



# APA submission

**Gas-Fired Recovery: Infrastructure and Investment  
Consultation Note**

*2 August 2021*



# 1 PART A: National Gas Infrastructure Plan

## Key points

- Many factors will influence domestic and international demand and supply for LNG.
- Developing new gas supplies is critical to ensure sufficient gas is available in southern demand centres.
- The most efficient and lowest cost long-term infrastructure solution to connect supply to southern markets is based on the efficient expansion and utilisation of existing infrastructure, or connection of new frontier gas basins to existing infrastructure.
- We are working with all producers in the Surat Basin on options to provide greater capacity and connectivity between existing pipelines to maximise capacity out of the Surat and into Wallumbilla.
- Through our Victorian Transmission System (VTS) Stakeholder Forum, APA is working with key stakeholders, including customers and gas shippers, on options to expand the South West Pipeline (SWP), which has been identified as a Critical Infrastructure Project by the Interim NGIP.

## 1.1 How do you consider domestic and international demand for Australian LNG may affect production from existing and new basins?

There is much speculation on the future demand for Australian Liquefied Natural Gas (LNG) in a de-carbonising world. The dot points below provide an overview of the range of issues that we believe may affect production from existing and new basins, including domestic and international demand for Australian LNG.

- Gas, and therefore LNG, is expected to play an important role globally in displacing higher CO<sub>2</sub> intensity fuels such as coal. As the CEO of AEMO has recently pointed out, gas will play an essential firming role and help unlock many multiples of low-cost renewable generation.<sup>1</sup> The demand for Australian LNG is therefore likely to remain strong as coal power stations retire around the world.
- Australia's relative competitiveness vs other lower cost producing nations will play a large role in determining Australia's market share of the remaining uncontracted demand in our region once existing LNG supply contracts roll off.
- The unit cost of production of gas reserves in Australia is increasing as producers deplete tier 1 reserves and commence development of 2nd and 3rd tier reserves. Future gas prices will need to be at a level that is sufficient to underwrite the further development of existing and frontier Australian gas basins. As Australia is not currently the lowest cost producer of LNG, this will

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<sup>1</sup> AEMO, *A view from the control room*, CEDA keynote address, 14 July 2021

require a moderately tight international LNG market to provide the required pricing support.

- LNG producers on the East Coast are contracted to supply LNG into Asia out to at least 2035. LNG producers have set aside gas reserves for this position, raising concerns about the prioritisation of overseas demand over domestic markets.
- Given the reserves set aside for LNG, the development of further reserves for the domestic reserves requires a significant commitment from one or more of the major southern gas retailers to underpin investment new gas supply infrastructure.
- Retailers' appetite to support new gas developments in Eastern Australia is impacted by several factors including:
  - The gas contracting strategies of the retailers and the stage of their gas contracting cycle
  - the threat of a significant overhang of capacity from any one of the proposed LNG import terminals, if they are sanctioned. This will significantly influence retailers' appetite to contract long term, impacting mid-stream and pipeline infrastructure owners' confidence to invest in gas infrastructure required to enable new domestic sources of supply to reach the market.

## **1.2 In what sequence should new basins (and associated infrastructure) be developed, having regard to uncertainties in the LNG outlook, and what are the most appropriate infrastructure solutions needed to connect these new basins to the market?**

The incremental development of existing basins is likely to represent the lowest cost initial development ahead of basins that are further from existing infrastructure.

Pipeline infrastructure in the Surat Basin is well developed, meaning that most undeveloped reserves are near existing pipelines. Production from acreage in the Surat represents the lowest cost and quickest opportunity to introduce incremental supply and competition to the domestic market (northern as well as southern markets).

APA is considering options to cost effectively debottleneck its existing pipelines in the Surat Basin and to provide greater connectivity between pipelines to maximise capacity out of the Surat Basin and into Wallumbilla. We are also working closely with smaller producers in the Surat to help bring their gas to market sooner. APA has already invested in the expansion of the Wallumbilla hub compression capacity that will support increased throughput of Surat basin gas to southern markets.

The most efficient and lowest cost long-term solution to increase capacity to southern markets is one that is based on the efficient expansion and utilisation of existing infrastructure:

- There is a market misconception that the capacity of the existing north to south transmission pipelines is fully contracted and incapable of being expanded. The South West Queensland Pipeline (SWQP) and the Moomba Sydney Pipeline (MSP) are the key pathways for delivery of gas from Wallumbilla in Queensland and from the Northern Territory (via reverse flow of the Carpentaria Gas Pipeline). Both are currently only lightly compressed and are capable of being efficiently expanded. These expansions are more economically efficient than either greenfield pipelines or LNG import terminals.
- Efficient expansion of existing north to south pipeline infrastructure allows more molecules to be transported south over the year on a high load factor basis (i.e., to supply peaks in winter and to fill storage in non-winter periods).
- APA has invested heavily in its East Coast grid and associated systems to make it bi-directional and to provide significant flexibility to market participants. This flexibility will be invaluable as the primary source of northern gas supplies to the southern domestic market shifts from the Surat and Bowen basins in the short to medium term to the Beetaloo basin in the long term.

APA has already commenced the process of expanding the East Coast Grid by up to 25% and is prepared to commit to further expansions where there is sufficient market demand:<sup>2</sup>

- The first stage of expansion works will increase Wallumbilla to Wilton capacity by 12 per cent and is targeted for commissioning in the first quarter of calendar year 2023, ahead of southern state winter supply risks identified in the 2021 AEMO Gas Statement of Opportunities.
- The second stage of expansion works includes additional compression on the SWQP and MSP that will add a further 13 per cent of capacity and which will be delivered subject to appropriate market response.
- APA has undertaken preliminary design works on a potential third stage expansion of the East Coast Grid to add a further 25 per cent transportation capacity (totalling 50% above current capacity).

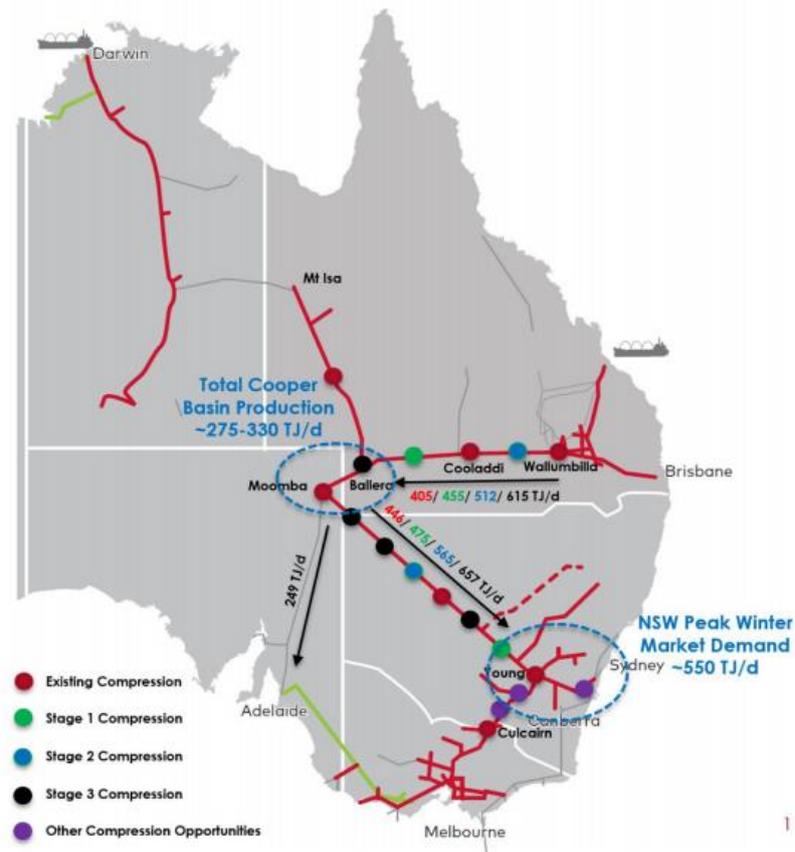
Adding compression to an existing lightly compressed pipeline will always be more cost effective than a new build pipeline and have less delivery and investment risk for the market, particularly where the demand for additional capacity is highly seasonal.

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<sup>2</sup> <https://www.apa.com.au/news/asx-releases/2021/apa-commences-25-expansion-of-east-coast-grid-enters-into-agreement-with-origin-energy/>

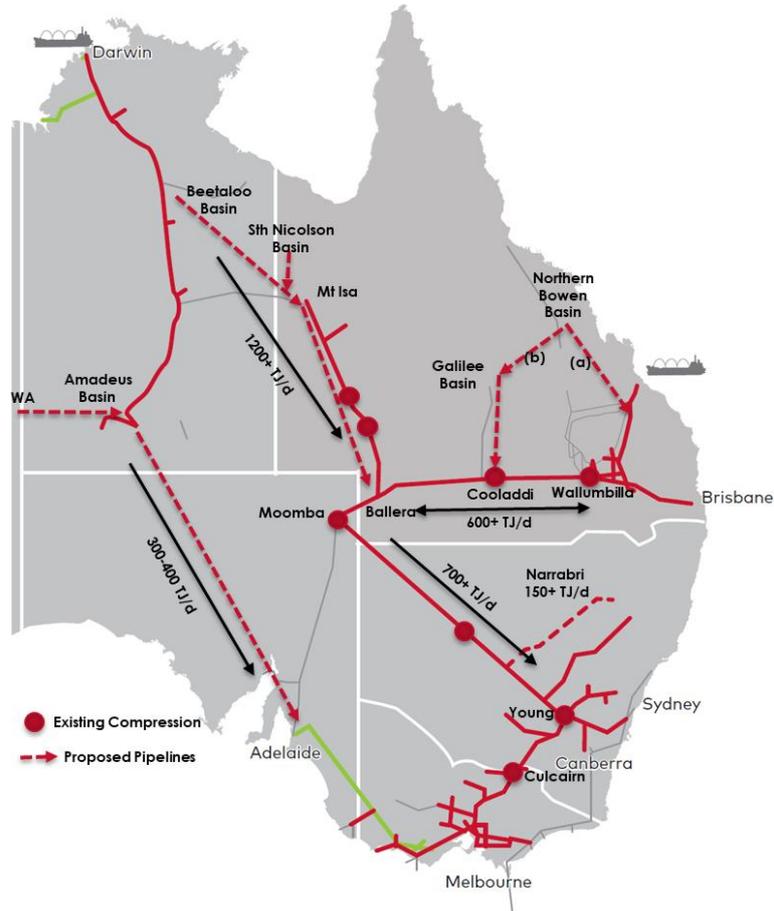
Compression of existing infrastructure also has a lower social and environmental footprint than building new pipelines.

Figure 1: Staged compression of APA's East Coast Grid



Following incremental developments in the Surat Basin, the connection of frontier basins to the existing East Coast gas grid should be prioritised such that those basins that are closest to existing infrastructure and with lowest cost of development are developed first.

Figure 2: Connection of Frontier Basins to APA's East Coast Grid



These are shown in Figure 2 above and include:

1. **Northern Bowen Basin** - Connect to East Coast grid via a greenfield pipeline from Moranbah to;
  - a) the existing Wallumbilla Gas Pipeline (WGP) and backhaul to Wallumbilla via expanded Surat to Wallumbilla pipelines (e.g. BWP and/or RBP), or;
  - b) a connection point mid-line along the existing SWQP, via the Galilee Basin.

APA is working closely with KPMG, who are leading the Queensland Government run Bowen Basin Pipeline Study to explore how best to connect the North Bowen Basin resources to market.

2. **Galilee Basin** - connect via a greenfield pipeline to a point midline along the existing SWQP pipeline, which is the shortest and most cost-effective route to market.
3. **Beetaloo/ McArthur/ South Nicolson Basins** - Connect via a greenfield pipeline to Mt Isa, coupled with the reversal and progressive expansion of the CGP to Ballera through incremental compression and looping investments.
4. **North West Shelf / Equus Field** – Longer term, connection via a proposed Australian Transcontinental Pipeline to either Moomba or Adelaide. The connection to Adelaide allows gas to be transported into Victoria and to the Iona storage facility via the SEAGas pipeline.

The above can be executed sequentially or concurrently as required to satisfy any emerging supply/ demand gap in eastern Australia.

The timing and sequence of field development is difficult to estimate due to many factors which includes funding support for exploration and customer contracting.

The market will resolve the order and the timing of these infrastructure developments without the need for any Government intervention in pipeline infrastructure.

However, Governments do have a role to play in expediting approvals processes to ensure that frontier basins can be established and connected to the East Coast Grid. Failure to approve new sources of supply may result in the market adopting less efficient (and higher cost) options to bring gas to southern markets, such as LNG import terminals.

### **1.3 What infrastructure options will help ensure sufficient gas is available to southern demand centres? What are the most critical actions that need to be taken in the short term to provide greater clarity and certainty to support timely infrastructure investment in the east coast gas market?**

Developing new domestic gas supplies is critical to ensure sufficient gas is available in southern demand centres. As noted earlier, APA is already expanding its pipeline infrastructure to cater for increased demand and existing infrastructure remains capable of further incremental expansion.

As outlined in Part B to our submission, we don't believe there is any demonstrable market failure which would give rise to the need for government intervention in gas supply infrastructure. However, to the extent the Government felt intervention was necessary, the Government could consider providing support to the upstream sector to help develop resources to a commercial stage and then allow normal market processes to play out, firstly amongst potential buyers of the gas and then in the pipeline infrastructure space.

The development of new LNG import terminals is likely to represent an inefficient, higher cost option compared to investment in infrastructure to deliver domestic gas.

Long term stable pricing of gas is required to support industry in Australia. Imported gas pricing is higher cost on average relative to domestic supplies and will vary with fluctuations in the global LNG supply market.

The carbon emissions of LNG gas imported through floating storage and regassification units (FSRUs) are around 20% higher than pipelined gas. Should carbon pricing become mandated, this higher intensity will also mean that LNG imports will become incrementally more expensive.

It would be inconsistent with net zero 2050 aspirations for policymakers to prioritise LNG import terminals over the development of domestic infrastructure, given LNG imports that displace domestic gas would add to, and not reduce, Australia's domestic carbon emissions.

### **1.3.1 Expansion of the South West Pipeline**

The Interim NGIP identified the expansion of APA's South West Pipeline (SWP) as a critical infrastructure priority.<sup>3</sup> We recognise the importance of the SWP in bringing gas supplies to Melbourne from the Iona storage facility and Otway gas fields, particularly during the Victorian winter peak period.

Through our Victorian Transmission System (VTS) Stakeholder Forum, we are working with key stakeholders, including customers and gas shippers, on options to expand the SWP. The options being considered include additional pipeline compression which would increase the capacity of the pipeline and unlock additional supply from sources west of Melbourne.

Given that any new capex to expand the SWP will form part of the VTS, it needs regulatory approval from the Australian Energy Regulator (AER) to proceed. The next five yearly access arrangement proposal for the VTS is due to be lodged with the AER on 1 December 2021. Our discussions with the VTS Stakeholder Forum will help inform our decision as to whether any expansion of the SWP will be included in our proposed capex for the 2023-27 regulatory period.

### **1.3.2 Reducing uncertainty for VTS investment**

To ensure timely capital investment in new pipeline capacity, it is important to have a regulatory framework that minimises uncertainty for the resource owner(s), the infrastructure owner(s)/investor(s) and the shipper(s) who underwrite the infrastructure. Stability in government policy is extremely important for investor confidence in both upstream and midstream developments.

There are policy and societal changes regarding Australia's future energy mix that are increasing risks for investors. For example, the Victorian Government's Gas Substitution

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<sup>3</sup> Commonwealth Government, *National Gas Infrastructure Plan Interim Report*, May 2021, p5

Roadmap is considering pathways that will reduce gas usage in the future.<sup>4</sup> This increases the likelihood of asset stranding in the future.

Different regulators are taking different approaches to dealing with this risk of asset stranding. These approaches generally involve a reduction to the remaining depreciable lives to allow the investor to recover its capital over a time horizon that reflects the impact of the decarbonisation initiatives. See, in particular, the AER's decision on EVOenergy<sup>5</sup> and the Economic Regulation Authority of WA decision (from para 1354) on the Dampier to Bunbury Natural Gas Pipeline.<sup>6</sup>

The acceleration of depreciation has received support from some consumer groups, with the reasoning that a small increase in tariffs today, while the system load is still large, is a better solution than increases in tariffs in future years if system usage declines.

## **1.4 How will infrastructure investments be influenced by the potential future demand for new gas technologies (e.g., hydrogen, biogas) that can be blended into these assets, alongside natural gas?**

Through our Pathfinder Program and other projects, APA is actively considering the potential of hydrogen and other renewable gases. How these gases can be incorporated in existing pipelines is central to our thinking and will help influence future investment decisions.

### **1.4.1 Pathfinder Program**

APA's Pathfinder Program will be a key enabler in our pathway to our new ambition for net zero operations emissions by 2050. Through Pathfinder, we will help unlock energy solutions of the future and develop opportunities to extend our core business.

Pathfinder's initial focus will be on clean molecules, off-grid renewables, and storage. Our first Pathfinder project is seeking to enable the conversion of around 43-kilometres of the Parmelia Gas Pipeline in Western Australian into Australia's first 100 per cent hydrogen-ready transmission pipeline and one of only a few existing gas transmission pipelines in the world, 100 per cent hydrogen-ready.

This project, which is being delivered in partnership with Future Fuels Cooperative Research Centre and Wollongong University, carries enormous significance for APA and the entire industry. It will create a significant opportunity for the development of a hydrogen hub in Western Australia. More broadly, the results will support decision-making as to the potential for APA's other gas infrastructure assets to be hydrogen-ready.

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<sup>4</sup> Victorian Government, *Gas Substitution Roadmap Consultation Paper*, June 2021

<sup>5</sup> AER, *EvoEnergy Access Arrangement 2021-26 Final Decision*, April 2021

<sup>6</sup> ERA, *Dampier to Bunbury Natural Gas Pipeline Access Arrangement 2021-25 Final Decision*, April 2021

## **1.4.2 Renewable methane pilot**

APA and ARENA have jointly funded a project by Southern Green Gas to develop a renewable methane demonstration plant at APA's Wallumbilla gas plant in Queensland. This carbon neutral project is investigating whether it is possible to create renewable methane from hydrogen that is produced using solar energy and water, converted to methane using CO<sub>2</sub> extracted from the atmosphere.

Renewable methane is indistinguishable from the methane that currently fills our natural gas pipelines and therefore offers a potential low carbon alternative with the ability to use the existing gas infrastructure system.

The renewable methane created at Wallumbilla can be injected into the gas transmission network. The project will also generate cost and technical data to be used to assess the feasibility of a larger, commercial scale renewable methane concept.

## 2 PART B – Future Gas Infrastructure Investment Framework

### Key points

- To date, timely and efficient market-led investment in gas infrastructure has ensured sufficient capacity is delivered.
- Access to long term gas supply will ensure the necessary transportation infrastructure is developed to get the gas to market.
- In our view, government support should only be provided to identified critical projects that would open substantial new supply from frontier basins that would not otherwise go ahead.
- Investment principles should guide how the Future Gas Investment Framework operates.

### 2.1 What conditions are required to support investment in long term gas infrastructure assets?

To date, there has been no demonstrable failure of the pipeline services market to invest in new infrastructure. Timely and efficient market-led investment in the necessary gas infrastructure has ensured customers have received a reliable supply of gas when and where needed:

- Gas transmission and distribution businesses have a strong record of delivering infrastructure through long term investments, thereby ensuring there is sufficient gas where and when customers need it.
- Gas shippers, including retailers, coordinate with gas producers and pipelines via contract to ensure they have sufficient gas to meet the needs of their customers.

Infrastructure in the natural gas market is provided on commercial terms which distinguishes it from the provision of electricity infrastructure. The nature of the gas market means that there should not be a need for government intervention in investment decisions in relation to the construction or augmentation of gas pipelines or other gas infrastructure.

However, to support long term infrastructure investment you need long term supply and demand to underwrite the investment. The absence of this prerequisite condition may hinder long term investment.

### 2.2 In what circumstances would government support of critical infrastructure projects assist projects to reach FID?

We are not aware of any potential major pipeline project that has not been delivered due to the lack of government intervention. The nature of the gas market means that there should not be a need for government intervention in investment decisions in

relation to the construction or augmentation of gas pipelines or other gas infrastructure.

In our experience, the reason significant gas infrastructure projects have not gone ahead is due to:

- the inability to source gas (for example due to drilling moratoriums)
- protracted approval processes for new developments, or
- junior gas companies lacking funding depth to develop reserves to commercial stage.

In our view, the Commonwealth Government's focus should be on speeding up the development of new frontier basins to unlock new, long-term, gas supply. Access to long term gas supplies will ensure that the necessary transportation infrastructure is developed to get the gas to market.

Governments can further support investment in long term gas supply and infrastructure agreements by providing regulatory stability to the sector. Frequent changes in regulation after investment decisions have been made only serve to increase investment risk.

### 2.3 **What technical, regulatory and financial risks do proponents encounter in seeking to reach FID and how may government support help investigation and management of these risks?**

Energy markets are going through a period of fundamental change. There are increasing technical, regulatory, environmental, and financial risks associated with infrastructure investment:

- **Technical risks:** innovation and changing consumer preferences mean that there is significant uncertainty in the cost of future technologies
- **Regulatory risks:** the energy transition and decarbonisation of the economy means that Governments are reviewing regulatory frameworks to ensure they are fit for purpose
- **Environmental approval risks:** changing social pressures means governments are requiring more stringent environmental assessments to be undertaken while taking longer and longer to reach final approval decision
- **Financial risks:** given changing technology costs and regulatory frameworks, there are increasing financial risks associated with new investment.

Despite these risks, in our view market mechanisms should continue to be the primary basis on which investment decisions are made. In the absence of market failure, Governments should not provide support or signal one solution over another, as this

has the effect of delaying investor decision making and will not result in the most efficient investment outcomes.

If the effect of supporting a critical infrastructure project is to strand capacity in a competing piece of critical infrastructure, there is a risk that capacity in that infrastructure may be reduced over time (e.g., by mothballing compression facilities to save costs) to the extent that it is no longer being supported by the market. The risk of asset stranding also increases risk and uncertainty for any future investments.

## **2.4 What types of activities may proponents need to undertake in developing a project to FID and what barriers do they face in undertaking these activities?**

Infrastructure proponents undertake a wide range of activities before getting to FID:

- Access to suitable 'commercially viable' acreage
- Appraisal and pre-development – to confirm the gas resource can produce, be developed and delivered to market at economic rates
- Financial analysis, including construction, operation, and maintenance cost estimation
- Capital raising capital (particularly for junior producers)
- Land access and stakeholder engagement
- Environmental, regulatory, and other approvals
- Gas transportation and offtake arrangements
- Engineering and Design
- Commercial agreements with users for the delivery of the services

In our view, the establishment of a cross jurisdictional co-ordination/facilitation office to enable the fast-tracking and parallel pursuit of approvals at all levels of government could help speed up the process of developing gas projects to FID.

## **2.5 How could support be provided to enable timely investment decisions?**

Before getting to FID, upstream producers require confidence that they can develop their resources at commercial flow rates and at a unit cost of production that will allow those supply volumes to be competitive in the market.

The dynamics of unconventional upstream gas developments often require proponents to appraise, pre-develop to prove commercial flow rates, and then develop the resource in stages so as to not overcommit on transportation infrastructure or gas supply arrangements. Combined with cost of development pressures and market pricing variability, proponents often don't have sufficient certainty in a 'commercial project' to commit to transportation infrastructure or gas supply arrangements until years into development.

Government could play a role in providing support to upstream producers to 'de-risk' the development and ensure that gas supplies are developed more quickly. Some of the options include:

1. **Existing financial tools and incentives:**

- a. Grants – e.g. Gas Acceleration Program and other funding mechanisms.
- b. Low interest loans – e.g. Northern Australia Infrastructure Facility (NAIF) with loan drawdowns linked to key milestones
- c. Equity Investment – e.g. NAIF (new scope)

2. **Other financial tools and incentives** that could be considered if there is any evidence of market failure:

- a. Tax relief – e.g. accelerated depreciation, greenfield and brownfield tax exemptions, infill program exemptions
- b. Foundation shipper status
- c. Safety Net Underwritings – e.g. Underwriting New Generation Investments (UNGI) or gas processing facility investment.

3. **Policy incentives;**

- a. Stronger 'use it or lose it' provisions
- b. Domestic market delivery and development timing restrictions
- c. Financial support for junior producers

In our view, implementation of any of these options should be limited to identified critical projects in frontier basins. This will result in:

- support being provided to gas supply projects where the circumstances of the development mean the producer lacks funding depth or risk appetite to develop resources to a commercial stage or where investment in pipeline infrastructure over and above requirements of one proponent is necessary to open up the basin or resource.
- pipeline owners not being required to receive direct government support; rather, the producer receives the necessary support to allow a long-term gas and transportation agreement to be entered into which can be tailored to the producer's gas sales agreement and production expectations.

APA recommends that the Government's Future Gas Infrastructure Investment Framework establishes investment principles that will guide when and how support is to be afforded. This will help provide greater transparency around decision making.

Our proposed principles are set out below:

### **Future Gas Infrastructure Investment Framework – Investment Principles**

- a) Support is limited to critical projects where the NGIP has identified a shortfall/need for gas in the domestic market and that supply could be provided by the project but for the lack of government intervention.
- b) Support is limited to junior producers for new supply from frontier basins.
- c) Where support is provided, conditions can be applied that require the gas to be for domestic demand under long-term supply contracts.
- d) Where Government support is being considered:
  - o the role of developer/proponent of the critical project is determined by way of Expression of Interests which are evaluated against known criteria.
  - o If the critical project is to proceed past the EOI stage, then a competitive bid process will be initiated to determine the successful developer.
- e) Any intellectual property developed in any Government funded assessment or early works is to be available to any potential developing parties.
- f) Government funding to be provided in a staged approach, with further funding dependent upon successfully achieving predetermined milestones.
- g) Interim reviews should be undertaken to ensure that the project remains a critical project.



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