# Powering the digital economy

## Resolving competing energy demands between households and data centres

CLEAN ENERGY COUNCIL

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**Acknowledgements**

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We would also thank CEC members for the time, expertise and feedback they contributed throughout the development of this report. Their direct experience developing, financing and operating renewable energy projects and data centres brought a strong commercial and practical perspective to the policy principles proposed. Their input helped ensure the report reflects the realities of delivering projects in the market and the opportunities facing the industry.

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# Executive Summary

Australia's data centre sector is entering a period of rapid expansion, presenting both a major economic opportunity and a significant energy system challenge. More than 250 data centres already operate in Australia, and the sector has expanded more since 2020 than in the entire fifteen years before it. Data centres currently consume around 2% of NEM grid-supplied electricity, projected to rise to approximately 6% by 2030 and 12% (10% of underlying demand) by 2050.

Coordinated policy action is needed to ensure new electricity supply keeps pace with data centre demand growth, so that all consumers continue to benefit from a renewable based power system where supply keeps pace with demand. Unmatched demand growth would therefore place upward pressure on wholesale electricity prices, increasing costs for households and businesses.

The consequences extend to Australia's decarbonisation and climate efforts. With new supply lagging, new facilities could initially rely on ageing coal-fired generation, increasing emissions and delaying the energy transition. Modelling indicates that, without additional renewable capacity, emissions in 2035 could be up to 14% higher than otherwise expected.

At the same time, data centres present a unique opportunity: their large, stable, round-the-clock electricity demand and strong creditworthiness make them ideal counterparties for long-term renewable energy contracts, which are critical for financing new projects.

However, this opportunity will only be realised if policy both ensures and enables "additionality" that grows the total amount of utility generation. Current policy settings at both Commonwealth and state levels articulate expectations that data centres should procure additional clean energy and support grid stability, but they do not impose binding obligations. The CEC believes that additional policy mechanisms are needed alongside voluntary approaches to mobilise the scale of investment required to provide certainty in a way that avoids placing households in competition with data centres.

To address this challenge, the CEC proposes a '*Flexible Contracting Framework'(FCF)* to ensure that data centres match their electricity consumption with new renewable energy generation investment while maintaining operational flexibility. The Prime Minister's July 2026 commitment to 'create a legal obligation for the next generation of large-scale data centres to underwrite new power supply'[1] confirms the policy direction, what remains is the market design to deliver it, which this framework provides.

**Flexible Contracting Framework**

CEC's Flexible Contracting Framework puts forward a method for data centres to match their grid consumption with new renewable generation, met through a combination of Additional Firmed Renewables (AFRs) and certificates (LGCs until 2030 and REGOs thereafter) sourced from new projects[2]. A commitment to investing in AFRs would provide a durable, bankable investment signal for newbuild generation capacity, while certificates offer shorter-term flexibility to cover residual variable demand and a means to cover the 'timing gap' between data centre and renewable energy build rates.

Compliance would be structured as a 'glide path' rather than a fixed obligation from day one, reflecting the data centre facility's ramp-up profile, the delivery timelines of its contracted renewable projects, and its anticipated scaling trajectory.

This design directly addresses the construction timing gap between data centre build rates and renewable project delivery: where a data centre is ready to energise before its contracted generation is commissioned, certificates provide transitional cover, with AFR volumes phasing in as new assets reach

[1] The Hon Anthony Albanese MP, address to the University of Sydney, 15 July 2026; Australian Government, *An Australian approach to AI: Expectations for data centres that deliver for Australians* (July 2026)
[2] Additional Firmed Renewables could be delivered via PPA, retail contract or direct investment

commercial operation. It equally supports facilities that scale over time, allowing data centre operators to bridge demand growth with certificates while additional contracted capacity is developed.

The glide path is deliberately flexible in its terms but firm in its destination: data centre operators retain discretion over how they sequence AFRs and certificates within their compliance pathway, but the endpoint, consumption fully matched by new renewable generation is fixed. This ensures additionality is achieved without constraining commercial expansion or penalising facilities for renewable delivery timelines beyond their control.

# Australia's Data Centre Opportunity

The forecast growth of data centre investment across Australia represents an outstanding economic opportunity. More than 250 data centres already operate in Australia, the majority concentrated in New South Wales and Victoria. National data centre occupancy has grown forty-fold over the past two decades, with two-thirds of that growth occurring since 2020 and the pace is accelerating.[3]

This investment creates jobs, drives productivity gains, and positions Australia as a hub for the digital economy. For the renewable energy sector, it is also a generational opportunity to drive investment in new clean energy assets that enhances our energy security and resilience, underwritten by data centre demand.

## A material driver of new demand

In 2024–25, data centres used around 4 TWh, approximately 2% of electricity in the National Electricity Market (NEM), equivalent to the consumption of more than 700,000 homes. That figure is set to grow dramatically. Under AEMO's Step Change scenario, data centres electricity use is estimated to grow by around 25% annually this decade, with data centres consuming consumption reaching approximately 34 TWh in 2050, representing almost 10% of the NEM's underlying electricity demand by mid century[4].

The following table shows Australia's data centre market comprised across the three broad facility types and current and projected 2030 consumption levels.

**Table: Data centre electricity consumption and indicative build time by facility type[5]**

| Facility type | Description | Share of total data centre consumption 2024–25 | Share of total data centre consumption 2029–30[6] | Indicative build time* | Trajectory |
|---|---|---|---|---|---|
| **Hyperscale** | Large, high-capacity facilities supporting a single organisation's cloud, AI and digital services at scale (e.g. Microsoft, Google, AWS, OpenAI) | 55% (up from 14% in 2017–18) | ~47% | ~24–36 months (staged campus construction) | Driving most new capacity expansion, particularly Melbourne's transmission-connected pipeline; hosts the most compute-intensive AI workloads |
| **Co-location** | Multi-tenant facilities leasing space, power, cooling and connectivity (e.g. NextDC, AirTrunk, | ~32% | 49% | 18–24 months from planning approval to operation | Strong committed pipeline, particularly Sydney; co-locators ramp to mature load faster than hyperscale facilities |

[3] United States Studies Centre, *Powering the cloud: Data centres and the future of Australia's grid* (April 2026); Data Center Map, Australia; M3 Property, *Australia's Data Centre Sector Expands Fortyfold in the Past 20 Years* (2025).
[4] AEMO 2026 Integrated System Plan.
[5] Figures are expressed as a share of NEM grid-supplied consumption, consistent with the Oxford Economics/AEMO forecasting basis. AEMO's 2026 Integrated System Plan expresses the same forecast against underlying demand, which additionally includes electricity that consumers supply themselves, principally from rooftop solar. On that broader basis, data centres reach almost 10% of the NEM's underlying demand by 2050. The two framings reflect different denominators, not different forecasts. Source: Oxford Economics Australia, Data Centre Energy Demand – Final Report (July 2025), pp. 7–8; consumption shares by type, p. 18; headline consumption, pp. 3, 14; ramp-up periods, p. 33.

| Facility type | Description | Share of total data centre consumption 2024–25 | Share of total data centre consumption 2029–30[6] | Indicative build time* | Trajectory |
|---|---|---|---|---|---|
| | CDC, Equinix); hyperscalers are often anchor tenants | | | | |
| **Edge, telco & enterprise** | Smaller facilities located close to end-users for latency-sensitive services; private corporate and telecommunications facilities | 13% | ~4% | ~6–12 months (modular deployment) | Largely mature facilities, with no significant new investment in the prospective pipeline |
| **Total** | | **3.9 TWh (~2% of NEM grid-supplied electricity)** | **12.0 TWh (~6% of NEM grid-supplied electricity)** | | **~25% average annual growth to 2029–30; moderating to 5.4% p.a. thereafter** |

* Indicative build time refers to construction (development approval to completion) and is distinct from ramp-up to mature load, which Oxford Economics models as averaging 10–14 years across facility types (p. 33), noting rapid AI uptake could compress these periods. The 18–24 month figure for traditional facilities is per Bird & Bird (2025); hyperscale (~24–36 months) and modular (~6–12 months) ranges are indicative industry estimates. New large-scale renewable generation and transmission typically requires five to 10 or more years to plan and deliver. This is the structural timing mismatch the Flexible Contracting Framework's glide path is designed to manage.

## A powerful catalyst for renewables investment

Introducing significant new load without matching supply places data centres in competition with households and businesses for existing electricity, leading to significant upward pressure on wholesale prices. CEFC research has found that 2035 wholesale electricity prices would be 26% higher in NSW and 23% higher in Victoria if data centre demand growth is not matched by investment in new renewable energy supply.[6] Matching new demand with new supply mitigates these wholesale price impacts.

Fortunately, data centres characteristics make them near-ideal counterparties for new renewable energy developers seeking bankable revenue. Unlike many large electricity consumers, they exhibit high, stable, and predictable demand; and leading operators have strong credit profiles, long investment horizons, and demonstrated appetite for long-duration offtake contracts.[7]

[6] Clean Energy Finance Corporation (CEFC) 2025, *Getting the balance right: Data centre growth and the energy transition*, prepared by Baringa, December, available at: https://www.cefc.com.au/media/hs5ner3s/getting-the-balance-right-data-centres-and-the-energy-transition-full-report.pdf

[7] Moody's estimated in February 2026 that Australia's data centre sector will require approximately A$15 billion in additional investment to meet an expected 3.5 GW increase in electricity demand by 2035. See for details: Parker, T. 2026, *Australian data-centre fleet to swell to 4.7 GW by 2035*, Energy Magazine, 10 February, available at: https://www.energymagazine.com.au/australian-data-centre-fleet-to-swell-to-4-7gw-by-2035/

Offtake commitments are critical to enabling renewable energy projects to reach Final Investment Decision (FID). In a market where the NEM Wholesale Market Settings Review[8] has highlighted persistent challenges around project bankability and the 'tenor gap', the ability of data centre demand to underwrite new renewable investment represents a powerful lever for unlocking new generation capacity.

## A significant opportunity for regional communities

The benefits of well-designed data centre energy policy extends beyond the electricity market. Renewable energy projects underpinned by data centre offtake have the potential to deliver substantial regional economic benefits. Around 30,000 Australians are currently employed in the clean energy sector, a workforce expected to grow materially in the coming years.[9]

Renewable energy projects are projected to contribute over $200 million to community benefit funds and community benefit-sharing arrangements between 2024 and 2030 and are substantial sources of local government revenues supporting local infrastructure across regional Australia.[10] Policy settings that drive new, data centre-linked generation have the potential to scale these benefits significantly.

## Targeted opportunities to improve network utilisation

Across both transmission and distribution networks, opportunities exist to locate data centres in a way that improves the performance of the network for everyone. For instance, where possible, siting data centres in parts of the network where:

- utilisation is lower would spread the mostly fixed costs of maintaining and operating that network over a larger volume of electricity, reducing the $/kWh cost of the network for everyone
- constraints are binding would allow otherwise curtailed electricity to be used by the data centres, while improving network conditions more broadly

## The risks of getting it wrong are significant

In the absence of clear policy to align data centre demand growth with new firmed renewable supply, there is a material risk of ageing coal plants being extended. Aside from the declining and uncertain reliability of these assets as they are stretched beyond technical lifetimes, this also has severe implications for national emissions. [11] Research commissioned by the Clean Energy Finance Corporation (CEFC) concluded that if additional data centre demand is not matched by supporting investment in newbuild renewable generation, NEM-wide climate pollution would be 14% higher by 2035.[12]

> *We must back new data centre demand with new renewable generation and firming capacity. Failure to do so is a step backward in the energy transition, a missed opportunity for regional communities and a step towards higher power prices.*

[8] Expert Panel, *National Electricity Market Wholesale Market Settings Review – Final Report* (December 2025). See https://www.dcceew.gov.au/energy/markets/nem-wms-review

[9] Clean Energy Council 2022, *Skilling the energy transition*, August, available at: https://assets.cleanenergycouncil.org.au/documents/CEC_Skilling-the-Energy-Transition-2022.pdf

[10] Clean Energy Council & Farmers for Climate Action 2024, *Billions in the bush: Renewable energy for regional prosperity*, November, available at: https://cleanenergycouncil.org.au/getmedia/2f9d50cb-60d1-4bec-86f0-65d77ce998ec/billions-in-the-bush-november-2024-final-compressed.pdf

[11] Queensland Conservation Council, Nature Conservation Council of NSW & Environment Victoria 2026, *Reliability Watch summer report*, March, available at: https://assets.nationbuilder.com/queenslandconservation/pages/5629/attachments/original/1773710429/Reliability-Watch-summer-report-March-2026-web.pdf

[12] Clean Energy Finance Corporation (CEFC) 2025, *Getting the balance right: Data centre growth and the energy transition*, prepared by Baringa, December, available at: https://www.cefc.com.au/media/hs5ner3s/getting-the-balance-right-data-centres-and-the-energy-transition-full-report.pdf

# Emerging Policy and Regulatory Landscape

## Commonwealth expectations

In March 2026, the Commonwealth Government published its Expectations of data centres and AI infrastructure developers[13], stating that proponents should secure new and additional clean energy generation and/or storage to offset their demand, contribute to network infrastructure costs, minimise energy use and emissions, and enhance grid security and stability. Energy ministers across Australia (except for Queensland[14, 15]) have broadly endorsed these principles, reiterating that data centres should fully offset their electricity consumption and provide demand flexibility services.[16, 17, 18]

In July 2026, Prime Minister Anthony Albanese announced the intention to "create a legal obligation for the next generation of large-scale data centres to underwrite new power supply"[19], a topic on which the AEMC has been developing advice to ECMC. This builds on the emerging view across state and commonwealth that a national mandatory framework is required.

> *The CEC's assessment is that the current Commonwealth policy framework establishes the right principles. The focus must now shift to putting them into practice.*

## State government measures

At the state and territory level, work is under way to develop frameworks, roadmaps and other strategies to enable data centre investment and ensure the full value of the data centre opportunities are realised.

The below table refers to recent announcements from state and territory governments related to data centres.

| | |
|---|---|
| **NSW** | NSW released a Data Centre Strategy consultation paper in March 2026 and is using its Investment Delivery Authority to fast-track priority projects, including $51.9 billion of data centre proposals tied to the NSW Electricity Roadmap.[20] The emerging expectation is that developers "fund their infrastructure requirements, in addition to what is already planned and funded, so as to not increase prices for households." |
| **VIC** | Victoria's Sustainable Data Centre Action Plan (released early 2026) outlines "a coordinated, whole-of-government approach to investment, planning and workforce development" to ensure investment in data centres and supporting infrastructure is efficient and well-planned. Its focus is primarily on improving how government departments and agencies will work together across 5 priority areas, including 'energy innovation and grid readiness'.[21] The |

[13] Department of Industry, Science and Resources 2026, Expectations of data centres and AI infrastructure developers, 23 March, available at: https://www.industry.gov.au/publications/expectations-data-centres-and-ai-infrastructure-developers
[14] Readfearn, G. 2026, Datacentres should be forced to invest in wind and solar energy, all states agree – except Queensland, The Guardian, 12 May, available at: https://www.theguardian.com/environment/2026/may/12/datacentres-australia-wind-solar-energy-investment
[15] AFR, 7 July 2026, Queensland data centre investment rules drop renewable energy requirements to attract AI and technology giants

[19] The Hon Anthony Albanese MP, Prime Minister, address to the University of Sydney, 15 July 2026; Australian Government, *An Australian approach to AI: Expectations for data centres that deliver for Australians* (July 2026).
[20] https://www.nsw.gov.au/ministerial-releases/data-centre-investment-sustainable-development
[21] The Action Plan establishes a framework for cross-government coordination of data centre development across five pillars: coordinated infrastructure, land and connectivity; energy innovation and grid readiness; sustainable water security and management; a skilled and future-

| | |
|---|---|
| | 2026-27 Victorian budget includes an allocation of $5.5m to support implementation of the plan.[22] |
| **SA** | SA's Data Centre Strategy (released June 2026) highlights the long-term demand certainty that data centres can bring, as well as the broader economic opportunities associated with data centre investment.[23] The strategy foreshadows legislation that ensures new data centre demand is matched with new firmed supply, to ensure there are no impacts on household and business electricity costs. |
| **ACT** | Chief Minister Andrew Barr has stated "We can work with data centre operators around their energy needs, essentially requiring any new large energy users to bring with them a renewable energy solution as part of their data centre proposition".[24] |

*State and territory policy is generally supportive of data centre investment and the concept of additionality regarding the incremental electricity demand they will bring*

## NEM Review Implementation

The centrepiece of the NEM Wholesale Market Settings Review (NEM Review)[25], the Electricity Services Entry Mechanism (ESEM), will reshape how renewable energy projects are financed and contracted across the NEM. The ESEM Administrator will underwrite the later years of a project's life through three standardised contract types: bulk zero-emissions energy, shaping, and firming. Energy ministers (excluding Queensland) have agreed in-principle to implementation and are developing the necessary legislative package.[26]

For renewable energy developers, the ESEM design carries significant implications that remain unresolved. ESEM contracts are fungible financial instruments without a direct link back to specific facilities. This means that supporting claims of additionality and locationality (i.e. matching additional generation to the jurisdiction in which the data centre is located) may require additional measures such as the complementary surrender of REGOs. With the NEM Review implementation ongoing, there is time and opportunity to work through the interfaces and interactions with the approach outlined in this white paper.

*The CEC's proposed approach is intended to interact constructively with the ESEM and not to duplicate or conflict with it.*

ready workforce; and strengthened leadership and coordination. For further details, see: Department of Jobs, Skills, Industry and Regions (Victoria) 2026, *Sustainable Data Centre Action Plan*, available at: https://djsir.vic.gov.au/priorities-and-initiatives/ai-mission-statement/sustainable-data-centre-action-plan

[22] https://www.premier.vic.gov.au/labor-creating-jobs-future

[23] https://www.dpc.sa.gov.au/__data/assets/pdf_file/0010/1424737/SA-Data-Centre-Strategy.pdf

[24] https://region.com.au/energy-hungry-data-centres-will-need-to-feed-themselves-says-barr/950365/

[25] Expert Panel, *National Electricity Market Wholesale Market Settings Review – Final Report* (December 2025). See https://www.dcceew.gov.au/energy/markets/nem-wms-review

[26] https://www.energy.gov.au/energy-and-climate-change-ministerial-council/working-groups/electricity-working-group/nem-wholesale-market-settings-review

# Flexible Contracting Framework

The CEC proposes a Flexible Contracting Framework requiring data centre operators to match their grid electricity consumption with Additional Firmed Renewables (AFRs), supported by certificates.

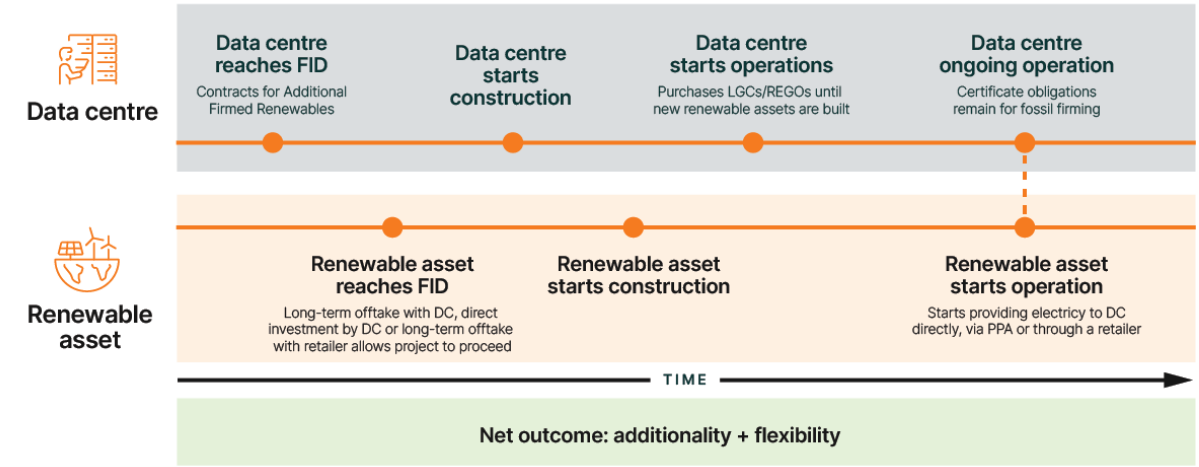
The AFRs provide the durable, bankable investment signal that new capacity requires. The certificates give operators the flexibility to accommodate variable loads and bridge timing mismatches while continuing to support clean energy investment. The framework is designed to be nationally applicable across jurisdictions and for both on and off grid applications.

The components are each addressed in turn below and summarised in the accompanying table:

| Mechanism | Primary Role | Timescale |
|---|---|---|
| **AFRs** | Investment signal & additionality assurance | Long-term (15–20 years) |
| **Certificates (LGCs, REGOs)** | Operational flexibility & residual load coverage | Short-term, rolling cycle |

Compliance would be structured as a glide path rather than a fixed obligation from day one. The glide path is deliberately flexible in its terms but firm in its destination: operators retain discretion over how they sequence AFRs and certificates within their compliance pathway, but the endpoint, consumption fully matched by new renewable generation, is fixed.

How the New Renewable Generation Obligation plays out over the life of a data centre project




For clarity, the intent is not to require operators to rely exclusively on renewable energy, but to support investment in a firmed renewable energy mix: primarily solar and wind backed by energy storage (BESS, hydro or other forms of renewable storage), contracted via the AFR.

Where gas peaking capacity is used to provide additional reliability, the emissions associated with this would be offset via certificates. Where additional firming is provided by hydro (or other zero emissions technologies) that certificate requirement would be waived.

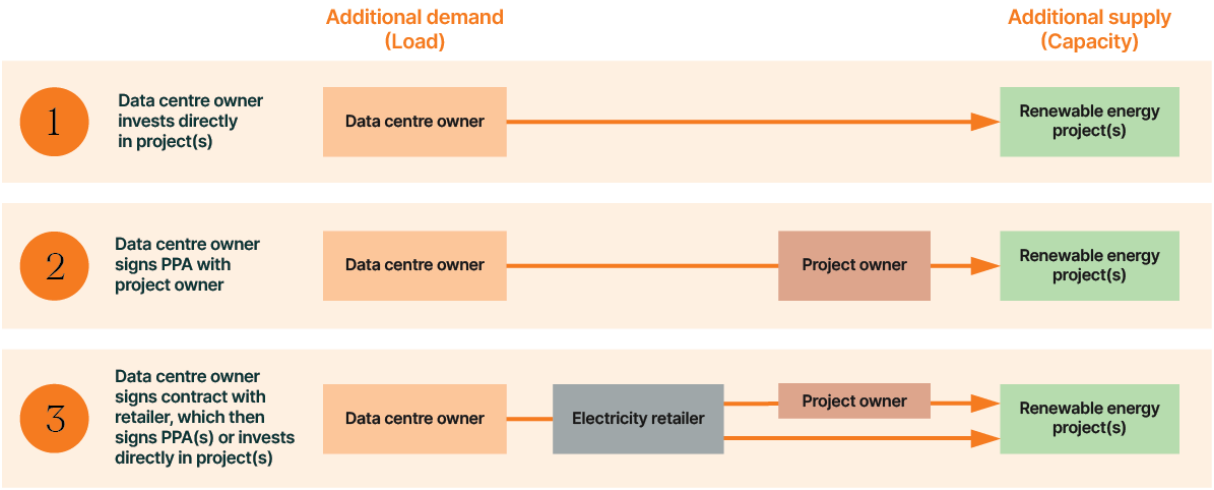
## Component 1 — Additional Firmed Renewables

The Additional Firmed Renewables (AFRs) part of the framework aims to ensure investment in additional capacity is supported, while providing flexibility for data centre operators in how that is achieved.

As outlined below, a range of pathways could be envisaged, all of which support investment in additional firmed renewable capacity:

1. Data Centre Owner invests directly in project(s)
2. Data Centre Owner signs PPA(s) with Project Owner(s)
3. Data Centre Owner signs contract with retailer, which then signs PPA(s) or invests directly in project(s)

Multiple pathways to match additional demand with additional supply




Key points to note:

- Data centre owners could pursue multiple pathways in parallel, for instance direct investment in onsite solar and/or BESS, complemented by retail or Power Purchase Agreement (PPA) contracting.
- Whichever pathway (or combination of pathways) is chosen, the intention is to provide a commitment of sufficient duration and bankability that it will enable investment in additional capacity.

## Component 2 — Certificates

**Renewable Electricity Guarantee of Origin Certificates (REGOs)**

REGO certificates are digital instruments issued by the Clean Energy Regulator for each megawatt-hour of renewable electricity generated or dispatched in Australia. They record the source, location and timing of generation, allowing electricity buyers, financial market participants and reporting entities to verify and trade claims of renewable electricity use.

REGOs form the electricity component of the broader Guarantee of Origin (GO) Scheme, established under the Future Made in Australia (Guarantee of Origin) Act 2024. The GO Scheme commenced on 3 November 2025, with the Clean Energy Regulator administering both REGO and the scheme's product-tracking counterpart (PGO), which certifies the emissions intensity of goods such as hydrogen[27].

[27] Department of Climate Change, Energy, the Environment and Water, *Guarantee of Origin scheme*; Clean Energy Regulator, *Guarantee of Origin Scheme launches* (November 2025) and *Renewable Electricity Guarantee of Origin. Future Made in Australia (Guarantee of Origin) Act 2024*

REGOs are designed to operate alongside the existing Large-scale Generation Certificate (LGC) scheme under the Renewable Energy Target (RET). The RET is legislated to sunset on 31 December 2030, after which REGO will continue indefinitely as Australia's primary renewable electricity certification mechanism.

The first REGO certificates were approved in April 2026, for generation by a New South Wales facility earlier that year[28], marking the scheme's operational start following its November 2025 commencement.

By tying back to specific facilities at specific times, REGOs framework could help data centres prove they are supporting additionality within the jurisdiction in which they are based. It should also be noted that once the AFR component of the FCF has come online, the continued purchase and surrender of REGOs may present the most straightforward way to demonstrate compliance. In such a scenario, the asset(s) ultimately backing the AFR would generate REGOs directly that had previously been bought in-market, ensuring the REGOs would not present an additional cost on the AFR component of the FCF.

**Large Generation Certificates (LGCs)**

Large-scale Generation Certificates (LGCs) are the tradeable instruments underpinning Australia's Large-scale Renewable Energy Target (LRET). Introduced under the Renewable Energy (Electricity) Act 2000, the scheme began on 1 April 2001 as the Mandatory Renewable Energy Target, initially targeting additional 2% of electricity from renewables (quantified as 9,500 GWh) by 2010 29. The target was raised to 41,000 GWh by 2020 in 2009, then reduced to 33,000 GWh annually (2021–2030) following the 2014 Warburton Review[30]. This annual target has applied from 2021 through 2030, when the legislation sunsets.

Accredited renewable energy power stations generally above 100 kilowatts capacity create LGCs, with one LGC representing one megawatt-hour of eligible renewable electricity fed into the grid (i.e. the same unit of measurement as a REGO). Liable entities, such as retailers and large loads, must surrender LGCs annually to meet their obligations under the scheme, administered by the Clean Energy Regulator.

The LRET continues to operate until 31 December 2030, meaning LGCs can still be created, and liable entities remain subject to surrender obligations until that date. After 2030, no further LGCs can be created, and no further LRET liability arises for electricity generated after that date. From late 2025, LGCs have operated in parallel with the newly introduced REGO scheme, which is intended to replace it from 1 January 2031.

While the time and location stamping aspects of REGOs make them a preferable instrument to ensure additionality and jurisdictional matching, LGCs could be used in the interim if the REGO market is judged to lack sufficient maturity and/or liquidity. In this scenario, the link to additionality would be indirect, in that LGC demand from data centres would raise prices in the LGC market to the benefit for both existing and additional renewables. Given this limitation and the fact an LGC based approach would lack jurisdictional granularity, the CEC's view is that LGCs be considered at most as a transitional step towards REGOs as the key instrument supporting the certificates component of the FCF.

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[28] Clean Energy Regulator, *First certificates approved for the Renewable Electricity Guarantee of Origin* (30 April 2026)
[29] Clean Energy Regulator, *Large-scale Renewable Energy Target* and *Large-scale generation certificates*, at cer.gov.au; Renewable Energy (Electricity) Act 2000. On the scheme's origins as the Mandatory Renewable Energy Target, see Australian National Audit Office, *Administration of the Renewable Energy Target* (2018)
[30] Expert Panel (D. Warburton AO LVO, Chair), *Renewable Energy Target Scheme: Report of the Expert Panel*, Commonwealth of Australia, released 28 August 2014

## Benefits of the Flexible Contracting Framework

Each component of the Flexible Contracting Framework (FCF) has merit, but neither is sufficient on its own.

- The AFRs provide a strong investment signal and additionality outcomes but cannot accommodate the load variability inherent in data centre workloads (a growing driver of overall data centre workload and electricity demand) and do not resolve the timing gap.
- The certificates provide operational flexibility, lower transaction costs and present a meaningful solution to the timing gap in construction times between renewable energy generation and data centres, but are less bankable than AFRs due to the shorter-term commitments they imply.

**Summary of Benefits**

| Benefit | How the Flexible Contracting Framework delivers it |
|---|---|
| **New clean energy investment** | AFR obligation underwrites new project financing |
| **Operational flexibility** | Certificate component accommodates variability in data centre loads |
| **Phased implementation** | Framework can be introduced incrementally as markets mature, including leveraging existing LGC market as REGO market matures |
| **Timing gap** | Certificate component provides a way to offset demand in the early years of data centre operation, when additional renewable generation has not yet come online. |

*The CEC believes that together, AFRs + certificates, enable the twin objectives of additionality and flexibility.*

## Interaction with NEM Reforms

As described above, the NEM Wholesale Market Settings Review proposes the ESEM as the primary vehicle for de-risking renewable energy and storage investment in the NEM. The ESEM Administrator would help underwrite renewable energy projects through fungible bulk, shaping, and firming contracts, to be co-designed by industry. Careful consideration will be required to ensure that ESEM contracting arrangements and data centre offsetting requirements complement rather than cut across each other.

The detailed design of the ESEM contracts, the structure of the auction process, and the mechanism by which contracts are recycled back into the market will shape whether the ESEM delivers the volume, tenor, and price certainty needed to support the scale of new generation and firming capacity that data centre demand growth requires.

As noted above, it is not yet clear whether the matching expectations expressed by Energy Ministers will be incorporated into the ESEM design, or pursued through separate policy initiatives.

*Careful co-design between the data centre matching policy and ESEM implementation workstreams is essential. The AFR element of the FCF can complement ESEM contracting, while leveraging REGOs for the certificate element would provide the attribute-tracking layer that ESEM bulk energy contracts lack.*

## Opportunities for Further Development

This paper has presented a high-level, principles-based design that responds directly to the Prime Minister's call for data centres to bring their own renewable energy, ensuring new demand does not place upward pressure on energy prices by competing with households and businesses for existing supply.

The Flexible Contracting Framework, and the additionality and flexibility certificate arrangements that sit within it, set out the architecture for how this commitment can be delivered in practice.

Translating that architecture into an operating regime requires deeper policy implementation design. The CEC strongly supports this next phase being undertaken collaboratively between policy makers, energy market participants and data centre proponents. These are the parties who will respectively legislate, transact within, operate and comply with the framework.

Key questions this co-design process should explore include:

- Modelling market impacts, including effects on wholesale electricity prices and LGC and REGO certificate prices
- Further developing the glide path, including its duration, trajectory, and final landing point during the operational stage
- Determining the most appropriate approach to tracking and monitoring compliance, sufficiently robust without becoming onerous
- Determining appropriate thresholds for exempting, or scaling obligations for, smaller data centres
- Defining whether eligible renewable energy projects need to be in the same region as the relevant data centre
- Defining detailed contracting requirements such as ensuring AFR duration is of sufficient length (ideally 15-20 years) to support debt financing of new clean energy assets

Finally, the CEC acknowledges that this paper addresses one part, albeit a significant part, of a wider data centre policy landscape. Our focus has been on unlocking the energy additionality challenge specifically. Related issues also warrant consideration as governments develop the broader national framework, including (but not limited to) potential impacts on:

- Water availability and cost
- Land access and zoning
- Community amenity

# Summary and conclusions

Australia is at the intersection of two structural shifts: the transformation of the energy system through renewable generation, and the rapid expansion of a digital economy increasingly powered by data and artificial intelligence. Both are strategically important and both will continue to accelerate. The policy challenge is to ensure they develop in a complementary, rather than competing, way.

The key question is whether growing electricity demand from data centres will underpin investment in new renewable generation, storage and network infrastructure, or instead intensify competition for existing electricity supply, increasing costs and constraining broader economic growth.

The outcome will depend on the policy and market settings established today. Government and industry must work together to provide a coherent framework that aligns investment incentives across both sectors. Done well, investment from the digital economy can help accelerate the deployment of new energy infrastructure, while an abundant, low-cost renewable energy system can provide the foundation for Australia's long-term digital competitiveness.

This is not simply an energy or technology issue. It is an opportunity to strengthen Australia's productivity, investment attractiveness, and economic resilience. Importantly, communities are more likely to support both transitions when new sources of demand are accompanied by new sources of supply, rather than higher electricity prices or increased pressure on existing consumers.

The Flexible Contracting Framework (FCF) provides a practical, principles-based approach to support this outcome. It builds on existing policy settings and market arrangements, providing a pathway to better coordinate investment without requiring fundamental market redesign.

For renewable energy developers, the FCF creates access to long-term, creditworthy demand that can improve project bankability and support investment in new generation and storage.

For data centre operators, it offers a flexible pathway to secure reliable, competitively priced, low-emissions electricity throughout their operations.

More broadly, the FCF helps align Australia's energy and digital transitions, so they reinforce, rather than constrain, one another. By linking new sources of demand with new investment in supply, it supports the development of a more productive, competitive and resilient digital renewable economy.