2025 consultation

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Net Zero Commission
New South Wales

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Net Zero Commission 2025 consultation

Alinta Energy welcomes the opportunity to provide input to the NSW Net Zero Commission (NZC) on the *Net Zero Commission 2025 consultation*.

We are an active investor in energy markets across Australia, with an owned and contracted generation portfolio exceeding 3,300 MW and serving more than one million electricity and gas customers. We support the NSW Government's goal to reach net zero emissions by 2050.

Alinta Energy recommends that the NSW Government:

- **Allocate a technology specific target for Pumped Hydro Energy Storage (PHES) under the NSW Electricity Infrastructure Roadmap.**
- **Increase the Energy Security Corporation's maximum investment threshold per project to ensure adequate support for the development of PHES in NSW.**
- **Support the development of gas powered generator (GPG) to enable the efficient integration of intermittent renewable generation, prevent overbuilding of renewable energy capacity, and reduce transmission needs.**

In the following sections, we present our perspective on aspects of the energy transition and make recommendations in the long-term interest of NSW energy consumers.

Investment in dispatchable generation capacity

A key challenge for governments through the energy transition is managing the risk to energy system security caused by the increased penetration of intermittent generation sources. This is crucial to maintain reliability, keep prices low for consumers, and retain community support.

Dispatchable generation capacity is crucial for a successful transition to support increased levels of intermittent generation, helping to achieve government set emissions reduction and renewable energy targets. This is especially important in maintaining adequate Essential System Services (ESS), and during extended periods of low or no renewable resource availability, which cannot be covered by short-term storage and could result in significant economic losses, including power outages and higher long-term energy costs on consumers.

To ensure grid reliability and security at the lowest cost through the transition, the deployment of a diverse mix of technologies is necessary.

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Pumped Hydro Energy Storage (PHES)

Long duration storage (LDS) technologies, such as pumped hydro, differ from short/medium duration storage technologies in numerous aspects, including (but not limited to) scale, total investment, complexity, infrastructure build, labour requirements, supply chain issues and development period. Technologies that can provide long-duration (more than 8 hours) dispatchable electricity are significantly more complex, have longer lead times and therefore need long-term policy certainty and support to facilitate their development.

LDS projects offer benefits beyond the reduction of economic curtailment of variable renewable energy sources (such as wind and solar), as well as the provision of system strength and inertia.

LDS projects can support system resilience in the event of low probability unserved energy events and mitigate the technical curtailment of renewables. Inertia provided by PHES, for example, should be valued for its contribution to system strength. While synchronous condensers have and will be located within energy networks, they cannot be relied upon solely to provide grid forming systems services and Frequency Control and Ancillary Services (FCAS).

The Federal Government's Capacity Investment Scheme (CIS) offers support suitable only for short-duration storage technologies that have a significantly shorter development lead time.

Alinta Energy considers it prudent that the NSW Government utilise its functions to promote investment in dispatchable capacity in the market. This could take the form of incentives such as co-ownership, funding and underwriting support, offtake contracts, or infrastructure support, particularly during the construction phase.

In addition, establishing a minimum LDS objective for 2035 would reflect the long development and construction timelines required to deliver PHES projects capable of providing more than eight hours of storage.

Alinta Energy recommends that the NSW Government allocate a technology specific target for Pumped Hydro Energy Storage (PHES) under the NSW Electricity Infrastructure Roadmap.

Alinta Energy recognises and supports the creation of the Energy Security Corporation (ESC) to prioritise investment in PHES. However, the $150 million cap on maximum investment per project constrains the ESC's ability to provide adequate support for PHES development. Furthermore, Alinta Energy considers the ESC best placed to support technologies not currently addressed through the CIS or LTESA mechanisms.

Alinta Energy recommends that the NSW Government increase the Energy Security Corporation's maximum investment threshold per project to ensure adequate support for the development of PHES in NSW.

Role of Natural Gas

Over the past decade, gas-powered generators (GPG) have provided critical flexibility and reliability by delivering dispatchable power that supports grid security during periods of low renewable electricity generation.

Natural gas continues to play a vital role in maintaining the stability and security of the NSW electricity grid during times of limited or no renewable generation. More importantly, there are no lower emissions alternatives available to replace gas firming during extended periods of low renewable resource availability.

We welcome and support the Federal Government's Future Gas Strategy and strongly agree with the observation on page 38[1]:

"GPG will underpin Australia's electricity supply in the transition to a net zero economy. It is likely that gas will still play a role in electricity generation up to and beyond 2050."

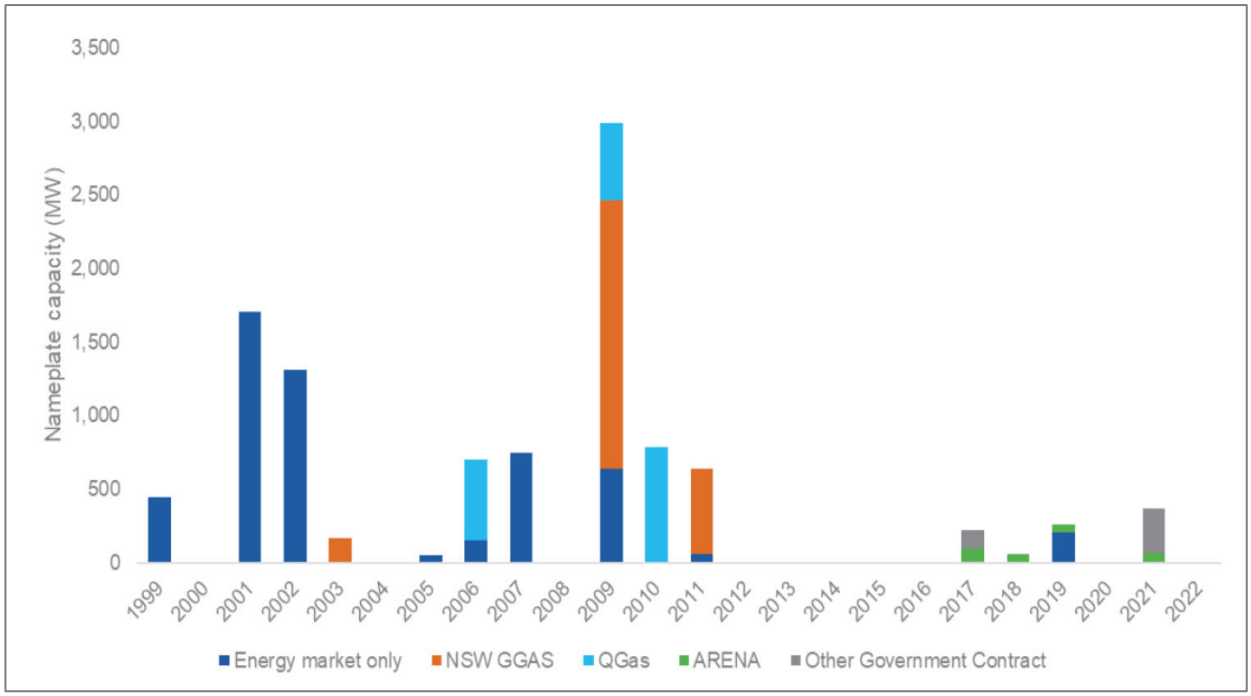
According to the Australian Energy Market Operator's Integrated Systems Plan 2024, in the National Electricity Market (NEM), an additional 12.8 GW of GPG capacity (9.3 GW of replacement and 3.5 GW of new capacity) is required to maintain the NEM's resilience as we transition to a decarbonised economy. This is more than the 11.5 GW existing GPG capacity in the NEM.

We consider GPG a key enabler for establishing and successfully integrating a predominantly renewable electricity powered grid, consistent with NSW emissions reduction objectives.

The exclusion of GPG from the CIS represents a missed opportunity, given that capacity providers, such as gas power plants, cannot sufficiently recover their costs under the NEM's energy-only model. New GPGs are necessary to support the growth of renewables at the lowest cost for consumers, but they are not commercial under current market conditions.

Governments have supported most dispatchable capacity in the past decade, including through the QLD Gas Scheme, NSW GGAS, and government-initiated contracts (Snowy 2.0, Hunter Power Project, and the Victorian Big Battery). The only exception was AGL's Barker Inlet power station, commissioned in 2019, which replaced an existing plant in South Australia where AGL has a majority retail market share (37% of the market share in 2024), thereby reducing its exposure to wholesale prices.

The chart below shows the capacity of new dispatchable units in the NEM supported by government markets or underpinned by energy market revenues only. While between 1999 and 2007, 86% of the investments were driven by energy market revenues, this share only amounted to 17% between 2008 and 2022.



Source: ESB capacity market high-level design consultation paper, June 2022.

[1] Future Gas Strategy, Australian Government Department of Industry, Science and Resources, p. 38.

Alinta Energy recommends that the NSW Government support the development of GPG to enable the efficient integration of intermittent renewable generation, prevent overbuilding of renewable energy capacity, and reduce transmission needs.

To enable natural gas to continue supporting renewable integration and emissions reduction goals, the market must provide sufficient financial incentives to retain or develop gas capacity, along with access to affordable and reliable gas supply. Without both, the transition risks becoming disorderly, either through the premature retirement of existing GPG assets or the failure to bring new capacity online.

Distribution Network

Alinta Energy supports the NSW transmission planning review and the development of a planning framework that promotes competition, supports timely and efficient investment, and ensures a cost-effective energy transition.

It is appropriate to examine how the distribution and transmission components of the network can better support the energy transition at the lowest-cost outcomes for consumers.

A fundamental principle of Australia's energy market is the clear separation between regulated network businesses and competitive market participants. This separation is vital to ensure fair competition, encourage private investment, and drive innovation, particularly in technologies such as Battery Energy Storage Systems (BESS).

While planning for the higher-voltage parts of the distribution network is necessary to support the energy transition, Alinta Energy strongly considers that the planning must facilitate private sector investment rather than enable Distribution Network Service Providers (DNSPs) to invest in contestable infrastructure such as BESS. DNSPs must remain focused on network planning and operation, not market participation. The planning framework must ensure a level playing field and prevent competitive distortions by allowing DNSPs to invest in or operate assets that belong in the competitive market.

Where a network operator also operates in a related contestable market, there are significant risks, including:

- Cost shifting from the contestable market to the regulated network, which increases the cost of regulated services while providing the network operator with an unfair cost advantage.

- Leveraging control over regulated infrastructure to gain an advantage in the contestable market — for example, by using technical barriers to suppress competitor access, imposing unnecessary connection costs, or misusing confidential information obtained through its regulated functions.

If DNSPs are allowed to operate BESS in competition with private-sector participants, Alinta Energy is concerned that it could lead to several adverse market outcomes, including:

- *Unfair Competitive Advantage*: DNSPs benefit from regulated revenue streams and a guaranteed rate of return on network investments. If allowed to operate BESS in contestable markets, they could leverage their regulated revenue base to cross-subsidise their commercial activities, distorting market competition. Similar concerns have emerged in other jurisdictions, such as the UK, where network operators were restricted from owning storage assets to prevent market distortions.

- *Reduced Private Sector Investment*: Private sector operators depend on competitive

market signals to guide investment decisions. The prospect of competing with DNSPs, which may have financial and regulatory advantages, could deter investment in storage and other flexible energy solutions.

- *Regulatory Arbitrage and Market Uncertainty*: Allowing DNSPs to enter contestable markets could set a precedent that undermines the structural separation of the NEM. This could create uncertainty for investors and policymakers, potentially undermining confidence in regulatory frameworks that promote competition.

While Alinta Energy strongly maintains that BESS and other contestable services remain the domain of competitive market participants, if policymakers allow DNSPs to participate in this space, robust ring-fencing arrangements must be implemented and rigorously enforced.

Finally, the NSW framework must align with broader National Electricity Market (NEM) principles to ensure consistent, investment-friendly policies for project developers operating across multiple jurisdictions. A harmonised approach will help maintain investor confidence, minimise regulatory complexity, and support an efficient energy transition at the lowest cost to consumers.

Thank you for considering our submission. If you want to discuss this further, please contact Karan Sharma, Manager Public Policy, at karan.sharma@alintaenergy.com.au.

Yours sincerely

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