SUBMISSION

Senate Committee Inquiry into Artificial Intelligence and Data Centres

Submission to Environment and Communications References Committee - June 2026

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Contents

About the Smart Energy Council

The Smart Energy Council (SEC) is Australia's peak body for the renewable energy and storage industry, representing over 700 member companies across solar, battery storage, energy management, and related clean energy sectors. Our membership spans technology manufacturers, installers, retailers, financiers, and policy advocates, all committed to accelerating Australia's transition to clean, affordable energy.

Introduction

This submission responds to the Committee's inquiry into the regulatory, environmental and economic implications of artificial intelligence and data centre growth in Australia. We support the responsible growth of this sector and consider it a genuine opportunity to accelerate investment in renewable generation and storage. That opportunity, however, depends on data centres being required to bring new, additional clean energy rather than drawing on the existing supply that households and businesses rely on.

We emphasise that gaps in the current regulatory framework carry material risk. The evidence outlined in this submission estimates data centre energy demand roughly tripling by 2030 and wholesale electricity prices rising by as much as a quarter in the most affected states, if that demand is met with gas rather than renewables and planning approvals proceeding on general assurances rather than measurable commitments.

We strongly encourage the Committee to address the concerns outlined in the submission below, and we would be happy to provide further evidence or appear before the Committee.

Summary of Recommendations

1. The Australian Government make new and additional renewable energy and storage a binding requirement of the national Expectations, legislating mandatory standards that hold data centres to a standard of genuine additional clean energy supply.
2. The Australian Government, through the ECMC, support the prompt finalisation of both the AEMC's Package 2 rule change on grid connection and cost allocation, and the AEMC's technical standards for large inverter-based loads, ensuring data centre operators bear the cost of new connection and transmission infrastructure rather than passing it to other consumers.
3. The Australian Government work with states and territories to expand the ECMC's existing data centre workstream to pursue national harmonisation of energy reporting, including a consistent, quantified Australian energy usage effectiveness metric.
4. The Australian Government, through the ECMC, require that all agreements between government bodies and AI infrastructure developers involving preferential treatment on planning and energy connection be tabled and made publicly available.

1. Effectiveness of existing regulatory frameworks

Australia's regulatory settings for data centres have developed quickly over the past twelve months but remain non-binding and fragmented across jurisdictions. The Commonwealth's Expectations of Data Centres and AI Infrastructure Developers, released on 23 March 2026, set out five expectations covering national interest, energy, water, workforce and innovation, including that operators should underwrite new renewable power supply, pay their full share of new grid connectivity, and support the energy transition through demand flexibility.

We welcomed this framework on release and consider it strikes a reasonable balance between enabling investment and protecting consumers. However, the Expectations are non-binding. Proposals that do not align with them are not prioritised in Commonwealth approval processes, but they are not refused. This leaves a material gap between the Government's stated intent and its enforceable powers.

Three regulatory levers are already available to close this gap: renewable electricity certification through the Commonwealth's Guarantee of Origin scheme; grid connection and cost allocation through the AEMC's National Electricity Rules; and environmental and social impact assessment through state planning law. Our recommendations identify where each lever should be strengthened, and where a genuine gap remains for the Commonwealth to address through national coordination.

1.1 The case for mandatory standards

In February 2026, an eleven-member alliance including Smart Energy Council alongside the Clean Energy Council, the Electrical Trades Union, the Australian Conservation Foundation, WWF-Australia, RE-Alliance and Climate Energy Finance proposed an eight-point plan to the Australian Government.[1] The plan called for data centre approvals to be made conditional on operators sourcing 100 per cent new, additional renewable energy, contributing to grid stability, and supporting workforce development.

Data centres rely on publicly funded water and grid infrastructure. Approvals should therefore be conditional on new, long-term, firmed renewable power purchase agreements as a prerequisite, verified through REGO certification rather than contractual claims alone.[2] We recommend this requirement be given legislative force through the national Expectations, since state planning conditions have no jurisdiction over energy market certification.

This position is supported by modelling commissioned by the Clean Energy Finance Corporation (CEFC). Baringa's report *Getting the Balance Right: Data Centre Growth and the*

[1] Mandate 100% clean energy for data centre approvals proposed (2026) | pv magazine Australia
[2] Guarantee of Origin Scheme and Renewable Electricity Guarantee of Origin (REGO) (n.d.) | Clean Energy Regulator

Energy Transition (2025) found that data centre capacity is projected to grow from 1.35 GW to between 4.7 and 7.4 GW by 2035. Without additional renewable generation and storage, this growth risks higher power prices and weaker grid reliability.[3] The same modelling found that adding 3.2 GW of new generation and 1.9 GW of battery storage by 2035 would contain price rises and offset the additional emissions associated with this growth.

The Climate Council also published a report which found that without intervention, data centre growth could drive a 26 per cent rise in wholesale electricity prices in New South Wales and a 23 per cent rise in Victoria by 2035, where demand is met with gas rather than renewables.[4] Data centre energy demand had already risen 18 per cent in New South Wales and nearly doubled in Victoria in the preceding twelve months.

1.2 Grid connection and cost allocation

Grid connection and cost allocation for large energy users is an area of active reform. The AEMC has released draft technical standards for large data centre loads connecting to the National Electricity Market, with a final rule expected soon.[5] The AEMC has stated its intention to avoid data centres passing excessive costs to other consumers, which aligns with our position that operators should bear the cost of connection works attributable to their load.

We recommend the Committee's report call on the Commonwealth, through the Energy and Climate Change Ministerial Council (ECMC), to support the prompt finalisation of this rule change, recognising that the AEMC is an independent statutory body whose rule-making timeline the Committee can encourage but not direct. We also recommend that AEMO's already-announced interim guidelines be finalised and that they explicitly address how demand flexibility and curtailment obligations apply to data centres, including how the existing Wholesale Demand Response Mechanism can be drawn on for this purpose. We also recommend against parallel or inconsistent cost-allocation rules through state-based planning conditions, which risk conflicting with the nationally consistent approach the AEMC is developing.

1.3 Fragmentation between Commonwealth and state frameworks

The Commonwealth Expectations sit alongside a separate New South Wales parliamentary inquiry and the NSW Net Zero Commission submission calling for data centres to fund new renewable generation commensurate with their demand, and to meet world-leading standards for energy and water efficiency with ongoing public reporting.[6]

[3] Getting the Balance Right: Data Centre Growth and the Energy Transition (2025) | Baringa and the Clean Energy Finance Corporation
[4] Clouded Future: Managing the Risks of the Data Centre Boom (2026) | Climate Council
[5] AEMC proposes new grid standards for data centre connections (2026) | Australian Energy Market Commission
[6] Submission to the Inquiry into Data Centres in New South Wales (2026) | NSW Net Zero Commission

We support these principles and emphasise that the ECMC is moving in this direction. At its May 2026 meeting, ministers from all jurisdictions except Queensland agreed that data centres should invest in additional renewable generation and firming to fully offset their electricity demand and provide demand flexibility services, and that they should provide transparent reporting on their energy use and emissions, with the AEMC tasked to provide implementation advice.[7]

An effective framework requires this agreement to be extended into nationally consistent, enforceable standards, rather than a patchwork of state rules or a single dissenting jurisdiction limiting its national application. Energy certification, grid connection and planning approval currently sit with different regulators operating on different timeframes; without active coordination, a data centre could satisfy one regime while falling short of another.

1.4 Transparency in government-to-AI company deals

Agreements between Australian governments and global AI companies, covering planning, and energy, are being negotiated with limited public visibility. Recent investment decisions, including AUD $51.9 billion in data centre projects endorsed by the New South Wales Investment Delivery Authority for fast-tracked approval, indicate the scale of capital involved at the state level alone.[8] The public and other market participants have a legitimate interest in the terms on which this capital is being welcomed, particularly where it affects the cost or reliability of shared infrastructure.

We recommend that agreements involving preferential treatment on planning and energy connection be tabled and made publicly available, consistent with the transparency already expected of nationally significant foreign investment proposals. We further recommend that renewable energy commitments attached to such deals be independently verified against REGO certification and reported annually, and that the ECMC process for implementing the national Expectations include a public reporting mechanism.

2. Impacts on energy and the economy

2.1 Energy system impacts

AEMO-commissioned modelling by Oxford Economics Australia found that data centre energy demand could grow from approximately 3.9 TWh in FY25 to around 12.0 TWh by FY30 under a Step Change scenario, and to 16.2 TWh including prospective pipeline projects.[9]

[7] Energy policy divide deepens as one state withholds support for key national reforms to boost renewables (2026), quoting the Energy and Climate Change Ministerial Council communique | RenewEconomy
[8] Australia tightens data centre scrutiny amid AI boom (2026) | IT Brief Australia, reporting on NSW Investment Delivery Authority data
[9] Data Centre Energy Demand — Final Report (2025) | Oxford Economics Australia, commissioned by AEMO

The Climate Council found that data centres could account for 6 per cent of National Electricity Market demand by 2030, equivalent to powering all homes in Victoria.

This is consistent with international trends. The International Energy Agency's Energy and AI (2025) found that global data centre electricity consumption was around 415 TWh in 2024, projected to nearly double to 945 TWh by 2030.[10] Its 2026 follow-up, Key Questions on Energy and AI, found global demand grew 17 per cent in 2025, with AI-focused data centres growing 50 per cent.[11] Regulatory settings should be designed for this trajectory rather than the current share of consumption.

2.2 Economic opportunity

Data centres and AI infrastructure represent a genuine opportunity for Australia, given its renewable energy resources. Properly structured, data centre demand can support new renewable energy and storage investment that benefits the broader grid.

The SEC is ready to work with the AI and data centre sector and with government to support this outcome. Achieving this will require the regulatory settings highlighted in this submission being made binding and delivered through the mechanisms the Commonwealth can use, rather than new, overlapping regimes.

3. Other related matters

3.1 International standards

The European Union's Energy Efficiency Directive requires data centres above 500 kW of installed IT load to report energy consumption, water use, waste heat reuse and renewable energy share to a public database. The European Commission's first technical assessment of this data, covering 776 data centres across 18 countries, found a weighted average power usage effectiveness of 1.36, and found that water usage effectiveness tends to worsen as facility size increases.[12] A mandatory labelling scheme is due for adoption in mid-2026.

Australia has no equivalent disclosure regime, though the building blocks exist in REGO certification and state-based environmental impact disclosure. We recommend the ECMC pursue a single, quantified, nationally consistent reporting layer that draws on these existing obligations, with publicly available, facility-level data on energy and water performance.

[10] Energy and AI (2025) | International Energy Agency
[11] Key Questions on Energy and AI (2026) | International Energy Agency
[12] Assessment of the Energy Performance and Sustainability of Data Centres in the EU (2025) | European Commission, Directorate-General for Energy

3.2 International experience

The U.S. Department of Energy's Lawrence Berkeley National Laboratory found that US data centre electricity consumption grew from 58 TWh in 2014 to 176 TWh in 2023, with annual growth accelerating from around 7 per cent to around 18 per cent over that period.[13] Consumption is projected to reach up to 580 TWh by 2028, or as much as 12 per cent of total US electricity use. This experience illustrates how quickly demand can outpace planning assumptions once AI-driven investment accelerates and supports finalising Australian standards while the build-out remains comparatively early.

3.3 Workforce and skills

Data centre developers should be required to invest in training and upskilling the Australian electrical and renewable energy workforce as a condition of approval, given the scale of skilled labour required to build both data centres and the renewable generation needed to power them.

[13] 2024 United States Data Center Energy Usage Report (2024) | Shehabi, A. et al., Lawrence Berkeley National Laboratory, commissioned by the US Department of Energy

4. Conclusion

Australia is well placed to support the growth of emerging industries with renewable energy backed by storage. The support for the continued growth of the opportunity from data centres and generative AI depends on whether data centres are required to bring new, additional clean energy, binding rather than voluntary obligations and transparent government dealings with AI companies.

If the gaps identified in this submission are not addressed, evidence points to rising wholesale electricity prices in the most affected states and planning approvals proceeding on general assurances rather than measurable commitments.

These outcomes also carry a wider cost: communities that experience poorly managed data centre development do not reliably distinguish it from the renewable energy projects built alongside it, and opposition to one can harden into opposition to both.

If these recommendations are adopted, data centre demand can support new renewable generation and storage at a scale that benefits the wider grid, while giving Australia a clearer basis on which to attract well-governed investment. The cost of establishing these standards now, while the sector remains comparatively early in its development, is modest compared with the cost of addressing risks once the industry is more established.

We thank the Committee for the opportunity to contribute to this inquiry and would welcome the opportunity to provide further evidence or to appear before the Committee.

If you have any queries on the issues raised, please do not hesitate to contact me via rhiannon@smartenergy.org.au.

Kind regards,

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