

Delays of planning of renewable projects in NSW

The current slow pace of Australia's clean energy transition – generation, storage and transmission build and connection – is putting electricity security, reliability and affordability at risk, in the short and long term. There are very real concerns that we will fail to meet national and New South Wales renewable energy and emissions reduction targets.

Unfortunately, New South Wales is close to the back of the pack in rolling out large-scale renewable energy projects.

The planning approval process in NSW is 2-3 times slower than other states, adding 4-7 years to project progression and 25 times more expensive for developers compared to an equivalent project than in Queensland.

Delaying the closure of ageing coal-fired power stations, such as Eraring, to shore up power supply reliability in the near term will result in higher costs and emissions over the long term. The better approach would be to accelerate the rate at which we deploy new clean energy resources.

The NSW Government should focus on the pipeline of renewable generation and battery projects that are already in the planning process.

There are a number of key projects (see table 1 below) currently waiting for final planning determination. These projects have completed all the required assessments and satisfied all the requirements by the planning department and are now simply waiting approval. Put together, these projects would more than meet the capacity requirement identified by AEMO's Electricity Statement of Opportunities (ESOO)¹.

In light of energy security risks identified by the NSW Electricity Supply and Reliability Check Up, it is critical that the NSW Government urgently expedites projects during planning and connection, to provide much needed renewable generation and storage capacity capable of replacing the coal-fired closure at Eraring.

The looming power gap in NSW:

The August 2023 AEMO Electricity Statement of Opportunities (ESOO) identified that, on the basis of currently committed generation and battery projects, the closure in late 2025 of Eraring would result in a supply 'gap' of 250 megawatts (MW) in 2026-27 when compared to the Reliability Standard, or 796 MW with reference to the stricter Interim Reliability Measure.

The NSW Electricity Supply and Reliability Check Up highlights the risk of the delays in delivering storage identified in the NSW Energy Roadmap. For instance, the renewable generation and batteries that are expected to connect in the Central-West Orana Renewable Energy Zone are many years away, with the transmission yet to commence planning and design, let alone construction.

The ESOO suggests there is a combination of new renewable generation and batteries that would resolve the gaps. It found:

- 191 MW of new firm capacity is required in 2025-26, rising to 250 MW in 2026-27, and 2,305 MW by 2032-33.
- A 389 MW wind farm combined with a 4-hour 194 MW battery would ensure the reliability gap for 2026-27 would be resolved.
- A new 258 MW gas turbine could be built, assuming there is sufficient gas to power it.

The Energy Security Target Monitor (ESTM) Report of October 2023², also identifies the required capacity to ensure energy security is met in NSW. Without the actions, including tenders being progressed under the NSW Energy Roadmap, there would be a shortfall of 809 MW in 2025-26, the year of Eraring power station's scheduled closure, and a shortfall of between 400-1400 MW in subsequent years.

The solution: speed up and reduce the cost of planning applications

The closure of Eraring is less than four years away, so rapid and cost-effective solutions are needed to resolve the looming reliability gap in NSW.

¹ https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2023/2023-electricity-statement-of-opportunities.pdf

² https://www.energy.nsw.gov.au/sites/default/files/2023-12/2023_ESTM_Report_v2.pdf

The NSW Government should focus on the pipeline of renewable generation and battery projects that are already in the planning process, representing a total of nearly 3,500 MW of generation.

There are number of key projects (see table 1 below) currently waiting for final planning determination. These projects together would more than meet the capacity requirement identified by ESOO³ and ESTM⁴. These projects have completed all the required assessments and satisfied all the requirements by the planning department and are now simply waiting approval.

Table 1: Large-scale renewables projects based in NSW currently at advanced stages and awaiting planning approval

Project name	Developer	Capacity	Date submitted	Planning stage⁵
Burrendong Wind Farm ⁶	Ark Energy	Wind: 400 – 500 MW	Mar 2022	With the Dept (EIS) awaiting planning approval
Bowman's Creek Wind Farm ⁷	Ark Energy	Wind: 350 MW	Mar 2019	Approved (Feb 2024)
Hills of Gold Wind Farm ⁸	Engie	Wind: 420 MW (reduced to 280 MW in planning) ⁹	Oct 2018	With Independent Planning Commission awaiting planning approval
Yanco Delta Wind Farm ¹⁰	Virya Energy	Wind: 1,500MW; Battery: 800 MW	May 2022	Approved (Dec 2023)

Unfortunately, while some of these key projects have been approved, others are experiencing delays with the NSW planning process, as outlined in table 2 below.

Table 2: Planning approval timeline and cost, by Australia jurisdiction¹¹

State	Planning approval timeline	Planning application costs	Notes
NSW	5-8 years	\$1.0 M - \$1.5 M	Fees scale up by project size: a 1.5 GW project costs around \$4.5 M for the application fee
Victoria	3-5 Years	\$50 K - \$100 K	In addition, all projects in Victoria go to Panel ¹² (\$80 K processing fee), cost approx. \$500 K for panel preparation*
Queensland	1-2 years	\$30 K - \$40 K	
South Australia	1-3 years	\$300 K - \$500 K	In addition, a state significant project approx. \$50 K application fee Permit process \$250-\$500 K

*For wind farms, concerns over bird and bats result in significant planning delays

³ 2023 Electricity Statement of Opportunities (aemo.com.au)

⁴ https://www.energy.nsw.gov.au/sites/default/files/2023-12/2023_ESTM_Report_v2.pdf

⁵ https://www.planningportal.nsw.gov.au/major-projects/projects?status=All&lga=All&development_type=Electricity%20generation%20-%20Wind&industry_type=All&case_type=All&page=1

⁶ <https://arkenergy.com.au/wind/burrendong/>

⁷ <https://arkenergy.com.au/wind/bowmans-creek/>

⁸ <https://engie.com.au/home/assets/wind/hills-of-gold>

⁹ <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9679%2120231212T063911.717%20GMT>

¹⁰ <https://reneweconomy.com.au/massive-1500-mw-wind-project-in-nsw-gets-planning-approval-first-in-nearly-three-years/>

¹¹ The information in this table was provided by developers in NSW

¹² <https://www.planningpanels.vic.gov.au/panels-and-committees?s=%21padrenull&fmo=on&f.Filter=by+project+type%7CprojectType=Renewable+energy+facility&collection=delwp-find-a-panel-push>

The very high planning application costs for renewable generation projects in NSW are not reflective of the assessment costs incurred by the Department of Planning and the Environment and associated agencies.

NSW is the only state to levy application fees that are dependent on project capacity and value. This means, for example, that a 1.5 GW project attracts a fee of \$4.5 million, 150 times the cost of the same capacity project in Queensland.

The use of turbine and overall project capacity (MW), plus the estimated capital investment value, also results in uncertainty in those application costs. Projects of a similar total capacity may have a different capacity investment value depending on the technology to be used (a 4 MW turbine vs a >7 MW turbine).

This uncertainty in determining the capacity investment value also results in delays that prevent a project from progressing to the public sharing of the Environmental Impact Statement (EIS) while the planning fee is calculated by the NSW department.

These costs and delays in planning in NSW make securing a project in NSW unusually complex and challenging, with the impact of these delays ultimately borne by consumers.

- **Stand-alone batteries**

Stand-alone battery projects can be rapidly delivered, if they are prioritised. By targeting additional battery projects, either utilising the land and connections of the renewable generation projects currently without a battery and stand-alone utility batteries, the NSW Government can ensure there is firm capacity online to resolve any reliability gaps in time for the closure of Eraring and beyond.

The bigger picture:

Nexa Advisory report¹³ published in July 2023 provides evidence-based insights into the likely impacts of delays to the clean energy transition and the closure of New South Wales' ageing coal-fired power stations, specifically Eraring and Vales Point.

The research showed that if we do not take action to accelerate the current build out rate of renewables generation, storage, and transmission we will continue to have **significant reliance on fossil fuel-fired electricity generation**. This would mean:

- **Risks to our power affordability, reliability and security** – Our ageing coal-fired power stations are unreliable and expensive.
- **Emissions targets will be missed** – Extending Eraring's closure date generates additional carbon dioxide equivalent emissions, totalling around 18.3 for a delay of two years, and 34.5 million tonnes for a delay of four years.
- **Our emissions budget will be exceeded** – The cost of the extra emissions produced from delaying the closure of Eraring power station would be \$160 billion in 2043 (2-year delay) and \$166 billion (4-year delay).¹⁴
- **Consumer bills will increase** – The typical consumer will pay between \$4,500 and \$6,000 more in total (dependent on state) over the next twenty years unless the energy transition is more effectively managed.
- **Renewable energy generation targets will be missed** – On our current pathway, around 60% of electricity in the NEM will be generated by large-scale renewables in 2030, making the Federal Government's 82% target difficult to achieve without a significant acceleration.
- **A domino effect** – Should the closure of Eraring be delayed because replacement renewable generation is not built in time, then it is likely the scheduled closures of other coal-fired power stations will also be missed, such as Vales Point and Yallourn.

However, it is broadly accepted, including by governments, that there is significant interest in investing in the energy transition. Nexa Advisory's analysis shows that there are more than sufficient renewable energy and storage projects in the pipeline ahead of the Eraring closure, with a total of 4.3 GW of committed and anticipated projects and a further 32 GW of proposed projects. Prioritising and accelerating the connections of these projects will provide investor certainty for financial close and facilitate timely commissioning. Any reliability gaps identified by the Australian Energy Market Operator (AEMO) and AEMO Services are already being addressed.^{15,16}

¹³ Nexa-Advisory-Eraring-can-be-closed-on-schedule-Report-24072023.pdf (nexaadvisory.com.au)

¹⁴ Based on a price of \$90/tCO₂-e, referencing the EU, which is a requirement in NSW cost/ benefit analyses

¹⁵ https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2023/february-2023-update-to-the-2022-esoo.pdf?la=en

¹⁶ <https://www.energy.nsw.gov.au/sites/default/files/2022-12/28October2022-Energy-Security-Target-Monitor-Report.pdf>