

DATA CENTRE ENERGY DEMAND

2026 FORECAST UPDATE

PREPARED BY OXFORD ECONOMICS AUSTRALIA FOR THE AUSTRALIAN ENERGY MARKET OPERATOR

ABOUT OXFORD ECONOMICS

Oxford Economics is Australia's leading economic advisory firm. Following the acquisition of BIS Shrapnel in 2017, Oxford Economics Australia has unparalleled capabilities in helping clients to navigate local economic issues in the context of the global trends shaping the world economy.

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 100 industry sectors, and 8,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social, and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Belfast, Boston, Cape Town, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Mexico City, Milan, Paris, Philadelphia, Stockholm, Sydney, Tokyo, and Toronto. We employ 700 staff, including more than 450 professional economists, industry experts, and business editors—one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities, from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 3,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

June 2026

All data shown in tables and charts are Oxford Economics' own data, except where otherwise stated and cited in footnotes, and are copyright © Oxford Economics.

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

To discuss the report further, please contact:

Alex Hooper

ahooper@oxfordeconomics.com

Oxford Economics Australia

CONTENTS

EXECUTIVE SUMMARY	3
SECTION 1. INTRODUCTION	4
1.1. WHAT IS A DATA CENTRE?	4
1.2. AUSTRALIAN DATA CENTRE MARKET OVERVIEW	5
1.3. FORECAST MODEL UPDATES.....	8
SECTION 2. DATA CENTRE OUTLOOK.....	10
2.1. STEP CHANGE	11
2.2. SLOWER GROWTH AND ACCELERATED TRANSITION SCENARIOS	16
SECTION 3. TECHNICAL APPENDIX	22
3.1. MODEL FRAMEWORK.....	22
3.2. PROJECT APPROACH.....	23
3.3. ECONOMIC APPROACH.....	30
3.4. WESTERN AUSTRALIA AND NORTHERN TERRITORY FORECASTS	37

EXECUTIVE SUMMARY

This report presents Oxford Economics Australia's and the Australian Energy Market Operator's (AEMO) joint forecasts of electricity consumption by data centres in Australia to inform the 2026 Electricity Statement of Opportunities (ESOO) for the National Electricity Market (NEM). It provides a forward-looking assessment of how data centre electricity consumption is likely to evolve under AEMO's scenarios.

- Under the central scenario, *Step Change*, data centre electricity consumption across the NEM is forecast to increase from 5.0 TWh in FY26 (5.1 TWh nationally) to 15.5 TWh (15.8 TWh nationally) by FY30 and 33.7 TWh (34.3 TWh nationally) by FY36.
- The near-term outlook is primarily driven by the ramp-up of existing data centres and likely expansions of existing sites. These facilities form a large base of connected and committed capacity and are still moving toward mature operating levels.
- After FY30, new data centres become the main driver of growth in energy demand as currently prospective projects move through the project pipeline, connect to the grid and begin to ramp up their demand. Due to the inherent uncertainty of how many of these projects progress through planning, commercial and delivery hurdles, uncertainty in the forecasts increases materially from FY30.
- Demand remains concentrated in New South Wales and Victoria, with the two regions accounting for over 88% of NEM data centre electricity consumption to FY36.
- The concentration of data centres in New South Wales and Victoria has implications for the grid. Data centres are forecast to consume around 12% of total state grid-supplied electricity in NSW and VIC by FY30, rising to 19% by FY36.
- The 2026 forecasts are a material upgrade from 2025. Under *Step Change*, energy demand is 31% higher by FY30 and 47% by FY36, before moderating to 28% in the long run by FY58. The upgrade reflects the larger development pipeline, with connection requests significantly higher than in 2025 in MW terms alongside updated core assumptions informed by recent data releases.
- The inherent uncertainty over the pace and scale of this emerging industry is reflected in AEMO's *Accelerated Transition* and *Slower Growth* scenarios.
- *Accelerated Transition* reflects a stronger development cycle, with faster cloud adoption, stronger AI demand, greater servicing of international workloads and a larger share of prospective developments progressing through the development pipeline. This lifts NEM demand to 20.1 TWh (20.4 TWh nationally) by FY30 and 52.5 TWh (53.5 TWh nationally) by FY36, with Victorian and transmission-connected developments playing a larger role.
- Data centre demand continues to grow even under *Slower Growth*, reaching 10.5 TWh (10.8 TWh nationally) by FY30 and 15.1 TWh (15.7 TWh nationally) by FY36, as existing facilities, likely expansions and well progressed prospective projects continue to ramp with a reduced need for large-scale new development.

SECTION 1.

INTRODUCTION

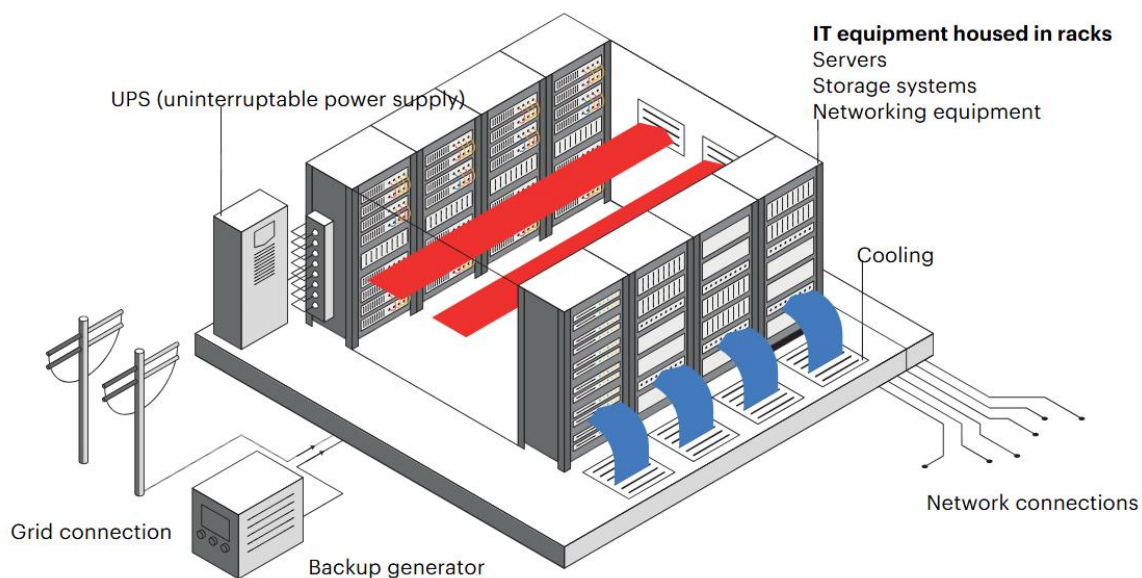
This section provides an overview of the Australian data centre market, the key dynamics shaping electricity consumption and improvements made to the modelling since the 2025 Data Centre and Energy Demand report.¹

1.1. WHAT IS A DATA CENTRE?

Data centres are specialised facilities that house the computing infrastructure required to store, process and distribute digital information. They support a wide range of services used by households, businesses and governments, including cloud storage, streaming, banking, enterprise software, digital platforms, AI inference and AI training. When users access these services, requests are transmitted through telecommunications networks to servers located in data centres, where information is processed, stored and returned.

Data centres rely on servers, storage systems, networking equipment, cooling systems, backup power and secure grid connections to operate reliably. The vast majority of electricity in a data centre is consumed by the servers, storage, networking equipment and cooling systems, dependant on the cooling technology. As cloud computing, digital services and AI workloads continue to expand, data centres are expected to become an increasingly significant source of electricity consumption.

Key components of a data centre



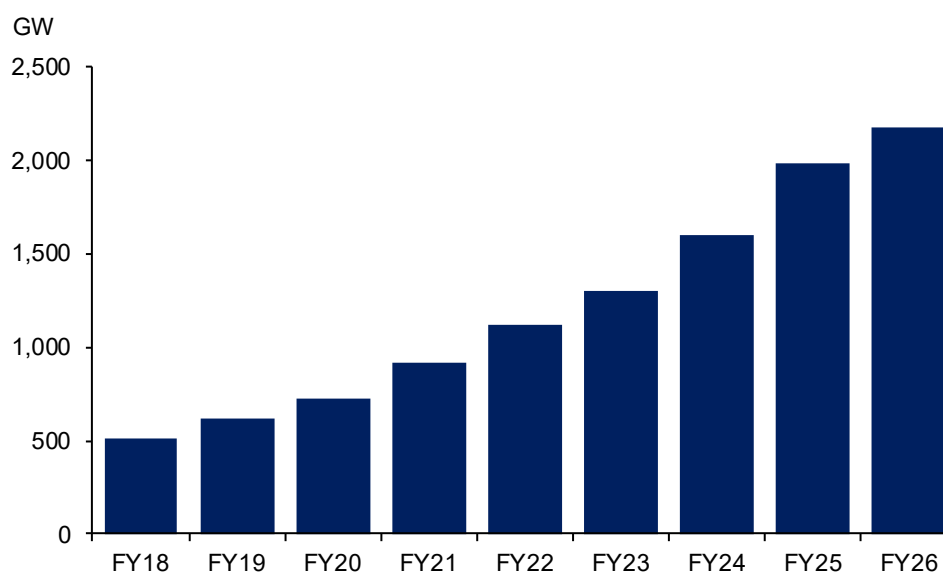
Source: Reproduced from International Energy Agency's Energy & AI report (2025)

¹ Oxford Economics Australia (2025) *Data Centre Energy Demand*. Available [here](#)

1.2. AUSTRALIAN DATA CENTRE MARKET OVERVIEW

Australia's data centre market has expanded rapidly in recent years. Rated capacity is estimated to have reached 2.2 GW in FY26, with around 200 MW added over the past year. Rated capacity refers to the maximum demand level specified in a data centre's connection agreement with a network service provider. It therefore represents the maximum grid-connected load available to the facility, covering both IT load and non-IT facility load such as cooling, power distribution, lighting and other building services.

Estimated data centre rated capacity



Source: AEMO, Oxford Economics Australia

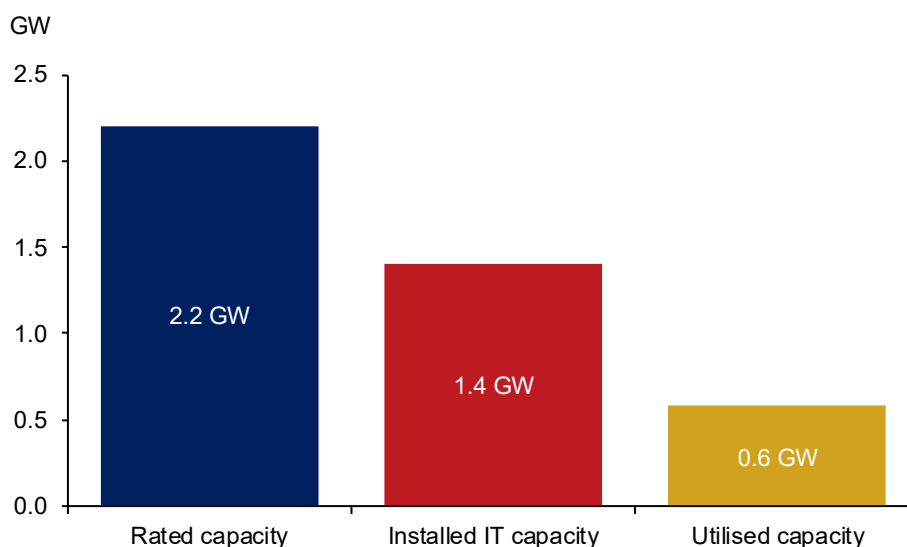
This differs from installed IT capacity, which captures the power capacity available for computing equipment itself. DCByte estimates Australia's installed IT capacity at 1.4 GW as of 31 March 2026, noting that not all of this capacity is currently utilised.² IT capacity refers to electricity available for consumption directly by servers, storage and networking hardware, and excludes supporting infrastructure.

After accounting for the actual utilisation of installed IT capacity, the utilised capacity of Australia's data centre fleet is estimated to have averaged around 580 MW in FY26. Utilised capacity is the average load actually drawn to operate both IT equipment and supporting facility infrastructure. Utilised capacity is materially below both rated capacity and installed IT capacity for several reasons including:

- Leased IT capacity is not always fully used.
- Installed IT capacity is not operated at full utilisation continuously.
- New facilities typically ramp over several years while server halls are fitted out.
- To ensure customer workloads are secure and reliable, data centre operators build in multiple redundancies to guarantee they can operate more than 99%, and in many cases 99.995%, of the time.

² DCByte (2026) *Australian Data Centre Forecast Report*. Available [here](#)

Estimated rated capacity, installed IT capacity and utilised capacity, FY26



Source: AEMO, Oxford Economics Australia, DCByte

As Australia's data centre capacity has grown, so too has the electricity data centres consume. Since 2020, electricity consumption in the Australian data centre market has grown by an average of 14.7% per year. As a result, data centres are estimated to account for 2.8% of NEM grid-supplied electricity in FY26, up from 1.3% five years ago.

Looking forward, connection requests for prospective projects have increased significantly over the last year. As of June 2026, there are 66.9 GW of requests to connect to the grid at varying stages of maturity. The stock of projects in the connection request database should not be interpreted as the utilised capacity likely to materialise on the grid or the volume of electricity data centres are likely to consume.³ However it is a very useful leading indicator of the data centre pipeline and signals strong and increasing interest in data centre investment in Australia. It also demonstrates the volatility within the market, despite the volume rising, a significant number of connection requests have dropped out over the past year.

Global context

In 2020, the data centre industry in Australia consumed a similar share of national electricity as the global average. Over the subsequent six years, electricity consumption - a good proxy for the volume of workloads processed in country - has grown at a cumulative annual average 14.7% per annum, faster than the global average. Australia appears set to continue this momentum, with the country second only to the United States in the volume of data centre investment in 2024.⁴

Despite this acceleration, Australia's data centre industry remains at present a smaller share of the grid than more mature data centre markets such as the United States and Ireland, where the industry began to expand earlier and therefore has a larger installed capacity and more data centres operating at a mature load.

³ Oxford Economics (2025) *Estimating Data Centre 'Phantom Demand'*. Available [here](#)

⁴ United States Studies Centre (2026) *Powering the cloud: Data centres and the future of Australia's grid*. Available [here](#)

Data centre electricity consumption by market, calendar years

	Australia	Ireland	United States	Asia Pacific	Europe	World
Data centre electricity consumption, 2025 (TWh)^{1 2 3}	4.5	7.0	224.0	173.0	72.0	485.0
Share of world data centre electricity consumption	0.9%	1.4%	46.2%	35.7%	14.8%	
Share of total grid-supplied electricity consumption, 2025¹	2.5%	22.0%	5.3%	1.2%	2.1%	1.7%
Annual growth rate, 2020-2025^{1 4}	14.7%	23.2%	15.7%	13.2%	4.8%	12.5%

Source: AEMO, International Energy Agency (IEA), Irish Central Statistical Office, Oxford Economics Australia

1: The Australian 2025 numbers listed in this table represent the NEM and are in calendar years to align with the IEA *Key Questions on Energy and AI* publication; all other references to Australian consumption in this report are in financial years.

2: Consumption data for Ireland are based on 2024 estimates; 2025 numbers were not published at the time this report was written.

3: IEA net electricity consumption for the World, Asia Pacific, Europe and the United States in 2025 are estimates.

4: Compounded annual growth rates. CAGRs for Ireland are from 2020 to 2024.

Current growth cycle

Growth in Australian data centre electricity consumption was already underway before the recent acceleration in AI-related demand. Cloud computing has been the main driver of historic investment, as businesses, governments and households have shifted more of their digital services, storage and computing tasks onto centralised infrastructure. AI has added a new source of momentum. Large language models and other AI applications require significant computing capacity, with AI training and inference increasing demand for more power dense and specialised data centre infrastructure.

The current investment cycle appears to be responding to both current demand and expected future demand. Existing cloud and digital services demand continues to grow, while market participants are also positioning for stronger future demand linked to AI, data storage, digital platforms and international workloads. This means some current development activity is forward looking. It reflects expectations about how the market may evolve, rather than only the level of unmet demand today.

Alongside rapidly increasing domestic demand, Australia is increasingly being considered as a potential data centre hub for the Asia Pacific region servicing international workloads. Industry consultation suggests that Australia is supported by political stability, data security, international connectivity, an established hyperscale cloud presence and access to renewable energy on a reliable grid. Reliability and security are particularly important for data centres because many facilities are designed to operate at very high availability levels. These characteristics may position Australia to service demand for the wider Asia Pacific region that is not constrained by data sovereignty or latency requirements.

Industry dynamics

Despite growing interest in data centre investment, demand for capacity remains concentrated among a small number of major buyers. AEMO estimates that only six to eight buyers ultimately contract most data centre capacity in Australia.⁵ These buyers are typically large cloud, digital infrastructure or technology companies with significant computing requirements.

By contrast, the number of developers competing to service this demand has increased materially, with around one hundred developers now actively submitting connection requests. This creates a market where many

⁵ Australian Energy Market Operator (2026) FRG Meeting 3 – 13 May 2026 FRG Meeting pack. Available [here](#)

proposed projects may be competing to serve a smaller pool of underlying buyers. Some connection requests may therefore represent phantom demand, where the volume of requested capacity overstates the amount of capacity that will ultimately be connected. In practice, multiple developers may respond to the same tenant requirement or maintain several connection options while they determine where grid access, land availability, planning approval and commercial viability are most viable.

The risk of phantom demand in the connection request database does not mean that current market demand is weak. Vacancy rates in established markets remain low and much of the more progressed project pipeline is heavily pre-committed.^{6 7} Despite the low vacancy and strong pre-commitment, installed and connected capacity does not immediately or necessarily translate into electricity consumption.

Facilities typically ramp up over several years as server halls are fitted out, tenants progressively utilise contracted space and computing workloads increase. Even once mature, data centres generally operate below their maximum rated capacity on an average basis. Depending on the type of facility, average load may be around half of maximum rated capacity, although demand can be higher during peak operating periods. This headroom is a feature of data centre design rather than spare capacity, allowing facilities to maintain reliability, absorb peak workloads, provide redundancy and meet contracted service standards.

Regional distribution

Geographically, data centre activity remains concentrated in Sydney and Melbourne. Industry consultation highlighted that data centres tend to cluster in major markets close to their customers where operators can manage several facilities as a coordinated fleet, shift workloads between nearby sites and draw on specialised local workforces. The small number of major buyers also means their location preferences have a material influence on where data centres are built. This has reinforced the concentration of development in Sydney and Melbourne, where the market is deeper and existing digital infrastructure is more mature.

Interest in regional development is increasing, particularly in South Australia and Tasmania. These regional developments often have different project proponents and business models than those operating in Sydney and Melbourne and appear to be more focussed on servicing AI and international workloads, taking advantage of the proximity to abundant renewable generation.

Where regional developments are emerging, the evidence suggests developers are more likely to look directly to the transmission network rather than follow the distribution-connected pathway that has supported much of the existing Sydney and Melbourne market. This reflects the larger scale of prospective projects and the limits of local distribution infrastructure in areas where substations were not designed to support very large loads.

1.3. FORECAST MODEL UPDATES

The 2026 forecasts build on the modelling framework developed by Oxford Economics for the 2025 ESOO and 2026 ISP which is outlined in the 2025 Data Centre Energy Demand report and in the technical appendix.⁸ The forecasts are based on two independent forecasting approaches:

- The **Project Approach** captures revealed market activity through existing and prospective data centre projects. The Project Approach modelling used in this report was led by AEMO, with support from Oxford Economics Australia.

⁶ Cushman & Wakefield (2025) *APAC Data Centre Update*. Available [here](#)

⁷ CBRE (2025) *AI adoption drives Australia's data centre investment and demand*. Available [here](#)

⁸ Oxford Economics Australia (2025) *Data Centre Energy Demand*. Available [here](#)

- The **Economic Approach** provides a demand-side anchor by estimating the electricity required to meet underlying demand for data centre services across households, businesses and government.

Three key model refinements have been made in the 2026 forecast update to incorporate additional data and evidence as the Australian data centre market develops.

1. **Probabilistic weighting was introduced in the Project Approach** to provide a more nuanced estimate of the likelihood of prospective projects materialising into future connected capacity. Some projects may be withdrawn, duplicated across multiple developers responding to the same underlying demand, or lodged before commercial, planning and connection hurdles have been resolved. Rather than treating each prospective project as likely or unlikely, the updated approach assigns projects a probability of progression. These probabilities are statistically determined by observed changes in the connection request database between 2025 and 2026, including characteristics like project status, connection status, localised competition and whether the proposed project timeline is realistic. This provides a more structured way to account for potential phantom demand while integrating information from current market activity to inform the outlook.
2. **A logistic curve has been adopted to forecast the intensity of electricity consumption in the Economic Approach** to better reflect the relationship between the consumption of digital services and electricity consumption. The previous approach used a linear trend to estimate electricity consumption per dollar spent on web and data services. Recent data points suggest this relationship is better represented by a logistic curve reflecting faster short-term growth driven by compositional shifts from traditional web and data services toward more electricity intensive cloud, AI and data processing activity which will settle as the market matures.
3. **An international demand component is introduced to the Economic Approach** to better capture Australia's potential as a data centre hub in the APAC region servicing international workloads. Public data on international workloads is extremely limited. To estimate the potential scale of this effect, the model compares Australia's installed data centre capacity relative to the size of its economy with the equivalent ratio for Asia Pacific excluding China and Australia. These estimates suggest that around 5% to 10% of current capacity could be servicing international demand, equivalent to around 1% to 1.5% of APAC consumption (excluding China and Australia).

We expect to continue refining the model methodology over time as the data landscape improves. The probabilistic project weighting will become more robust as additional years of data are collected, providing a larger sample size for analysis. Similarly, electricity intensity and international servicing demand remain areas where public data is limited, but market conditions are changing quickly. As more data becomes available, we will continue to refine the forecasts and reduce the uncertainty in the forecasts.

SECTION 2.

DATA CENTRE OUTLOOK

This section outlines Oxford Economics Australia's and AEMO's joint forecasts of electricity consumption by data centres in Australia under three scenarios: *Step Change*, *Slower Growth* and *Accelerated Transition*.⁹

The final forecasts presented in this section are an equally weighted blend of:

- The **Project Approach** captures revealed market activity through existing and prospective data centre projects. The Project Approach modelling used in this report was led by AEMO, with support from Oxford Economics Australia.
- The **Economic Approach** provides a demand-side anchor by estimating the electricity required to meet underlying demand for data centre services across households, businesses and government.

For more detailed information on the modelling methodology, see the technical appendix.

The forecasts presented in this section are unconstrained consumption projections to support AEMO's long-term planning. By design, they estimate the electricity consumed by data centres under each of AEMO's scenarios without constraining consumption by network capacity or connection availability. While consumption is not explicitly constrained by supply constraints in the model, these factors are implicitly reflected in the Project Approach since the timing, location and scale of connection requests reflect market expectations of where projects can be successful.

⁹ For more information on these scenarios, please see AEMO's Inputs, Assumptions and Scenarios Report (2025). Available [here](#)

2.1. STEP CHANGE

- Data centre electricity consumption in the NEM is forecast to increase from 5.0 TWh in FY26 (5.1 TWh nationally) to 15.5 TWh by FY30 (15.8 TWh nationally) and 33.7 TWh by FY36 (34.3 TWh nationally), lifting data centres from 2.8% of total NEM grid-supplied electricity today to 7.8% in FY30 and 13.4% by FY36.
- The near-term outlook is primarily driven by existing data centres and likely expansions of existing sites. These facilities already form a large base of connected or committed capacity but are still ramping toward mature operating levels.
- After FY30, growth becomes increasingly driven by new capacity moving through the development pipeline. Prospective developments service most of the growth in electricity consumption between FY30 and FY36, meaning the medium-term outlook is more exposed to development progression, connection timing and development feasibility.
- Electricity consumption remains concentrated in New South Wales and Victoria, with the two regions accounting for more than 88% of NEM data centre electricity consumption to FY36. Data centres are forecast to consume 12% of total state grid-supplied electricity in New South Wales and Victoria by FY30, rising to 19% for both states by FY36.
- Distribution-connected data centres remain the dominant source of grid connection, but transmission connection becomes more likely as development scale increases. Transmission-connected consumption rises from relatively negligible levels today to around 26% of total data centre electricity consumption by FY36. In less developed data centre markets projected to grow strongly over the decade, Tasmania and South Australia, consumption is driven by large transmission-connected developments, presenting a different network servicing dynamic to established markets.

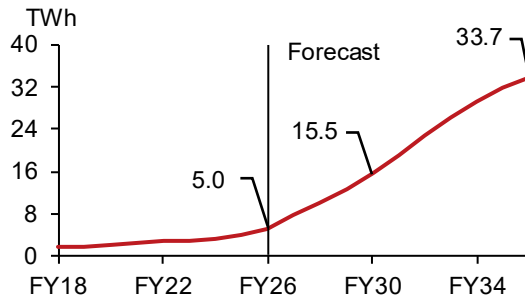
Under *Step Change*, data centres become a material and rapidly growing source of electricity consumption. Growth is strongest over the next decade as existing facilities continue to ramp and new projects begin to connect. This growth reflects continued demand for cloud computing and digital services, alongside rising demand linked to AI training, AI inference and more electricity-intensive data processing.

In FY26, data centres are estimated to consume 5.0 TWh of electricity across the NEM (5.1 TWh nationally), 2.8% of total NEM grid-supplied electricity up from 3.9 TWh in FY25 (4.0 TWh nationally).¹⁰ This already places data centres among the more material sources of large load growth in the system.

Under *Step Change*, data centre electricity consumption is forecast to increase to 15.5 TWh by FY30 (15.8 TWh nationally). At that point, data centres are expected to account for 7.8% of total NEM grid-supplied electricity. Consumption continues to grow beyond FY30, reaching 33.7 TWh by FY36 (34.3 TWh nationally), equivalent to 13.4% of total NEM grid-supplied electricity. Growth slows after this period as the initial wave of capacity expansion matures and the market shifts toward a steadier long-term growth profile.

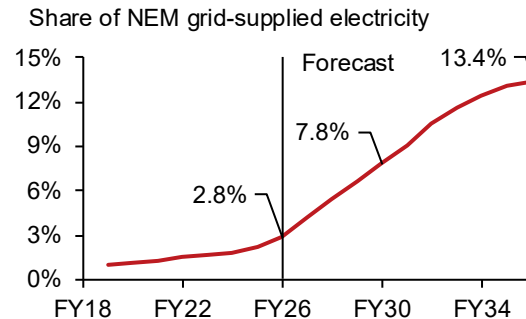
¹⁰ Throughout the report, “grid-supplied electricity” refers to operational sent out electricity.

Data centre electricity consumption, NEM, *Step Change*



Source: AEMO, Oxford Economics Australia

Data centre electricity consumption share of NEM, *Step Change*



Source: AEMO, Oxford Economics Australia

The near-term outlook is primarily driven by existing data centres and likely expansions of existing sites. These facilities already form a large base of connected or committed capacity but are still moving toward mature operating levels. This means electricity consumption can increase materially before the broader prospective project pipeline becomes the main source of growth. Existing data centres and likely expansions account for most of the raw Project Approach growth to FY30, representing 57% of the increase over this period.

After FY30, the source of growth begins to shift. More existing facilities are expected to be operating closer to mature levels, while larger prospective projects begin to contribute more materially to total consumption. Prospective projects account for 90% of the growth in the raw Project Approach estimates between FY30 and FY36, with the medium-term outlook becoming increasingly driven by new projects moving through the development pipeline.

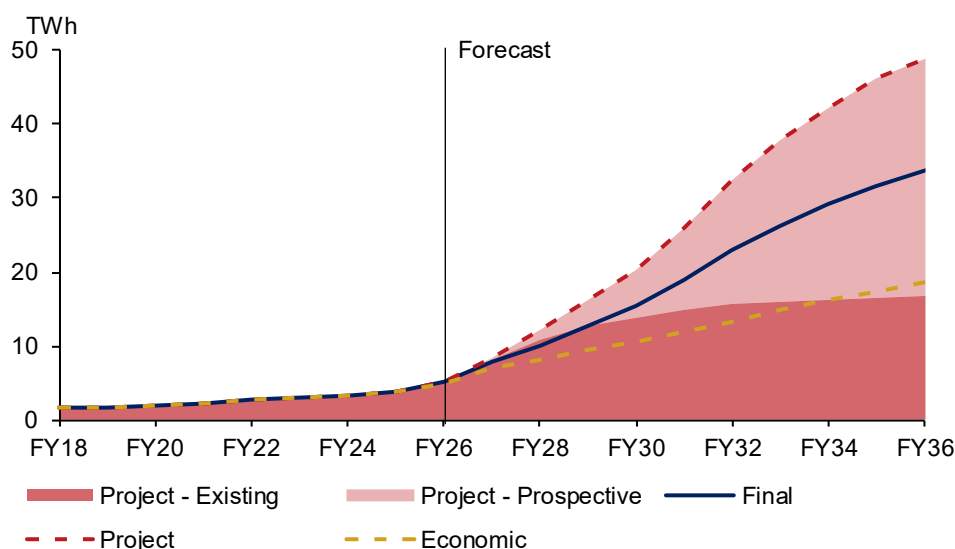
The *Step Change* outlook is higher than last year's forecast presented in the 2025 Data Centre Energy Demand report.¹¹ By FY30, forecast national electricity consumption reaches 15.5 TWh, 31% higher than the 11.8 TWh previously forecast under the *Step Change* scenario. The largest difference occurs through to FY36, with the uplift in consumption narrowing to 27% by FY58. The stronger forecasts are mostly due to a larger project pipeline, with connection requests rising to 66.9 GW, significantly above 2025 levels. This increase has been driven by:

- A growing mix of business models in the Australian market, including increased interest in AI and international workloads and more regionally diverse projects.
- Increased awareness of grid limitations which may drive an increase in the use of connection requests to secure optionality over scarce grid capacity as access to power is becoming an increasing constraint and a source of competitive advantage.
- More explicit and broadly supportive government rhetoric and action aimed at positioning Australia, and often particular states, as a data centre investment destination.

The uplift is also partially reflective of improved core assumptions informed by recent data releases and greater visibility over market activity. These methodological changes include a faster expected project ramp, a revised electricity intensity assumption based on stronger recent consumption, and explicit treatment of Australia's potential role in servicing Asia Pacific demand.¹²

¹¹ Oxford Economics Australia (2025) *Data Centre Energy Demand*. Link available [here](#)

¹² For more details on these assumption changes, please see Section 1.3 and the technical appendix.



Source: AEMO, Oxford Economics Australia

Existing data centre energy consumption closely follows our Economic Approach estimates over the next 10 years. This is not by design; the two forecasts are completely independent. This finding suggests that:

- Development over the last 5 years is sufficient to satisfy the economic demand and technological progress captured by our Economic Approach in the short term.
- The significant capacity of prospective projects, of which we only include a subset, is much more uncertain and is likely to come online progressively to meet incremental additional demand.
- There is significant potential capacity in various stages of development to respond quickly to higher demand due to faster-than-expected AI adoption or higher than expected servicing of internal demand.

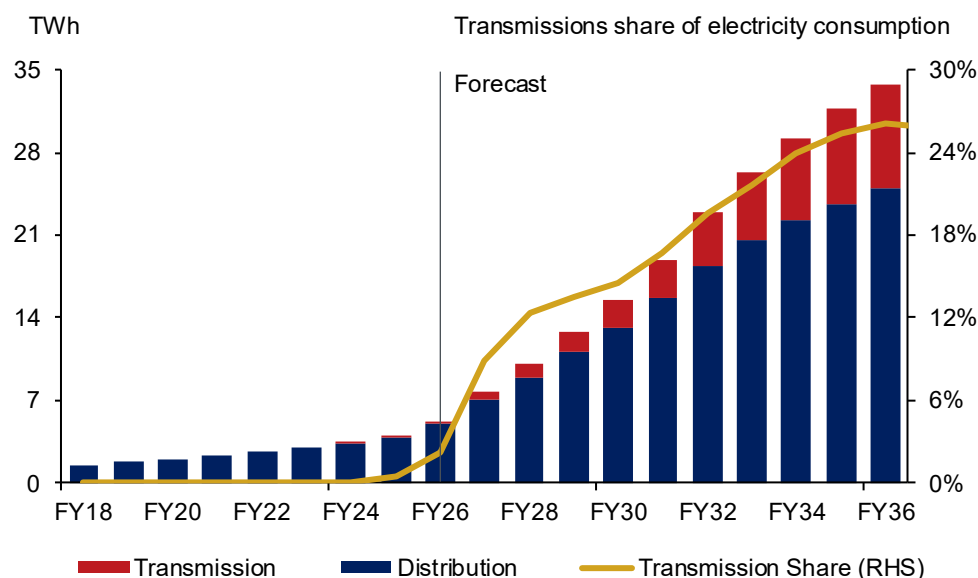
Distribution and transmission network outlook

Distribution-connected data centres are forecast to remain the dominant source of electricity consumption. This reflects the ramp-up in existing data centres, which are typically distribution-connected, as well as prospective projects, where connection requests for the distribution network remain larger than those for the transmission network.

Transmission-connected consumption nevertheless becomes more material over time. It rises from negligible levels today to around 26% of total data centre electricity consumption by FY36. This reflects the increasing scale of new data centre developments and the greater difficulty of connecting very large loads to distribution networks in some locations. Developments of several hundred megawatts are less likely to be viable on the distribution network, particularly where local substation capacity is already constrained.

The national profile masks important regional differences. New South Wales and Victoria have a larger base of existing distribution-connected facilities. Smaller or less mature markets can be shaped by a small number of large projects, which are more likely to seek direct transmission connection. Transmission may therefore be more important in some regional markets, even where distribution remains the dominant connection type nationally.

Data centre energy consumption by network connection type, *Step Change*



Source: AEMO, Oxford Economics Australia

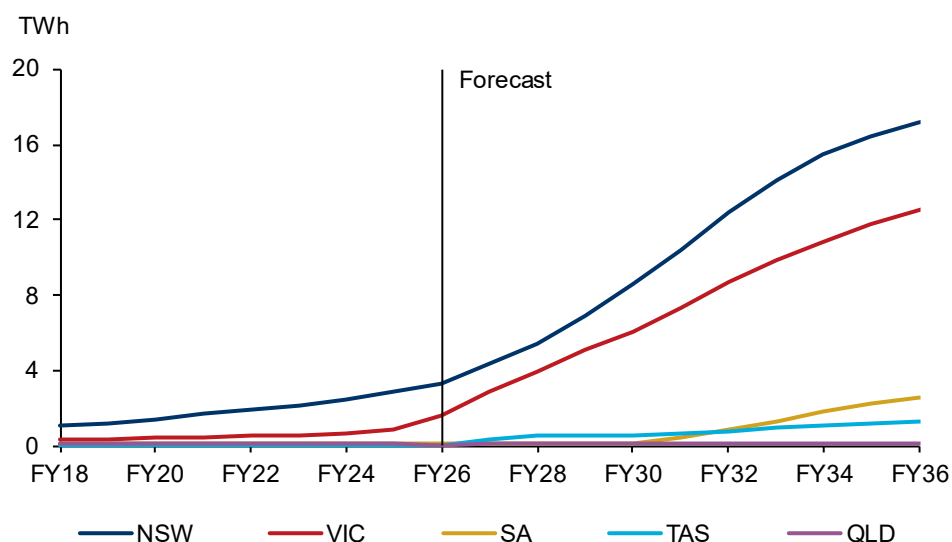
Regional outlook

Data centre electricity consumption has historically been dominated by New South Wales, with Victoria the second largest market. Within both states, consumption is highly concentrated in the capital cities, with Sydney (90%) and Canberra (10%) responsible for almost all of New South Wales's consumption, while Melbourne is responsible for almost all of Victoria's consumption. Under *Step Change*, New South Wales and Victoria are expected to account for more than 88% of total NEM data centre electricity consumption to FY36. This is consistent with other large data centre markets, where activity tends to cluster around a small number of major hubs.

New South Wales is expected to remain Australia's largest data centre market, representing 65% of current total NEM data centre electricity consumption. It benefits from its incumbent position, mature pipeline, existing cloud regions, established digital infrastructure, customer proximity and a deep base of existing facilities. These advantages support continued growth from both existing data centres and prospective projects. However, New South Wales's share of total NEM data centre consumption is expected to decline as Victoria records stronger growth over the next decade.

Victoria hosts Australia's other cloud region and is viewed as the main alternative to New South Wales for large-scale development leading to a large prospective project pipeline. This dynamic has begun to playthrough, with Victoria's share of total NEM data centre consumption rising by 9ppts to 30% in FY26. By FY30, consumption is expected to be more balanced between the two states, with New South Wales still leading at 55% of NEM consumption and Victoria accounting for 39%.

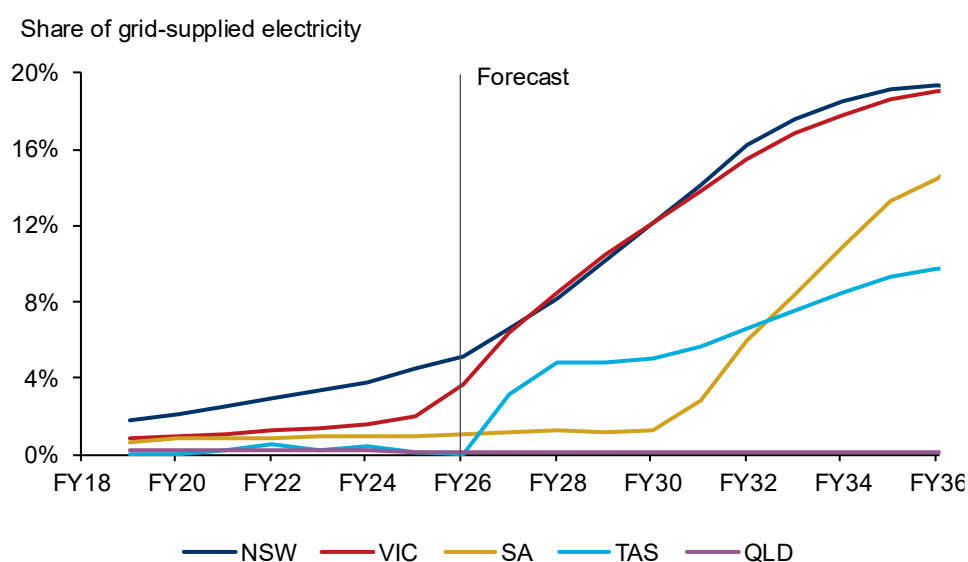
Regional data centre energy consumption, *Step Change*



Source: AEMO, Oxford Economics Australia

The concentration of consumption has material implications for New South Wales and Victoria. The growth is more pronounced in Victoria because data centre electricity consumption is growing from a lower base and rising more quickly relative to the size of the state's electricity market. As a result, the share of total Victorian grid-supplied electricity attributable to data centres is forecast to converge with NSW over the next two years. By FY30, data centres are forecast to consume around 12% of total grid-supplied electricity in New South Wales and Victoria, rising to 19% by FY36.

Data centre energy consumption share of grid-supplied electricity by region, *Step Change*



Source: AEMO, Oxford Economics Australia

Note: Shares of grid-supplied electricity consumption by state do not account for potential cross-border supply movements between states.

Electricity consumption outside New South Wales and Victoria remains a minority share under *Step Change*. Regional interest is increasing, supported by factors such as land availability, renewable energy access and cooler climates in some locations. However, this interest has not yet translated into the same depth of connection requests as New South Wales and Victoria. Outside the two major markets, South Australia and Tasmania are forecast to experience an elevated impact relative to the amount of grid supply within these states, with data centres expected to consume 2.5 TWh or 14% and 1.3 TWh or 10% of total state grid-supplied electricity, respectively, by FY36. South Australia and Tasmania have been viewed by some developers as a potential location outside the major hubs of New South Wales and Victoria, supported by high renewable energy penetration and, in Tasmania's case, a cooler climate supporting efficient data centre operation.

In these smaller and less mature data centre markets, electricity consumption is more likely to be shaped by a small number of large projects. This also affects how data centres connect to the grid. Unlike New South Wales and Victoria, where there is a deeper base of existing distribution-connected facilities, new consumption in smaller markets is expected to be more heavily weighted toward direct transmission connections.

2.2. SLOWER GROWTH AND ACCELERATED TRANSITION SCENARIOS

- Data centre electricity consumption grows materially under all scenarios. Even under *Slower Growth*, consumption reaches 10.5 TWh by FY30 (10.8 TWh nationally) and 15.1 TWh by FY36 (15.7 TWh nationally), supported by the existing base of facilities, likely expansions, and well progressed prospective developments already in the market.
- *Slower Growth* represents a market where fewer new developments are required to meet demand. Existing facilities, likely expansions and advanced prospective developments carry more of the outlook, with prospective data centres accounting for 20% of raw Project Approach electricity consumption by FY30 and 33% by FY36. This also reinforces the role of New South Wales, Victoria and distribution-connected sites, which make up the majority of existing and well-progressed capacity.
- *Accelerated Transition* represents a stronger development cycle, with faster cloud adoption, stronger AI training and inference demand, a larger role in servicing regional workloads and higher development progression. This lifts electricity consumption to 20.1 TWh by FY30 (20.4 TWh nationally) and 52.5 TWh (53.5 TWh nationally) by FY36, with transmission playing a larger role in the growth outlook.
- Victoria plays a larger relative role under both alternative scenarios. Under *Slower Growth*, this reflects an existing base with remaining ramp potential and a pipeline of relatively well progressed developments. Under *Accelerated Transition*, Victoria benefits from its larger prospective pipeline and its role as the main alternative to New South Wales for large-scale development.

The *Slower Growth* scenario represents a market where data centre consumption continues to increase, but the pace of growth is more moderate. Cloud and digital services adoption continues, but AI demand is less transformative, Australia plays a smaller role in servicing Asia Pacific workloads, and a larger share of demand can be met by existing facilities, likely expansions and more advanced prospective projects. Under this scenario, data centre electricity consumption still rises materially, but the need for large volumes of new development is less than under *Step Change*.

Under *Slower Growth*, data centre electricity consumption is lower than *Step Change* but still increases materially from current levels. Consumption is forecast to reach 10.5 TWh by FY30 (10.8 TWh nationally), compared with 15.5 TWh under *Step Change*. At this point, data centres are expected to account for 5.9% of total NEM grid-supplied electricity. By FY36, data centre electricity consumption reaches 15.1 TWh under *Slower Growth* (15.7 TWh nationally), equivalent to 7.4% of total NEM grid-supplied electricity. This remains a material increase from current levels.

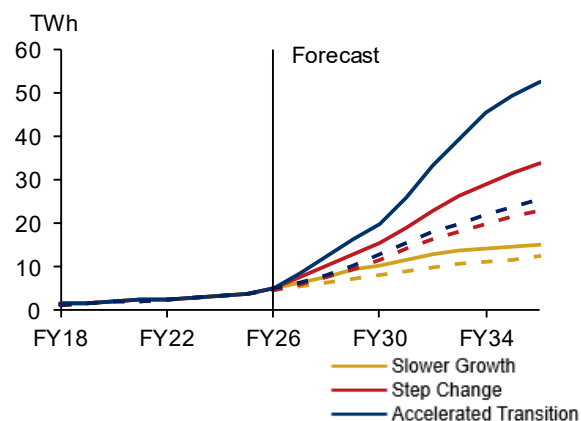
The *Slower Growth* outlook is higher than last year's forecast presented in the 2025 Data Centre Energy Demand report.¹³ By FY30, forecast electricity consumption reaches 10.5 TWh, up 28% from the 2025 forecast under the *Slower Growth* scenario. The upward revision reflects a larger project pipeline and improved core assumptions informed by recent data releases and greater visibility over market activity, which drives a faster ramp in electricity consumption in the medium term. However, in the long run to FY58, *Slower Growth* is forecast to only increase by 5% relative to last year's forecast.

The *Accelerated Transition* scenario represents a stronger and more unconstrained growth pathway. Cloud adoption accelerates, AI training and inference demand grow more quickly, and Australia plays a larger role in servicing regional workloads from Asia Pacific. Existing facilities ramp more quickly, and a larger share of prospective projects progress through the project pipeline. This creates a materially higher consumption outlook, particularly through the medium-term, as new capacity becomes more important.

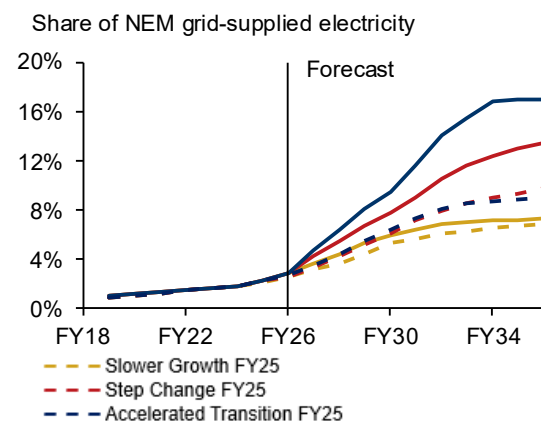
Under *Accelerated Transition*, consumption is materially stronger. Data centre electricity consumption is forecast to reach 20.1 TWh by FY30 (20.4 TWh nationally), compared with 15.5 TWh under *Step Change* (15.8 TWh nationally). At that point, data centres are expected to account for 9.5% of total NEM grid-supplied electricity. By FY36, data centre electricity consumption reaches 52.5 TWh (53.5 TWh nationally), equivalent to 17.0% of total NEM grid-supplied electricity. The gap to *Step Change* is expected to be largest through the medium-term, when stronger demand brings forward more prospective capacity. Growth continues beyond this period, although the pace moderates as adoption matures and the market moves toward a steadier long-term profile.

The *Accelerated Transition* outlook is materially higher than last year's forecast presented in the 2025 Data Centre Energy Demand report.¹⁴ By FY36, forecast electricity consumption reaches 52.5 TWh, up 106% compared to the 2025 forecast under the *Accelerated Transition* scenario. The significant uplift in the *Accelerated Transition* scenario reflects methodological changes to scenario allocations to better capture the upside risk to the *Step Change* forecast. A more detailed explanation of changes in scenario allocation can be found in the technical appendix.

Data centre energy consumption, NEM, by scenario



Data centre share of energy consumption, NEM, by scenario



¹³ Oxford Economics Australia (2025) *Data Centre Energy Demand*. Link available [here](#)

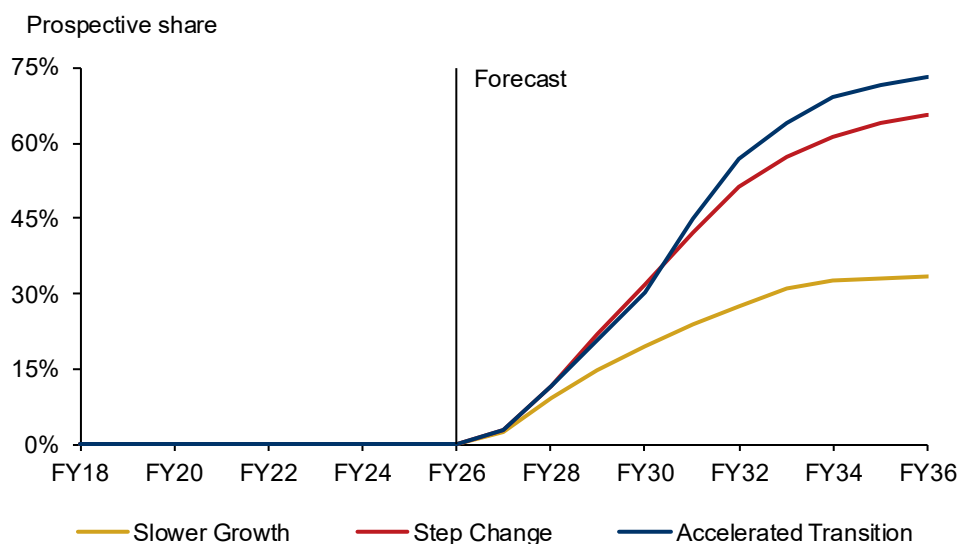
¹⁴ Oxford Economics Australia (2025) *Data Centre Energy Demand*. Link available [here](#)

Source: AEMO, Oxford Economics Australia

Scenario differences are primarily driven by the balance between existing capacity and prospective projects. Under *Slower Growth*, existing facilities and likely expansions account for a larger share of consumption for longer. This reflects slower utilisation growth, fewer new projects progressing and a weaker requirement for additional capacity. By FY30, prospective data centres account for around 20% of raw Project Approach consumption, 12 percentage points below the equivalent share under *Step Change*.

Under *Accelerated Transition*, stronger demand increases the role of prospective projects. The difference is modest to FY30, as existing facilities also ramp more quickly. The gap becomes more material through the early 2030s, when additional projects are required to meet higher demand. By FY36, prospective data centres account for 73% of raw Project Approach consumption under *Accelerated Transition*, compared with 66% under *Step Change*.

Share of data centre energy consumption consumed by prospective data centres, NEM, Project Approach



Source: AEMO, Oxford Economics Australia

Distribution and transmission network outlook

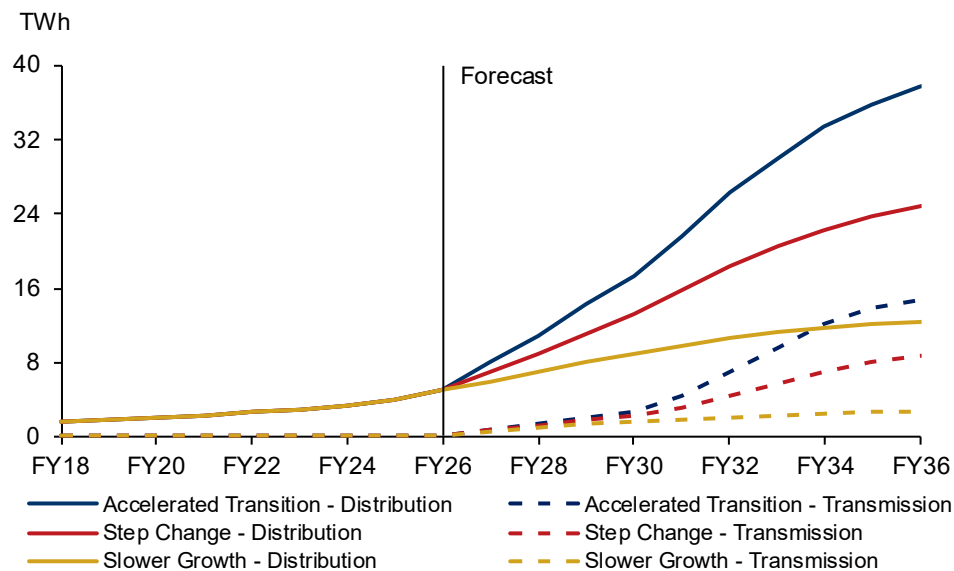
Across all scenarios, data centre electricity consumption remains primarily connected to the distribution network. This reflects the existing base of distribution-connected facilities and the continued ramping of these sites. However, transmission-connected consumption is more sensitive to the scenario pathway.

Under *Slower Growth*, weaker demand reduces the need for large prospective projects, many of which are more likely to seek transmission connection. Transmission accounts for 18% of total data centre electricity consumption by FY36 under *Slower Growth*, compared with 26% under *Step Change*. Distribution-connected consumption is 4.4 TWh below *Step Change* by FY30 and 12.5 TWh lower by FY36. Transmission-connected consumption is 0.6 TWh below *Step Change* by FY30 and 6.1 TWh lower by FY36.

Under *Accelerated Transition*, stronger demand increases the role of both distribution and transmission-connected data centres. The largest absolute increase still occurs through distribution-connected consumption, reflecting the size of the existing and prospective distribution-connected base. However, transmission-

connected consumption also increases as more large projects proceed and as development scale makes direct transmission connection more relevant. Under *Accelerated Transition*, distribution-connected consumption is 4.2 TWh higher than *Step Change* by FY30 and 12.8 TWh higher by FY36. Transmission-connected consumption is also higher, increasing by 0.5 TWh by FY30 and 6.0 TWh by FY36. The network split remains broadly similar to *Step Change*, with transmission accounting for 28% of data centre electricity consumption by FY36, compared with 26% under *Step Change*.

Network type, NEM, by scenario



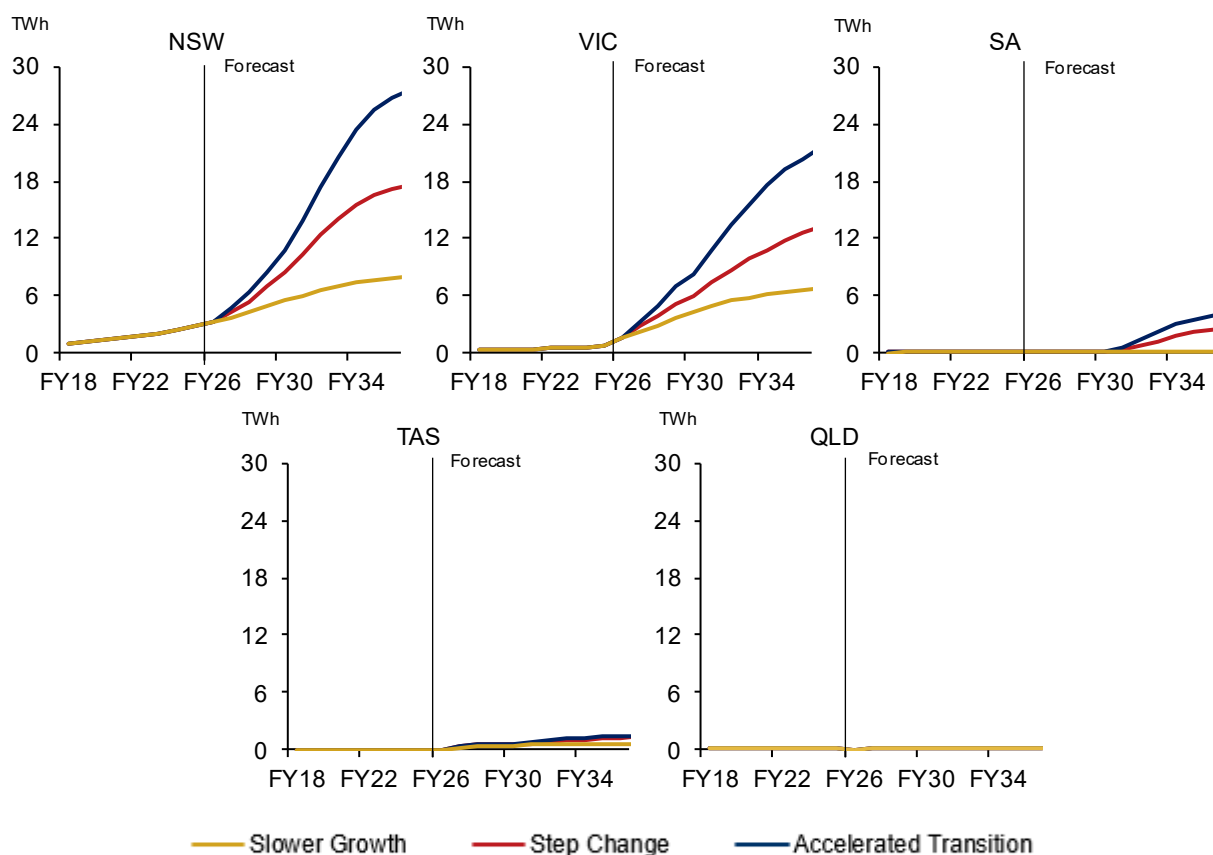
Source: AEMO, Oxford Economics Australia

Regional outlook

The regional outlook remains concentrated in New South Wales and Victoria under all scenarios. These two markets continue to dominate, having the deepest existing data centre base, established cloud regions, stronger customer proximity and more mature digital infrastructure. Scenario variation changes the scale of demand in each market but does not shift the overall market structure away from the two major hubs.

Among the two major data centre markets, Victoria shows greater upside under *Accelerated Transition* and a smaller downside under *Slower Growth*. Under *Slower Growth*, this reflects an existing base with remaining ramp potential and a pipeline of relatively well progressed projects. Under *Accelerated Transition*, Victoria benefits from its larger prospective pipeline and its role as the main alternative to New South Wales for large-scale development.

Regional data centre energy consumption, by scenario



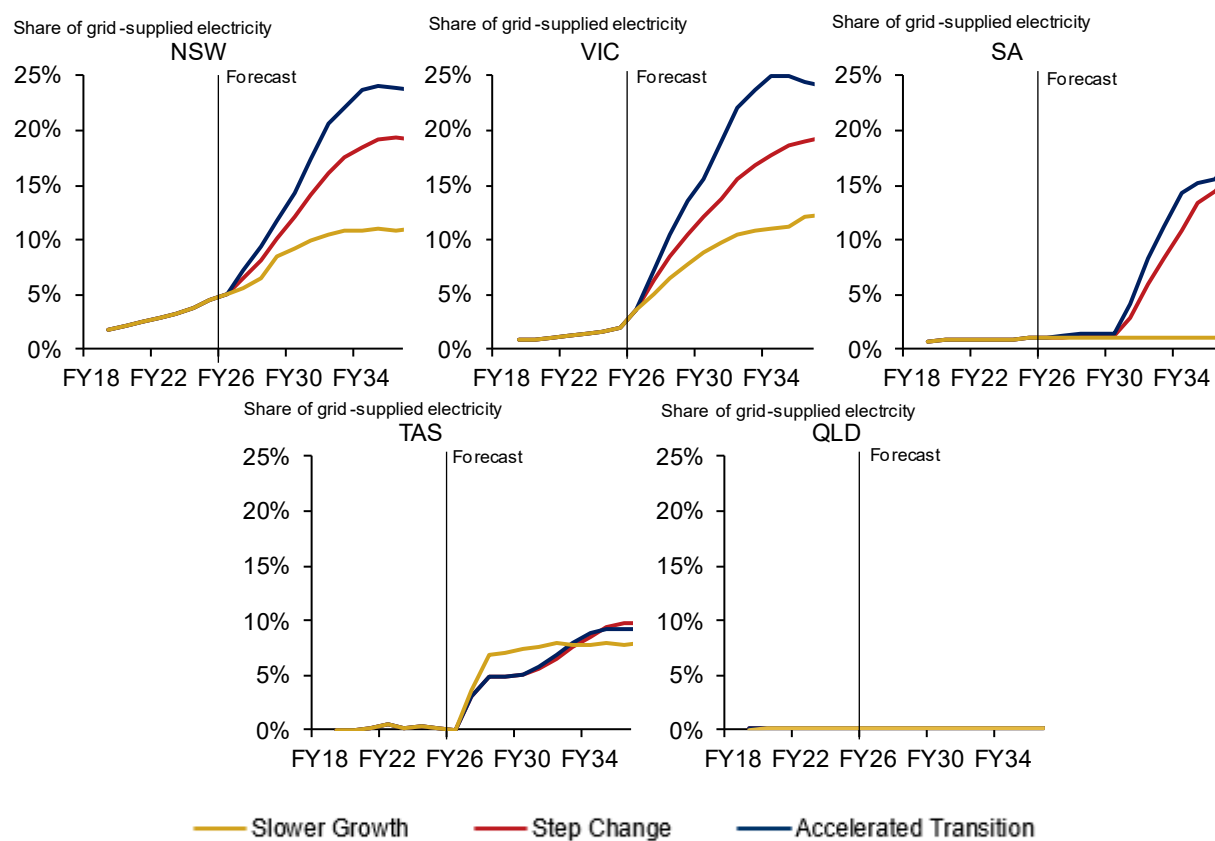
Source: AEMO, Oxford Economics Australia

Under all scenarios, New South Wales remains the biggest market. It has the largest existing base and is therefore relatively supported under *Slower Growth*, where consumption relies more heavily on facilities already in the market. Under *Accelerated Transition*, New South Wales also grows materially, with consumption 2.2 TWh higher than *Step Change* by FY30 and 9.4 TWh higher by FY36. Victoria shows greater upside in proportional terms. It has a larger role in the prospective pipeline and more room to increase its share of consumption. Under *Accelerated Transition*, consumption in Victoria is 2.3 TWh higher than *Step Change* by FY30 and 7.8 TWh higher by FY36.

Under *Slower Growth*, consumption is lower across both major markets. By FY30, New South Wales is 3.0 TWh below *Step Change*, and Victoria is 1.8 TWh lower. By FY36, the gap widens to 9.5 TWh in New South Wales and 5.9 TWh in Victoria. This reflects slower development progression, weaker utilisation and a more gradual ramp of new capacity.

The outlook for South Australia and Tasmania, in particular, is more sensitive to individual project assumptions because these markets have smaller existing data centre bases and fewer prospective projects. A single large project can materially change their regional outlook. Under *Accelerated Transition*, consumption in South Australia is 0.1 TWh higher in FY30 and 1.4 TWh higher by FY36 compared to *Step Change*. The upside for Tasmania is more muted, with consumption only rising by 0.1 TWh by FY36, compared to *Step Change*, reflecting a lack of additional prospective projects under *Accelerated Transition* in the state. Under *Slower Growth*, both states' consumption is forecast to be materially lower with larger proportional falls than the main hubs of New South Wales and Victoria. Tasmanian and South Australian consumption would be 59% and 95% lower by FY36 respectively, reflecting that most of the consumption in these less mature markets is forecast to come from prospective projects.

Data centre share of total state grid-supplied electricity by scenario



Source: AEMO, Oxford Economics Australia

Note: Shares of grid-supplied electricity consumption by state do not account for potential cross-border supply movements between states.

The scenario results also affect the share of state grid-supplied electricity attributable to data centres. Under *Accelerated Transition*, Victoria records the largest increase relative to *Step Change*, with data centres' share of total Victorian grid-supplied electricity 3.5 percentage points higher by FY30 and 5.3 percentage points higher by FY36. New South Wales' share of total grid-supplied electricity is 2.2 percentage points higher by FY30 and 4.5 percentage points higher by FY36, while South Australia and Tasmania are projected to consume a similar share of grid-supplied electricity compared to *Step Change* as consumption and total grid-supplied electricity grow at a similar rate.

Under *Slower Growth*, the reduction is also concentrated in the major markets. By FY30, Victoria is 3.2 percentage points below *Step Change*, compared with 2.9 percentage points lower in New South Wales. By FY36, New South Wales records the larger reduction of the two main hubs at 8.4 percentage points below due to a larger share of its prospective capacity not coming online relative to Victoria, which is down 6.9 percentage points compared to *Step Change*. The share of South Australian electricity consumption differs significantly under the *Slower Growth* scenario due to the state's low base of existing facilities and a less developed prospective pipeline.

SECTION 3.

TECHNICAL APPENDIX

3.1. MODEL FRAMEWORK

The Australian Energy Market Operator (AEMO) commissioned Oxford Economics Australia in 2025 to forecast data centre consumption to FY58 to inform the 2025 Electricity Statement of Opportunities and the 2026 Integrated System Plan. Subsequently, AEMO commissioned Oxford Economics Australia to refresh the economic forecasts in 2026 and provide support to AEMO to updating the Project Approach to reflect additional data availability and developments in market dynamics for the 2026 Electricity Statement of Opportunities.

Previous approaches to forecasting data centre consumption have focused on shorter time horizons of 5 to 10 years. The Lawrence Berkeley National Laboratory has produced several annual reports on the outlook for United States data centre energy usage over a 5-year time horizon.¹⁵ The International Energy Agency recently built on this work, publishing a 10-year outlook for global data centre consumption.¹⁶ Both estimates rely on a bottom-up methodology developed by the Lawrence Berkeley National Laboratory, which utilises IT equipment shipments as a key driver of data centre energy consumption. Alternatively, the California Energy Commission published data centre load forecasts based on a bottom-up methodology that estimated existing and proposed data centre rated capacity (MW) and applied average load profiles to determine annual consumption (TWh).¹⁷

The modelling framework developed by Oxford Economics Australia utilises two independently derived forecast approaches, capturing different market dynamics and data sources.

- The **Project Approach** captures revealed market activity through existing and prospective data centre projects. The Project Approach modelling used in this report was led by AEMO, with support from Oxford Economics Australia.
- The **Economic Approach** provides a demand-side anchor by estimating the electricity required to meet underlying demand for data centre services across households, businesses and government.

The final forecasts represent the average of these two approaches. This method was adopted to balance the risk that market activity as measured by the current data centre project pipeline and connection requests may be overestimating future demand for data centre services. In such cases, energy consumption may be lower than expected due to delayed or reduced developments, longer ramp periods, or lower load realisation factors.¹⁸ The blended approach also accounts for the possibility that historical relationships between economic growth and data centre consumption may underestimate future growth, due to structural shifts in this relationship.

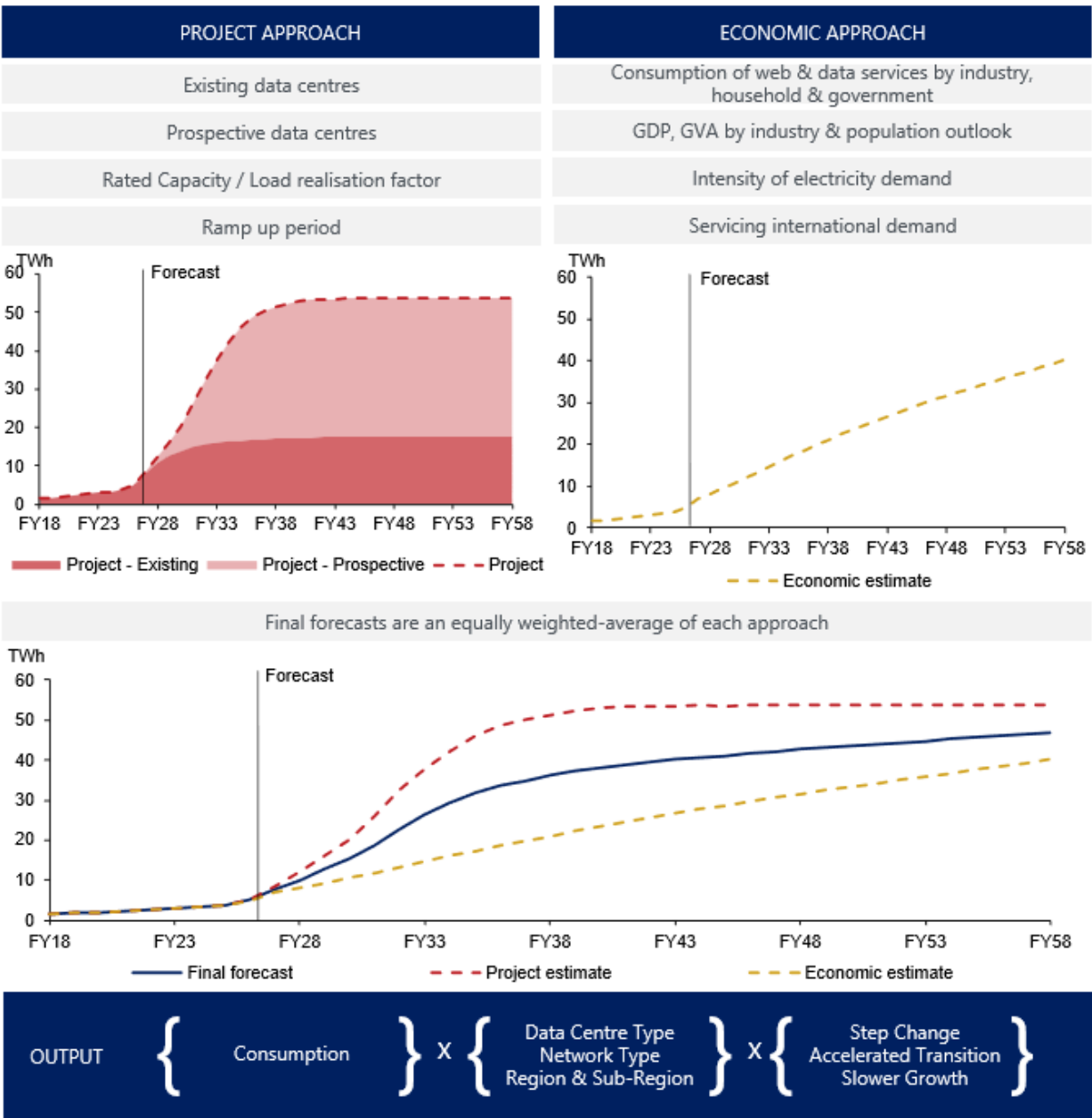
¹⁵ The Lawrence Berkeley National Laboratory (2024) *United States Data Center Energy Usage Report*. Available [here](#)

¹⁶ International Energy Agency (2025) *Energy and AI*. Available [here](#)

¹⁷ California Energy Commission (2024) *Data Centre Load Forecasts, 2024-2040*. Available [here](#)

¹⁸ A detailed definition of ramp period and mature load realisation can be found in Section 3.2.2 of the technical appendix.

Modelling framework



Source: Oxford Economics Australia

3.2. PROJECT APPROACH

The Project Approach modelling used in this report was led by AEMO, with support from Oxford Economics Australia. The Project Approach leverages rich data sources from AEMO to measure energy consumption on a project-by-project basis, estimating the energy consumption of existing and prospective data centre projects. This approach is designed to capture revealed market activity through the current project pipeline.

Project approach consumption (TWh) = Existing project consumption + Prospective project consumption

Project Approach key assumption sources summary table:

Input assumption	Source
Historical data	Key source: AEMO metering data by site Supplemented by: OEA Building Construction Masterplan for Northern Territory where metering data was incomplete and dual-use NMIs including both data centre use and other large industrial loads were identified¹⁹
Prospective projects	Key source: AEMO connection request database compiled from NSP 2026 Standing Information Requests, LIL surveys and Data centre operators
Ramp period	Key source: AEMO connection request database compiled from NSP 2026 Standing Information Requests. Validated by: Data centre provider surveys, consultation with expert panel, Australian benchmarks and International benchmarks.^{20 21 22}
Load factor	Key source: IEA, AEMO peak demand data in comparison with AEMO consumption data and desktop research.^{23 24} Validated by: Industry consultation and international benchmarks.²⁵
Mature load realisation	Key source: IEA (2025) Energy & AI report²⁶, IEA (2026) Key Questions on Energy and AI²⁷ Validated by: Data centre provider surveys, historical analysis of AEMO consumption data, industry consultation, CSIRO and International benchmarks.^{28 29}
Allocation to data centre type	Assumption based on developer in OEA Building Construction Masterplan and additional desktop validation for larger developers that commonly build both co-locators and hyperscalers. Validated by: Industry consultation and manual allocation where appropriate.

3.2.1. HISTORICAL DATA

Historical data was sourced from AEMO metering data collected by site across the NEM and Western Australia. For the Northern Territory, historical metering data was incomplete and dual-use NMIs, sites with both a data

¹⁹ Oxford Economics (2026) *Australian Building Masterplan*. Available [here](#)

²⁰ Transgrid (2025) *Meeting demand growth in the Western Sydney Aerotropolis 'Priority Growth Area'*. Available [here](#)

²¹ EirGrid (2023) *Ireland Capacity Outlook 2022-2031*. Available [here](#)

²² EirGrid (2024) *Generation Capacity Statement 2023-2032*. Available [here](#)

²³ International Energy Agency (2025) *Energy & AI*, Available [here](#)

²⁴ International Energy Agency (2026) *Key Questions on Energy and AI*. Available [here](#)

²⁵ Independent Commodity Intelligence Services, *Data centres: Hungry for power*. Available [here](#)

²⁶ International Energy Agency (2025) *Energy & AI*, Available [here](#)

²⁷ International Energy Agency (2026) *Key Questions on Energy and AI*. Available [here](#)

²⁸ CSIRO (2021) *Data Centres and the Australian Energy Sector*. Available [here](#)

²⁹ EirGrid (2023) *Ireland Capacity Outlook 2022-2031*. Available [here](#)

centre use and other large industrial loads, were identified. Historical consumption data was estimated for Western Australia and Northern Territory based on the OEA Building Construction Masterplan, back casting consumption using the same methodology applied to prospective projects. This means that in this analysis, historical consumption for the NEM regions and Western Australia can be considered actual while historical data for the Northern Territory should be considered as estimates.

3.2.2. PROSPECTIVE PROJECTS

Project details

The connection request database was compiled and categorised by AEMO based on NSP Standing Information Requests, interviews with data centre providers, discussions with NSPs, cross-referencing with Oxford Economics Australia Non-Residential Masterplan and desktop research. Data collected from these sources and assigned to each project included:

- 2026 IASR Sub-region
- Rated capacity (MW)³⁰
- Ramp period (years)³¹
- Ramp start date
- Project status (Constructed, Committed, Anticipated, Proposed)^{32 33}
- Grid connection status (Completion, Application, Enquiry, Prefeasibility)
- Network type (DX, TX)

Probabilistic project weighting

Oxford Economics Australia developed a probabilistic project weighting methodology to better account for uncertainty within AEMO's current pipeline of prospective data centre projects.

This update was introduced to address the risk that the connection request database may overstate future consumption. Connection requests can include projects that are ultimately withdrawn, duplicated across multiple developers responding to the same underlying demand, lodged before a sole development site has been selected, or to determine the most expedited approval process. Rather than treating each prospective project as either fully included or excluded, the probabilistic project weighting assigns each project an expected likelihood of progression from its current status to completion.

Over one-third of all connection requests were withdrawn over the last 12 months. Many projects progressed from proposed to anticipated, anticipated to committed or committed to under construction/complete and some projects regressed moving from committed to anticipated or anticipated to proposed. Each project was classified according to how its project status changed over that period.

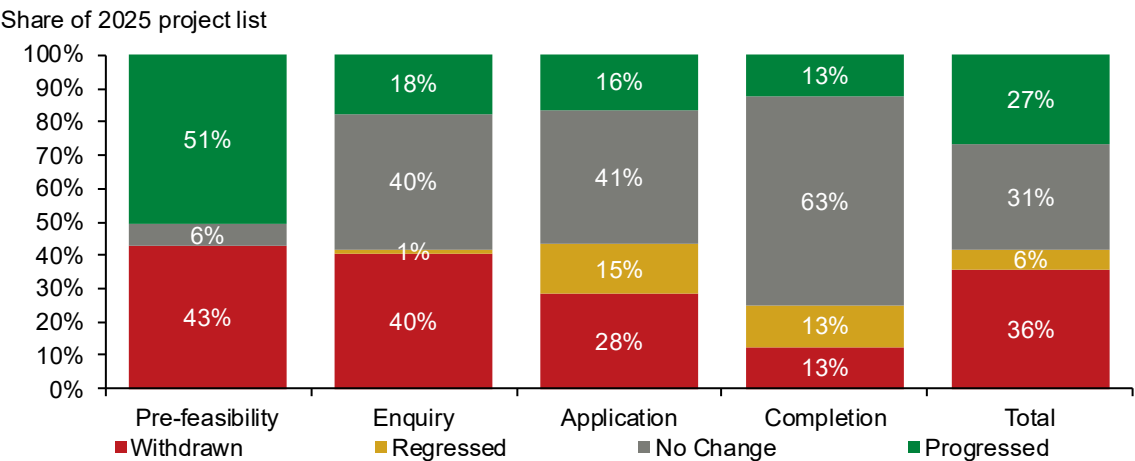
³⁰ Rated capacity refers to the maximum demand level specified in a connection agreement between the data centre and a network service provider.

³¹ Ramp period refers to the duration in years for the new data centre connection to mature load

³² AEMO (2024), *Forecasting Approach – Electricity Demand Forecasting Methodology*. Available [here](#)

³³ Project status as defined in AEMO's Electricity Demand Forecasting Methodology.

Project movement from 2025 to 2026 by connection status



Source: AEMO, Oxford Economics Australia

A logistic probability model was used to estimate the relationship between project characteristics and observed progression based on 185 projects from the 2025 connection request database. The dependent variable was defined as whether a project progressed to a later development stage between the 2025 and 2026 connection request database. The explanatory variables were selected to capture characteristics that are expected to influence whether a data centre project progresses through the development pipeline.

Project characteristics

Project characteristic	Rationale	Measured impact on likelihood of progression
Project status	Captures the different development hurdles faced by projects at each stage of the pipeline.	Projects at very early and very late stages of development are more likely to be withdrawn, aligning with the major development hurdle timeline.
Connection status	Captures progress through one of the key grid-related development hurdles.	Projects with a complete connection agreement were more likely to progress.
Developer size	Impacts capital availability and market access	Relatively minimal impact, with mid-sized developers the least likely to progress.
Localised project competition	Identifies projects of a similar size, location and timing that may be competing to service the same underlying demand.	Projects with strong competition of a similar size, location and timing were significantly less likely to progress.
Realistic project timeline	Captures whether the stated development timeline appears feasible given project status, connection status and expected delivery requirements.	Projects with unrealistic development timelines were significantly less likely to progress.

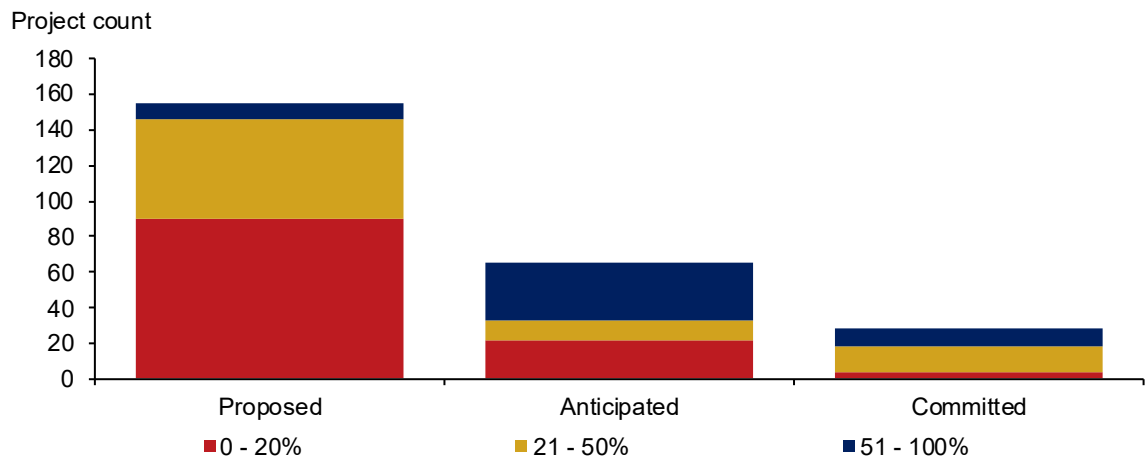
Source: Oxford Economics Australia

The estimated model coefficients were applied to the current list of prospective projects to calculate a project-specific probability of progression. These probabilities were then used to weight prospective project rated capacity in the Project Approach. The probabilities are intended to be interpreted as market-level weights rather than definitive project-level forecasts. Individual project probabilities may overstate or understate the likelihood of a specific project proceeding, particularly where important commercial information is not observed. However, when applied across the full development pipeline, the probabilistic weighting provides a structured way to capture systematic progression based on observed evidence.

The analysis found that connection status, localised competition and development timeline were the strongest indicators of project progression. Projects with completed or more advanced connection status were more likely to progress. Projects facing strong localised competition from projects of a similar size and timing were less likely to progress. Projects with unrealistic development timelines were also less likely to progress. Overall, the calculated median probability of a project progressing from current project status to being completed was 28%.

The probability of completion tended to decrease for projects earlier in the development planning cycle, as expected. However, the relationship between project status and probability of completion was not strictly linear. While projects further along the development pathway would generally be expected to have a higher likelihood of completion, some committed projects received lower estimated probabilities than anticipated projects where they faced strong localised competition and/or had unrealistic delivery timelines. We suspect this may reflect the timing of when projects entered the pipeline. Many anticipated projects have had the benefit of additional time for the market to develop before beginning planning. In a market that has moved so quickly over the last few years, this additional information may have resulted in more realistic development timelines and less evidence of multiple application requests for the same instance of demand.

Distribution of estimated project progression probabilities



Source: AEMO, Oxford Economics Australia

The probabilistic project weighting improves the treatment of prospective project uncertainty, but it does not remove uncertainty from the Project Approach. The probability weights should be interpreted as structured, evidence-based estimates rather than precise forecasts of individual project outcomes. However, by applying these weights consistently across the full project pipeline, the methodology provides a more robust estimate of the expected market-level pipeline than a binary inclusion or exclusion approach. The probabilistic project weighting methodology is expected to strengthen over time as more years of project movement data are collected, increasing the sample size used in estimation, and the evidence base on how the market operates continues to grow.

Scenario allocation

After the calculated project probability weightings were applied to project rated capacity, prospective projects were then allocated to scenarios based on the following:

Scenario allocation criteria

Proposed			Anticipated		Committed		Constructed
Prefeasibility	Enquiry	Application	Enquiry	Application	Application	Completion	Completion
Period up to the reliability obligation threshold							
							Slower Growth scenario
							Step Change scenario
							Accelerated Transition scenario
Period beyond the reliability obligation threshold							
							Slower Growth scenario
							Step Change scenario
							Accelerated Transition scenario

Note: In this case, the forecast reliability gap period begins on 1 July 2030. For more information, please see the National Electricity Law, Part 2A (Retailer Reliability Obligation). Available [here](#)

Source: AEMO

Ramp period

Assumed ramp periods are applied on a project-by-project basis from data provided by NSPs when compiling the connection request database. Five years was assumed to be the minimum ramp period, and in the few cases where ramp periods were not provided, the ramp period of similar prospective projects was used.

For *Slower Growth*, ramp periods were assumed to be 20% slower than under *Step Change*, while under *Accelerated Transition*, they were assumed to be 20% faster. This reflects the weaker or stronger demand environment expected under each scenario.

Step Change ramp period assumptions

	Minimum	Maximum	Mean	Median
Ramp period (years)	5	15	7.1	6

Source: AEMO, Oxford Economics Australia

Mature load realisation and load factor

Assumptions are based on analysis of AEMO peak demand data in comparison with AEMO consumption data and the Base 2030 assumption from the International Energy Agency's (IEA) report, *Energy and AI*.³⁴

Mature load realisation is equal to the ratio of average load when a data centre is operating at their long-run mature level and the rated capacity of a data centre.

³⁴ International Energy Agency (2025) *Energy and AI*. Available [here](#)

Load factor is equal to the ratio of average load to peak load. This measure is used to estimate peak demand which is not considered as part of this reporting. However, we have included these assumptions for completeness.

$$\text{Mature load realisation} = \frac{\text{Mature average load}}{\text{rated capacity}}$$

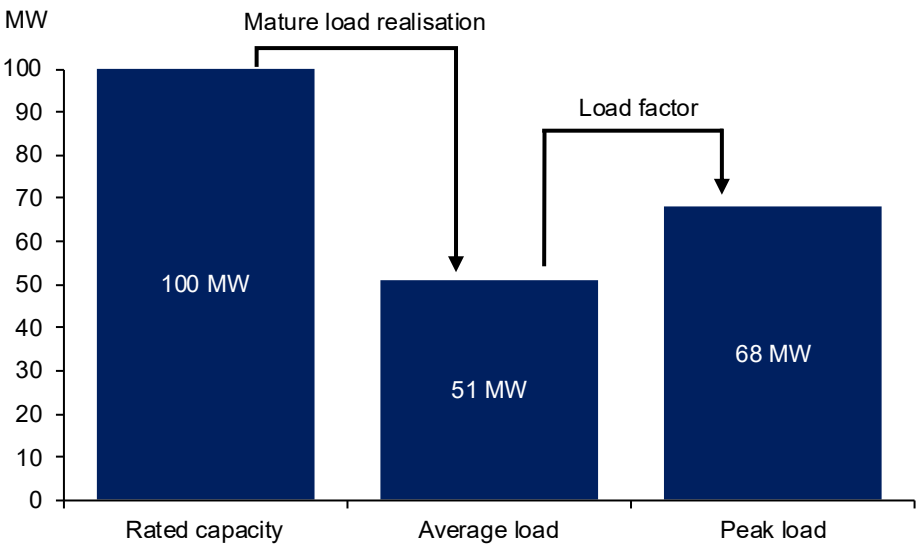
$$\text{Load factor} = \frac{\text{Average load}}{\text{Peak load}}$$

Mature load realisation and load factor assumptions

	Mature load realisation assumption	Load factor assumption
Hyperscaler	51%	0.75
Co-locator	47%	0.85
Edge/Telco/Enterprise/Other	45%	0.80

Source: IEA, AEMO, Oxford Economics Australia
Note: The naming convention of these assumptions have changed slightly since the 2025 report to improve readability, but the practical application of these assumptions is consistent with the previous methodology.

Mature load realisation and load factor illustrative example of 100MW Hyperscaler



Source: Oxford Economics Australia

Prospective project consumption projections

Individual prospective projects were allocated to scenarios based on AEMO’s scenario allocation criteria outlined above. The short-run consumption outlook for each project was then calculated based on the corresponding probabilistic project weighting, rated capacity, ramp period and mature load realisation assumptions.

$$\text{Consumption} = \text{Probability weighting} \times \text{Rated capacity} \times \# \text{ hours in year} \times \frac{\text{time since start}}{\text{ramp period}}$$

$$\times \text{Mature load realisation}$$

The market outlook for consumption is aggregated across projects to produce the short-run consumption outlook for prospective projects.

3.2.3. EXISTING PROJECTS

The consumption outlook for existing data centres was modelled separately from prospective projects to account for differing historical trends in specific market segments. Consumption from existing data centres was built from the bottom up on a project-by-project basis based on:

- Large industry load surveys
- Trend analysis of historical consumption
- Interviews with data centre operators

Survey response rates and data centre provider participation in the survey collection the survey collection process has improved significantly since 2025.

3.3. ECONOMIC APPROACH

The Economic Approach modelling used in this report was led by Oxford Economics Australia. The Economic Approach estimates the energy required to meet underlying demand for data centre services by linking the consumption of digital services across industry, government and households to data centre electricity use, while also accounting for AI adoption, electricity intensity and Australia's role in servicing international workloads. Used alongside the Project Approach, it provides a demand-side cross-check on the **project** pipeline and helps anchor the long-term outlook under conditions of structural change and market uncertainty.

Each industry, as well as the household and government sectors, are at different stages of digital maturity and as a result, we model their adoption of AI technology and consumption of web & data services individually. All else being equal, a larger economy will require more data centre services, resulting in data centres consuming more energy. The approach also accounts for differences in the composition of the economy by scenario.

The consumption of data centre services is then translated into energy, so that an additional unit of consumption on data centre services produces additional demand for energy.

The location of data centre consumption is determined by which projects are most likely to meet incremental demand based on the maturity of prospective projects and market preference as revealed by AEMO's connection request database.

Economic approach key assumption sources summary table:

Input assumption	Source
Historical data centre electricity consumption	Key source: AEMO provided estimates of historical data centre electricity consumption.
GVA by industry by scenario	Key source: Deloitte Access Economics, Economic forecasts 2023/24. ³⁵
Population by state by scenario	Key source: AEMO 2025-26 IASR Deloitte Access Economics, Economic forecasts 2023/24. ³⁶
Historic consumption of web and data services	Key source: Australian Bureau of Statistics, Australian National Accounts: Supply Use Tables 2023/24. ³⁷
International demand servicing	Key Sources: International Energy Agency, Energy and AI Observatory: Installed data centre installed IT capacity (GW). ³⁸

³⁵ Deloitte Access Economics (2024) *Economic forecasts 2023/24 Prepared for the Australian Energy Market Operator Limited*. Available [here](#)

³⁶ Ibid

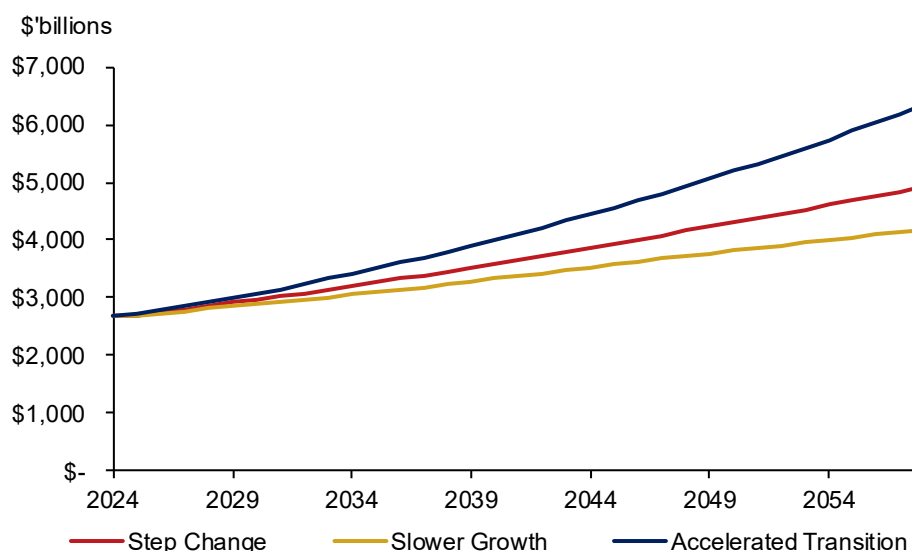
³⁷ Australian Bureau of Statistics (2025) *Australian National Accounts: Supply Use Tables*. Available [here](#)

³⁸ International Energy Agency (2025) *Energy and AI Observatory*. Available [here](#)

Economic forecasts

Oxford Economics Australia utilised AEMO's FY25 to FY58 economic forecasts provided by Deloitte Access Economics (DAE) to estimate the size of the economy under the three scenarios to FY58. We assume that, despite recent volatility, the outlook for longer-term economic growth has not materially changed.

Australian GDP by scenario, FY24 to FY58



Source: AEMO, Deloitte Access Economics

Differences in the size of the economy are forecast to impact the level of web and data services consumed, which in turn will affect electricity consumption. Under a *Slower Growth* and *Accelerated Transition* Scenario, the economy will be 14.9% smaller and 29.0% larger, respectively, than under the *Step Change* Scenario. Furthermore, the composition of the economy will differ under each scenario; AEMO's estimates of the industrial structure are based on forecasted growth rates of individual industries by scenario. Underlying demand for data centres is likewise estimated at a 1-digit ANZSIC classification, creating greater deviations in underlying demand than the deviation in the size of the economy. Household consumption is estimated based on Deloitte Access Economics population forecasts by state and scenario, accounting for relative changes in the population outlook.

Industry GVA CAGR by scenario, FY23 to FY58

	Agriculture	Mining	Manufacturing	Utilities	Construction	Services
Slower Growth	0.5%	0.7%	-0.9%	-0.2%	0.8%	1.7%
Step Change	0.8%	1.0%	-0.5%	0.1%	1.1%	2.3%
Accelerated Transition	1.4%	1.6%	0.0%	0.8%	1.8%	3.0%

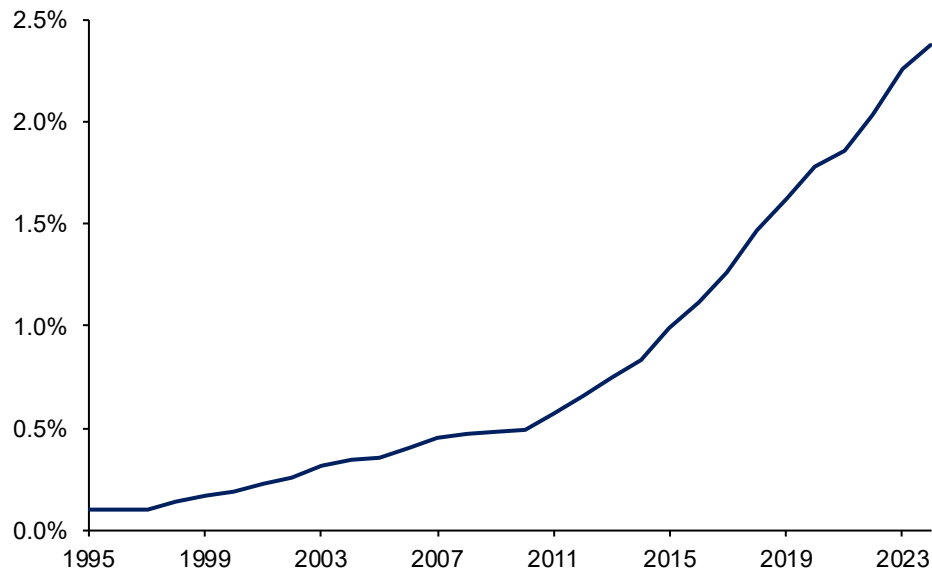
Source: AEMO, Deloitte Access Economics

Intermediate consumption of web and data services

Data centre services are classified under ANZSIC industry subdivision 59 – Internet Service Providers, Web Search Portals, and Data Processing Services (web and data services). Australian National Accounts Use Tables

provide detailed estimates of where web and data services are consumed at the household, government, and detailed industry levels.

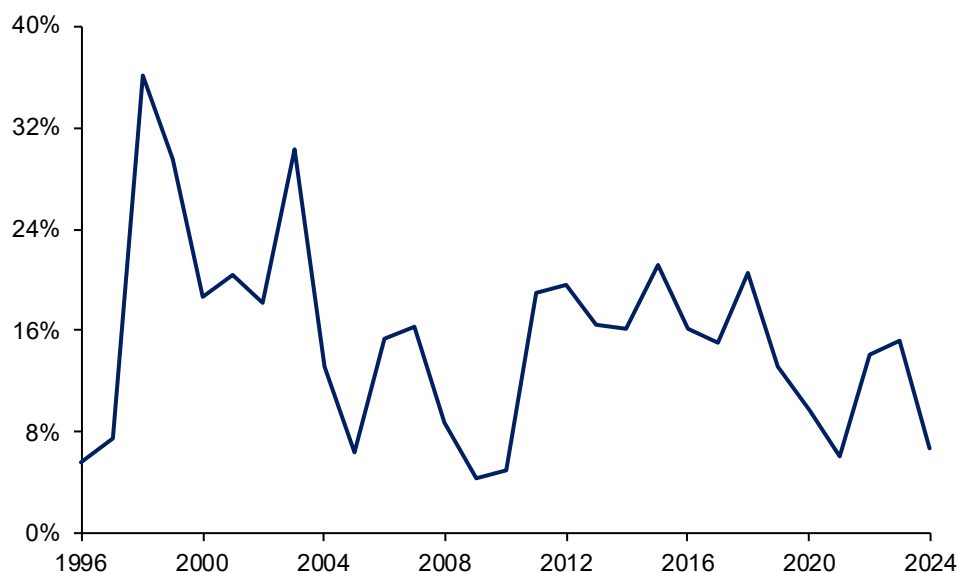
Ratio of use of web and data services to GDP, FY95 to FY23



Source: Australian Bureau of Statistics, Oxford Economics Australia

Aggregate consumption of web and data services as a ratio of GDP has risen steadily from 0.1% in FY95 to 2.4% in FY24. At no point over the past 28 years has this ratio declined; however, it has undergone several growth cycles fuelled by innovations that directed additional consumption to web and data services. Throughout the late 1990s and early 2000s, internet adoption drove peaks in the growth of the share, followed by a rise in cloud computing throughout the mid-2010s. Growth began accelerating again in FY22, likely due to the continued integration of cloud services, and onshore requirements for data centre services use in certain sectors such as health and defence. As AI tools become more embedded in business processes, related spending is likely to become more visible in future data releases. This may include spending on AI-enabled software, cloud services and usage-based compute, including large language model services priced by token use. Over time, this should improve the extent to which observed web and data services spending captures the integration of AI across the economy.

Annual growth in consumption of web and data services



Source: Australian Bureau of Statistics, Oxford Economics Australia

With the increasing digitisation of the economy, the ratio of web and data services is expected to continue growing, as novel technologies fuel additional consumption of these services, while remaining tied to the overall level of economic activity by scenario.

$$\text{Ratio of web and data services (\% of GDP)} = \frac{\text{Use of web and data services}}{\text{GDP}}$$

However, the ratio of web and data service use to GDP is unlikely to continue increasing with the exponential shape that has characterised it over the past three decades, as these inputs of web and data services would begin to consume too great a share of business inputs to be economically feasible. It is assumed that, in the long run, the share will stabilise as the integration of digital services into the economy reaches a more mature stage; accordingly, a logistic curve is used to model the long-run relationship of the ratio.

Under *Step Change* and *Slower Growth*, 2027 is adopted as the midpoint (x_0) of the ratio. This is assumed to marginally precede the calculated peak of AI adoption growth, reflecting the historical growth of earlier technologies already present in the web & data services sector.³⁹ Under *Accelerated Transition*, 2029 is adopted as the midpoint, reflective of elongated growth in the supply pipeline and a stronger AI uptake. The logistic curve is fitted by solving for L and I that minimise the mean-square errors in the historical data for 1-digit ANZSIC industries and the household and government sectors.

$$f(x) = \frac{L}{1 + e^{-k(x - x_0)}}$$

GVA and the ratio of web and data service forecasts are then used to estimate the real spend on web and data services over time.

$$\text{Web and data services} = \text{GVA} \times \text{Ratio of web and data services}$$

³⁹ Under the *Accelerated Transition* scenario, the midpoint is extended to 2029 to account for the faster pace of investment and economic growth over the forecast period and the likely acceleration in technological development that would follow.

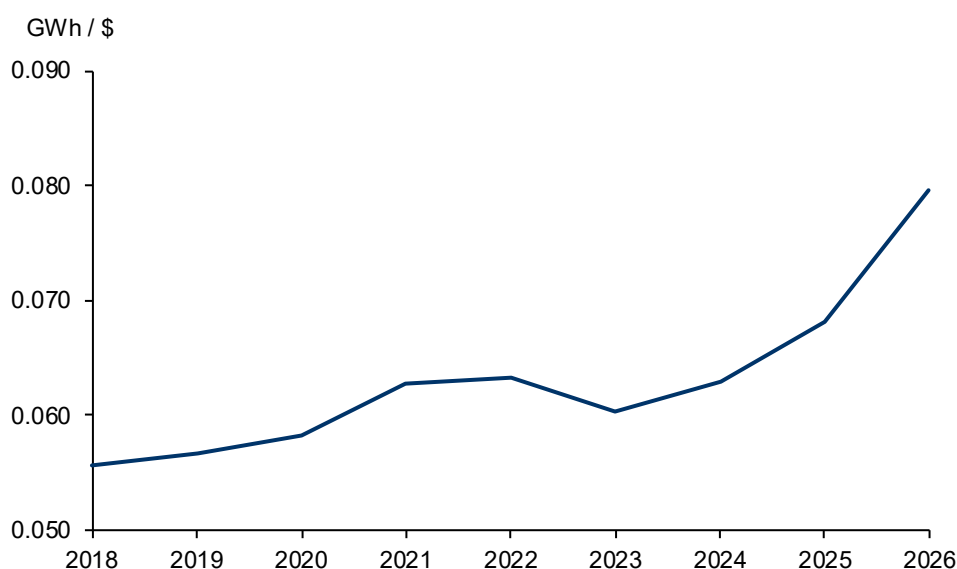
Intensity of electricity demand

The intensity of electricity demand is calculated by dividing AEMO's historic estimate of total electricity demand by web and data service spend within the economy as estimated by the Australian Bureau of Statistics National Accounts Use Table.

$$\text{Intensity of electricity demand (GWh per \$)} = \frac{\text{Data centre (GWh)}}{\text{Web and data services (\$)}}$$

We previously adopted the observed linear trend for the series from FY18 to FY24, noting that there was a medium degree of uncertainty surrounding this variable due to the short time series of the data and the fact that the impact of large language models was likely to only be seen on the data from FY23 onwards. Additional historical data has now been released, allowing us to examine whether a linear trend model is still the most appropriate forecast for this.⁴⁰

GWh per dollar of web and data services, Real FY24 prices



Source: ABS, AEMO, Oxford Economics Australia

The additional data suggest that electricity consumption per dollar spent on web and data services is better represented by a logistic curve than a linear trend. This reflects the compositional shift from traditional web and data services toward more electricity-intensive data centre activity. Electricity intensity per dollar spent on digital services is expected to rise more quickly while data centre-intensive services account for a growing share of spending, before moderating as the market matures. The logistics curve parameters for each scenario are guided by the Project Approach's estimate of electricity consumption in the short run. The midpoint (x_0) is set at the year where growth in electricity consumption peaks in the Project Approach and solves for L and k that minimise the mean-square errors in the historic data.

$$f(x) = \frac{L}{1 + e^{-k(x-x_0)}}$$

⁴⁰ AEMO provided Oxford Economics data centre electricity consumption to the end of March 2026. The last quarter of FY26 has been estimated to provide an additional data point for the series.

The underlying demand for data centres is expressed by multiplying the real consumption of web and data services by the intensity of electricity demand:

$$\text{Consumption (GWh)} = \text{Web and data services (\$)} \times \text{Intensity of electricity demand (GWh per \$)}$$

3.3.1. INTERNATIONAL DEMAND SERVICING

The 2025 Data Centre and Energy Demand report tested the potential for Australian data centres to service demand from the broader Asia Pacific region through a sensitivity analysis. That sensitivity compared Australia's current share of regional data centre electricity consumption with the implications of continuing the upward trend observed between FY20 and FY24, with the forward outlook benchmarked to the equivalent scenario in the International Energy Agency's *Energy and AI* report.⁴¹ Industry consultation and the greater prominence of business models designed to export compute from Australia, present in the connection request database, indicate that international demand may represent a source of electricity consumption not fully captured by domestic demand drivers.

There is significant uncertainty around the extent to which data centres service demand across national borders. Public data is limited, and providers may charge customers in one country while the electricity required to deliver those services is consumed in another. This means the associated demand may not be visible in traditional service export data. To estimate the potential scale of this effect, we compare Australia's installed data centre installed IT capacity relative to GDP with the equivalent ratio for APAC excluding China and Australia.⁴² This provides an indication of whether Australia has more data centre installed IT capacity than would be expected based on the size of the economy.

$$\text{GDP to installed capacity} = \frac{\text{Installed capacity (GW)}}{\text{GDP}}$$

Australia's GDP-to-installed-capacity ratio suggests that around 5% to 10% of current installed IT capacity could be servicing international demand from the broader APAC region. This is equivalent to around 1% to 1.5% of total regional demand excluding China and Australia.

Over the outlook, the estimated share of APAC excluding China and Australia demand serviced by Australia is linked to Australia's market growth rate relative to the broader region under each AEMO scenario and the equivalent IEA scenario. The key assumption is that if Australia's domestic data centre market continues to outperform the wider region, the resulting economies of scale and agglomeration benefits could make Australia a more attractive location for regional demand that is not constrained by data sovereignty requirements.

The main risk to this approach is the limited evidence available on the current level of cross-country servicing by data centres. Public data does not clearly identify where data centre services are consumed relative to where the associated electricity demand occurs. The approach also assumes that Australia's relative outperformance in data centre growth compared with the wider region translates into a corresponding level of export-led demand. In practice, this relationship could be stronger or weaker than assumed, resulting in a higher or lower level of regional servicing from Australia. To manage these uncertainties, the regional demand component is constrained by the IEA's outlook for data centre electricity consumption across APAC excluding China, ensuring Australia's forecast remains anchored to the broader regional market.

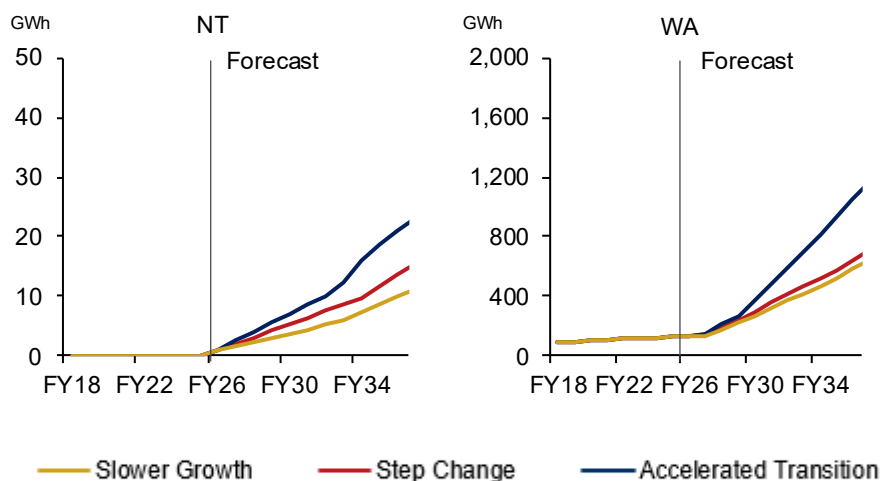
⁴¹ International Energy Agency (2025) *Energy and AI*. Link available [here](#)

⁴² International Energy Agency (2025) *Energy and AI Observatory*. Link available [here](#)

3.4. WESTERN AUSTRALIA AND NORTHERN TERRITORY FORECASTS

AEMO have updated Western Australian data centre consumption forecasts as part of the WEM ESOO. Oxford Economics forecast of electricity consumption are done at a whole of Australia level. To ensure updated forecasts were consistent with our 2025 results, consumption projections for Western Australia and the Northern Territory were updated to support the publication of the ESOO, however they were not the focus of this report.

Regional data centre energy consumption, by scenario



Source: AEMO, Oxford Economics Australia



CONTACT

Global headquarters

Oxford Economics Ltd
60 St. Aldates, Oxford,
Oxfordshire, OX1 1ST
Tel: +44 (0)1865 268900

London

4 Millbank, London,
SW1P 3JA, UK
Tel: +44 (0)203 910 8000

Frankfurt

Marienstr. 15
60329 Frankfurt am Main
Germany
Tel: +49 69 96 758 658

New York

5 Hanover Square,
8th Floor, New York
NY 10004, USA
Tel: +1 (646) 786 1879

Singapore

6 Battery Road
#38-05
Singapore 049909
Tel: +65 6850 0110

Email:

mailbox@oxfordeconomics.com

Website:

www.oxfordeconomics.com

Further contact details:

[www.oxfordeconomics.com/
about-us/worldwide-offices](http://www.oxfordeconomics.com/about-us/worldwide-offices)

EUROPE, MIDDLE EAST AND AFRICA: OXFORD • LONDON • BELFAST • BERLIN • DUBLIN • FRANKFURT • PARIS
• MILAN • STOCKHOLM • CAPE TOWN • DUBAI • **AMERICAS:** NEW YORK • PHILADELPHIA • BOSTON • CHICAGO
• LOS ANGELES • TORONTO • MEXICO CITY • **ASIA PACIFIC:** SINGAPORE • HONG KONG • TOKYO • SYDNEY