



Climate Council of Australia

Submission to: NSW Data Centre Consultation Paper

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About the Climate Council

The Climate Council is Australia's own independent, evidence-based organisation on climate science, impacts and solutions.

We connect decision-makers, the public and the media to catalyse action at scale, elevate climate stories in the news and shape the conversation on climate consequences and action, at home and abroad.

We advocate for climate policies and solutions that can rapidly drive down emissions, based on the most up-to-date climate science and information.

We do this in partnership with our incredible community: thousands of generous, passionate supporters and donors, who have backed us every step of the way since they crowd-funded our beginning as a non-profit organisation in 2013.

To find out more about the Climate Council's work, visit www.climatecouncil.org.au.

Introduction

The Climate Council welcomes the opportunity to make a submission to [Infrastructure NSW's consultation](#) on data centres in the state. NSW and Australia are in the midst of a critical energy transition, rapidly shifting from fossil fuels to renewable energy to cut emissions and protect communities from worsening climate impacts. Without careful management, the new wave of data centre development, driven largely by the surge in demand for artificial intelligence (AI) and cloud computing, will put this transition at risk. But, with strong, clear and enforceable policy settings, data centres can drive new clean energy investment and support a resilient electricity system.

Data centres have been in Australia for many years. They are important digital infrastructure that underpin everyday services and essential functions across the economy and government. However, the scale and pace of new data centre development will shape our energy system for decades to come. Without additional renewable generation, storage and system flexibility to match demand, the industry risks locking in continued reliance on coal and gas, increasing electricity costs, straining system reliability, and creating a material risk to NSW meeting its legislated climate obligations.

As an independent, evidence-led climate organisation, the Climate Council's submission focuses primarily on issues relating to: electricity demand, grid impacts, implications for NSW's legislated renewable energy and climate targets, and water use. We acknowledge the broader social and ethical concerns around AI, particularly generative AI, which is driving a significant share of new data centre demand. While important, these issues are distinct from the impacts of physical infrastructure and fall outside the scope of our submission.

Countries around the world are setting stronger standards for data centres in response to their rapidly growing energy and water demand. The industry and its customers are already taking steps to procure renewable energy and firming capacity, alongside measures to improve energy and water efficiency – often driven by their commercial interests. As this well-capitalised industry expands, strategic policy settings and coordination will ensure that it delivers tangible public benefits alongside private returns. Done well, data centres could accelerate the shift to renewables, strengthen the grid and support regional economic development.

The NSW Government has a critical window of opportunity to set sensible, pragmatic policy settings for the data centre industry. By embedding best-practice requirements into planning and approval processes, the Government can support both economic development and climate progress.

Recommendations to align data centre development with NSW's climate and energy targets

Industry, governments, regulators and utilities all have a role to play in mitigating the risks associated with poorly managed data centre growth. There is work underway at a national level, including through the Energy and Climate Change Ministerial Council (ECMC), while state level utilities are already responding to data centre growth ([TransGrid 2026](#)). Councils in areas experiencing rapid data centre development are calling for stronger, clearer requirements to manage growth – for example Penrith City Council has called for a pause on new approvals until energy and water impacts are properly understood ([Penrith City Council 2026](#)).

State and territory governments are where key decisions about land use, the environment and infrastructure are made. The NSW Government must take a coordinated approach to data centre development and enforce strong standards in the state to ensure climate and energy targets, power prices and energy security are not put at risk. We welcome the NSW Treasurer's statement that due to the high demand for data centres in NSW, the Government feels "capable of applying really high standards here when it comes to power use, water use and other associated impacts" ([Karp 2026](#)).

Embedding robust sustainability criteria for data centres into NSW's planning frameworks would deliver stronger environmental, social and economic outcomes, while also providing greater clarity and certainty for investors. With many operators and their customers already taking steps to source renewable energy and increase water and energy efficiency, the sector is well-placed to meet strong regulatory requirements.

Strong policy settings would also bring NSW in line with other jurisdictions around the world including the European Union and Singapore. For example, in Singapore, new data centres must compete for grid connection rights through a call for applications process, with criteria including clean energy and energy efficiency ([Singapore Government 2025](#)).

Given the significant pipeline of projects already lining up for approval in NSW's planning system – and their potential impacts on the electricity system and the state's climate targets – these requirements should be applied to projects currently under assessment¹.

¹ Noting the industry estimates a significant proportion of Australia's organisational computing capacity is in on-premises servers ([Data Centres Australia 2026](#)), consideration should be given as to how these requirements should apply to on-premises facilities, as well as commercial data centres.

RECOMMENDATIONS

1. Require additional renewable energy and firming capacity to match data centre demand

Data centres in NSW must be required to support the development of new wind, solar and firming capacity – beyond what would have been built without the industry’s demand and support – reflecting both the scale of their electricity demand and their capacity to contribute to system-wide outcomes. This should include:

- Establishing credible mechanisms to demonstrate additionality. For example, proponents may be required to provide evidence of pre-financial close Power Purchase Agreements (PPAs), together with use of Renewable Energy Guarantee of Origin (REGO) certificates to ensure ongoing location and time-matching.
- Considering interaction with the NSW Infrastructure Roadmap, Long-Term Energy Service Agreements scheme and the Australian Government’s Capacity Investment Scheme to ensure additionality.
- Consideration of the need for mechanisms to account for renewable development timelines, for example requiring 100% renewable energy within the first three years of operation.
- Putting safeguards in place to ensure that at a minimum, any new data centre’s energy use is no more emissions-intensive than NSW’s grid from day one of operations. This must include rules to prevent data centre operators from building off-grid fossil fuel generation, which would be a material step backwards for the state’s clean energy transition.
- Reviewing planning processes and grid access rules to support data centres to access new renewable energy supply at the speed and scale required.

2. Make efficient data centres the standard

All new data centres in NSW should be required to minimise both energy and water use. Data centres already seek to optimise their water and power. However, there is a clear role for government to reinforce and standardise these efforts by setting consistent, transparent performance benchmarks. This could include, for example, requiring a minimum five-star NABERS Energy rating, alongside a defined Water Usage Effectiveness (WUE) threshold. Establishing clear outcome-based standards would provide greater certainty for industry, create a level playing field, and build public confidence that data centres are using energy and water resources responsibly.

These benchmarks should be regularly reviewed and progressively strengthened to reflect technological advancements and evolving industry and international best practice.

We also welcome the NSW Government’s commitment in the consultation paper to consult on drought management and data centre growth.

3. Require flexible demand backed by low emissions technologies

The Energy and Climate Change Ministerial Council (ECMC) has committed to explore options to ensure new data centre loads are efficiently integrated into the grid, including developing a framework to facilitate demand flexibility and ensuring new firm generation enters the market as data centre demand increases, and advancing reforms for grid connections ([ECMC 2025](#)). The NSW Government should engage with this process and ensure any state-based requirements are aligned.

As part of this, reliance on fossil diesel for backup generation should be minimised as far as possible. Different approaches will suit different facilities, with options including co-location with battery storage and use of alternative fuels. Data centres and their customers should also be encouraged to manage their workloads in ways that support the grid where possible, for example shifting non time-sensitive workloads to the middle of the day, while performing only essential tasks – or drawing on battery storage – during peak demand times.

Alongside these requirements the NSW Government should consider government action needed to support low emissions flexible demand, for example measures to support the development of alternative fuel supply chains and reforms to better enable installation of battery storage.

4. Protect households from rising electricity costs by ensuring data centres pay their way

The Climate Council welcomes the consultation paper's statement that cost recovery regimes should be reviewed to ensure any network upgrades required for data centre connections are paid for by data centres. We note ECMC is currently undertaking work to review the cost recovery arrangements to ensure data centres cover network upgrades and data centre growth ([ECMC 2025](#)).

An equivalent review should be considered in relation to water infrastructure, ensuring data centre growth does not shift avoidable costs onto households.

As noted in the consultation paper, while regulatory regimes are reviewed and actioned, utilities should be encouraged to negotiate agreements with developers that ensure data centres pay for any infrastructure upgrades required.

5. Strategically site data centres and share benefits with communities

The NSW Government should encourage data centre development in regional NSW where workloads allow, to minimise grid constraints in urban hubs and support regional economic development. This could be achieved by providing prioritised approvals and connections to data centres in regional areas with high renewable generation (provided they meet all other sustainability benchmarks). This must be supported by robust frameworks for community engagement and benefit sharing, that are at minimum aligned with [NSW's benefit sharing guideline](#) for renewable energy projects.

6. Consistent forecasting and reporting

The Climate Council supports the commitment in the consultation paper to collaborate with industry to improve approaches for forecasting water and energy demand, including by aligning assumptions. Reliable and transparent data on the magnitude of future water and energy demand is a critical foundation for effectively planning for and reducing impacts.

The significant variation between industry and utility/regulator estimates shows there is a need for governments at all levels, and industry, to work together to develop a nationally consistent framework that balances commercial sensitivity and security considerations with best practice reporting standards. This should be underpinned by a requirement for data centre operators to disclose and report consistent information on clean energy procurement, electricity use, water use, backup generation and emissions, to support improved system planning and accountability.

7. Coordinated planning to enable innovation

Data centre development spans various policy areas, multiple levels of government, regulators and utilities. Effective coordination across these institutions and industry is essential to mitigating the risks of data centre growth, and harnessing the potential benefits – for example, by aligning data centre growth with renewable energy development.

The NSW Government should develop a framework for a coordinated approach to data centre development and approvals. Victoria has adopted such an approach through its [Sustainable Data Centre Action Plan](#), designed to improve government coordination of data centres and attract investment while ensuring growth is “well planned, efficient and responsible” ([Victorian Government 2026](#)).

As part of coordinated work to manage data centre growth, the government should work with stakeholders to ensure that the regulatory settings and infrastructure required to enable sustainable data centres – and decarbonisation of the rest of the economy – are delivered at the pace and scale required. We welcome the NSW Government’s announcement on 6 May that it will introduce legislation enabling it to identify the highest-priority renewable energy projects in the planning pipeline, and prioritise them for streamlining ([Sharpe and Scully 2026](#)).

Background: NSW's data centre pipeline

The latest industry data shows that NSW is home to 60 of Australia's 162 operational data centres ([Data Centres Australia and DC Byte 2026](#)).² In total, the data centre industry estimates that there are at least 44 new data centre projects in the pipeline in NSW ([Data Centres Australia and DC Byte 2026](#)). The NSW Government is actively supporting 15 new projects, providing streamlined assessment support through the [Investment Delivery Authority](#) (IDA) ([NSW Government 2026](#)).

Data centres in Sydney, Newcastle and Wollongong currently consume around 5% of NSW's grid-supplied electricity. By 2030, their share of energy demand is expected to reach 11%, growing to 18% in 2050 ([Oxford Economics 2025](#)). We note that data centre growth forecasts vary, and there is evidence that some include a level of "phantom demand" – where applications have been made for energy and water connections for projects that never materialise ([Oxford Economics 2025](#)).

Hyperscale data centres are coming to NSW

Last year, the NSW Government approved 11 new or expanded data centre applications through the State Significant Development (SSD) pathway, with a combined maximum capacity of at least 1 GW ([Planning NSW 2026](#)). This included what was at the time set to be the southern hemisphere's largest data centre - the 504 MW [Marsden Park Data Centre](#) – equivalent to the power consumption of 140,000 homes ([CDC Data Centres 2024](#)).

In March 2026, the NSW Government announced it will provide streamlined support for the assessment of a data centre double the size: the 1.2 GW [Mamre Road Data Centre](#) ([NSW Government 2026](#)). If approved, the Mamre Road facility will be one of the biggest data centres in the world: including six four-storey data centre buildings, 936 cooling units and 852 diesel back-up generators. While incorporating design redundancy, the facility's 1.2 GW maximum capacity would surpass the [950 MW Tomago Aluminium Smelter](#) by over 25%, positioning it as Australia's largest single industrial energy user.

² Estimates of the number of data centres in Australia vary widely. Other widely used sources, such as the global [Data Center Map](#), estimate Australia is home to more than 270 data centres, approximately 100 of which are in NSW.

Impacts of data centres on NSW's energy system and climate

NSW'S SHIFT TO RENEWABLES

The large-scale renewable energy currently under development in NSW is primarily intended to replace retiring coal generators ([NSW Government](#)). At the same time, demand is growing with the electrification of homes, transport and industry – critical to meeting climate targets and bringing a range of health and cost saving benefits. Should data centre demand consume the new renewable supply, NSW risks prolonged reliance on ageing coal stations and additional gas generation. Coal generators are a key driver of outage and system reliability risk, and associated price spikes ([Baringa 2024](#)), while gas is a key driver of ongoing high electricity prices ([Climate Council 2026](#)).

There are clear indications that the gas industry is positioning data centre demand as a justification to lock in long-term, expanded gas use. For example, the Beach Energy CEO, and the current BP CEO/former Woodside CEO Meg O'Neill have both used data centre growth to advocate for increased gas production ([MacDonald-Smith 2026](#); [O'Neill 2025](#)).

Some data centres operators and industry executives have also publicly advocated for continued coal and gas, alongside more sustainable firming technologies, to power the growing pipeline of data centres ([Cranston and Packham 2025](#)), while others are actively pursuing additional fossil fuel generation. For example, the proposed [Southern Highlands Data Campus](#) would see the installation of a new 673 MW gas-fired power station that would add an estimated two million tonnes, or more, of climate pollution in NSW every year. If this project were to proceed, it would initially increase NSW's electricity emissions by about 6%, growing to about 25% by 2035 as the grid decarbonises.

In the US, major tech companies including Meta, Google, Microsoft, OpenAI, Nvidia, and xAI are currently planning or building at least 23 GW of gas generation ([Cleanview 2026](#)). In the UK, the AI and energy industries have called on the government to consider a range of measures to speed up data centre development in the UK, including allowing on-site gas generation as an “interim measure” ([Bambridge 2025](#)). Developers in the UK are reportedly already increasingly turning to gas generation ([Gabbatiss 2026](#)).

The NSW Government must learn from international experience, and act early and decisively to safeguard against any additional fossil fuel generation. Data centre energy demand must be met by additional renewables, outside of what would otherwise have been built to power NSW past the end of coal and enable electrification. This should include provision of capacity additional and complementary to that planned to be delivered under the NSW Electricity Infrastructure Roadmap, Long-Term Energy Service Agreements Scheme and the Australian Government's Capacity Investment Scheme.

Lessons from Ireland

In Ireland, the share of electricity consumed by data centres – centred in Dublin – surged from 5% of total demand in 2015 to 21% in 2023, and is expected to reach 30% by 2030 ([Baringa and CEFC 2025](#)). In response to concerns about the impacts of this growth on Ireland's grid, and the potential for widespread blackouts, an effective moratorium was placed on new data centre connections in 2021. In late 2025, Ireland's independent energy regulator introduced new requirements for data centres connecting to the grid.

Data centres are now required to meet at least 80% of their annual demand with additional renewable electricity (for example, through PPAs with wind and solar projects) within six years of commencing operations. The 80% benchmark reflects Ireland's current renewable energy target, and may be reviewed if the target is revised.

The six-year 'glide path' is intended to account for the timelines of renewable project development in Ireland ([Ireland Commission for Regulation of Utilities 2025](#)). Concerningly, it effectively allows data centres to operate entirely on fossil fuels during their first six years of operation if they choose – which would make them significantly more emissions-intensive than using electricity from Ireland's ~40% renewable grid. Environmental groups are currently challenging this policy in Ireland's high court ([Friends of the Irish Environment 2026](#)).

CLIMATE TARGETS

The rapid expansion of data centres poses a significant challenge to NSW's ability to meet its legislated emissions reduction targets. Current projections indicate the state is not on track to meet either its 2030 or 2035 emissions reduction targets of a 50% and 70% reduction on 2005 levels, respectively. The electricity sector makes up a significant proportion of the emissions reductions that are expected to be achieved – with its emissions set to more than halve between 2022 (43.3 Mt) and 2030 (19.9 Mt), and half that again by 2035 (8.4 Mt; [NSW Government 2025b](#)).

The growing data centre industry risks further widening the state's projected emissions reduction shortfalls by extending reliance on coal and/or requiring additional gas generation. Analysis by Baringa shows that if data centres are built without additional renewable capacity, emissions would increase by 14% across the NEM by 2035, compared to the baseline scenario ([Baringa and CEFC 2025](#)).

ELECTRICITY PRICES

Data centre growth could drive substantial increases in electricity prices across NSW and beyond if not managed effectively. Analysis by Baringa and the CEFC estimates that if data centre growth is not matched with new renewable generation and storage, wholesale prices could be 26% higher in NSW in 2035, primarily due to the associated increase in gas generation. With wholesale prices making up around 40% of a typical residential power

bill, this could significantly impact NSW homes and businesses ([Baringa and CEFC 2025](#)). Matching new data centre load with additional renewable generation, and storage to reduce reliance on peaking gas in the evenings, could limit this price rise to 3%, without a material impact on emissions ([Baringa and CEFC 2025](#)).

The additional and upgraded network infrastructure required by data centres also pose a potential risk to power bills. Importantly, the National Electricity Rules already allocate connection and augmentation costs to data centres if the assets are used exclusively by the data centre. However, as noted in the consultation paper – where augmentations are required in the shared network, the cost recovery is more complex.

The United States: A cautionary tale on power prices

While the United States is home to more than 4,000 data centres compared to Australia's 160, and operates under different regulatory settings, its experience highlights the potential impact of rapid data centre growth on electricity prices if not well managed. Across the country, Bloomberg analysis found wholesale electricity costs alone have increased by as much as 267% in five years in areas with significant data centre activity ([Bloomberg 2025](#)).

In addition to rising wholesale prices, in some parts of the US, households and businesses are expected to bear a share of the costs of new transmission infrastructure required to connect data centres to the grid ([IEEFA 2026](#)). This differs from the Australian context, where the costs of new network infrastructure needed solely to connect data centres to the grid are recovered from the data centre, limiting direct cost impacts on other consumers. However, the US experience still illustrates the broader risk that large, uncoordinated increases in demand can place upward pressure on electricity prices.

Many US states are now introducing laws to require data centres to support new generation capacity and contribute to network upgrades, in an effort to protect households and businesses from rising costs ([US National Caucus of Environmental Legislators 2025](#)).

ELECTRICITY GRID

New large, continuous data centre loads bring risks for our grid, but also have the potential to provide benefits if managed proactively. For example, data centres can support grid security at times of minimum system load by raising base grid demand. They can also absorb renewable energy that would otherwise be curtailed, particularly during the middle of the day when solar output is high. Analysis indicates that in NSW alone, up to 1.4 TWh of renewable generation (enough energy to power approximately 3.6 million homes for an entire month) that would otherwise be curtailed by 2030, could instead be utilised by new load such as data centres ([Baringa and CEFC 2025](#)).

On the other hand, during peak demand periods, data centre demand could widen the gap between renewable generation and load. The concentration of data centre development in

urban centres also creates challenges, with concerns that the transmission and distribution networks supporting data centre hubs may become increasingly constrained ([Baringa and CEFC 2025](#)).

In addition, the inverter-based technology used in data centres means that they can suddenly disconnect when there are grid disturbances. If many disconnect at once, this could threaten grid stability and increase the risk of outages. In March 2026, the Australian Energy Market Commission [released a draft rule](#) proposing new standards for large data centres connecting to the NEM to require data centres to stay connected to the grid during grid emergencies. NSW should engage constructively with this process and ensure its planning and approvals settings support compliance with evolving system security requirements.

WATER RESOURCES

The processes in data centres generate significant amounts of heat that must be continuously managed for the facility to operate effectively. Cooling systems vary between data centres, and can use water, air or a combination of both. These systems can use significant amounts of both water and energy, and there is generally a trade off between water and energy efficiency ([Mandala and Data Centres Australia 2025](#)).

Sydney Water estimates data centres use around 3.5 billion litres of Sydney's drinking water supply each year, less than 1% of total demand ([Shine and Smith 2025](#)). Like energy demand, estimates of future water use vary widely: the industry projects demand at 10.5 billion litres a year by 2030 (around 1.9% of supply). Sydney Water's estimate, based on servicing enquiries, is that the data centre industry will use up to 15-20% of the city's water supply in 2035. Sydney Water is receiving applications and enquiries for single data centres of up to 40 million litres per day (average day demand, equivalent to over 14 billion litres per year). This is equivalent to 70,000 to 80,000 homes, or 16 Olympic swimming pools per day ([WSAA 2025](#)). The industry notes that facilities rarely require the maximum water use, but operators must apply for capacity based on worst-case scenarios to ensure adequate supply during peak conditions ([Mandala and Data Centres Australia 2025](#)).

Data centres' use of water resources must be managed carefully at a time when supply is increasingly uncertain. Over the last 20 years, Greater Sydney has been in drought almost 50% of the time ([Sydney Water and Water NSW 2025](#)). Climate change will not only impact rainfall patterns and water supply, but increasing temperatures will also lead to an increase in water demand. We welcome the NSW Government's commitment in the consultation paper to consult on drought management and data centre growth.

Opportunities to align data centres with NSW's net zero future

ADDITIONALITY AND TIME MATCHING OF RENEWABLE ENERGY

The industry notes that data centres already voluntarily offset 70% of their energy consumption in Australia with Large-scale Generation Certificates (LGCs) and Power Purchase Agreements (PPAs) ([Data Centres Australia 2026](#)). While the industry's efforts to procure renewable energy are welcome, it is important to note that not all PPAs support additional renewable projects – that is, projects that had not yet reached financial close. In addition, companies usually purchase enough renewable energy or renewable energy certificates over a year to cover their electricity use, but this is not necessarily matched with consumption at certain times or locations ([Baringa and CEFC 2025](#)). This highlights a key challenge for both policy makers and industry operators attempting to meet sustainability targets.

Mechanisms for claiming renewable energy in Australia

- Large-scale generation certificates (LGCs) are tradeable certificates which allow businesses to effectively offset their electricity use with renewable generation on an annual basis.
- [Renewable Electricity Guarantee of Origin \(REGO\)](#) certificates have recently been introduced to provide greater flexibility and transparency than LGCs, including time and location tracking. REGOs will work alongside the LGC scheme until it is phased out in 2030.
- Power Purchase Agreements (PPAs) are long-term agreements that enable data centres to secure renewable electricity at a set price, while providing financial certainty for renewable projects. They may be used in conjunction with LGCs or REGOs.
- Co-locating data centres with new renewable generation (usually solar) and battery storage enables a closer physical link between demand and clean energy supply, though as data centres are often located in urban centres, space constraints can make on-site generation difficult to implement at scale.

Additionality and time matching are critical to ensuring that growing electricity demand from data centres supports, rather than undermines, the energy transition. Additionality means new data centre energy demand is met with demonstrably new renewable energy generation, rather than energy that would otherwise have supplied other parts of the economy. Time matching ensures that electricity use aligns with when renewable energy

is actually being generated, reducing the risk that data centre demand increases reliance on fossil fuels during periods of peak demand or low renewable output.

In Australia, there is little transparency around PPAs. 2024 analysis by RACEfor2030 indicates that across the economy in recent years, there has been a decline in corporate PPAs underwriting new projects, with most PPAs attached to existing renewable energy generation assets or underwritten by state-owned utilities ([RACEfor2030 2024](#)). That being said, there are instances where data centres have played a material role in enabling new renewable generation. For example, Equinix will purchase 20% of the energy from the first stage of the Golden Plains Wind Farm in Victoria, as part of its strategy to power its 17 Australian facilities with 100% clean energy by 2030. TagEnergy has stated the PPA was “material to the project” ([Lenaghan 2024](#)). Data centres could play a particularly significant role in supporting new wind capacity in NSW, noting the sector is currently facing delays due to a range of factors including funding uncertainty ([AEMO 2026](#); [Parkinson 2026](#)).

Additionality should be a core requirement, not an exception. Strengthening transparency around PPAs is essential to give governments a clear and accurate baseline of existing activity. Moving forward, disclosure will be critical for tracking whether PPAs are genuinely driving additional renewable capacity, while enhancing accountability and supporting informed policy design into the future.

Europe’s sustainability and transparency requirements

The European Union (EU) has introduced a framework to promote sustainable and transparent data centre operations ([European Commission 2025](#)). As part of this, the European Commission collects information on data centre electricity and water use, and [publishes the data](#) at an aggregated level. Site-specific data is kept confidential in response to lobbying from the tech industry ([Investigate Europe 2026](#)). The data will underpin future policy measures in the EU, including a rating scheme and minimum performance standards ([EU Commission 2026](#)).

Many EU member countries are well advanced in implementing strong national standards. For example, Germany has required at least 50% of the electricity consumed by each data centre to come from renewable sources since 2024. This will rise to 100% from 2027, and is accompanied by legislative requirements to meet energy efficiency targets, effectively use waste heat, together with reporting and transparency requirements ([Weiß 2025](#)).

Through the Climate Neutral Data Centers Pact, more than 100 data centre operators and trade associations in Europe have committed to making data centres climate neutral by 2030. This includes meeting strong energy efficiency targets in both new and existing data centres, and matching data centre electricity demand with 100% renewable energy or hourly carbon-free energy ([Climate Neutral Data Center 2026](#)).

ENERGY AND WATER EFFICIENCY

Proven technologies already exist to significantly reduce data centre water and energy consumption, and many operators are actively improving efficiency, driven not only by environmental considerations but also by the commercial benefits of lower water and energy demand and operating costs.

Since 1 July 2025, data centres contracted for use by the Australian Government have been required to achieve and maintain 5 stars NABERS Energy for Data Centres, or equivalent environmental rating such as a Power Usage Effectiveness (PUE) of 1.4 or less ([Australian Government Department of Finance 2025](#)).

Building on this momentum to ensure efficient data centres are the standard will reduce strain on our energy system and water resources.

Australian data centre operators are well-placed to meet strong water and energy efficiency requirements

Data centres in Australia are already more energy efficient than the global average, with a median PUE of 1.30 and some as low as 1.07 ([Mandala and Data Centres Australia 2025](#)). In 2019 NextDC's S1 Sydney Data centre became the first data centre in NSW, and the second in Australia, to achieve a NABERS 5-star rating for energy efficiency ([NextDC 2019](#)).

Australian data centre operators are also leading the development of water-saving technologies. For example, CDC has developed an advanced liquid cooling system that does not rely on ongoing water consumption, and reduces evaporation and waste. CDC estimates 5,000 million litres is being saved across 13 CDC-operated data centres in New Zealand and Australia through this technology ([CDC Data Centres](#)).

Australia can also learn from overseas innovation. For example, Google's data centre in Hamina, Finland uses an innovative cooling system that draws cold seawater from the Gulf of Finland to remove heat from servers via heat exchangers, rather than relying on potable water or energy-intensive chillers ([Google 2025](#)).

ENABLING FLEXIBLE DEMAND WITH LOW EMISSIONS SOLUTIONS

Other large energy users, such as aluminium smelters, support the grid by making arrangements to increase or reduce power use to meet varying weather, network demand and operating conditions, as well as going completely offline – known as load shedding – during grid events ([Australian Aluminium Council 2025](#)). Transgrid has indicated it intends to clearly reflect expectations for data centres to respond appropriately during periods of peak demand or system stress to support system reliability and security for all consumers in its connection agreements ([Transgrid 2026](#)).

The data centre industry has expressed a willingness to participate in voluntary demand flexibility and peak-load management arrangements to enhance grid stability, noting a range of regulatory reforms are needed to effectively enable this ([Data Centres Australia 2026](#)). The industry's unique need for consistent, uninterrupted energy supply presents a challenge for managing load flexibility. Currently, most data centres use diesel backup generators to ensure their energy security. Beyond the cost and supply concerns associated with relying on imported fuel, diesel generators release climate pollution and other harmful pollutants including carbon monoxide, nitrogen oxides and sulphur dioxide. It is estimated that pollution from non-road diesel engines in Australia had a health impact equivalent to 5,387 years of life lost in 2018 alone ([DCCEEW 2024](#)).

Policies to require or encourage load flexibility should limit reliance on diesel backup generation and associated pollution. For example, co-locating or contracting with big batteries would allow them to draw on stored energy and reduce diesel use. Some data centre operators in Australia are already investing in storage, including the Supernode Data Centre in Queensland, which will host one of the largest batteries in the NEM. The 750 MW, 2-4 hour battery will provide stable power supply and help overcome critical stability issues facing the Queensland grid ([Quinbrook 2025](#)).

Renewable diesel and biodiesel are being trialled around the world as a sustainable backup power option, for example at the [Vantage Data Centre](#) in Wales. In Australia, AirTrunk has indicated it intends to trial renewable diesel at the 1.2 GW Mamre Road Data Centre in Western Sydney ([E-Lab Consulting 2025](#)).

For some data centre customers, there are opportunities to shift their load by performing non-critical tasks in times of high renewable output. In the US, Google is embedding a range of flexible demand capabilities into its data centre fleet, which enables it to shift or reduce power demand during certain hours or times of the year ([Google 2025](#)).

PROTECTING CONSUMERS FROM INCREASED COSTS

We note that ECMC has tasked energy departments with reviewing the cost recovery arrangements to ensure data centres cover network upgrades and data centre growth ([ECMC 2025](#)), and that the NSW Government expressed its support for such a review in the consultation paper. Frameworks must ensure the industry, rather than homes and businesses, absorbs the costs of both electricity and water infrastructure upgrades needed to support their operations.

SUPPORTING REGIONAL ECONOMIC DEVELOPMENT

While there are clear operational and commercial reasons for locating many data centres near cities, there are opportunities to site some data centres in strategic regional locations that could bring benefits to the grid and communities. The industry notes that facilities with workloads that have less stringent latency requirements, such as AI training, could

be located in regional areas without impacting performance ([Mandala and Data Centres Australia 2025](#)). Siting data centres near renewable energy zones (REZs) could help reduce network augmentation costs, ease transmission constraints, support regional development, and even unlock additional network capacity ([CEFC and Baringa 2025](#)).

These regions are already undergoing significant change, and development would need to be carefully managed alongside this. Renewable energy and data centre development should be coordinated, delivered in genuine consultation with communities, and deliver lasting benefits.

INCREASED TRANSPARENCY

As noted throughout our submission, the estimates of future data centre water and energy demand vary widely. Reliable and transparent data on the magnitude of future demand is a critical foundation for effectively planning for and reducing impacts. We welcome the NSW Government's commitment to collaborate with industry to improve approaches for forecasting both water and energy demand, including by aligning assumptions.

Strengthening transparency around PPAs is also essential to give governments a clear and accurate baseline of existing activity. Moving forward, disclosure will be critical for tracking whether PPAs are genuinely driving additional renewable capacity, while enhancing accountability and supporting informed policy design into the future.

COORDINATED PLANNING

Data centre development spans various policy areas, multiple levels of government, regulators and utilities. Effective coordination across these institutions and industry is essential to mitigating the risks of data centre growth, and harnessing the potential benefits – for example, by aligning data centre growth with renewable energy development. Victoria is actively coordinating development through its [Sustainable Data Centre Action Plan](#), designed to improve government coordination of data centres and attract investment while ensuring growth is “well planned, efficient and responsible” ([Victorian Government 2026](#)).

Australia's data centre industry states that it is committed to operating “sustainably, transparently and in the national interest” ([Data Centres Australia 2026](#)). However, it notes that there are a range of barriers requiring action from governments to enable this. For example, accelerated approvals for network and water infrastructure are needed to support timely deployment of grid and water infrastructure alongside data centre growth ([Mandala and Data Centres Australia 2025](#)). Work is also needed to support the adoption of low emissions backup systems, for example developing biodiesel supply chains and exploring reforms to support installation of large-scale battery storage (for example, [as identified by NextDC](#)).

Conclusion

The NSW Government faces an important choice in how it manages the rapid growth of data centres. Without aligning new demand with additional renewable generation, storage, and system flexibility, this growth could place upward pressure on electricity costs, prolong the use of fossil fuel generation, and increase risks to emissions reduction goals. Similarly, without careful planning, rising water use could add to existing pressures on scarce resources.

These outcomes are not inevitable. Data centre operators and customers have significant capital available to invest in electricity and water infrastructure that will benefit both them and the community. With clear policy direction and coordinated planning, data centres can play a positive role in NSW's energy transition – supporting new clean energy investment, improving grid efficiency, and contributing to regional economic development.

The NSW Government has a critical opportunity to shape this trajectory. By implementing timely regulatory frameworks, setting strong expectations and aligning development with community priorities, it can ensure that data centre growth delivers lasting public benefits while supporting the state's energy and climate targets.