# APA Submission

## Capacity Investment Scheme

## Design Paper

*March 2024*



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Mr Simon Duggan
Deputy Secretary
Department of Climate Change, Energy, the Environment and Water

**Lodged online**

25 March 2024

**RE: APA Submission to the Capacity Investment Scheme Design Paper**

Dear Mr Duggan,

Thank you for the opportunity to comment on the Capacity Investment Scheme (CIS) Design Paper (Design Paper).

APA is an ASX listed owner, operator, and developer of energy infrastructure assets across Australia. Through a diverse portfolio of assets, we provide energy to customers in every state and territory. As well as an extensive network of natural gas pipelines, we own or have interests in gas storage and generation facilities, electricity transmission networks, and 692 MW of renewable generation and battery storage.

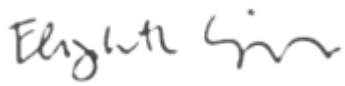
We are actively involved in the energy transition taking place across Australia. In August 2022, we published our inaugural Climate Transition Plan which outlines APA's pathway to net zero operations emissions by 2050. Our asset portfolio across gas, electricity and renewables means we are well-placed to support the energy transition towards net zero.

Energy Ministers recognise that gas will play a crucial role in the energy transition. As ageing coal power stations retire and become less reliable, Gas Powered Generation (GPG) will have an increasingly important role in supporting the security and reliability of the energy system. The draft Integrated System Plan (ISP), published in December 2023, increased its GPG forecast for 2050 by 60% compared to the 2022 ISP.

For this reason, Energy Ministers should consider whether existing market arrangements, including the National Electricity Market's energy only design, will encourage sufficient investment in GPG to maintain a reliable energy system.

Our submission below provides comments on issues raised in the Design Paper. Should you have any questions or queries about our submission, please contact John Skinner on 02 96930009 or john.skinner2@apa.com.au.

Regards,



**Beth Griggs**
**General Manager**
**Economic Regulatory & External Policy**

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# 1 Submission

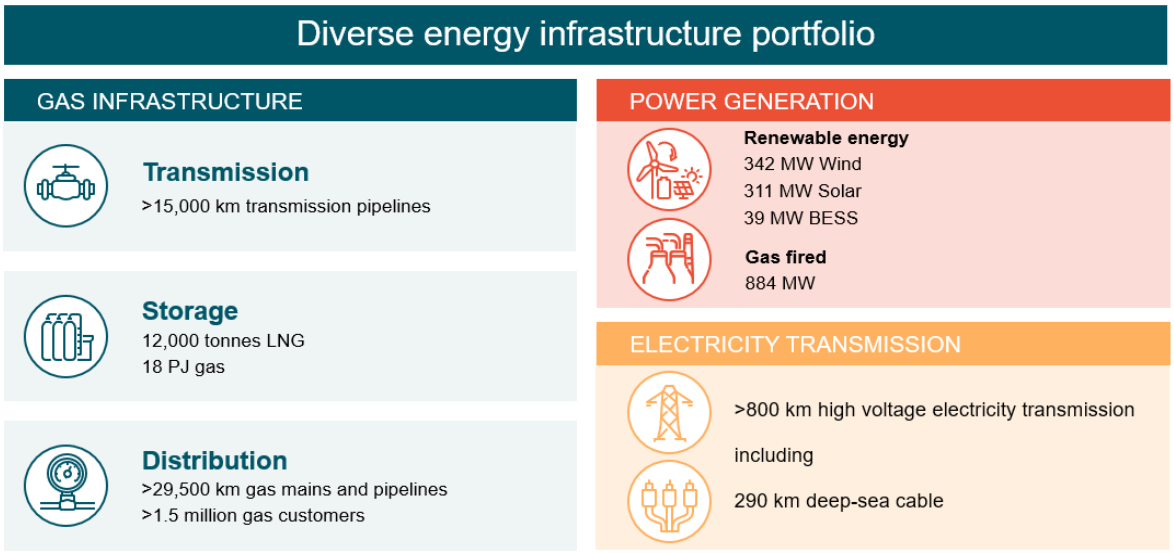
**Key points**

- As coal power stations retire and become less reliable, GPG will have an increasingly important role in supporting the security and reliability of the energy system.
- It is unclear whether the National Electricity Market's energy only design and existing Market Price Cap will support continued investment in GPG.
- Ministers need to consider whether alternative arrangements, such as long-term availability or capacity payments, are required to ensure GPG investment takes place when and where we need it.
- Clarity and flexibility in the design of CIS Agreements will ensure that project proponents participate in CIS tenders and enter into wholesale market contracts.

## 1.1 APA as a partner of choice in Australia's energy transition

APA is a leading Australian Securities Exchange (ASX) listed energy infrastructure business. Consistent with our purpose to strengthen communities through responsible energy, our diverse portfolio of energy infrastructure delivers energy to customers in every Australian state and territory.

*Figure 1: APA's portfolio*




Our 15,000 kilometres of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain networks connecting 1.5 million Australian homes and businesses to the benefits of natural gas. And we own or have interests in gas storage facilities and gas-fired generation.

We also operate and have interests in 692 MW of renewable generation and battery storage infrastructure, while our high voltage electricity transmission assets connect Victoria with South Australia, New South Wales with Queensland and Tasmania with Victoria.

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APA actively supports the transition to a lower carbon future. In August 2022, we published our inaugural Climate Transition Plan which outlines our commitments to support Australia's energy transition and pathway to achieve net zero operations emissions by 2050. In September 2023 we released our first Climate Report disclosing our progress against our Climate Transition Plan.

In late 2022, we completed the acquisition of Basslink Pty Ltd, which owns and operates the 370km high voltage direct current electricity interconnector between Victoria and Tasmania. The acquisition adds a third electricity interconnector to APA's energy infrastructure portfolio.

In early 2023, APA established an Electricity Transmission business unit with a focus on electricity transmission infrastructure across Australia. We have recruited a team of established industry professionals to lead APA in playing a pivotal role in the energy transition. In line with our strategic focus, we have also announced a partnership with leading global infrastructure organisation EDF Group. This partnership synergises EDF's global experience in electricity transmission delivery and operations, with APA's strong local experience in the construction and operation of linear energy infrastructure.[1]

In November 2023, we completed the acquisition of Alinta Energy Pilbara, an energy infrastructure business in Western Australia (WA) with gas and solar generation, battery storage and electricity transmission assets. Alinta Energy Pilbara also has an extensive pipeline of wind, solar, gas and electricity transmission projects.

With our extensive portfolio of assets and expertise across gas, electricity and renewables, APA is well-placed to support the energy transition towards net zero.

## 1.2 Retiring coal supporting renewables with gas will help us get to net zero faster

Jurisdictions and market bodies recognise the need to retire coal as fast as possible, as it is the fastest pathway to reaching our emissions reduction targets.

As coal power stations retire, it becomes even more critical to invest in GPG, new gas supplies and other gas infrastructure. This is because as coal exits, we need to make sure we are filling the generation gap left behind.

Black and brown coal provide almost 50% of electricity generation in Australia and are also one of the biggest sources of carbon emissions.[2]

The existing electricity generation mix in the NEM has a higher carbon profile than natural gas. Both black and brown coal generation have much higher carbon emissions than energy produced by a combined cycle gas turbine (CCGT) (see Figure 2 below).

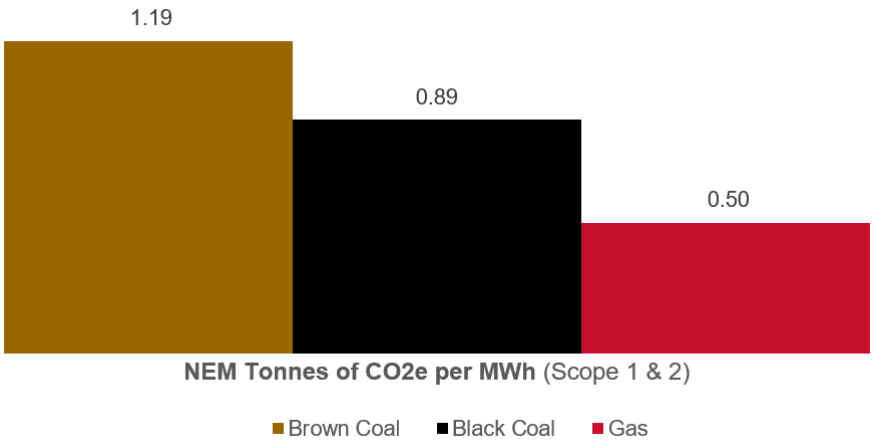
[1] APA, 'APA Group and EDF Group to pursue electricity transmission projects' (Media Release, 31 October 2023).

[2] Commonwealth Government, 'Australian Energy Update 2023' (Report, September 2023) 9.

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*Figure 2: Carbon intensity of coal and gas powered generation*

Source: National Greenhouse and Energy Reporting Data, Clean Energy Regulator




Overseas jurisdictions, including the Netherlands and the UK have recognised that the early retirement of coal generation is one of the biggest single emissions reduction initiatives that can be undertaken.

The recently published report by Boston Consulting Group, 'The role of gas infrastructure in Australia's energy transition' (BCG Report), similarly found that in an Australian context, displacing coal first while maintaining the role of natural gas enables emissions reduction to occur sooner and supports an orderly transition to net zero.[3]

## 1.3 GPG's increasingly important role in our net zero journey

Without a reliable alternative for coal, governments may have to keep coal power stations open longer than forecast, which will further delay Australia's decarbonisation journey.

The Hon Chris Bowen, Federal Minister for Climate Change and Energy has recently stated:

> *"Domestically, the Government has a target of 82 per cent renewable energy in our energy mix by 2030. As big and ambitious as this lift is, it will leave 18 per cent of our electricity mix as non-renewable…*
>
> *And as ageing coal-fired power stations leave the grid, that 18 per cent will increasingly be focussed on gas. Gas is a flexible fuel necessary for peaking and firming as we undertake this transformation….*
>
> *"Unlike coal fired power stations (or, for that matter nuclear power stations), gas fired power stations can be turned on and off at very short notice, making them vital for peaking and firming. This is before we get to the needs of industrial manufacturers for gas as feedstock and direct energy."*[4]

[3] Boston Consulting Group (BCG), 'The role of gas infrastructure in Australia's energy transition' (Report, June 2023).
[4] Chris Bowen, 'Speech to CEDA WA Energy Transition Summit' (Speech, CEDA WA Energy Transition Summit, 17 November 2023).

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GPG is therefore expected to play a key role in navigating an orderly and secure energy transition, as well as helping Australia meet its net zero ambition targets.[5]

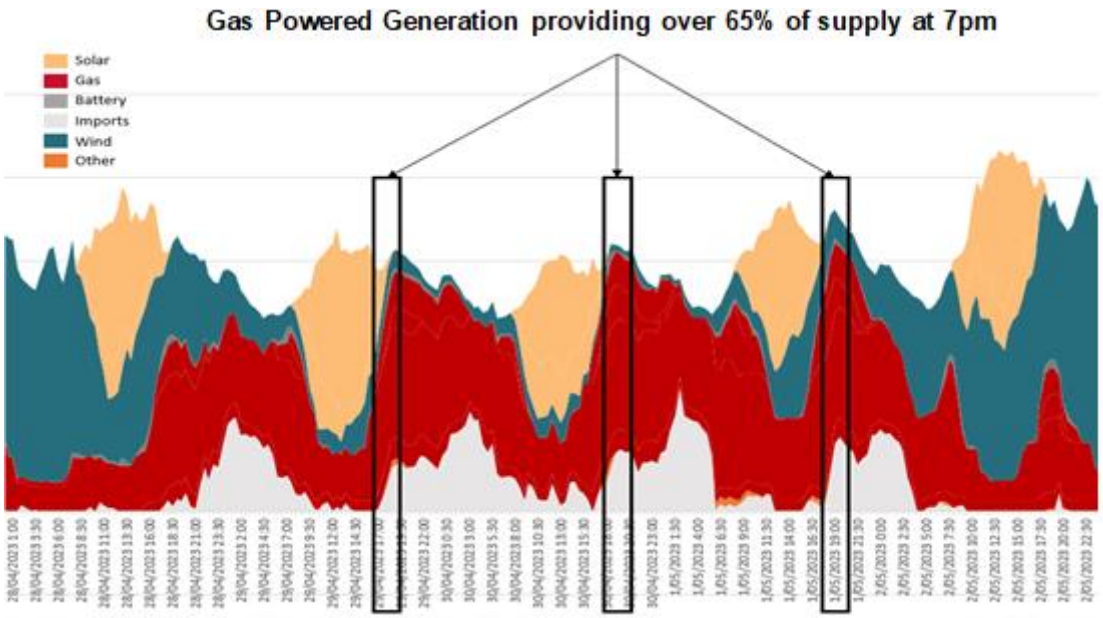
This important role for GPG is already being played out in South Australia, which closed its last coal power station in 2016. As recent experience has shown, periods of low wind and solar availability require significant volumes of long duration dispatchable resources to be available to support the reliability and security of the system.

Without GPG providing long duration dispatchable generation, South Australia is unlikely to have developed its renewable energy capacity to the extent that it has in such a short time frame.

Despite the introduction of synchronous condensers in South Australia, GPG remains critical in ensuring sufficient electricity supply, including system strength and long duration firming, and during periods of low wind and solar generation. For example, in the period from 28 April 2023 to 2 May 2023, GPG was critical to supply adequacy due to periods of low wind and solar generation.

As shown in Figure 3, on three out of five days, GPG provided over 65% of peak electricity consumption at 7pm.

*Figure 3: GPG supporting energy reliability in South Australia*




Source: OpenNEM

The gas network is a flexible, affordable, and safe store of energy, making it ideal to help support energy supply during extreme weather or periods of reduced supply.

Locating GPG close to major demand centres also reduces exposure to electricity transmission capacity and frequency constraints often experienced by the overconcentration of renewable generation in common areas of the grid.

[5] Commonwealth Government, 'Future Gas Strategy Consultation Paper' September 2023 p7.

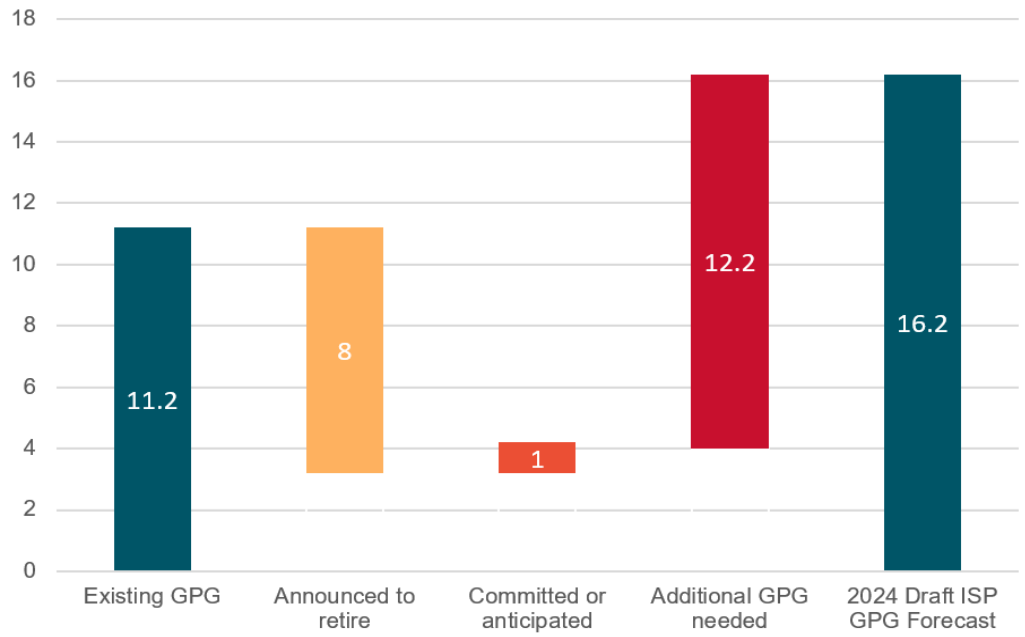
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Since the 2022 ISP, GPG has been recognised as playing an even greater role during the transition:

- In 2022, AEMO flagged that without coal-fired generation, the NEM would require 10GW of GPG by 2050 for peaks loads and firming.
- In the December 2023 draft 2024 ISP, AEMO has since revised its forecasts, with the NEM now expected to require 16.2GW of GPG by 2050 – a 60 per cent increase.

Given around 8GW of the existing 11.2GW of GPG capacity already in the system is also expected to retire, we need at least 13GW of new GPG to come online to support the massive increase in renewables.[6] Figure 4 below highlights the extent of the challenge before us.

*Figure 4: NEM GPG requirements (GW) – draft 2024 ISP*




However, just 1GW of dispatchable GPG is currently expected to come online over the next 10 years, according to AEMO.[7] This includes:

- Tallawarra B, a 320MW peaking power station in NSW that started testing in December 2023, and
- the 750MW Kurri Kurri Power Station in NSW that is expected to come online in December 2024.

We are aware that CS Energy has announced plans for the 400MW Brigalow peaking power plant, and this is yet to appear in the projections.

[6] AEMO, 'Draft 2024 Integrated System Plan (ISP)' (Report, December 2023 - January 2024) 10.
[7] AEMO, 'Electricity Statement of Opportunities' (Report, August 2023) 46.

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## 1.4 Reliable energy supply requires investment in the gas sector

### *1.4.1 We need to increase investment in GPG*

To meet the GPG requirements set out in the draft 2024 ISP, we need to increase investment in GPG and associated gas infrastructure.

The operating profile of GPG is very uncertain. Many factors will influence the utilisation of a GPG facility, including the cost of gas, unpredictable weather patterns, coal power generation outages (which may increase demand for GPG), and delays in building electricity assets.

As increasing volumes of renewable energy come online, the pressure on thermal power station operators is expected to increase. The completion of the NSW to South Australia interconnector (Project Energy Connect) and other interconnectors, which will increase the amount of energy that can be imported between jurisdictions, will compound the problem.

While governments are taking steps to incentivise the introduction of new renewable generation projects, GPG is not being incentivised through similar mechanisms.

This means that GPG operators will need to recover their costs and risk premium through high prices in the NEM. Often, this will involve bidding in capacity at the Market Price Cap (MPC), which is increasing to $22,800/MWh by 1 July 2028.[8] When the NEM dispatches capacity at the MPC, all capacity is dispatched at that price, regardless of whether the capacity is underwritten or not.

In its July 2022 Consultation Paper, the Energy Security Board (ESB) also recognised that the NEM's energy only design and MPC may not be sufficient to encourage investment in enough generation to maintain a reliable system.[9] The ESB's modelling suggested that the existing MPC is materially too low to give a high likelihood of meeting the current reliability standard.

The design of the Capacity Incentive Scheme Agreements (CISA) may further undermine the ability of the market to incentivise new investment.

The Design Paper proposes that commercial terms for the Clean Dispatchable CISA product includes a requirement that projects must bid at least 50% of its contracted capacity during a Lack of Reserve 3 event.[10] The Design Paper acknowledges that this LOR3 performance requirement is distortionary and overrides market price signals.[11]

By potentially distorting wholesale prices, this requirement further undermines the ability of the market to incentivise the development of new GPG.

### *1.4.2 Long term availability payments may be required to incentivise GPG*

Over recent months, Energy Ministers have taken steps to support various generation projects in the NEM:

[8] AEMC, 'Amendment of Market Price Cap Final Determination' (Final Determination, 7 December 2023) 8.
[9] Energy Security Board, 'Capacity Mechanism, High-level Design Paper' (Paper, June 2022) 13.
[10] DCCEEW, *Design Paper – Capacity Investment Scheme,* February 2024, pp 17-18
[11] DCCEEW, *Design Paper – Capacity Investment Scheme,* February 2024, p18

- In November 2023 Energy Ministers announced an expanded CIS to a total of 32 GW of capacity.
- In December 2023 Energy Ministers announced the development of an Orderly Exit Management Framework to support the exit and compensation of coal generation.

There have been no announcements regarding GPG, despite the need for at least 13GW of new GPG to come online to support the increase in renewables. Given its increasingly important role as coal retires from the NEM, we therefore need to ensure that government policy supports long term investment in new gas generation.

Consistent with the ESB's findings, state and federal energy ministers need to consider whether alternative arrangements, such as long-term availability or capacity payments, are required to ensure GPG investment takes place when and where we need it.

### *1.4.3 Developing new gas supply is critical for energy security*

Both AEMO and the Australian Competition and Consumer Commission (ACCC) have flagged the risk of East Coast supply shortfalls this decade.[12] This puts at risk the vital role gas will play in 'unlocking' renewables for a secure energy transition and supporting the decarbonisation of other states beyond South Australia.

APA's submission to the Commonwealth Government's Future Gas Strategy made several recommendations to ensure this risk doesn't eventuate. In particular, we noted Governments have a role to play in expediting approval processes to ensure that frontier basins can be established and connected to the interconnected gas grid. We need to fast-track the development of new gas resources to avoid potential gas shortfalls.[13]

Governments should work closely with industry partners to support and fast-track the development of new gas reserves, including the Beetaloo Basin. The Beetaloo, in particular, is a natural gas resource of potentially significant scale and can help offset the very significant gas supply shortfalls that may commence later this decade.

## 1.5 Flexibility in the design of CISA products

As discussed in section 3.4 of the Design Paper, we support the consideration of Alternative Options for the Generation CISA design. The proposed design may restrict the commercial structures of an Eligible Wholesale Contract and discourage participation.

Under the current design of the CIS, a Project Operator may be penalised if they receive contracted revenue that exceeds the agreed ceiling. This may discourage Project Operators from entering into Eligible Wholesale Contracts.

Implementing a volumetric exclusion design can address this issue by removing volumes generated under an Eligible Wholesale Contract from the CIS calculations and allowing Project Operators to transition out of the CIS as Eligible Wholesale Contracts are secured. Greater

[12] AEMO, '2024 Gas Statement of Opportunities' (Report, March 2024); ACCC, 'Gas Inquiry 2017-2030' (Interim Report, December 2023).
[13] APA, Submission to Future Gas Strategy, 'Future Gas Strategy Consultation Paper' (13 November 2023).

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flexibility will encourage Project Operators to participate in CISA tenders and enter Eligible Wholesale Contracts.


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