

CLEAN
ENERGY
COUNCIL

RENEWABLE PROJECTS QUARTERLY REPORT

Q4 2022

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We respectfully acknowledge Aboriginal and Torres Strait Islander people as the Traditional Custodians of the lands and waters on which we work and live. We commit to collaborate with First Nations communities, to promote sustainable practice, protect ancient sites and culture with equitable access to the benefits of clean energy. Sovereignty has never been ceded. We acknowledge Elders, past and present, and their continuing culture and connection to Country.



Introduction

Quarterly investment in financially committed generation and storage projects reached \$4.29 billion, the second-highest quarterly result since data collection began in Q1 2017. This was close to a 10-fold increase on the amount seen in Q3 2022, and over \$3.5 billion more than the same period 12 months ago. As a result, the rolling 12-month quarterly average investment rebounded strongly to \$1.68 billion. These strong results were largely due to the Golden Plains Wind Farm, with Stage 1 holding a standalone value of \$2 billion.

The fourth quarter of 2022 saw six generation and storage projects reach financial close, representing 1923 MW of new installed capacity, and 800 MWh of storage. In terms of installed capacity, this was 1523 MW more than Q3 2022 and 1824 MW more than the same period 12 months ago. For storage, this was 516 MWh more than Q3, however 647 MWh less than 12 months ago. A total of four generation and storage projects commenced construction in Q4 2022, while a further four projects were commissioned.

New South Wales contributed the most financially committed projects in 2022, with its five generation projects accounting for 1559 MW and an additional six projects contributing 5700 MWh worth of storage. Victoria and Queensland each contributed five projects for 2022, followed by South Australia with three.

2022 saw a total of \$6.73 billion worth of investment for financially committed generation and storage projects. This just surpassed the \$6.12 billion seen in 2021 (+9.8 per cent). \$6.56 billion worth of projects also began construction in 2022, an increase from the \$5.69 billion seen in 2021. However, only \$2.53 billion worth of projects reached the final Commissioned phase in 2022, which was far lower than the \$6.96 billion worth of projects which reached this milestone in 2021.

In 2022, 26 projects across Australia reached financial commitment. This was seven projects fewer than 2021 and the lowest annual tally of new projects reaching this stage since the Clean Energy Council began recording data in 2017. This concerning trend didn't improve across the other development stages measured, with 26 generation and storage projects beginning construction in 2022, while only 18 were commissioned. Compared to 2021, these totals reached 32 and 46 respectively.

There are currently 106 generation and storage projects which have reached either financial commitment or began construction. This equates to 13.7 GW of installed capacity, as well as 10.1 GWh of storage. Over this same period, 189 generation and storage projects have been commissioned, contributing 13.9 GW of installed capacity, and 1.1 GWh of storage.

CEC definitions

Financial commitment: publicly available information stating that a project financially closed, achieved debt financing or started construction.

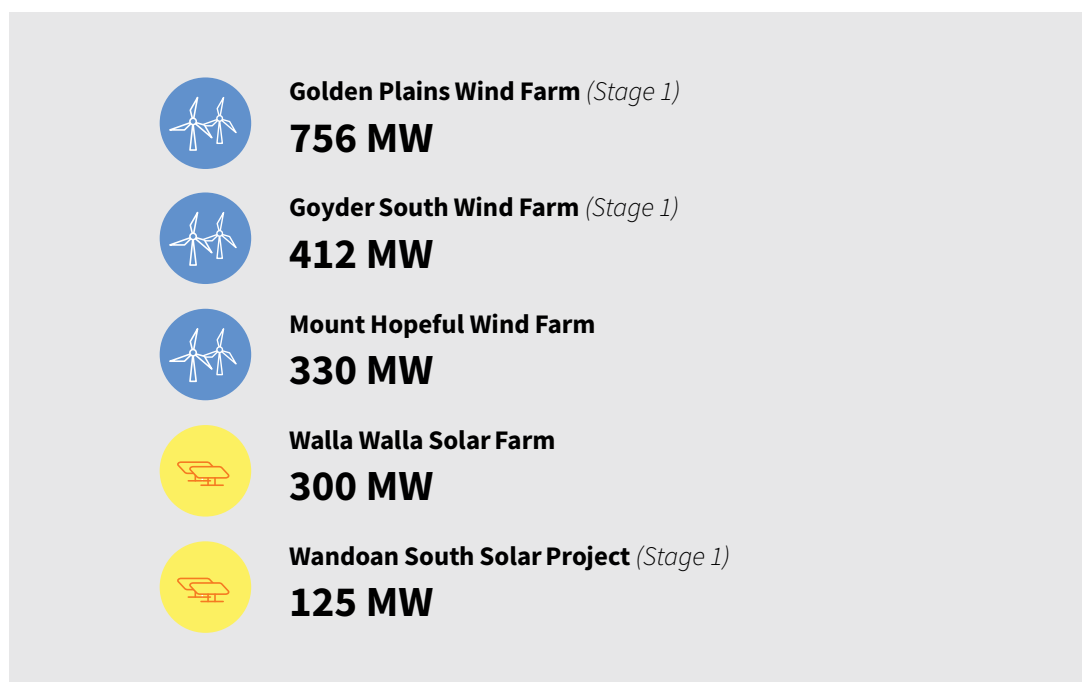
Under construction: publicly available information that a project started construction work.

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

Note: Some minor adjustments and reclassifications have been made to the project data since the Q2 2022 Renewable Projects Quarterly Report due to new information becoming available.



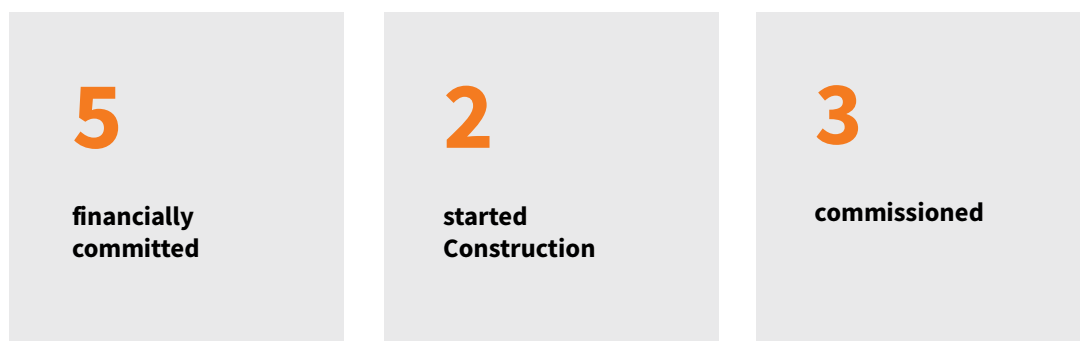
The fourth quarter of 2022 saw five generation projects reach financial close, representing 1923 MW of new installed capacity. This was 1523 MW more (+381 per cent) than Q3 2022 and 1,824 MW more than the same period 12 months ago. The rolling 12-month quarterly average of financially closed new capacity projects rebounded strongly to 893 MW, up from 437 MW (+104.3 per cent) in Q3 2022. This was the highest rolling average seen since Q3 2021. The new generation projects to reach financial close in Q4 2022 were:



A total of two new generation projects commenced construction in Q4 2022, totalling 70 MW of capacity. Meanwhile, three projects were commissioned, adding another 533 MW into the network.

In 2022, 15 generation projects for a total of 3.57 GW of installed capacity reached Financial Close. Compared to 2021, there were 23 projects, however only 3.06 GW of installed capacity was added. A pattern is appearing where there are fewer total projects, but those projects are larger in size in terms of installed capacity. New South Wales contributed the most financially committed generation projects in 2022, with its five projects accounting for 1559 MW. Victoria was next with four new projects accounting for 945 MW, followed by Queensland in third position with three projects adding 495 MW of installed capacity.

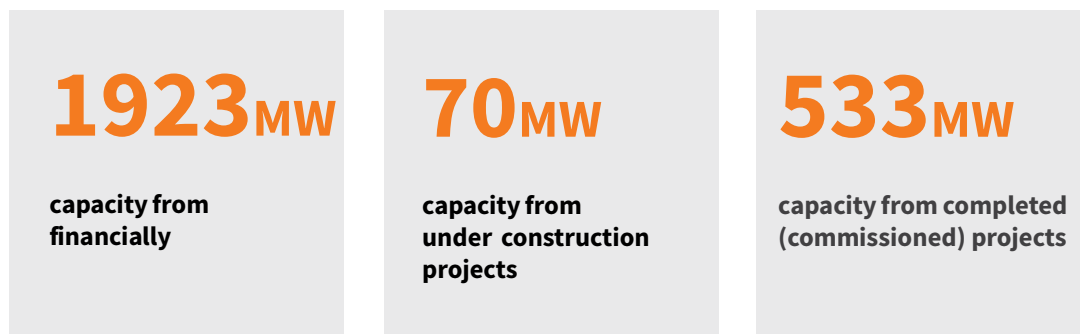
Quarterly generation project figures



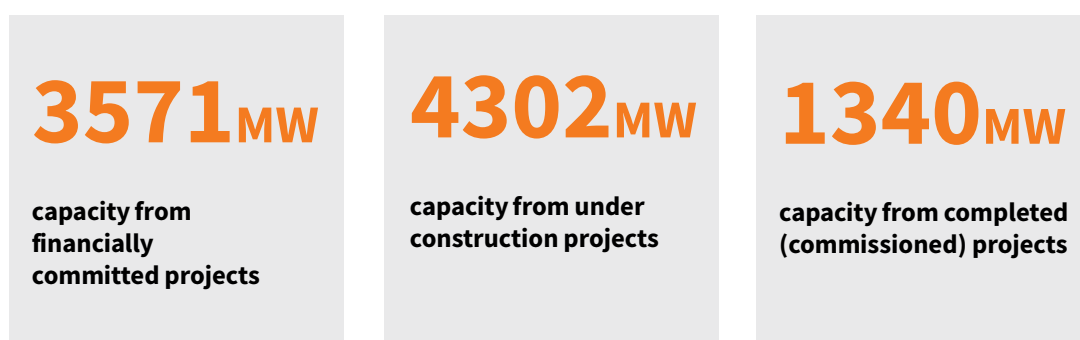
Capacity project tally in Australia since 2017



Quarterly capacity figures



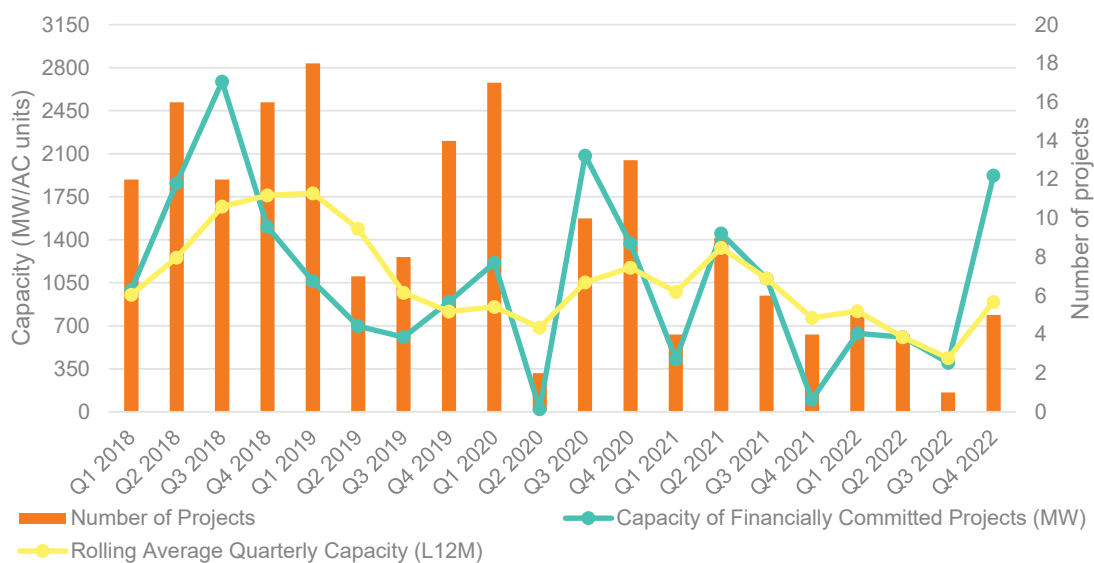
Capacity in the past 12 months*



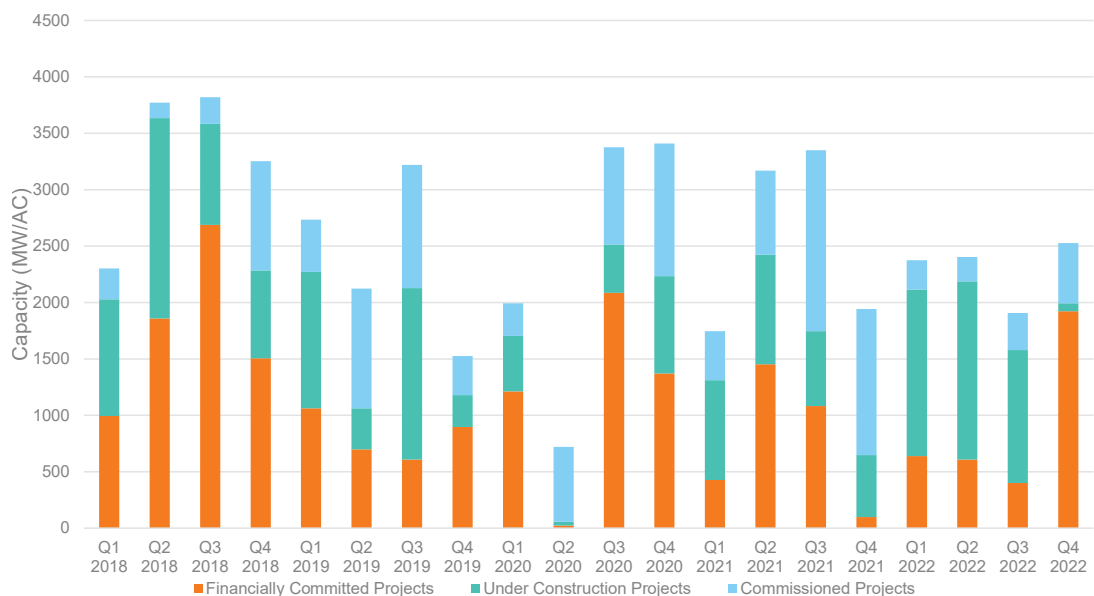
*Projects that reached multiple stages over the last 12 months are only included in their most recent stage



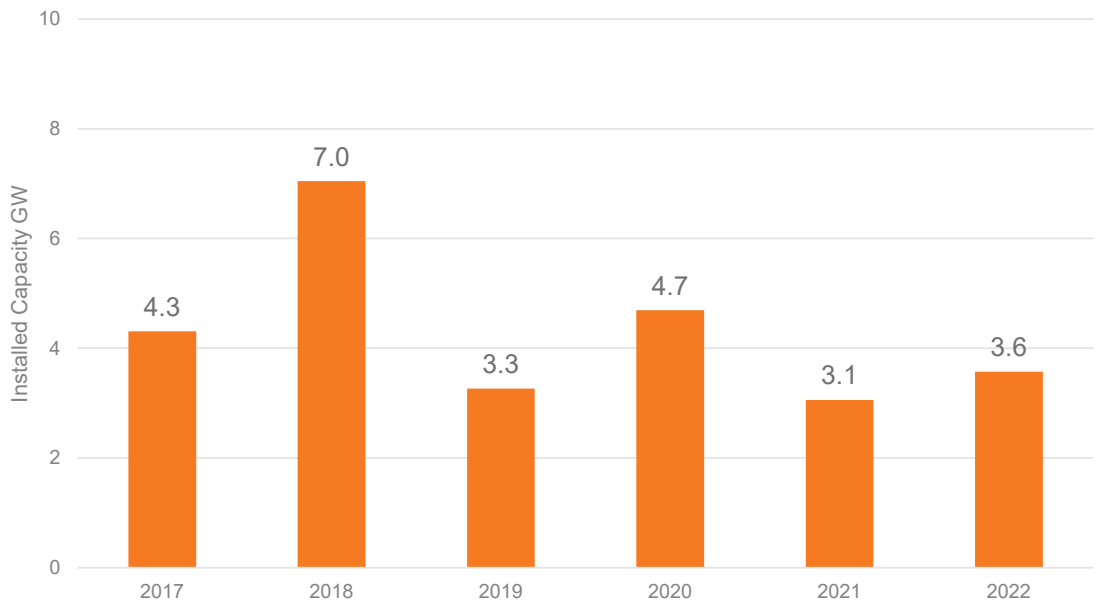
Financially committed projects and capacity



Total capacity by project status



Annual GW of financially committed generation projects



Investment in new financially committed capacity projects reached a significant \$4.29 billion in Q4 2022. This represents a 10-fold increase to what was seen in the previous quarter, and more than \$4.1 billion compared to 12 months ago. The rolling 12-month quarterly average investment spiked to \$1.56 billion for new capacity projects, and huge increase from the \$531 million seen in Q3. Total investment on new financially committed capacity projects for 2022 reached \$6.24 billion, an increase of \$0.99 billion (+18.9 per cent) compared to 2021.

Financially committed capacity projects and investment



Quarterly investment figures

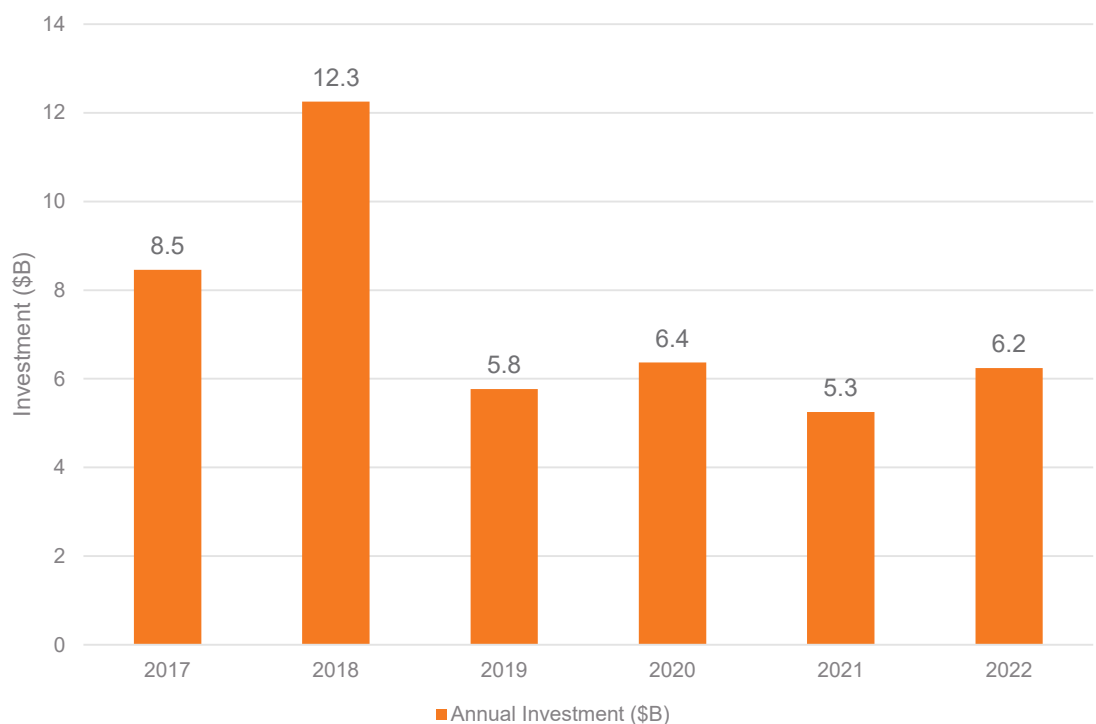


Investment in the past 12 months*



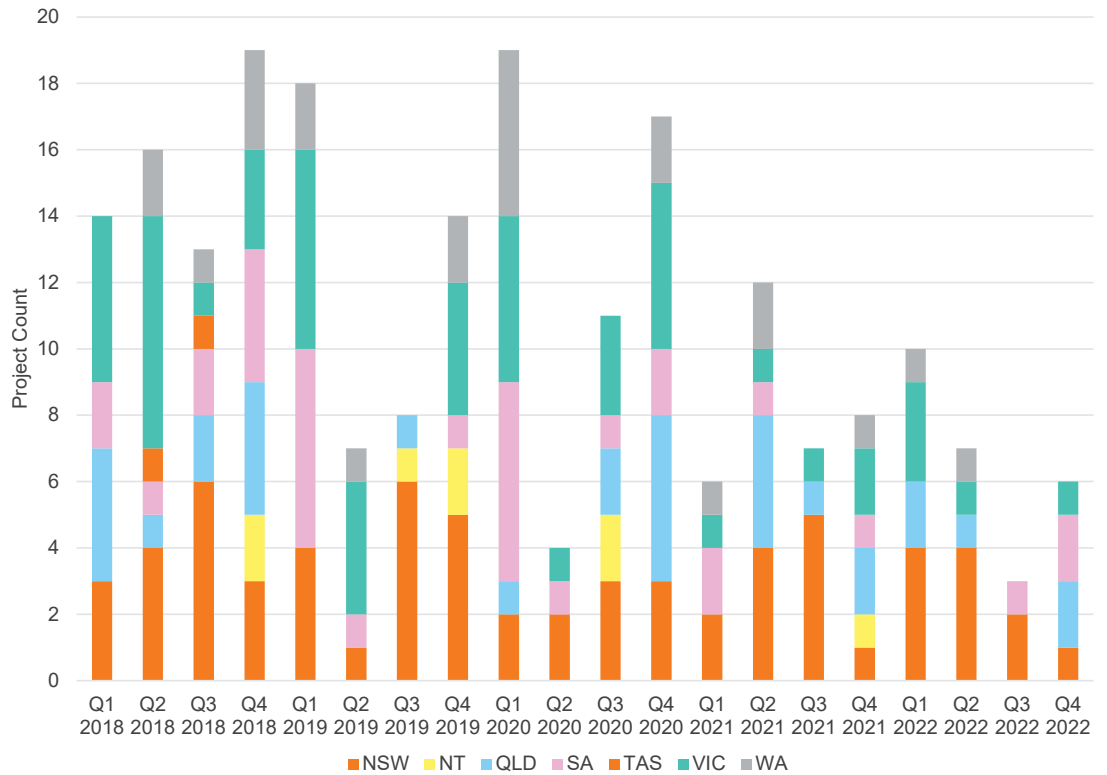
* Projects that reached multiple stages over the last 12 months are only included in their most recent stage

Annual financially committed investment

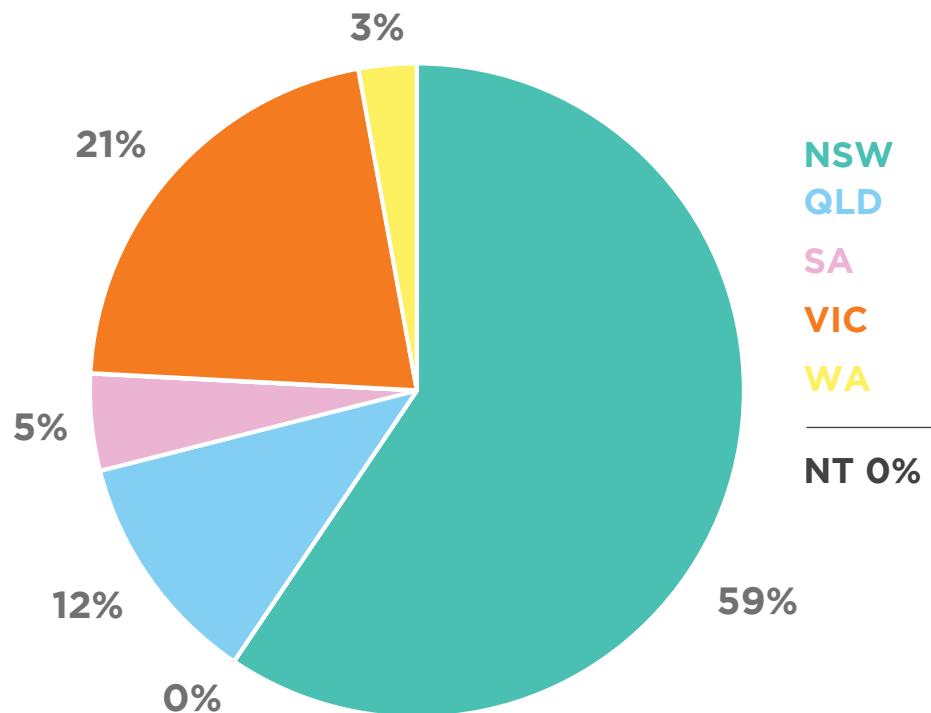


A total of six projects reached financial close across Australia in Q4 2022. Leading the way by state were SA and QLD each with two projects, while VIC and NSW each had one.

Financially committed projects and investment (generation and storage) by state



Share of total capacity by state (past 12 months)





Projects that began construction in Q4 2022

State	Project count	Capacity (MW)	Capital cost (\$M)
QLD	2	240.0	200.0
NSW	0	0.0	0.0
VIC	2	35.0	50.0
SA	0	0.0	0.0
WA	0	0.0	0.0
TAS	0	0.0	0.0
NT	0	0.0	0.0
ACT	0	0.0	0.0
TOTAL	4	275.0	250.0

View our project tracker for further details on all projects that are under construction.

Projects commissioned in Q4 2022

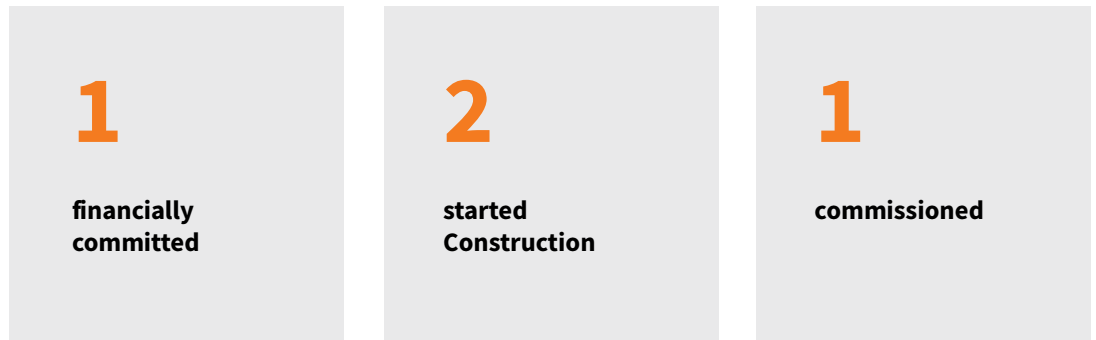
State	Project count	Capacity (MW)	Capital cost (\$M)
QLD	3	533.0	915.0
NSW	0	0.0	0.0
VIC	0	0.0	0.0
SA	0	0.0	0.0
WA	0	0.0	0.0
TAS	0	0.0	0.0
NT	0	0.0	0.0
ACT	1	10.0	10.0
TOTAL	4	543.0	925.0

View our project tracker for further details on all projects that have been commissioned in 2022.

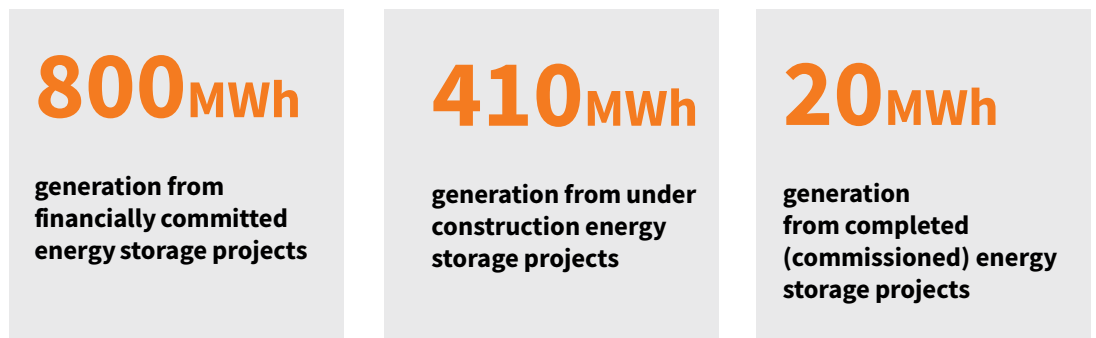
One energy storage project, the Blyth Battery in SA, reached financial close in Q4 2022, adding 800 MWh of storage. This was 516 MWh more than Q3, however 647 MWh less than what was seen 12 months ago in Q4 2021. As a result, the rolling 12-month quarterly average decreased slightly to 1844 MWh. Additionally, two storage projects began construction during the quarter, representing 410 MWh of storage, while one project was commissioned, adding 20 MWh of storage to the network.

In 2022, 12 storage projects for a total of 7374 MWh of storage reached Financial Close, compared to 2021, where 12 projects also reached Financial Close, however only for 2900 MWh of storage.

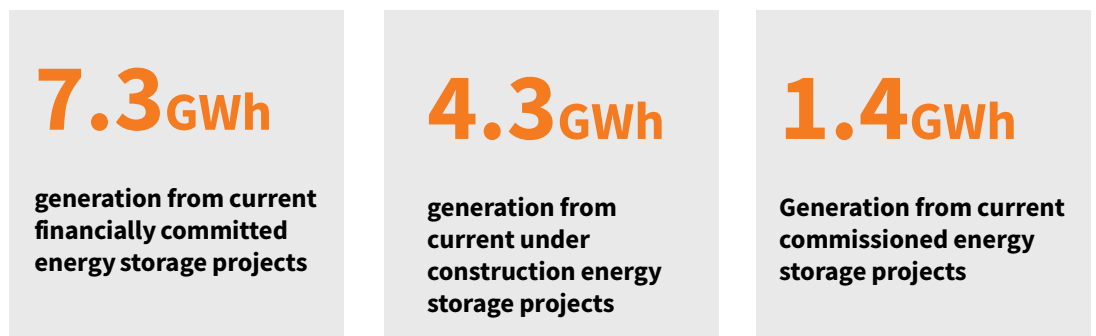
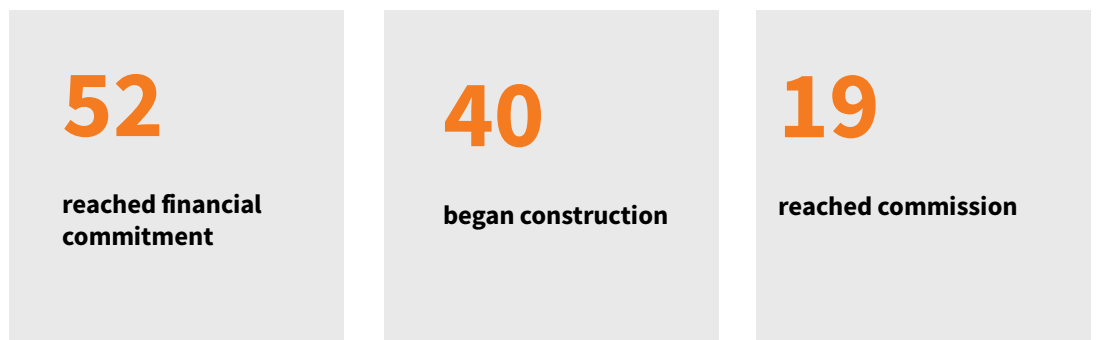
Quarterly energy storage project figures



Quarterly capacity and generation of energy storage projects



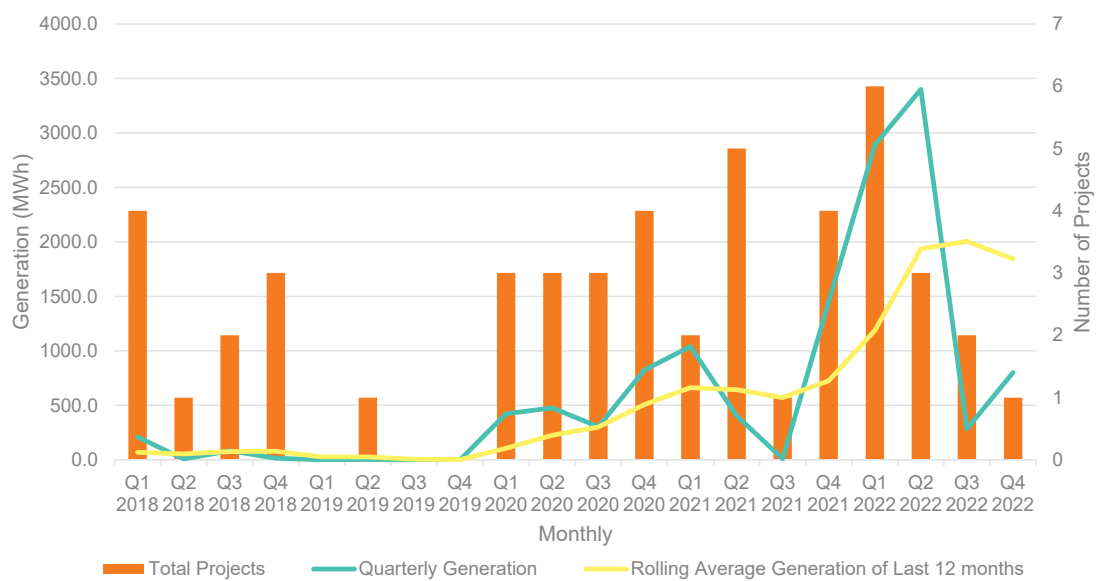
Total energy storage projects in Australia since 2015*



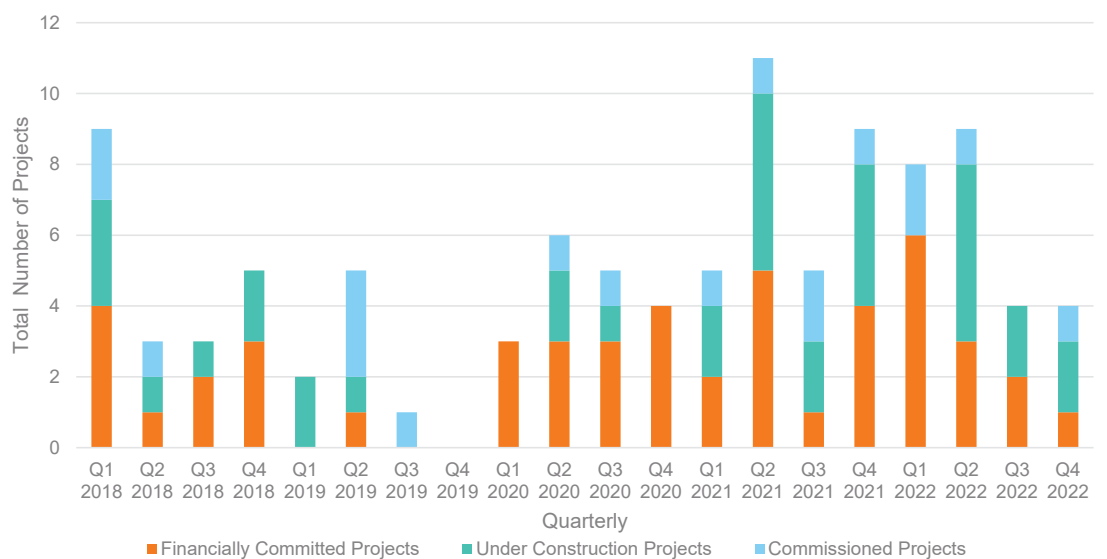
*Includes projects that have a storage component (i.e. hybrid wind and solar projects)



Financially committed energy storage projects and generation

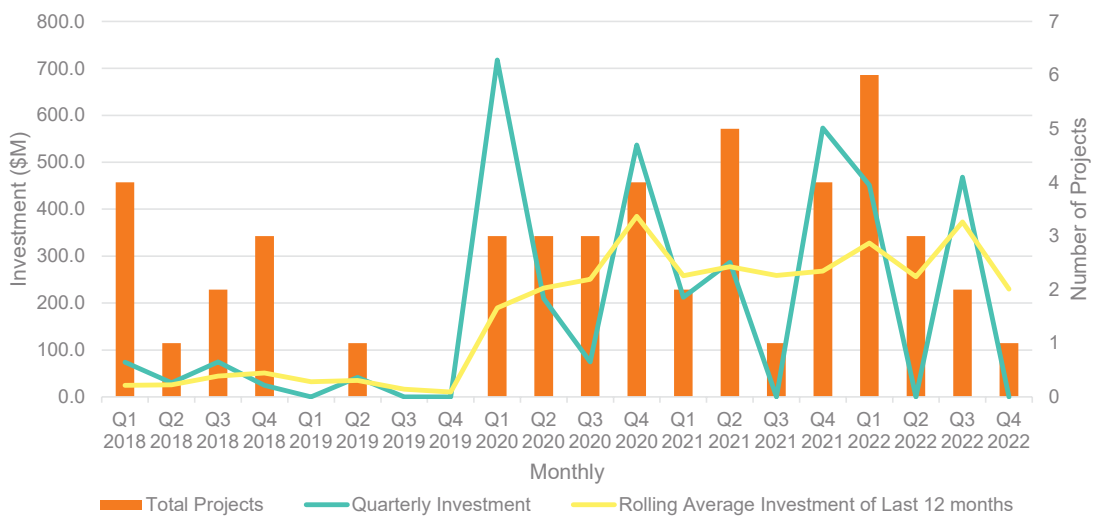


Total energy storage projects by project status



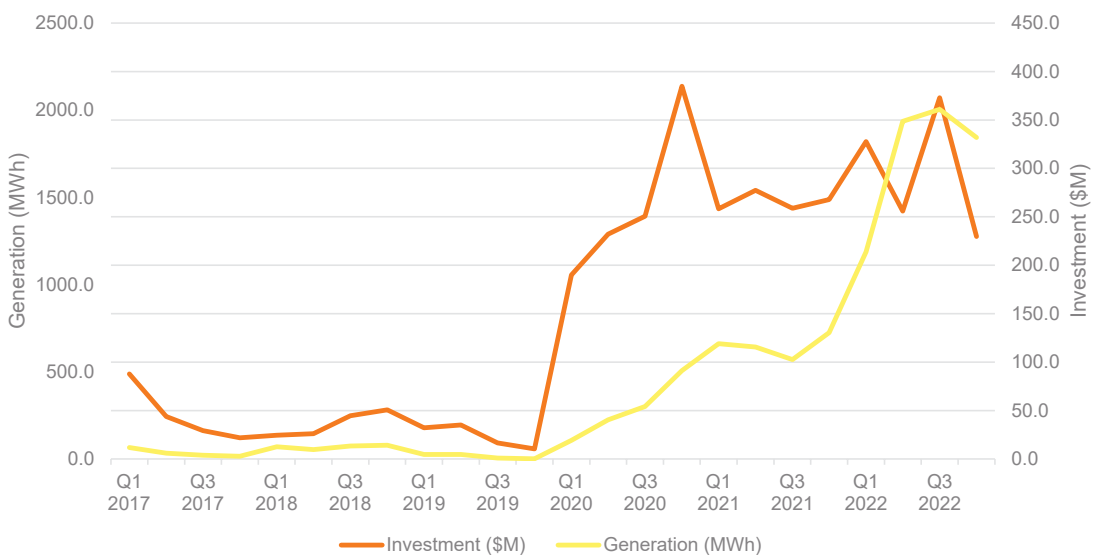


Financially committed energy storage investment *



*Quarterly investment figure does include Blyth Battery

Financially committed energy storage generation and investment (12-month rolling average)



Financially committed and under construction energy storage projects by state

State	Project count	Capacity (MW)	Generation (MWh)	Total investment (\$M)
ACT	1	100.0	200.0	0.0
NSW	12	2276.0	6486.0	1062.8
NT	2	41.0	38.5	38.3
QLD	2	150.0	300.0	185.0
SA	7	1187.0	2864.0	1006.2
TAS	0	0.0	0.0	0.0
VIC	4	598.0	1452.0	583.0
WA	5	242.0	247.0	283.8
Total	33	4594.0	11587.5	3159.2

Commissioned energy storage projects

	2017	2018	2019	2020	2021	2022
Number of projects	1	3	4	2	5	4
Investment (\$M)	90.0	128.9 7	1.6	131.6	373.8 8	6.9
Capacity (MW)	100.0	90.0	155.0	163.0	431.7	69.0
Generation (MWh)	129.0	115.0	185.0	198.0 6	93.0	101.0



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