Nature Conservation Council
The voice for nature in NSW

10 November 2023

Select Committee on the Feasibility of Undergrounding Infrastructure
NSW Parliament
Via email: Undergrounding.Infrastructure@parliament.nsw.gov.au

To the Chair,

Re: inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects.

The Nature Conservation Council of New South Wales (NCC) is the state's peak environment organisation. We represent over 180 environment groups across NSW. Together we are dedicated to protecting and conserving the wildlife, landscapes and natural resources of NSW.

NCC made a submission to the previous inquiry on this topic and thanks the Committee for considering that submission. Here we provide a short update to our previous evidence.

The climate imperative for a rapid deployment of transmission lines is stronger than ever.

July, August and September of 2023 were the hottest July, August, and September ever recorded by a substantial and concerning margin. NSW is now beginning another intense bushfire season, which has already claimed homes and lives in Qld. More than ever, the immense costs of failing to limit global warming are clear, present, and worsening.

To achieve the agreed Paris goal and limit warming to 1.5 degrees, all credible scenarios suggest that advanced economies including Australia must phase out unabated coal-fired power by around 2030.[1]

This means that decision-makers concerned with achieving a safe-climate future should be seeking opportunities to accelerate the deployment of wind and solar power beyond scenarios like the 2022 Integrated System Plan's Step Change scenario, or the NSW government's Network Infrastructure Strategy. This requires a rapid deployment of transmission this decade.

[1] International Energy Agency, Net Zero Roadmap, 2021

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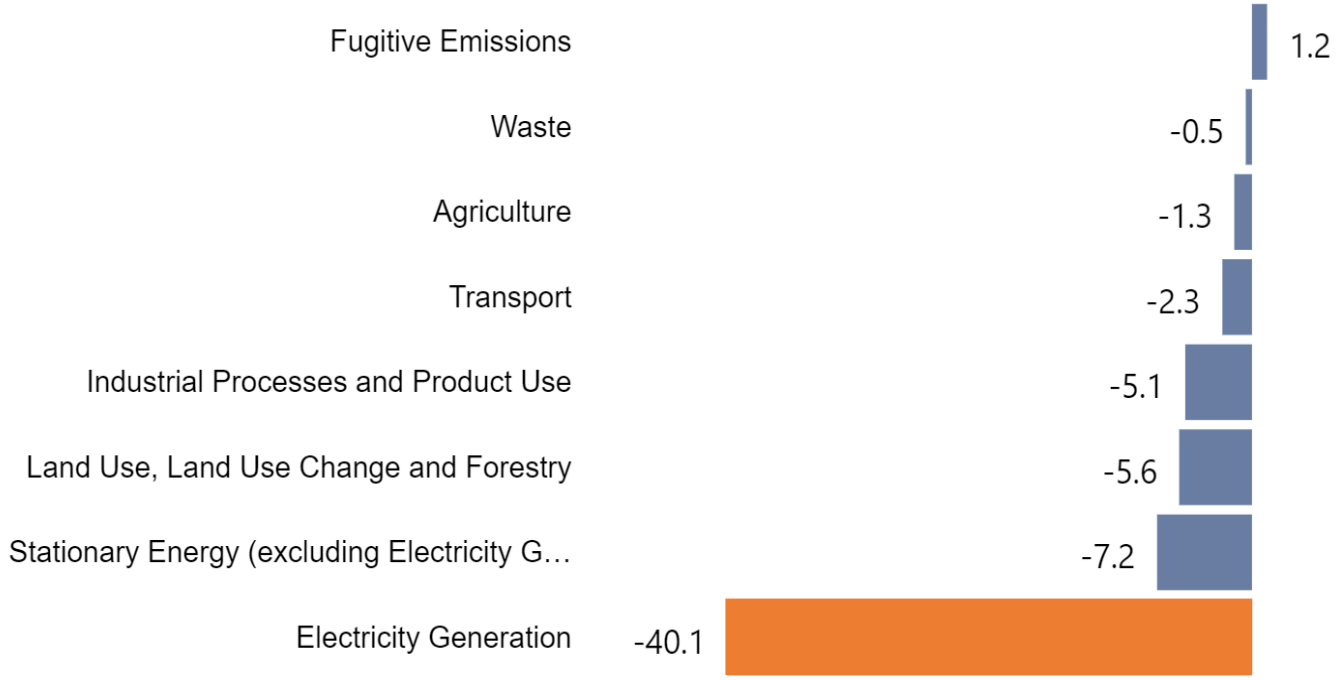
Achieving NSW's 50% by 2030 climate target also requires rapid transmission line deployment.

In its modelled pathway to a 50% reduction in greenhouse gas emissions by 2030, the NSW government identifies emissions reductions in every sector, other than coal mine fugitive emissions. However, reductions from the switch from coal generation to wind and solar generation is responsible for two-thirds of emissions reductions, 40 Mt out of 60.9 Mt[2]. This is shown in figure 1.

Figure 1: 2020 – 2030 projected change in emissions to meet 50% by 2030 target (Mt CO_2). Source: NSW net zero emissions dashboard

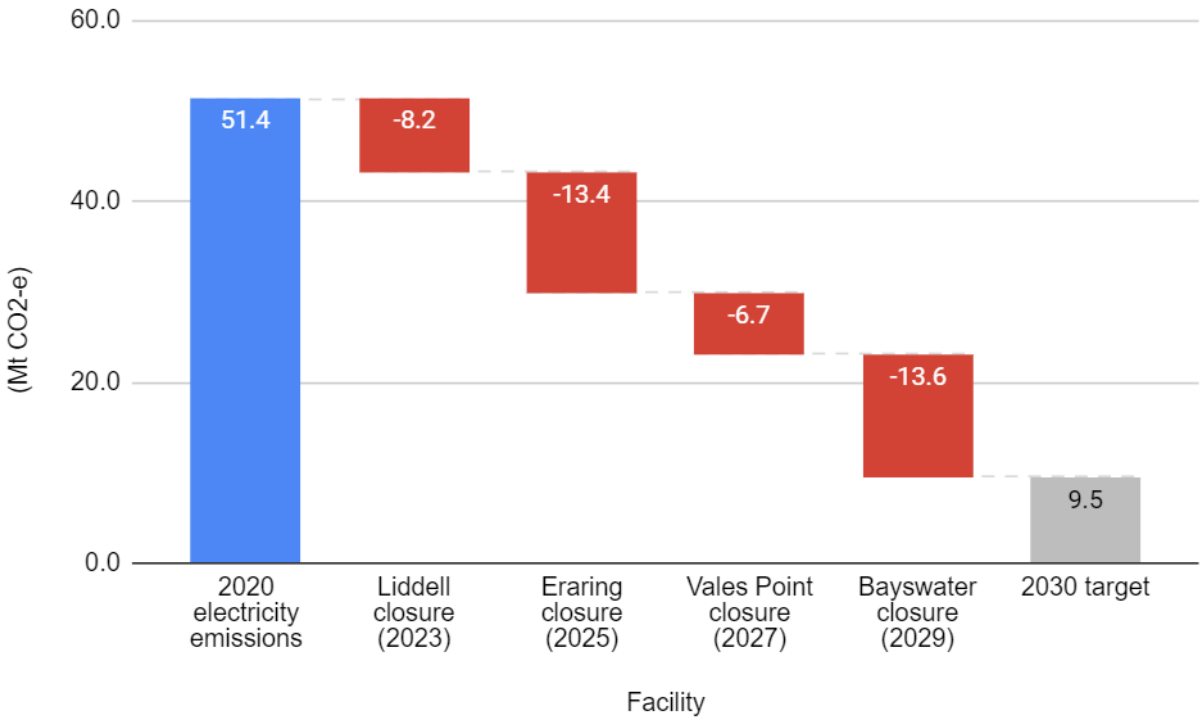


In 2020, electricity generation in NSW was responsible for 51.4 Mt of greenhouse emissions, almost exclusively from the state's four coal-fired power stations.

Therefore, the projected and required reduction of 40 Mt represents around 80% of 2020 coal generation as shown in figure 2.

[2] NSW net zero emissions dashboard, 2020-2030 emissions reduction projections, accessed 10/11/2023

Figure 2: Coal closure schedule required to meet the 50% by 2030 emissions reduction target



The on-time construction of actionable ISP projects HumeLink, Project EnergyConnect, Sydney Ring / Hunter Transmission Project, and Central West Orana transmission is necessary to enable a reduced reliance on coal-fired power and achieve the existing NSW emissions reduction target.[3]

The renewable energy transition is at risk of faltering.

Difficulties in delivering clean energy to load centres are already delaying the energy transition. Since the previous NSW Parliamentary Inquiry into this topic, the NSW Government responded to the O'Reilly check-up, and has begun negotiations with Origin to extend the life of the Eraring coal-fired power station beyond 2025. This action is notionally because delays in renewable energy projects have created perceived risks to electricity security and prices.

NCC is firmly of the view that there are sufficient opportunities within the existing network infrastructure to build out the required clean generation and storage to avoid reliability risks and

[3] For example AEMO, 2022 ISP, p68 states: "The value of the [HumeLink] project is in mitigating the risk that not enough dispatchable capacity is available if there are early coal closures in the period 2026 to 2028."

enable Eraring to close on time in 2025. However, we are also aware that clean energy project developers have already delayed project investment decisions based on the NSW Government's response to the O'Reilly check-up.

Ensuring on-time delivery of actionable and committed transmission projects is critical to avoid further delays to the energy transition, which would translate into missed climate targets.

Transmission routes should avoid protected areas and areas of high conservation value.

Transmission lines, either overhead or underground, have significant environmental impacts and require clearing of easements. Many threatened species are suffering a precipitous decline and offsetting schemes have failed to arrest this decline. As the Henry review of the NSW Biodiversity Conservation Act found, a nature-positive approach is now required. In general, this requires carefully routing transmission lines to avoid protected areas and threatened species habitat rather than clearing for either overhead or underground transmission lines.

HVDC power lines have limited applicability and risk significant delays to current transmission projects.

Some proponents of underground HVDC transmission lines have suggested that existing projects could be swapped to HVDC without incurring significant delays. We don't see this as a credible assertion.

For example, this was the path taken for the SuedLink project in Germany. Construction of SuedLink is now expected to be complete in 2028[4]. This represents a six-year delay and tripling in cost from the original overhead option which was due by 2022[5].

Redesigning transmission projects would result in delays which cause higher consumer costs and higher greenhouse gas emissions. While it is difficult to forecast these costs, the delay to the closure of Eraring power station is instructive. Each year, the power station emits 10 million tonnes of CO2, resulting in a social cost of delay of approximately $1.7 bn per year.[6]

While some people oppose overhead transmission based on the impacts on visual amenity, those costs need to be carefully weighed against the billions in carbon and health costs of delaying the energy transition. A two-year delay therefore represents 20 million tonnes, or over $2bn of costs at the relevant carbon price.

Your key contact point for further questions and correspondence is Dr Brad Smith, available via bsmith@nature.org.au and (02) 9516 1488. We welcome further conversation on this matter.

[4] Energate, 11 Sept 2023

[5] SPGlobal 28 Sept 2016

[6] Estimate by economist Nicki Hutley, see ABC 730 report "powering on", 28 Sept 2023.

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Yours sincerely,

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