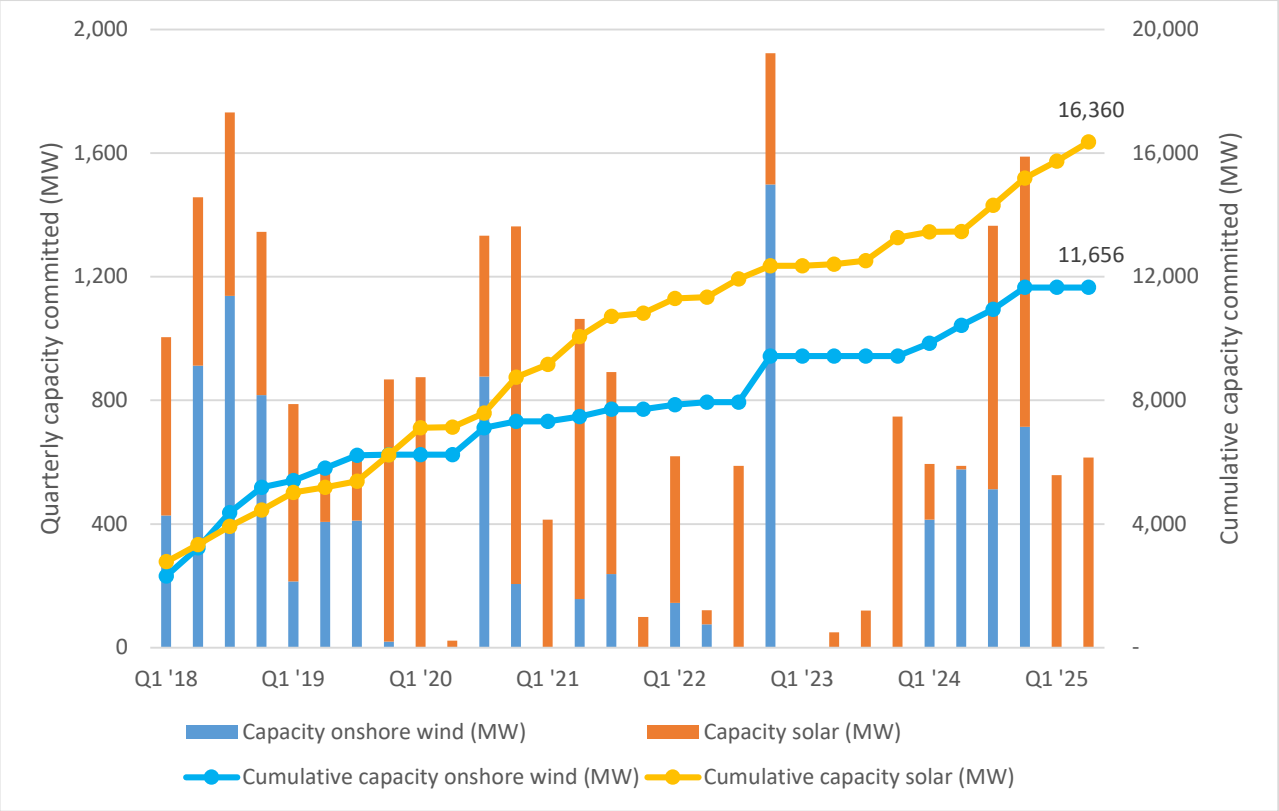


Chart 2. Cumulative capacity of financially committed wind and solar projects, quarter MW



Note: Results for Q1 in charts 1 and 2 have been adjusted due to the inclusion of Gentari Renewables Australia's Maryvale Solar Farm and BESS, which commenced construction in January. This has been added retrospectively into the database and all affected charts have been updated accordingly.

Operationally, wind and solar are natural complements, and a balanced mix of both technology types supports more stable operation of the power system. It is also key to keeping costs down for consumers.

No onshore wind farm has as yet been financially committed in 2025. It is critical that specific issues impacting wind investment, such as technical connection issues, and planning and environment considerations are addressed in order to accelerate investment decisions for wind projects.

Chart 3. Total capacity of financially committed generation projects, annual GW

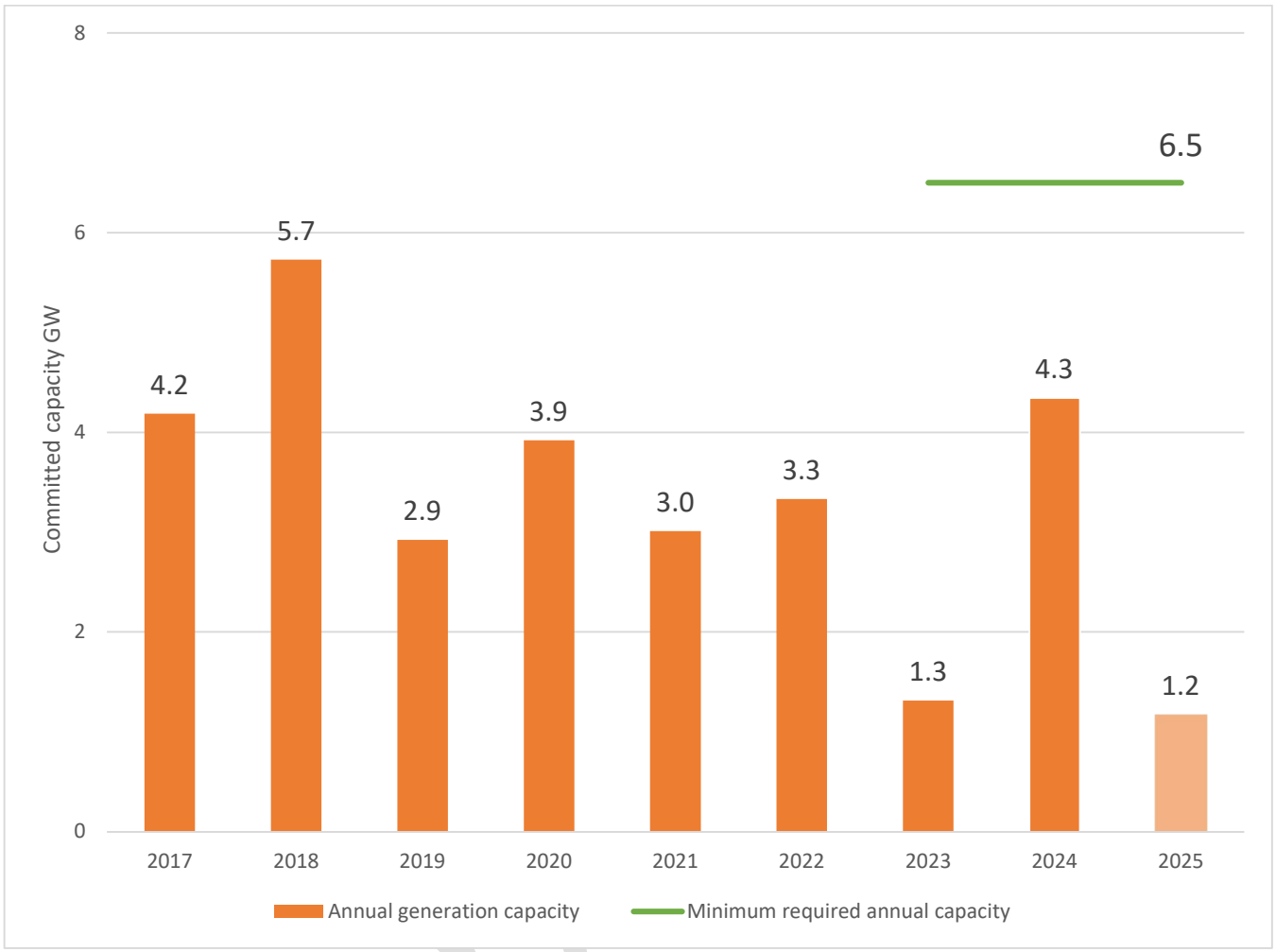


Chart 4. Total capacity of generation projects by development status, annual GW

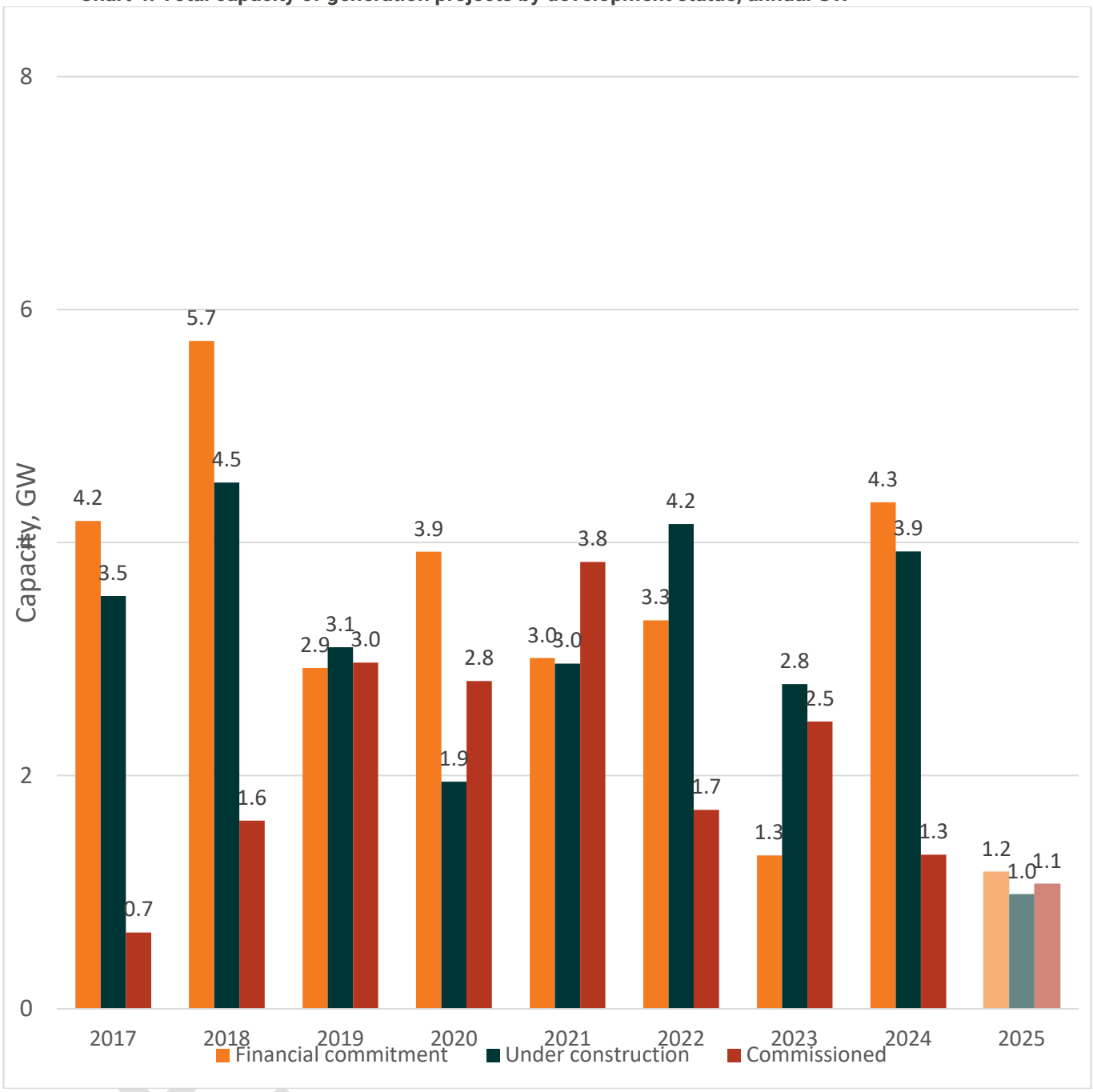


Table 7. Generation projects by development stage reached, capacity

		Financially committed	Under construction	Commissioned
Q2 results	**Projects**	4	5	5
	Total capacity	615 MW	701 MW	312 MW

Note: Projects that reach multiple stages have been included in each stage.

Generation project investment

The total investment for generation projects reaching financial close in Q2 2025 reached $520 million. This quarter total is 68 per cent lower than the newly revised 12-month quarterly average for investment of generation projects, which is now $1.6 billion.

The following graphs are expressed in real investment values to better reflect trends over time, with 2017 as the base year.

Chart 5. Financially committed generation projects quarterly investment, real $AUD (million)

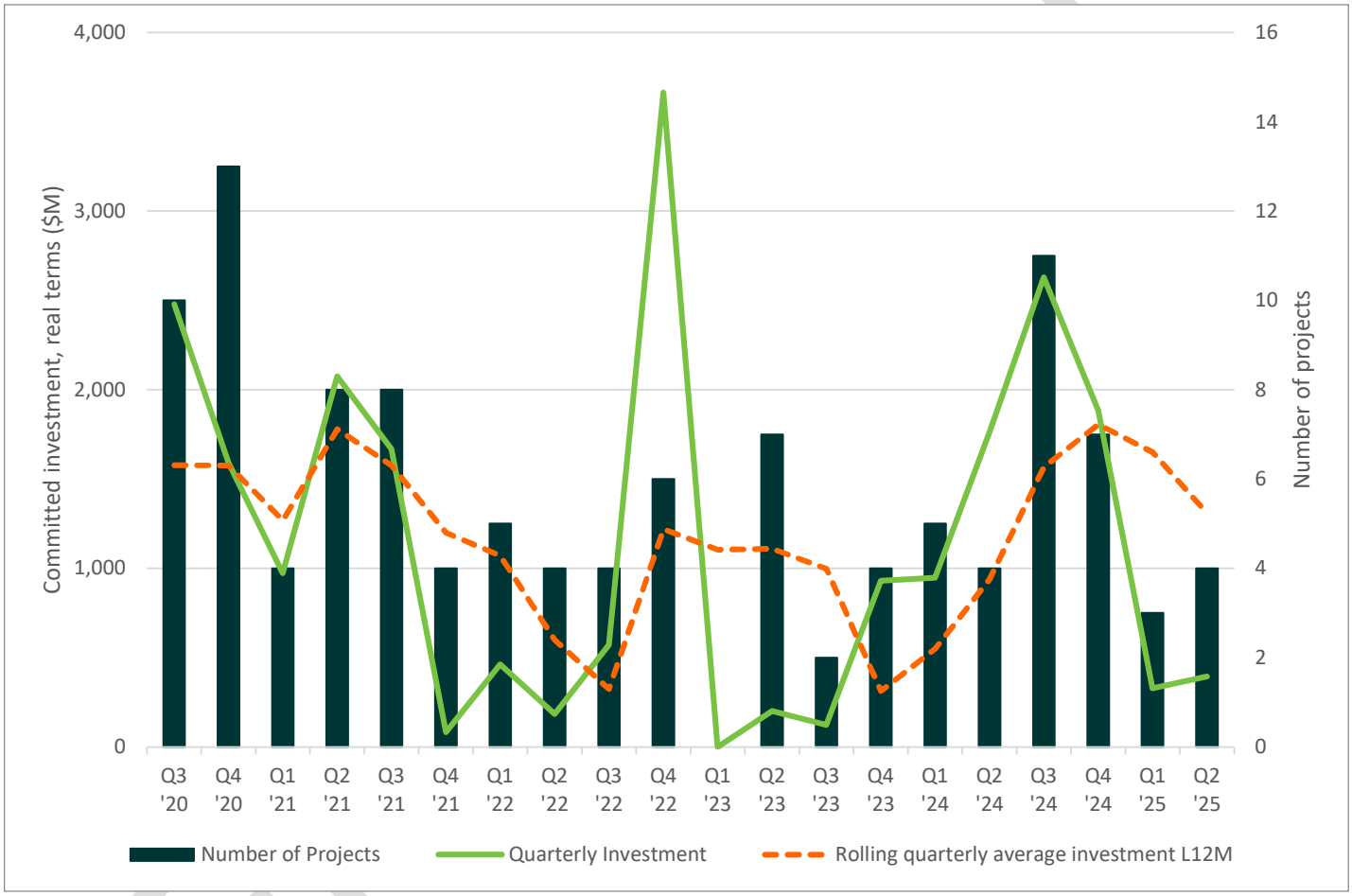
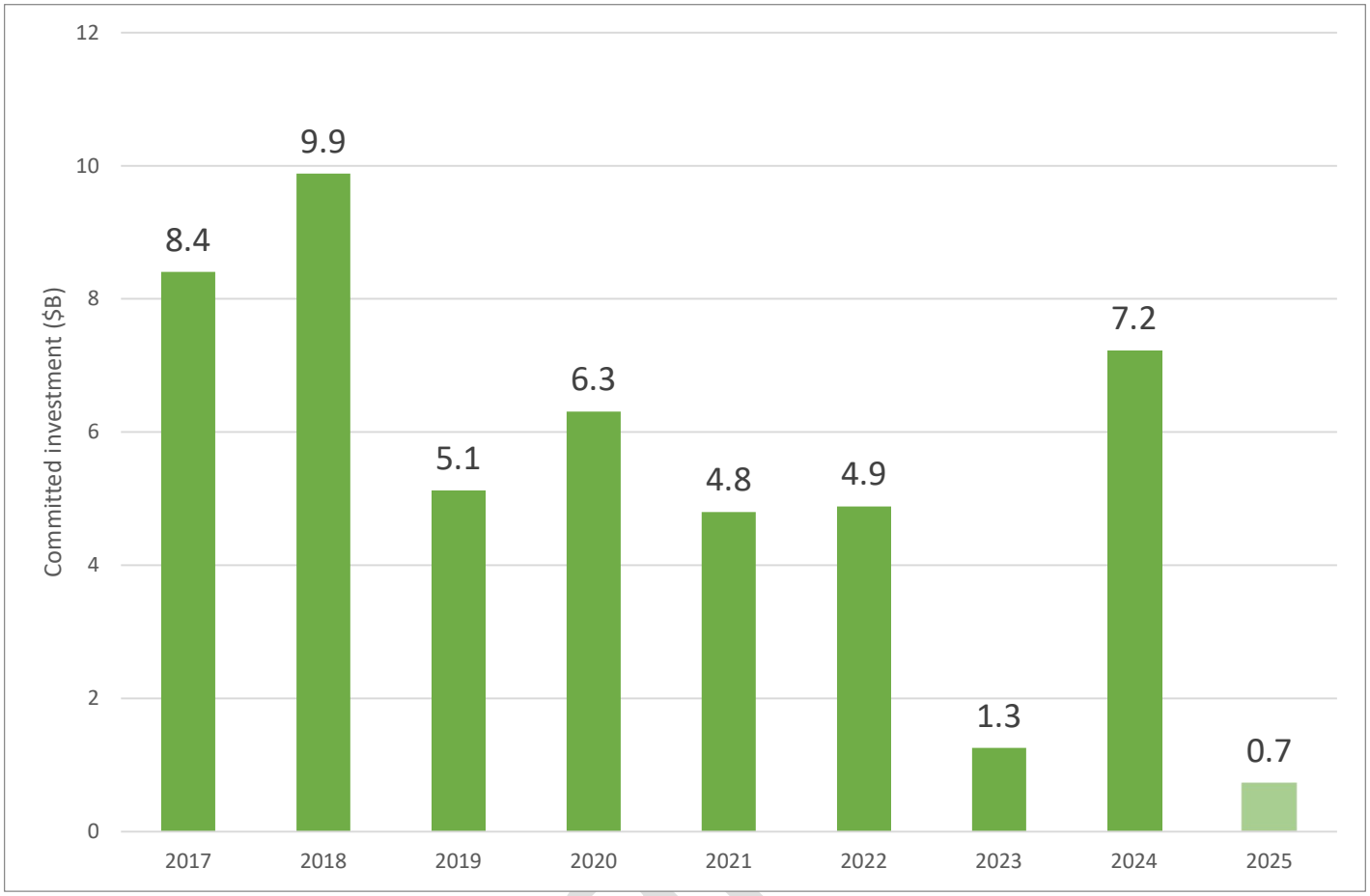


Chart 6. Total real investment of financially committed generation projects, annual $AUD (billion)

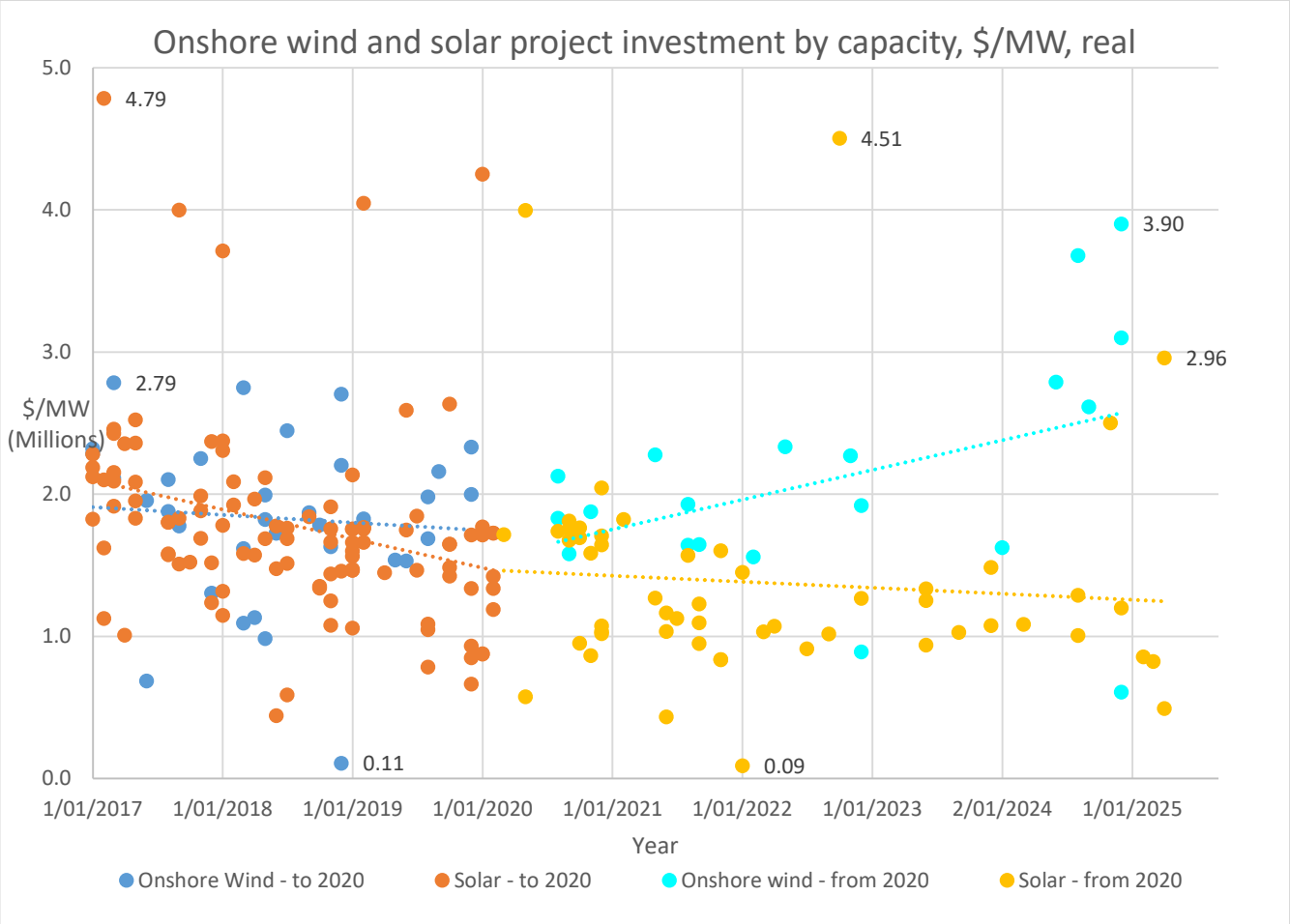


Generation project capital investment spend per MW

The following chart shows the change in capital investment required for each MW of capacity of generation projects over time. Expressed in millions of dollars, all solar and onshore wind projects that reached financial commitment from 2017 onwards have been included to view the trend over time. It is typically expected that as technologies and project delivery systems mature, capital costs will decrease, and while this is reflected in utility PV and its downward trend, onshore wind has seen an increase since 2020.

The capital costs of onshore wind increased by 8 per cent in 2023-24 and 6 per cent in 2024-25[1]. Overall reductions in equipment costs earned from continuous improvement and economies of scale have been offset by local increases in land and installation costs. In addition, development timeframes have increased due to protracted environmental and project approvals, while construction timelines have increased on average from 52 to 90 weeks since 2020[2]. Meanwhile, manufacturing scale and a rapid rate of technological development in solar PV have seen a continued downward trend in the capital costs for solar projects.

Chart 7. Unit cost trends for wind and large-scale solar projects, $M/MW (real)



Note – The chart above shows $/MW values expressed in millions of dollars (AUD). It is expressed in real terms, using monthly CPI values extracted from the ABS, with September 2017 as the base month. The months of January 2017 – August 2017 use CPI values with an assumed annual inflation growth of 2.5%.

[1] GenCost 2024-25 Final Report, CSIRO
[2] GenCost 2024-25 Final Report, CSIRO

Project completion time by state

On average across Australia, it takes solar projects six months less than wind projects to progress from financial commitment through to the final commissioned stage.

South Australia leads all states when it comes to average time from financial commitment to commissioning for generation technology types, with only a two-month difference between wind and solar. Victoria takes the shortest time for storage projects to progress between these stages at 19 months. Western Australia is the only state with a sufficient sample size for hybrid projects to be included in the data, where it takes 15 months to progress from financial commitment to commissioning.

Table 8. Project completion time – from financial commitment to commissioning

Time from financial commitment to commissioning by state & technology (months)				
State	**Solar**	**Onshore wind**	**Storage**	**Hybrid**
VIC	22	28	19	N/A
NSW	20	31	N/A	N/A
QLD	23	N/A	N/A	N/A
SA	19	21	20	N/A
WA	21	N/A	28	15
Total average by tech:	**21**	**27**	**22**	**15**

Notes: Average based on solar, onshore wind and storage projects that have reached commission since 2017.

The stated timeframe excludes the project development phases (e.g. project design, planning & environmental assessments etc.) prior to financial commitment.

Each technology type needs to have at least five commissioned projects in a state for the average to be included.

Energy storage projects

Q2 2025 analysis

The second quarter of 2025 marked a relatively soft quarter for utility-scale storage, with just three projects totalling 334 MW / 1,168 MWh reaching financial commitment. This is the lowest result seen since the start of 2023.

There were similar results further along the development pipeline, with three projects totalling 589 MW / 1,153 MWh commencing construction. The 12-month quarterly average for potential energy generation of battery projects commencing construction fell by 11 per cent to a revised value of 3,015 MWh. The total CAPEX investment of these projects is valued at more than $750 million.

The largest battery beginning construction for the quarter was the Liddell Battery Energy Storage System (BESS) in New South Wales with a size of 500 MW / 1,000 MWh, and a duration of two hours. The other large-scale batteries to commence construction were Victoria's Fulham Solar Farm BESS with a size of 64 MW / 128 MWh, and New South Wales' Forest Glen Solar Farm BESS at 25 MW / 25 MWh.

Two batteries were commissioned in Q2 2025: the Cunderdin Solar Farm BESS and the Western Downs BESS – Stage 1, with a combined total of 325 MW / 760 MWh now operational.

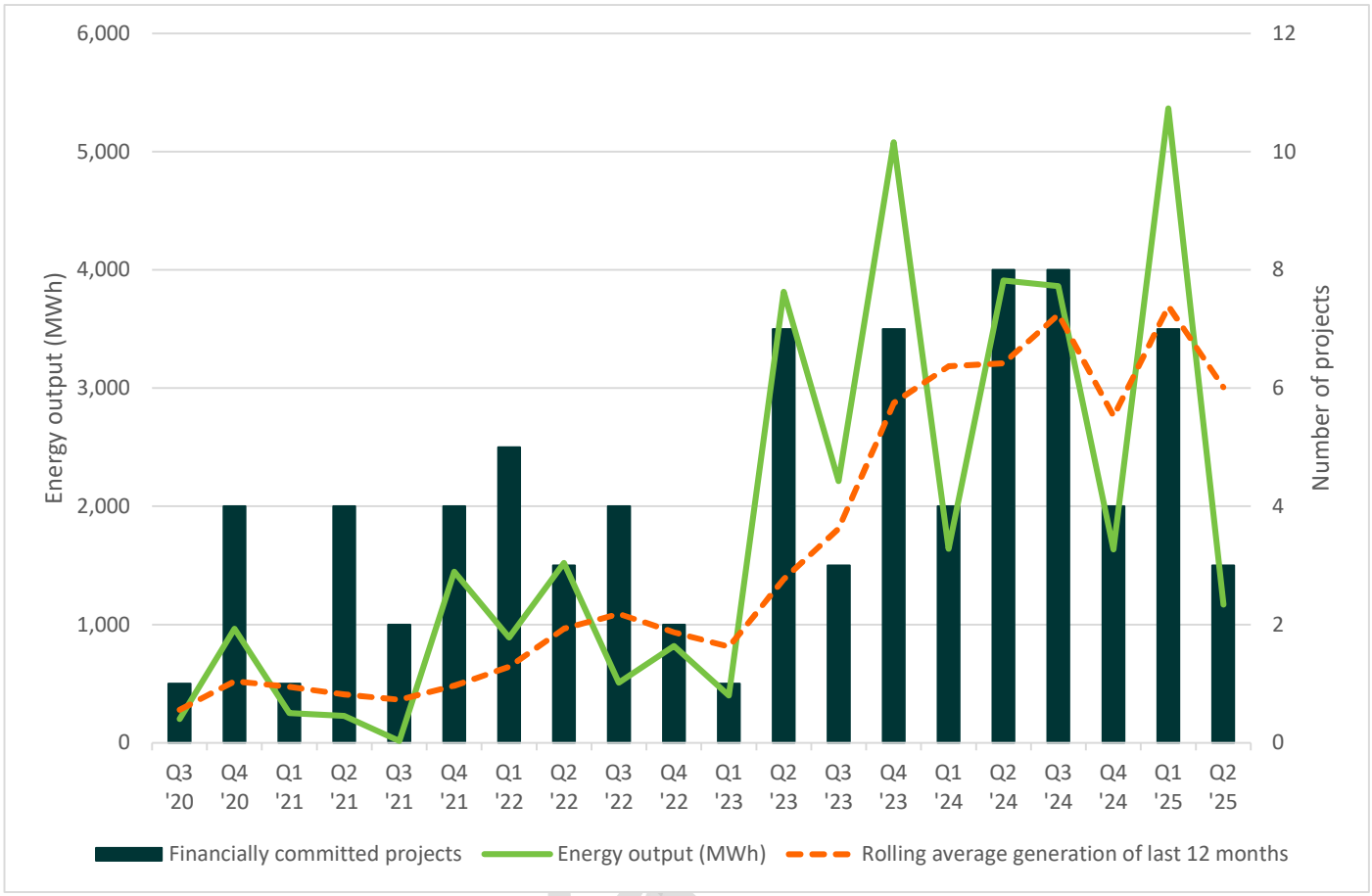
Table 9. Battery energy storage system projects by development stage reached, Q2 2025

		Financially committed	Under construction	Commissioned
Q2 results	**Project count**	3	3	2
	Project capacity	334 MW	589 MW	325 MW
	Project energy output	1,168 MWh	1,153 MWh	760 MWh
	Project investment	$105 million	$750 million	$200 million

Notes: Includes hybrid projects with a storage component

- Projects that reach multiple stages have been included in each stage.
- Project investment is underrepresented as not all projects have publicly available information.

Chart 8. Financially committed storage projects by energy output, quarterly MWh



Commissioned storage projects by year

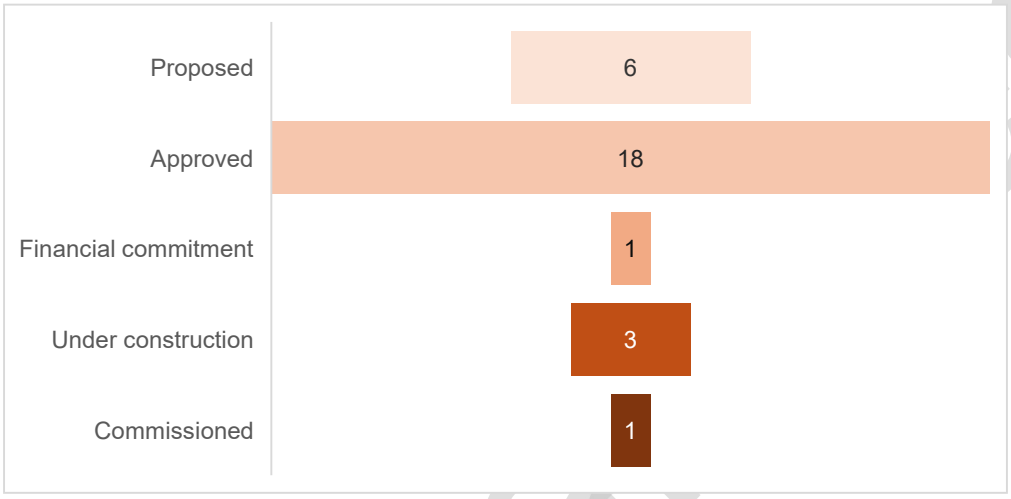
Table 10. Commissioned energy storage projects

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Number of projects	1	3	3	1	4	4	8	5	4
Investment (AUD $M)	90	129	72	42	353	87	960	1,325	250
MW	150	90	130	13	426	69	724	619	381
Average MW	150	30	43	13	107	17	91	124	95
MWh	194	115	135	4	647	101	947	1,677	858
Average MWh	194	38	45	4	162	25	118	335	215
Average storage duration (hours)	1.3	1.3	1.0	0.3	1.5	1.5	1.3	2.7	2.3

Capacity Investment Scheme and NSW Long-Term Energy Services Agreements tracker

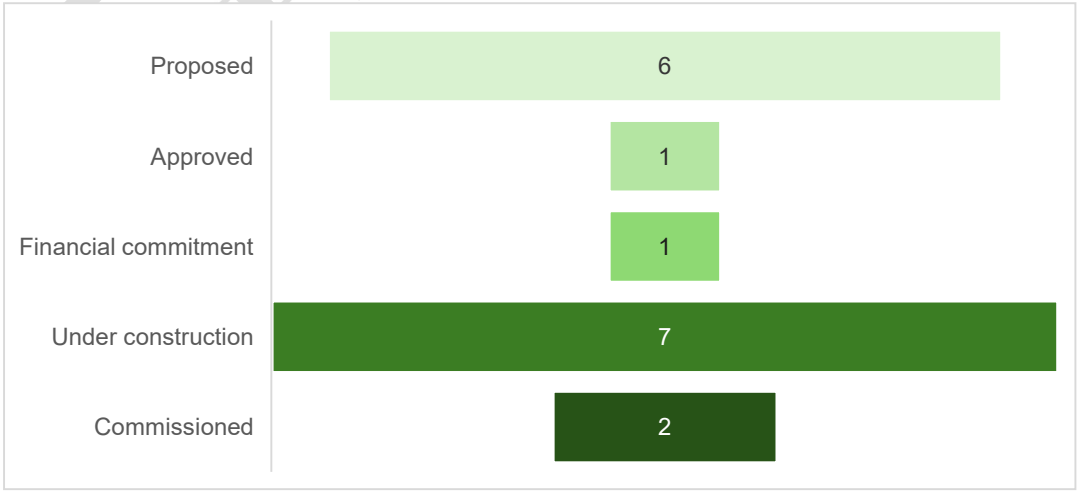
The Capacity Investment Scheme (CIS) is an Australian Government revenue underwriting scheme to accelerate investment in renewable energy generation and storage. The CIS aims to support 40 GW of new capacity nationally. To date, five tenders have been held to support projects in the National Energy Market (NEM) and the WA Wholesale Electricity Market (WEM). Successful bids have been announced for three tenders. As at end of Q2 2025, 29 projects had been awarded a CIS Agreement. Their status by lifecycle stage is summarised below.

Chart 9. All projects that have received a CIS Agreement since scheme commencement by lifecycle stage, as at Q2 2025



Long-Term Energy Services Agreements (LTESAs) support the New South Wales Government's Electricity Infrastructure Roadmap by offering generation, storage and firming projects the right to access minimum cash flows for periods within a long contract term. This reduces price uncertainty for investors, bringing forward investment in new sources of renewable energy projects. To date, seven tenders have been held to support projects in NSW. Successful bids have been announced for five tenders. To date, 17 projects have been awarded an LTESA. Their status by lifecycle stage is summarised below.

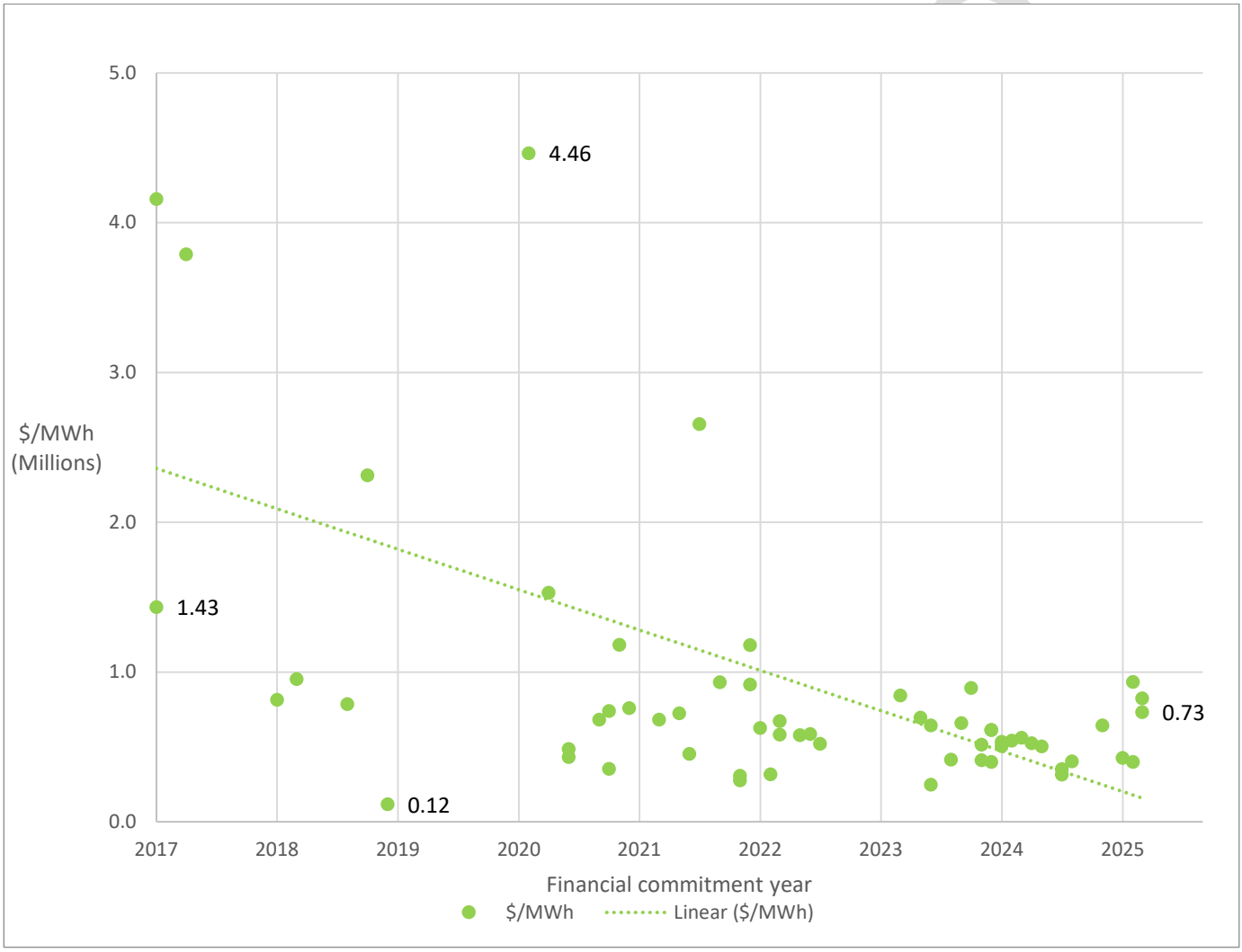
Chart 10. All projects that have received an LTESA since scheme commencement by lifecycle stage, as at Q2 2025



Battery energy storage system project capital investment spend per MWh

The following chart shows the relationship between the change in capital investment required for each MWh of energy for battery energy storage system projects over time. Expressed in millions of dollars, all battery energy storage system projects that reached financial commitment from 2017 onwards have been included to view the trend over time. The chart below indicates battery energy storage system costs have fallen steeply over time.

Chart 11. $/MWh of storage projects, real $AUD



Long duration energy storage

Long duration energy storage (LDES) is a broad term that refers to a wide range of energy storage technologies that are typically held to provide energy output in excess of eight hours at maximum rated power, and may exhibit a range of other characteristics, such as synchronous capability, cycling capability and the ability to help manage seasonal energy shortfalls.

The LDES projects captured in this report are large pumped hydro energy storage (PHES) projects. However, there are several other types of LDES projects currently in development, and these will be captured in future reports once they reach financial commitment.

While no pumped hydro projects reached financial close in Q2, there are currently three projects across Australia under construction. Kidston is anticipated to be completed and energised during 2025. While the Goat Hill PHES has been labelled as under construction since 2021, there has been minimal news on its progress.

Table 11. Pumped hydro energy storage (PHES) projects currently under construction

Project name	State	Owner	Capacity (MW)	Energy generation (MWh)	Duration
Goat Hill Pumped Storage Hydro Project	South Australia	Altura Group	230	1,840	8
Kidston Pumped Storage Hydro Project	Queensland	Genex Power	250	2,000	8
Snowy 2.0	New South Wales	Snowy Hydro	2,000	350,000	175

Hybrid projects

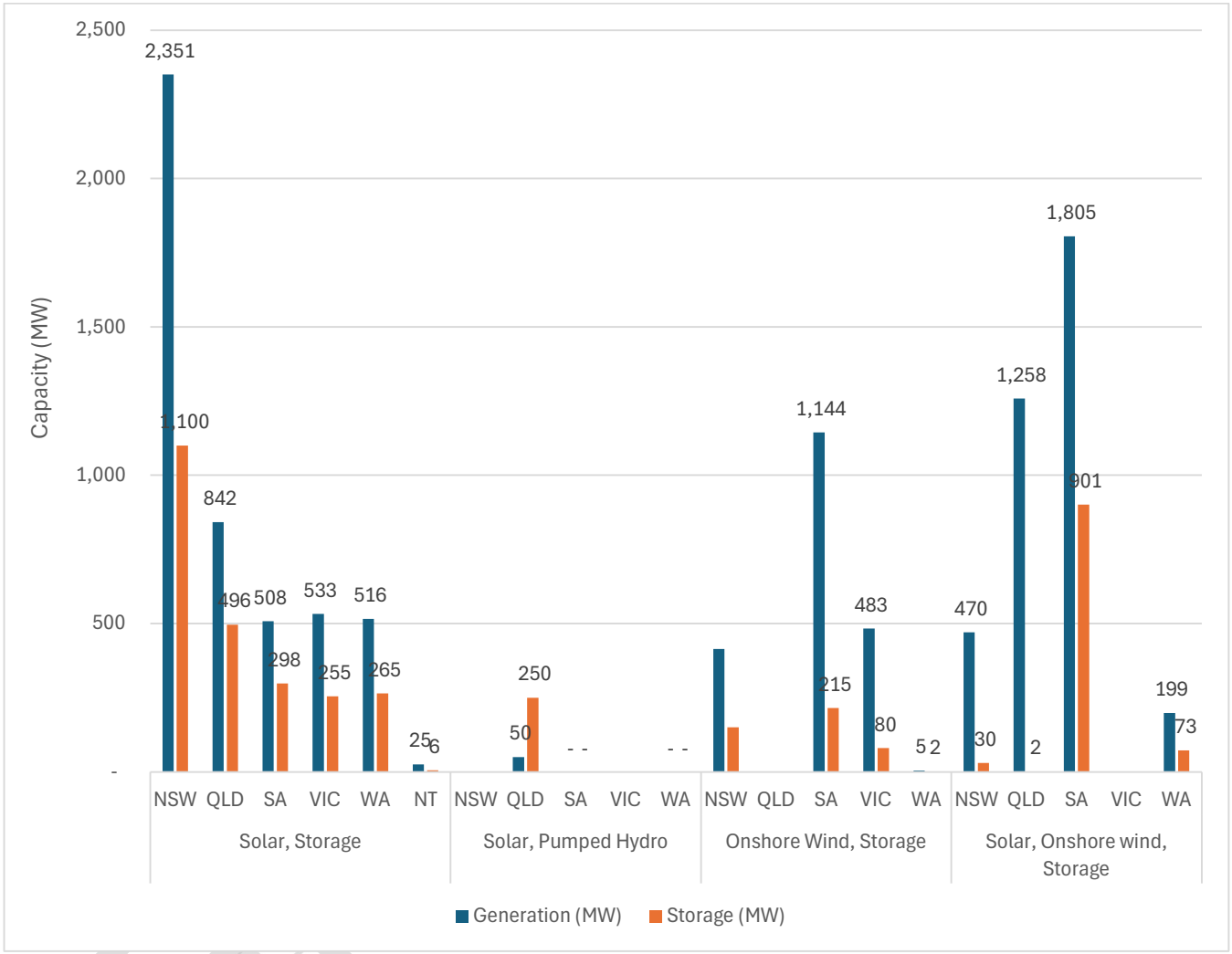
Hybrid projects are becoming more prevalent, with systems consisting of solar and storage, wind and storage, solar and PHES, or a combination of these. Across the nation, there are 61 hybrid projects at various stages of development. Close to two thirds of these projects are solar and storage systems. Twelve projects offer energy output durations in excess of two-hours, including a solar and PHES project with a duration of eight hours.

Table 12. Project breakdown of hybrid projects

		Solar + storage	Solar + PHES	Wind + storage	Wind + solar + storage
Generation component	Solar capacity (MW)	4,775	50	-	1,291
	Wind capacity (MW)	-	-	2,046	2,445
	PHES (MW)	-	250	-	-
Storage component	Capacity (MW)	2,419	250	447	1,006
	Energy (MWh)	4,934	2,000	720	3,902
Average duration (hrs)		2.0	8.0	1.6	3.9
Total number of projects		40	1	8	12
Total build cost ($AUD billion)		$6.9	$0.9	$2.3	$2.5

Some of the largest hybrid projects are in New South Wales (predominantly solar and storage systems) and South Australia (predominantly wind, storage and wind, and solar and storage). When storage is attached to solar systems, the assets tend to have a larger capacity compared to wind and storage hybrid systems.

Chart 12. Hybrid project capacity breakdown by state and type, MW



About this report

The Clean Energy Council's quarterly investment report tracks utility-scale projects from the financial investment commitment stage through to the completion and operation of the plant.

The financial investment commitment stage – in which projects receive agreement for access to debt and equity, based on the necessary project development and connection approvals and contracting arrangements being in place – is a crucial lead indicator for new capacity build.

The Clean Energy Council is aware that variations exist in development stage definitions across the industry, and as such the Clean Energy Council's data may differ from other datasets for the same period.

The Clean Energy Council's project data is retrospective, and so is subject to change depending on updated public information.

Investment figures for specific projects and quarterly/annual totals within the report are expressed in nominal terms (not adjusted for inflation). When a chart references investment trends beyond 12 months, it is expressed in real terms to adjust for inflation. **The base month used with a CPI value of 100 is September 2017**, and is drawn from the Australian Bureau of Statistic's Monthly Consumer Price Index Indicator.