WWF AUSTRALIA

SUBMISSION
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WWF Submission to the Senate Inquiry into AI and Data Centres

The World Wide Fund for Nature-Australia (WWF-Australia) welcomes the opportunity to make a submission to the inquiry on Artificial Intelligence and Data Centres.

WWF-Australia is part of the WWF International Network, the world's largest independent conservation organisation. WWF's global mission is to 'stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature'.

We understand that the scope of the inquiry is to consider:

1. the effectiveness of existing regulatory frameworks in managing the growth of data centres in Australia, including in relation to existing and future deals between the Government and global Artificial Intelligence (AI) companies;

2. the potential impacts of AI and data centres on Australian communities, industries and the environment, water and energy; and

The scope of our submission is focussed on the issue of data centre policy and regulation rather than the broader issues of Artificial Intelligence use and demand.

If you require further information, please contact **Rob Law**, Senior Manager, Energy Transitions at rlaw@wwf.org.au

In summary, our submission makes the following recommendations:

1. Ensure expectations are matched with adequate regulations and incentives
2. Establish nationally consistent reporting and improve transparency requirements
3. Establish best practice minimum water efficiency standards appropriate to climate zones and water sources
4. Prioritise recycled water and ensure adequate water protections
5. Require data centres to procure additional renewable energy aligned with their demand, prohibiting reliance on new fossil fuel generation
6. Strengthen planning frameworks to ensure data centres are sited within system limits, minimise cumulative and environmental impacts, and deliver shared infrastructure and community benefits.
7. Condition data centre approvals on alignment with Australia's climate targets.
8. Require climate risk and resilience to be explicitly assessed in data centre planning and approvals.
9. Leverage procurement, incentives and standards to scale low carbon materials, transparency and circularity in data centre supply chains.

1. Beyond expectations; regulation vs incentives

Earlier this year, WWF-Australia joined with other organisations to develop a set of public interest principles to guide data centre development in Australia[1]. The principles were as follows:

- Be powered by 100% additional renewable energy
- Strengthen grid stability
- Be appropriately sited to minimise impacts on nature and land use
- Minimise embodied emissions and maximise efficiency and circularity
- Use water resources responsibly
- Operate with transparency
- Commit to earning and delivering ongoing social licence
- Support the training and upskilling of the workforce

Both Commonwealth and state governments have a role to play in setting the right guardrails for data centre development in Australia. The Commonwealth can set national standards, reporting frameworks, and market signals, while states and territories shape planning, water allocation, and address localised social and environmental impacts.

Whilst WWF-Australia welcomes the national expectations released this year on data centres that broadly reflect our principles, it is critical that more is done to move this beyond expectations. This will involve a balance of regulations to ensure that the right guardrails are in place and incentives to create a race to the top towards best practice.

2. Data transparency

A key barrier to informed policy and public debate is the lack of consistent, publicly available data on data centre resource use.

There is currently limited transparency on:

- water consumption, including source and discharge,
- energy demand and load profiles,
- efficiency metrics across facilities, and
- projected growth in demand.

In addition to resource use, there is a need for greater transparency around the purpose and use case of data centre capacity. Not all demand delivers the same public benefit, and understanding whether facilities are supporting AI workloads, cloud services, or other digital functions is important for assessing their overall contribution to society. This would allow policymakers to better weigh resource use against public value.

Expanding and standardising disclosure frameworks would enable clearer benchmarking and accountability. In addition, data transparency should also be available in the planning stages, to help communities understand forecast impacts, rather than only being available after a facility is built. Improved transparency would support better planning, stronger policy design and more informed community engagement.

3. Water

Water demand forecasts for data centres are highly variable and contested, reflecting issues in standardising and transparency in data reporting and uncertainty over the scale and size of data centres that ultimately proceed in Australia. Critically, there remains a gap between industry

[1] ACF, CEC, Carbon Zero *et al.* (2026) Public Interest Principles for Data Centres

projections and water authority planning assumptions, making it difficult to assess system-wide risk and ensure that approvals reflect real constraints rather than optimistic demand forecasts. For example, industry estimates will see water needs triple from 5.5GL to 17GL over the next five years across the country. By contrast, water utilities have estimated based on planning applications that this forecast could be much higher ranging from 90GL/year to 135GL/year[2] [3].

This highlights the need for stronger and more coordinated policy response built around both transparency and clear standards. Although some level of reporting exists, greater efforts need to be undertaken to ensure the broader public has transparency on the sectors broader impacts. Mandatory public reporting is necessary and should cover total water use, water source (e.g. potable, recycled, or alternative), water use efficiency levels, and wastewater discharge characteristics. At the same time, governments should establish clear and enforceable water use efficiency (WUE) standards, so that best practice is defined and expected across the sector rather than left to voluntary uptake.

A key design question for regulators is how those standards are set and structured. A single uniform WUE threshold risks locking in continued reliance on high-quality drinking water. Instead, policy could differentiate WUE threshold requirements by water source, with tighter thresholds for facilities relying on potable water and more flexible thresholds where lower-value or recycled sources are used. This would embed incentives to shift demand away from scarce drinking water supplies and towards alternatives such as recycled water, stormwater or industrial supply.

Wastewater management is also a critical issue for consideration, including the impacts of discharge on receiving water systems. Best practice should move toward minimising net water demand through reuse, closed-loop or lower-water cooling technologies and alignment with local water system limits. Taken together, this reinforces the broader point that data centres must be planned as part of the water system, not simply connected to it, with policy settings that ensure their growth does not come at the expense of water security for communities or ecosystems.

4. Energy

Australia is now facing a step change in data centre energy demand at the same time it is trying to replace fossil fuels with clean electricity. According to the Climate Council, Australia already has 162 data centres operating and more than 90 projects in development. Data centre electricity demand is projected to triple by 2030 to around 12 TWh, or about 6% of demand in the main grid, roughly equivalent to powering all homes in Victoria[4]. The same report warns that if all proposed projects proceed, their combined maximum demand would exceed 21 GW. If this growth is met with gas rather than new renewables and storage, wholesale prices could rise by 23-26% in Victoria and NSW by 2035, while contributing to higher greenhouse gas emissions.

In that context, the central policy objective should be clear: major new data centre load should drive additional renewable energy supply, not simply compete for existing clean electricity. That is especially important because existing certificate markets, particularly Large-scale Generation Certificates, no longer provide a meaningful enough financial signal to bring forward new renewable generation. This creates a wider policy gap between reported emissions outcomes and real system change.

Australia therefore needs a clearer federal framework for how additionality is defined and proven, so that compliance cannot be met through low-cost legacy certificates or existing supply that would have been built anyway. In practical terms, policy should favour approaches that bring genuinely new capacity into the system, including onsite renewable generation where feasible, new power purchase agreements tied to new-build projects, firming and storage and demand flexibility that supports the grid rather than adding to system stress. That reflects the public interest principle that new data centres

[2] Reuters (2025) In Australia, a data centre boom is built on vague water plans
[3] Water Services Association of Australia WSAA (2025) Data centres and water in Australia
[4] Climate Council (2026) Clouded Future

should provide their own additional zero-emissions energy supply and be matched with additional renewable generation rather than relying on certificates or offtakes from existing projects.

Projects that seek to build new gas-fired generation should not be permitted as part of data centre development. At a time when Australia needs to rapidly replace fossil fuels with clean energy, locking in new gas supply for large new loads is out of step with Australia's emissions goals, risks pushing those goals further out of reach, and places added pressure on other parts of the economy to decarbonise faster to compensate. Instead, proponents should be required to secure new and additional clean energy generation and/or storage, so they make a positive contribution to Australia's energy transition rather than deepening reliance on fossil fuels. Significant diesel backup generation also raises broader community and environmental concerns, including noise, waste and health impacts.

5. Siting

The siting of data centres should be guided by the same principles emerging from Australia's experience with large-scale renewable energy development: decisions must be based on **integrated planning**, not single-variable optimisation. For example, whilst regionalisation of some data centres may make sense it is important that these locations are not just based on one challenge. For example, Renewable Energy Zones have largely been mapped based on wind and solar potential, rather than with regards to water availability, or cumulative environmental limits. Many of these zones are located in regions already facing significant water security challenges, highlighting the risks of a siloed approach.

Data centres add a further layer of complexity at the intersection of water and energy systems and competition with existing land uses such as agriculture. This highlights the need to prioritise locations where water and energy resources can be sustainably supplied, exploring opportunities to use brownfield or industrial sites where impacts can be minimised, avoiding areas of high biodiversity value and carefully managing impacts on local communities. A more integrated approach to siting—bringing together energy, water, environmental and social considerations upfront—will be essential to ensuring that data centre development supports, rather than undermines, broader system resilience and regional outcomes.

6. Climate

The rapid growth of data centres presents both a risk and an opportunity for Australia's climate targets. Australia is already at a critical juncture in its transition to a low-emissions economy, with the Climate Change Authority recommending a 62–70% emissions reduction by 2035 and noting that emissions reductions must accelerate significantly to meet that goal[5]. At the same time, the Authority has acknowledged the challenge posed by emerging sources of electricity demand, including data centres, which are contributing to higher emissions than previously anticipated and making more ambitious targets harder to achieve. This reinforces the need for policy settings that ensure data centre growth pulls the system towards Australia's climate goals, rather than hindering them. If managed well, data centres could help drive new renewable investment and support the transition to a cleaner grid. If managed poorly, they risk extending reliance on coal and gas, increasing emissions, and undermining national targets at a time when they must be accelerated.

Beyond the source of energy, a recent Materials and Embodied Carbon Leaders Alliance (MECLA) report highlights that a substantial share of data centre emissions are embedded in construction materials, mechanical systems and rapidly replaced IT hardware, yet remain largely unaddressed in current policy and procurement frameworks[6]. These embodied emissions are set to become a growing share of data centre's footprint, creating a risk that fast development locks in high-carbon

[5] Climate Change Authority (2025) 2035 targets advice
[6] Materials and Embodied Carbon Leaders Alliance (2026) The next frontier

infrastructure. On the other hand, this also presents an opportunity for Australia to reduce lifecycle emissions and build a globally competitive low-carbon data centre sector if addressed early.

Regulations and policy must also explicitly consider the growing climate risks associated with operating large, water and energy intensive data centre infrastructure in a warming world. Recent analysis by XDI mapped planned data centre developments globally against climate hazards showing that many proposed projects are being concentrated in emerging climate-risk hotspots. This highlights the risk of locking in new infrastructure in increasingly vulnerable locations without stronger planning safeguards[7].

Climate change is already increasing the frequency and severity of droughts, heatwaves and extreme weather events in Australia, placing added pressure on both water and energy systems. This raises important questions about how risks are managed during extreme conditions—for example, whether communities face tighter water restrictions or electricity disruptions while large industrial loads are prioritised for continuous supply. Evidence already points to emerging tensions around water use, with projections suggesting data centres could account for a significant share of urban water demand in some regions, intensifying pressure during drought periods[8]. Ensuring resilience will therefore require stronger planning and regulatory frameworks that anticipate these risks, prioritise essential community needs, and ensure that data centres are designed and operated in a way that is compatible with a hotter, drier and more volatile climate.

Getting the speed right – global context and competition

The pace of data centre expansion in Australia must be calibrated to match the development of appropriate policy, supporting infrastructure and safeguards. This is not a uniquely Australian challenge. Globally, governments are grappling with how to manage rapid growth in AI and data centre infrastructure, with mounting evidence of pushback where deployment has outpaced system capacity and regulatory frameworks[9]. Across Europe and Asia, jurisdictions have already introduced constraints on development timeframes to enable regulatory frameworks to adequately assess impact. For example, a moratorium on new data centres took place in Singapore from 2019 while the government reviewed sustainability and resource constraints. Similarly, Greenpeace Australia has recently called for a moratorium on hyperscale data centre development in Australia.[10] Such actions may be the most sensible option to manage an industry of this size and scale to ensure that social and environmental outcomes are carefully managed.

These examples point to a clear risk: where growth occurs faster than policy and system capacity, it can lock in long-term impacts on energy systems, water resources and emissions. Australia should constrain the rate of development to what can be properly planned, regulated and integrated, so that the expansion of data centres does not undermine national objectives on climate, water security, system reliability or community wellbeing. Ultimately, if data centre growth is fast tracked at the expense of proper environmental, social and planning considerations this is unlikely to benefit anyone, including the industry itself. Moving too quickly in the approvals process can lead to reduced social license and ultimately a slower than planned rollout.

Key recommendations

It is critical the Australia gets the settings right to ensure data centres contribute to Australia's broader climate and energy goals whilst not undermining our water security or community wellbeing. The following table is a set of recommendations with an articulation of what this could enable. Getting it right is critical for Australia's future prosperity.

[7] XDI (2026) 2026 Global Analysis of Planned Data Centres for Physical Climate Risk Resilience
[8] United Nations University (2026) Environmental cost of AI's energy use; carbon, water and land footprints
[9] Harvard Gazette (2026) Why are communities pushing back against data centres
[10] Greenpeace (2026) Energy vampires

Issue	Recommendation/s	Enables
Regulations	• Ensure expectations are matched with adequate regulations and incentives	• Strong guardrails to protect communities • Incentives to drive best practice
Data	• Establish nationally consistent reporting and improve transparency requirements	• Integrated system planning (e.g. energy/water/land use). • Procurement incentives that reward best performers (e.g. green data buyers' clubs) • Cumulative impacts to be properly assessed (not just site-by-site). • Public legitimacy where communities understand trade-offs. • Cross-jurisdiction comparisons.
Water	• Establish best practice minimum water efficiency standards appropriate to climate zones and water sources • Prioritise recycled water and ensure adequate water protections	• Near-zero reliance on potable water • High levels of water reuse or recycling, • Transparent reporting of water use and discharge, • Alignment with regional water system limits • High water efficiency through best practice design choices (e.g. closed loop liquid cooling)
Energy	• Require data centres to procure additional renewable energy aligned with their demand, prohibiting reliance on new fossil fuel generation	• New demand matched with additional renewable generation through a mix of maximised onsite renewable generation/storage and energy efficiency paired with new generation Power Purchase Agreements (PPAs). • Active participation in demand response and grid services. • Alignment with system planning to avoid congestion and stranded assets. • Zero carbon data services.
Siting	• Strengthen planning frameworks to ensure data centres are sited within system limits, minimise cumulative and environmental impacts, and deliver shared	• Consideration of cumulative impacts and opportunities for shared infrastructure. • .Location within system limits, including both sustainable water and clean energy supply • Preferences for brownfield or existing industrial sites. • Avoidance of high biodiversity value areas. • Early and genuine community engagement, with clear local benefits.

	infrastructure and community benefits.	
Climate	• Condition data centre approvals on alignment with Australia's climate targets. • Require climate risk and resilience to be explicitly assessed in data centre planning and approvals. • Leverage procurement, incentives and standards to scale low-carbon materials, transparency and circularity in data centre supply chains.	• Aligned with Australia's climate targets, not adding to emissions. • Built to operate in a hotter, drier climate, with resilient water and cooling systems. • Clear prioritisation of community needs during extreme events (water and energy). • Designed to reduce system pressure, not increase risks during heatwaves and drought.

Thank you for the opportunity to provide a submission to this important inquiry.

For more information

Rob Law
Senior Manager, Energy Transitions

rlaw@wwf.org.au

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WWF-Australia
GPO Box 528, Sydney NSW 2001
Tel:+1800 032 551 | hello@wwf.org.au | wwf.org.au