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Submission: Building AI infrastructure that works for Australia

The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure. Our members deliver more than 1,500 PJs of natural gas each year underpinned by the highest standards of safety, reliability and operational performance. For decades, this infrastructure has been a cornerstone of Australia's economic strength, providing secure, low-cost energy that has supported growth, sustained long-term trade, and enabled industry to compete globally.

APGA welcomes the opportunity to provide brief input on the consultation paper from the Australian Government, *Getting it right: Building AI Infrastructure that works for Australia*. For the purposes of our submission, APGA will limit our response and input to the energy supply for data centres.

Data centre energy loads

Data centres represent a significant new source of electricity demand and, if managed well, can help accelerate Australia's energy transition by underpinning investment in new generation, firming and network infrastructure. However, data centres are not homogenous. While some operators can offer flexibility and shift workloads to periods of abundant renewable generation, others require continuous, high-reliability power and will need bespoke energy solutions.

The Commonwealth's proposed approach of requiring large data centres to support new renewable generation, flexibility and firming outcomes is therefore broadly appropriate. However, standards should focus on the outcomes to be achieved rather than prescribing particular technologies. A technology-neutral approach will allow proponents to meet reliability and emissions objectives at the lowest overall cost while encouraging innovation and competition between renewable generation, storage, hydro, demand response and other firming solutions.

As data centre loads continue to grow, firmed energy supply will become increasingly important. This is not unique to data centres; large industrial and commercial loads have long relied on tailored arrangements to secure reliable energy supply. Internationally, gas-fired generation is becoming an increasingly common component of data centre

developments, particularly where on-site generation or dedicated firming capability is needed to support reliability requirements.

A well-designed framework can therefore support multiple policy objectives simultaneously. By creating demand for firmed energy products, data centre obligations can help drive investment in the dispatchable capacity needed for a high-renewables grid while supporting the development of emerging market mechanisms such as the Electricity Services Entry Mechanism (ESEM). This would enable the market to deliver reliability and emissions outcomes efficiently while strengthening the long-term foundations of Australia's energy transition.

Natural gas and renewable gas can support the transition

Natural gas should not be viewed solely as a compliance challenge for data centres. When deployed appropriately, it can play a proactive role in supporting Australia's transition to a high-renewables electricity system.

As renewable generation increases, Australia will require increasing volumes of dispatchable capacity to maintain reliability during periods of low wind and solar output. Gas-fired generation remains one of the few mature technologies capable of providing this firming capacity at scale. However, the economics of gas-fired generation are challenging, as assets must recover their costs while operating for relatively short periods each year. New sources of demand for firmed energy products, including from data centres, can therefore help underpin investment in the dispatchable generation needed to support the broader electricity system.

Data centres can contribute to this outcome in two ways. First, by procuring fully firmed electricity contracts from the grid, they can provide an important source of long-term demand for dispatchable generation and other firming services. Second, where data centres utilise behind-the-meter gas-fired generation, those assets can be configured to provide services back to the electricity system when required. This creates the potential for data centres to become a source of grid support, improving system resilience, supporting local network reliability and helping facilitate the orderly retirement of coal-fired generation by ensuring dispatchable capacity is available when and where it is needed.

This reflects an emerging international trend. As data centre loads grow and reliability requirements become more stringent, gas-fired generation is increasingly being incorporated into data centre developments globally as part of a broader firming strategy. Australia's policy framework should not preclude similar solutions where they can deliver reliability, affordability and system benefits.

Importantly, recognising a role for natural gas today does not preclude decarbonisation. The Commonwealth is currently developing a National Renewable Gas Framework to support the growth of biomethane and other renewable gas supplies. While renewable gas industries remain at an early stage of development, data centres could provide a valuable

future source of demand capable of underpinning investment across the renewable gas value chain. Over time, this creates a pathway for data centres using natural gas to transition towards progressively lower-emissions and ultimately carbon-neutral fuel sources, while continuing to provide the firming and reliability services required in a net-zero energy system.

Other considerations in relation to energy supply for data centres

Speed to Power and construction of data centres

Speed to power will be a critical factor in determining whether Australia captures the economic opportunities associated with AI and large-scale data centre investment. Governments should recognise that new energy demand, generation, storage, networks and supporting infrastructure are often developed on different timeframes. Requiring every element of a project's long-term energy solution to be in place before operations can commence will unnecessarily delay investment and increase costs. Data centre development will typically outpace the construction timeframes of new renewable electricity capacity to support it, in some cases by years. At the same time, APGA recognises the necessity of ensuring these new loads do not have adverse effects on both local grid capacity and the electricity network as a whole.

Policy frameworks should support practical and credible pathways to energisation, including staged development approaches, while ensuring that longer-term energy, reliability and consumer-protection outcomes are ultimately met. Australia's competitiveness will depend on both the availability of energy, and on the ability to deliver it at the scale and speed required by investors.

Infrastructure pathways should reflect project maturity and physical deliverability

Large data centres typically develop in stages, with demand increasing over time rather than appearing all at once. Importantly, a technically feasible connection does not guarantee that all supporting infrastructure will be available when it is needed.

Governments and regulators should recognise the difference between proposed capacity, contracted capacity, commissioned capacity and actual energy consumption when considering infrastructure and compliance requirements.

Policy settings enable support staged, flexible and commercially practical development pathways. Large loads should be able to commence operations before every element of their long-term energy solution is fully in place, provided there is a credible pathway and commitment to deliver the required infrastructure and energy services over time.

APGA recommends that gas powered generation should be a temporary energy option for data centres, where it makes commercial sense, until the final determined energy mix including new renewable energy generation can be achieved.

Renewable energy, firming and flexibility should be treated as distinct requirements

Technological neutrality is an important concept in this conversation. Additional renewable energy, firming capacity and demand flexibility each serve different objectives and should not be treated as interchangeable. Firming, in particular, should be defined by the service required rather than by a prescribed technology; government frameworks should instead define the preferred outcomes while allowing the market to determine the most efficient and practical means of delivering them.

Where gas-powered generation forms part of a firming solution, the capability of that generation depends not only on the generator itself but also on the availability of gas supply, transport, storage and connection infrastructure. Investment in this infrastructure will only occur where it makes financial sense to do so.

Renewable Energy Guarantee of Origin (REGO) obligations should be additional to, rather than a substitute for, obligations to ensure sufficient firm capacity and system adequacy. While the use of REGO certificates will help support renewable investment and therefore emissions reduction, they do not require the renewable generation to be capable of sustained generation through an extended renewable drought.

APGA recommends that policy frameworks should focus on defining energy, reliability and flexibility outcomes, while allowing competition between technically credible pathways capable of delivering those outcomes.

Cost and risk allocation should support efficient infrastructure investment

Existing consumers should not bear unreasonable costs or risks arising from major new loads. This should be appropriately balanced by cost allocation frameworks recognising that shared infrastructure can deliver benefits to a broader range of users over time.

To protect consumers from wholesale price impacts, firming obligations should specify both capacity and duration, ensuring compliance is backed by assets capable of sustained operation through prolonged renewable droughts. This would strengthen the AEMC's proposed flexible offsetting approach by ensuring firming delivers physical reliability. Appropriate market mechanisms will be needed to ensure there is investment in the required firming capacity.

Large data centres should be responsible for costs that are reasonably attributable to their development, including where new infrastructure is required to support their connection or energy needs. However, where infrastructure is subsequently utilised by additional customers, frameworks should allow the reasonable benefits of shared use to be recognised.

Cost allocation arrangements should also reflect project maturity. A preliminary enquiry does not create the same level of certainty as a contracted project with binding

commitments. As developments progress and drive infrastructure investment decisions, stronger commercial and financial commitments should be expected.

The same principles apply across electricity and gas infrastructure. Where a project requires material new gas infrastructure, service arrangements and customer commitments should be aligned with the scale, duration and utilisation of the proposed load. While implementation mechanisms may differ across infrastructure classes, the overarching objective should remain consistent: enabling efficient investment while ensuring costs and risks are borne by those best placed to manage them.

To discuss any of this feedback further, please contact Catriona Rafael, Head of Policy, on +61 409 489 814 or cr Rafael@apga.org.au.