



SUBMISSION

Building AI infrastructure that works for Australia

Submission to Department of the Prime Minister and Cabinet – October 2026

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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 “Getting it right: Building AI infrastructure that works for Australia” paper published September 2026. This submission builds on previous submissions across this topic and applies that evidence to the specific design questions raised in this consultation paper.

The SEC strongly welcomes the government's decision to move from the voluntary Expectations of Data Centres and AI Infrastructure Developers (March 2026) to a legislated, nationally consistent set of AI standards. The SEC suggested this as part of our previous advocacy and as part of an industry alliance that proposed making data centre approvals conditional on genuinely new, additional renewable supply. Legislating the standards is the right decision. The value of those standards depends on how the energy requirements are designed and enforced.

We support the responsible growth of the data centre and AI sector and regard it as a genuine opportunity to accelerate investment in renewable generation and storage. That opportunity is only achieved if data centres are required to bring new, additional clean energy instead of drawing on the existing supply that households and businesses rely on. This submission concentrates on two design choices in Part 2 of the paper that will determine whether the standards deliver that outcome:

- the renewable electricity obligation must require 100 per cent new and additional renewable supply, because additionality is what turns data centre demand into a firm investment signal for large-scale renewables; and
- firming must be clean: gas should be removed from the acceptable firming technologies, and the long-duration storage that new large loads require should be incentivised through a range of clean firming mechanisms, with the Electricity Services Entry Mechanism (ESEM) firming service a preferred pathway.

It also addresses two further issues mentioned in this paper that flow from these priorities: grid connection and the allocation of network costs (Section 3), and transparency and reporting (Section 4).

Summary of Recommendations

1. **Require 100 per cent new and additional renewable supply.** The renewable electricity obligation should require large data centres to match 100 per cent of their electricity demand with new and additional renewable generation, verified through Renewable Electricity Guarantee of Origin (REGO) certification, rather than a diluted glide-path that permits existing capacity to count toward the obligation.
2. **Define 'new and additional' by a financial-commitment test.** Eligible generation and storage should be projects that had not reached a final investment decision at the time they were contracted to the data centre, contracted under long-term firm power purchase agreements, and quarantined from double counting against the Renewable Energy Target or any other obligation.
3. **Recognise PPAs and ESEM contracts as compliance pathways.** The compliance framework should be additionality-strict but instrument-neutral: long-term firm power purchase agreements and ESEM zero-emissions bulk and firming contracts should be accepted routes to demonstrate the additionality and firming obligations with REGO certification used to verify supply and prevent double-counting.
4. **Remove gas from acceptable firming and restrict non-renewable back-up.** Gas should be removed from the list of acceptable firming technologies. The standards should restrict non-renewable back-up and firming generation and require firming from batteries, pumped hydro and long-duration energy storage.
5. **Incentivise long-duration storage for clean firming, with ESEM a preferred pathway.** Clean firming for large new loads should be delivered through a range of mechanisms (firm PPAs, on-site and co-located storage, and state firm-capacity schemes) with the ESEM firming service a preferred national pathway given its dedicated firming service and long-tenor contracts. These should carry an explicit long-duration energy storage focus, so data-centre demand underwrites clean dispatchable capacity, not new gas.
6. **Remove the fuel tax credit for diesel backup generation.** As a complementary measure to the AI standards, the Commonwealth should remove eligibility for the Fuel Tax Credit for diesel used in data centre backup and standby generation, so the tax system no longer subsidises the fossil firming the standards are designed to discourage.
7. **Apply the obligation on an energy-capacity threshold.** The renewable electricity and firming obligations should apply on an energy-capacity basis using the AEMC's Package 2 tiers - substantial obligations for large data centres at or above 100MW (Tier 3) or a 150MW cumulative portfolio, with proportionate baseline obligations for 30-100MW facilities (Tier 2).
8. **Legislate quantified, public reporting and transparent deals.** Reporting should be nationally consistent, quantified and facility-level (energy and water performance and REGO-verified renewable share), delivered through the Energy and Climate Change Ministerial Council (ECMC) workstream, and agreements between governments and developers involving preferential planning or energy-connection treatment should be tabled and made public.

1. The renewable electricity obligation must require 100% new and additional supply

The paper proposes a renewable electricity obligation requiring data centres to invest in new renewables and hold sufficient firm supply. The paper also suggests this could be demonstrated by retiring REGO certificates, administered by the Clean Energy Regulator, while also referring to REGOs bundled with power purchase agreements.

The SEC supports the obligation. However, two factors will determine whether it effectively delivers new investment or simply reshuffles existing supply: how strong the additionality requirement is, and which instruments count toward compliance.

1.1 Additionality is the market and investment signal

The most valuable thing these standards can do for the energy transition is convert data centre load growth into a clear and bankable demand signal for new large-scale renewable generation and storage. That only happens if the obligation requires genuinely new and additional supply.

The scale of this potential new load is significant. AEMO's 2026 Electricity Statement of Opportunities projects data centre consumption rising from around 5 TWh in 2025–26 to 34 TWh by 2035–36, from 3 per cent to about 13 per cent of grid-supplied electricity. AEMO-commissioned modelling by Oxford Economics Australia points the same way, with demand growing 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 projects¹.

If data centres are allowed to draw on existing renewable generation (by surrendering certificates from existing renewables) it displaces supply from other users, tightens the market and puts upward pressure on prices, the opposite of the paper's own 'no net costs' principle. A strict additionality requirement can prevent this outcome.

Additionality also brings forward the build Australia needs. Modelling by Baringa for the Clean Energy Finance Corporation 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 associated emissions². The renewable electricity obligation is the instrument that can bring that new capacity forward but only if it requires new supply. A 100 per cent new-and-additional standard gives developers, financiers and offtake markets the certainty to commit, de-risking new projects and crowding in private capital. We emphasise that any partial standard blunts that signal and would risk the Federal Government's own renewable electricity target of 82 per cent by 2030.

¹ [Data Centre Energy Demand Final Report](#) | Oxford Economics and AEMO

² [Getting the balance right: data centre growth and the energy transition](#) | Baringa and CEFC

1.2 Compliance should be additionality-strict but instrument-neutral

The paper suggests REGO certificates could be the mechanism for demonstrating compliance and refers to REGOs bundled with power purchase agreements. This can be interpreted as leaving the compliance mechanism open and recommends it be settled in a way that is additionality-strict but instrument-neutral, driving genuinely new supply without arbitrarily favouring one contracting route.

- **REGO certification retained as the verification layer:** REGO is the most robust way to confirm that supply is genuinely additional and counted only once and should remain the accounting and anti-double-counting backbone of the obligation.
- **Long-term firming PPAs recognised:** Consistent with the paper's own reference to REGOs bundled with power purchase agreements, long-term firming PPAs should be an accepted route to demonstrate the obligation.
- **ESEM contracts recognised:** As the Electricity Services Entry Mechanism replaces the CIS, the government should confirm that ESEM zero-emissions bulk contracts can be used to meet the additionality obligation, and ESEM firming contracts to meet the firming obligation, in place of or alongside REGOs. A narrow REGO-only mechanism would cut data centres off from the very tenders designed to bring new clean capacity forward; recognising ESEM contracts lets the two instruments reinforce each other.

A data centre that underwrites a genuinely new project through an ESEM bulk or firming contract is delivering exactly the additional supply and clean firming the standards seek and should be credited for it, with REGOs used to verify and prevent double counting.

1.3 Defining 'new and additional' renewable capacity

The paper asks how 'new' renewable capacity should be defined in relation to data centre investments. The SEC recommends a clear financial-commitment test rather than a date-based or self-reported one:

- **Final-investment-decision test.** Eligible generation and storage should be projects that had not reached a final investment decision at the time they were contracted to the data centre. This is the cleanest test to evaluate if a contract induced new capacity to be built. This is also consistent with the Minister's earlier indication that pre-final-investment-decision projects could qualify as new, additional renewable energy³.
- **Long-term firming PPAs.** Certificates should be backed by long-term (ten-year-plus) firming power purchase agreements, consistent with the 7-15+ year contract tenor the

³ [Speech to the National Press Club](#) | The Hon Chris Bowen MP (August 2026)

ESEM is being designed around, so that the certificate purchase genuinely underwrites the build rather than reflecting a short-term spot transaction.

- **No double-counting.** Certificates used to meet the data centre obligation must be quarantined from other schemes and they should not simultaneously be counted toward the Renewable Energy Target or surrendered by another party.
- **Time-matching over time.** The obligation should progressively move toward temporal (e.g. hourly) matching using time-stamped REGO data, so it drives supply when the load is running rather than only matching annual volumes. This should supplement, not delay, the core additionality requirement.

1.4 Reject a diluted glide-path to a sub-100% target

The paper considers existing-asset Large-scale Generation Certificates (LGCs) and REGOs being surrendered for an initial period, on a glide-path to a point where only new REGOs are accepted and cites Ireland's six-year glide-path to at least 80 per cent renewable sourcing. The length of that glide-path and the definition of 'new' are the two levers that most affect both the cost of compliance and the strength of the investment signal. The SEC cautions against importing the 80 per cent ceiling.

Australia's renewable resources and project pipeline make a 100 per cent new-and-additional standard achievable. AEMO's connection pipeline is at record levels, and the Capacity Investment Scheme has already underwritten gigawatts of new generation and storage. Eighty per cent is a level that other jurisdictions may accept out of necessity and is therefore not a target Australia should adopt as its end-state. A short, clearly defined transition to reach 100 per cent is reasonable where it reflects genuine build lead times, but any allowance for existing capacity must be time-limited and shrinking on a published schedule, not a permanent discount on the obligation.

1.5 Threshold, exemptions and administration

The SEC supports applying the obligation on an energy-capacity basis using the AEMC's proposed Package 2 tiers: substantial obligations for large data centres at or above 100MW (Tier 3) or a 150MW cumulative portfolio, with proportionate baseline obligations for 30-100MW facilities (Tier 2). We support administration by the Clean Energy Regulator with penalties for under-retirement of certificates. The paper also proposes that data centres procuring from state-owned operators could apply to the Australian Energy Regulator for a modified obligation where they can demonstrate benefits for grid stability and lower prices. The criteria for that assessment are not specified; they should be set at a high, clearly defined and transparent bar, and the exemption should not become a route to dilute additionality or to admit gas-based supply by another name.

2. Firming must be clean and deliver long-duration storage

2.1 Gas should be removed from acceptable firming technologies

The paper's mandatory standard would require new renewable generation 'with appropriate firming through gas, batteries or hydro.' The SEC strongly opposes the inclusion of gas as a compliant firming technology.

The Climate Council's Clouded Future⁴ report 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 that demand is met with gas rather than renewables. The report also noted that data centre demand had already risen 18 per cent in New South Wales and nearly doubled in Victoria over the preceding twelve months. Gas firming is the outcome these standards should be designed to avoid.

Beyond price, gas firming exposes consumers to volatile international gas prices, locks in emissions against the grid's decarbonisation trajectory, and undercuts both the 'no net costs' principle and the energy-transition objectives of the standards themselves. We highlight that permitting gas as compliant firming would blunt the very investment signal that Section 1 depends on, diverting the demand data centres create away from clean dispatchable capacity, risking the delivery of the Federal Government's own 82 per cent renewable electricity target.

2.2 Restrict non-renewable back-up and prioritise demand flexibility

The paper asks what requirements should be placed on data centres to operate flexibly. The SEC suggests:

- **non-renewable back-up generation should be restricted** to genuine, short-duration reliability contingencies, not routine firming, with transparent public reporting of run-hours and emissions; and
- **demand flexibility should be treated as a first-order firming resource.** Large data centres should be required to provide demand response during system-stress and scarcity events, drawing on the existing Wholesale Demand Response Mechanism. Their contribution to peak demand should be clearly defined, covering both summer and winter peaks and the obligation extended to periods of minimum system load, when flexible loads can absorb surplus solar. This is among the lowest-cost ways to reduce the firming task and protect consumers; and
- **flexibility obligations should be given practical effect** through connection agreements and clear, verifiable technical standards for large loads, aligned with the AEMC's technical

⁴ [Clouded future: Managing the risks of the data centre boom](#) | Climate Council

standards for large inverter-based loads, so the capability is defined and can be operationalised rather than remaining an in-principle commitment.

2.3 Incentivise long-duration storage for clean firming

A range of mechanisms can deliver the clean alternative to gas firming such as firm PPAs, on-site and co-located storage, bilateral storage contracts, and state firm-capacity schemes like South Australia's Firm Energy Reliability Mechanism. Among these, the Electricity Services Entry Mechanism (ESEM), replacing the Capacity Investment Scheme, is a preferred national pathway: it will offer long-term revenue contracts across three services defined in the National Electricity Rules - zero-emissions bulk energy, shaping, and firming - with the firming service directly suited to dispatchable storage.

The SEC suggests the standards be designed so that the large new loads data centres represent are met by clean firming with the ESEM firming service a preferred pathway, carrying an explicit long-duration energy storage (LDES) focus. For example, an eight-hour-plus duration benchmark, consistent with emerging long-duration storage mechanisms such as South Australia's Firm Energy Reliability Mechanism.

This makes the data centre obligation and the ESEM tender complementary instruments. The renewable electricity obligation creates firm demand for new renewable supply and clean firming; the ESEM firming service and its long-tenor contracts bring the long-duration storage forward to deliver it without new gas. In practical terms:

- the ECMC and DCCEEW should align the AI standards' firming definition with ESEM eligibility, so clean firming counts and gas does not; and
- ESEM tender volumes and the indicative tender plan should explicitly account for data-centre-driven demand, so long-duration storage is procured ahead of, or in step with, new large loads connecting; and
- ESEM firming contracts should count toward data centres' firming obligations. ESEMA will set a 15-year trajectory for each region by contract type and has discretion over the mix of services. That trajectory and service mix should reflect data-centre demand.

2.4 Close the fuel tax credit for diesel backup generation

The clean-firming objective of the standards is undercut by a feature of the tax system. Diesel burned in data centre backup and standby generators is eligible for the Fuel Tax Credit, which refunds the fuel excise for off-road business use at the full rate, a rate that rose to 53.7 cents per litre when the temporary excise reduction ended in August 2026.

The Fuel Tax Credit Scheme cost the Commonwealth an estimated \$10.8 billion in 2025–26⁵ and is characterised by the OECD as a fossil fuel subsidy⁶.

Data centre diesel capacity is not marginal. The proposed Mamre Road facility in Western Sydney alone would install 852 diesel backup generators with 14.4 million litres of on-site diesel storage⁷. Under current settings, the diesel these and other data centre generators consume (for testing, maintenance running and grid outages) attracts a rebate of the excise, so the tax system partially subsidises the very fossil firming the AI standards are intended to discourage.

This is inconsistent with both the 'no net costs' principle and the clean-firming standard we have proposed. As a complementary measure sitting alongside the AI standards, the SEC recommends the Commonwealth remove eligibility for the Fuel Tax Credit for diesel used in data centre backup and standby generation. Genuine emergency backup for reliability would remain permitted; what would change is that operators, rather than taxpayers, bear the cost of running fossil-fuelled plant, sharpening the incentive to shift standby and firming duties to batteries and long-duration storage.

3. Grid connection, cost allocation and 'no net costs'

Grid connection and cost allocation for large energy users is an area of active reform, and the SEC supports resolving it through the national energy market framework rather than a patchwork of state conditions. In mid-2026, Minister Bowen lodged two rule change requests with the AEMC seeking to ensure data centres and other large loads make an appropriate contribution to the network costs they cause or accelerate, so that those costs are not recovered from existing consumers. The AEMC is yet to initiate that process and will consult before making any rule.

Separately, the AEMC's technical access standards for large inverter-based loads are further advanced, with a final determination expected in October 2026. The SEC recommends the Commonwealth, through the ECMC, support the prompt finalisation of both, on a causer-pays basis that gives direct effect to the paper's 'no net costs' principle, and settled through the AEMC's statutory process rather than duplicated through state-based conditions.

The paper foreshadows further rule change requests governing how data centres connect to and operate in the energy system. The SEC expects one to implement the connection-process reforms the AEMC has already flagged, and notes that a further rule change to give effect to the additionality and affordability obligations would be new. The SEC supports both being

⁵ [Budget 2025–26, Budget Paper No. 1, Statement 5 \(Expenses\)](#) | Australian Government

⁶ [Inventory of Support Measures for Fossil Fuels 2025](#) | OECD

⁷ [Seizing the opportunity to do data centres right](#) | Climate Council

progressed through the AEMC's statutory process and made consistent with the national framework (including the ESEM) rather than duplicated through state-based planning conditions, which risk conflict with the nationally consistent approach the AEMC is developing.

4. Transparency and Reporting Requirements

The paper proposes federal reporting and transparency requirements for large data centres. The SEC recommends a single, quantified, nationally consistent, facility-level reporting layer covering energy and water performance and REGO-verified renewable share, built on existing REGO certification and state environmental disclosure and delivered through the ECMC's data centre workstream.

The European Union's approach demonstrates this is feasible. Under the Energy Efficiency Directive, the European Commission's first assessment covered 776 data centres across 18 countries and reported a weighted-average power usage effectiveness of 1.36, with a mandatory rating scheme the Commission planned to adopt in 2026.

Agreements between Australian governments and AI infrastructure developers covering planning and energy are currently negotiated with limited public visibility. The New South Wales Investment Delivery Authority alone has endorsed some AUD \$51.9 billion in data centre projects for fast-tracked approval.

The SEC recommends that agreements involving preferential treatment on planning or energy connection be tabled and made publicly available, and that renewable-energy commitments attached to such deals be independently verified against REGO certification and reported annually.

Conclusion

Australia is well placed to support the growth of AI infrastructure with renewable energy backed by storage. Whether that growth strengthens the grid or burdens consumers depends on the design choices in these standards: whether data centres are required to bring new, additional clean energy; whether firming is clean or fossil-based; and whether government dealings with developers are transparent.

Additionality is the market signal that converts data centre demand into new large-scale renewables. Gas firming is the risk that would undo that signal and raise prices. Long-duration storage is the mechanism that delivers clean firming for large new loads, and the ESEM firming service is a preferred pathway to bring it forward.

Legislating a 100 per cent new-and-additional renewable electricity obligation, removing gas from acceptable firming, and recognising clean firming pathways such as ESEM would make these standards world-leading and genuinely in the national interest.

The SEC thanks the government for the opportunity to contribute to this consultation and would welcome the opportunity to provide further evidence or to discuss this submission. Please do not hesitate to contact me via rhiannon@smartenergy.org.au.

Kind regards,

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