

28 April 2025

Infrastructure Victoria
Level 33/140 William St, Melbourne VIC 3000
Via email: enquiries@infrastructurevictoria.com.au

RE: Victoria's draft 30-year infrastructure strategy

Dear Madam/Sir,

Squadron Energy welcomes the opportunity to respond to Infrastructure Victoria's initial consultation on Victoria's draft 30-year infrastructure strategy (the Strategy).

Squadron Energy is Australia's leading renewable energy company that develops, operates and owns renewable energy assets in Australia. We have 1.1 gigawatts (GW) of renewable energy in operation and will be the single biggest contributor to helping Australia meet its 2030 target of 82% renewable energy. Victoria, with a target of 65% renewables by 2030 and 95% by 2025, is a key area of investment focus. Our development pipeline has projects at differing stages of development and includes wind, solar and firming capacity such as batteries and gas peaking plants with dual fuel capability. With proven experience and expertise across the project lifecycle, we work with local communities and our customers to lead the transition to Australia's clean energy future.

Our submission focuses on recommendations raised in the strategy that most directly relate to the energy sector including:

- actions to support the accelerated delivery of transmission and unlock more grid capacity
- the need for a flexible and proportional approach to project environmental assessments
- the need for a clear investment signal for longer duration dispatchable capacity to enter the market rapidly
- the importance of securing access to diversified and reliable sources of gas supply.

Transmission planning frameworks need to accelerate investment in transmission and ultimately generation

We are supportive of draft recommendation 29 and 30 and the actions outlined to coordinate the faster delivery of priority infrastructure projects and big batteries. We propose two further actions focussed on accelerating the delivery of transmission and generation capacity in Victoria.

Contestability in transmission can support accelerated investment in transmission capacity

As renewable resources are often located in new areas away from legacy transmission, there is a clear and demonstrated need for new transmission. We support the work undertaken by numerous jurisdictions to develop Renewable Energy Zones (REZ). By design, REZs provide a coordinated way to plan and deliver shared transmission infrastructure and contain the impacts on natural and cultural environments. However, it is critical that new REZ transmission infrastructure is delivered in a timely and efficient way, maximising the benefits for communities.

Greater contestability in transmission frameworks can enable a quicker build out of transmission to ensure a more orderly transition which will promote lower costs for consumers. In Victoria, contestable procurement of transmission is already provided for under the national framework and policy released to date indicates that REZ transmission projects will also be contestable. However, it is currently unclear how or whether connecting parties may contribute to funding transmission projects where demand for access

rights is greater than the supply. We recommend that any future consultation on the procurement framework under the Victorian Transmission Investment Framework includes a detailed process for developer led augmentations.

The contribution of virtual transmission to maximising the capacity of existing network infrastructure and providing storage can be enhanced

Big batteries can reduce the technical curtailment of renewables if they are well located in the network. In the context of significant transmission infrastructure delays, there is the potential to uplift the overall transfer capacity of the network through utilising storage as a form of virtual transmission. This can improve the ability to manage power flows through the network and would enable the system to be designed to meet N-1 contingency in addition to any storage capacity. We consider that like the utilisation of the Victorian Big Battery (VBB) or the Waratah Super Battery (WSB) under the NSW's System Integrity Protection Scheme (SIPS), there is the potential to utilise battery technologies to ensure constrained parts of the network are capable of operating at full capacity in the event that there is a sudden shock to the system or one of its lines is out of service. Importantly, the WSB project is being delivered as a Priority Transmission Infrastructure Project (PTIP) under the NSW framework. The ability to declare PTIP projects is a key mechanism within the NSW framework that can be utilised to address both the related challenges of bringing on more storage and enhancing the transfer capacity of the existing network considering transmission delays, both of which will support better reliability outcomes. We therefore encourage further consideration of key areas of the Victorian network that can be enhanced by greater storage and the potential for the VTIF framework to utilise the crucial transmission augmentation mechanism along with the Development Facilitation Program to support the delivery of big batteries capable of being utilised as virtual transmission.

Biodiversity assessments should be proportional to the environmental risk, supporting efficient project development while maintaining strong environmental safeguards

Squadron supports draft recommendation 30 to enhance the environmental assessment process and the development of biodiversity information to aid site selection and techniques to limit biodiversity impacts. We acknowledge the existing work underway in this area (the draft *Handbook for the development of renewable energy projects in Victoria*) and note the importance of a science-driven approach to biodiversity management that considers the practicality of proposed measures and ensures the feasibility and effectiveness of mitigation strategies. The development of clear guidance will provide greater certainty for developers and reduce delays in planning assessment and approval processes.

It is essential that this guidance remains flexible and risk-based. Squadron understands that the guidance will introduce a new risk assessment framework, supported by improved spatial tools, to help developers minimise environmental impacts by selecting sites away from areas of significant biodiversity value. We caution against adopting an approach like the Commonwealth Government's draft Onshore Wind Farm Guidance published in May 2024, which suggested a blanket requirement for two years of bird and bat surveys. These requirements risk creating delays and uncertainty for onshore wind projects.

A more balanced approach could include the flexibility for projects to conduct spring and summer surveys as an initial assessment (the seasons when most bird and bat activity is recorded) and if no significant environmental concerns are identified, proponents could then apply for a 12-month survey period, instead of a 24-month requirement. This would help ensure that survey requirements are proportionate to environmental risks and support efficient project development while maintaining strong environmental safeguards.

Coal's delayed retirement remains the key barrier to revenue certainty for long-duration dispatchable storage and generation

Risk of plant failure or early coal retirement remain the most material risk to a delayed transition, customer affordability and reliability outcomes. We consider a Victorian long-duration storage target (recommendation 32) can be an important element of a broader combination of instruments necessary to bring on the new forms of capacity needed to manage the safe and timely exit of coal.¹ We encourage that the development of any target to include a broader range of technologies capable of sustaining output for a period of greater than or equal to 8 hours, such as gas power generation (GPG). While other stored energy sources such as batteries and pumped hydro can also provide critical firming services, their duration limitations and/or the delivery challenges (availability and lead time) present commercial challenges and limit their full contribution at present. It is therefore important to consider more fully the role of GPG in the context of potential delayed emission reduction associated with coal extensions and delays in the deployment of renewable firming technologies. Put another way, GPG is a flexible dispatchable source capable of being deployed at speed while producing fewer emissions than coal burning. As such, increased investment and support for GPG will help avoid significant delays in coal exits, reducing emissions, until such time as zero emissions technologies and fuel sources are more readily available.²

Today, over 50% of the National Electricity Market's (NEM) 21 GW of coal fired power stations are scheduled to retire by 2030 under the Australian Energy Market Operator's (AEMO) 2024 Step Change Scenario.³ This +10GW of dispatchable capacity will need to be replaced (in addition to further capacity required to firm the growing VRE penetration to 2030) in a period of 5 years if the 82% renewable energy target is to be taken seriously. The urgency in Victoria is even more acute given all three remaining coal stations are reliant on high emissions lignite. In the absence of a clear incentive to bring forward rapid investment in lower emission forms of dispatchable capacity, the market is likely to be short of the dispatchable generation needed to ensure reliability during period of low VRE output and/or seasonal, peak demand events. This will likely see further delays in coal-fired power station retirement with a material impact on emissions along with ratcheting cost and reliability implications for customers.⁴ Replacement capacity is needed in advance of coal closures to ensure reliability is not compromised for energy consumers and to avoid the price impacts of a disorderly transition.

A clear investment signal for longer-duration dispatchable capacity to enter the market is needed now

Unless the pace of investment in Victoria is significantly increased over the coming years, there will be a supply-demand imbalance, leading to increasing system vulnerability, and poor outcomes for industry and consumers via increased electricity prices and decreased electricity system reliability. The urgency of the challenge is heightened by long-lead times of new energy projects, often taking several years for development, financing and construction.

To address these shortcomings, we propose that any Victorian long duration target should be complemented with a jurisdictional scheme to accelerate investment in long duration dispatchable capacity to mitigate the risks of a disorderly transition. At the national level, the Capacity Investment Scheme (CIS) is

¹ It will compliment the recent development of a national Orderly Exit Mechanism (OEM) in providing greater certainty and transparency for investors.

² Modern GPG technologies also typically have dual fuel capability and can operate on biofuels or, in future, hydrogen blends.

³ AEMO, 2024 ISP, p.50.

⁴ As an example, the extension of Eraring coal-fired power station to 2027 is expected to result in an additional 12 million additional tonnes of greenhouse gas emissions. See: <https://www.smh.com.au/environment/climate-change/even-before-eraring-was-extended-nsw-was-set-to-miss-climate-targets-20240513-p5jd76.html>

the key pathway through which revenue certainty is provided. By guaranteeing a revenue floor, the CIS de-risks new investment in a highly uncertain market environment by providing some downside protection. Usefully the CIS can target capacity by the type and location that is best aligned with the forecast system reliability needs.⁵ It also operates as an out-of-market scheme, limiting interference with the operation of the spot market signals. The CIS has been a critical intervention to accelerate investment in renewable generation and batteries, but it excludes some key firming technologies like GPG. A commonly held view is it's also not designed to support high capital cost, long life assets like pumped hydro. For these reasons, the CIS is largely seen as supporting batteries which will play an important role in maintaining system reliability but have significant duration limits in the context of the expected volumes of capacity withdrawn as coal power stations retire.

Additional state-based schemes, such as NSW's NSW Long-Term Energy Service Agreements (LTESA) Scheme and South Australia's (SA) Firm Energy Reliability Measure (FERM), are time limited revenue support measures that do capture GPG to varying degrees. The FERM mechanism does so in a more targeted way setting an explicit MW target for dispatchable capacity with a minimum duration of 8 hours, while in NSW Firming tenders the duration contribution of GPG is not clearly valued.

While we consider that the NEM's energy only market provides strong operational incentives for generators to provide capacity during times when demand and supply are tight through higher wholesale pool prices, short and infrequent periods of higher prices lead to lower investment incentives for long duration firm capacity due to high startup costs and operational constraints typically associated with these technologies. It is on this basis that there is an urgent need for a mechanism to be developed that is tailored to supporting revenue certainty for longer-duration dispatchable capacity to enter the market in Victoria.

Securing access to diversified and reliable sources of gas supply is critical to ensure reliable power and a timely energy transition

Actions identified under recommendation 33 to secure gas supply should more clearly identify the necessary supply solutions. The Australian Energy Market Operator's (AEMO) 2025 Gas Statement of Opportunities (GSOO) recently updated its forecast for shortfall risks under peak conditions in southern Australia from 2028. This is later than forecast in the 2024 GSOO due to expected falls in residential, commercial and industrial consumption of gas, and importantly the delayed retirement of Eraring Power Station which has reduced forecast GPG of electricity in the near term. The delayed forecast shortfall has also seen a delay in emissions reduction that would have been achieved in the case Eraring was to exit on its original timeframe. Absent replacement capacity coming online in Victoria, underwriting arrangements for Loy Yang A will remain up until 2035 when the station is now anticipated to close. This is in addition to underwriting arrangements that are in place to keep Yallourn online until 2028. This emphasises the need to secure gas supply and support the accelerated delivery of significant dispatchable capacity (such as GPG) as a necessary precondition to taking coal off reliably. Without replacement capacity, coal exit will increasingly see delays and the risk of unplanned outages, associated price volatility, and poor reliability outcomes will increase with certainty.

With gas supply in the southern states of Australia declining faster than projected demand and GPG use anticipated to increase as coal comes off, a key challenge of peak day shortfall risk is ensuring sufficient capacity when and where it is needed. While Queensland is a key domestic supply source, pipeline constraints in the east coast transmission network will prevent sufficient gas from reaching southern states

⁵ Not that this contrasts with mechanisms such as the Long-Term Renewable Energy Target (LRET) where Large-Scale Generation Certificate (LGC) revenue may distort the outcomes of the energy only market and result in more solar and less wind generation than is optimal.

