

CLIMATE COUNCIL

CARBON ZERO

POLLUTION PIPELINE: AUSTRALIA'S DIRTIEST DATA CENTRES

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Key findings

1 New analysis reveals the dirtiest data centre proposals in Australia could rival our most polluting coal power stations.

- If all nine are built they could use more than 50 terawatt hours of power from the grid a year by 2035 – over two-thirds of what all homes in Australia use today.
- If that demand isn't matched by extra solar, wind and storage it could add 39.7 million tonnes of climate pollution a year by 2035; or almost as much pollution as our three dirtiest coal power stations emit today: Loy Yang A, Eraring and Bayswater.
- In Victoria, three data centre proposals together risk adding 17.7 million tonnes of pollution a year - more than Australia's most polluting coal power station, Loy Yang A.
- In New South Wales, four proposals could together add 10.2 million tonnes a year, more than 1.5 times as much as the Vales Point coal-fired power station.
- In Queensland, the Western Downs data centre proposal alone could add 8.3 million tonnes a year; more than Stanwell coal power station.

2 Without the right national rules, new data centres will materially push up power bills and put pressure on our water supplies.

- Modelling consistently shows that without new renewables and storage to match demand, data centres push up power prices. Baringa modelled a 20% rise in average wholesale prices across the main grid by 2035.
- Generation alone isn't enough. Data centres run around the clock, so they also need new storage from day one, or homes and businesses foot the bill.
- Industry could be priced out, too. Tomago, Australia's largest energy user, needed $2.5 billion in government support for high energy costs, and data centres with deep pockets could outbid industries like it when their power contracts end.
- Sydney Water forecasts data centres could take 15-20% of Sydney's water supply by 2035, in a city that has spent almost half the past 20 years in drought.
- Demand in Melbourne is also surging, with water storage levels there sitting 20% lower than the same time two years ago as climate change drives lower cool season rainfall in south-east Australia.

3 Three data centre developers want to build off-grid, gas power stations bigger than any in Australia today.

- Like coal, gas is a harmful fossil fuel that's highly polluting wherever it's extracted, processed and burned. Building new gas power stations would lock in decades of pollution that fuels worsening heat, drought, fire and floods.
- It's also a poor use of our gas, since data centres can run on solar and wind. Since east coast exports began in 2015, gas prices have roughly doubled and put manufacturers that still rely on gas under pressure.
- For gas companies, data centres offer a large, long-term customer to help justify new, polluting gas projects exactly as domestic demand for gas elsewhere is falling.
- In fact, several data centre developers – including some with ties to the gas industry – want to build their own gas power stations:
  - **Beetaloo Digital** (Northern Territory), a subsidiary of gas company Beetaloo Energy, plans up to two gigawatts (GW) to create demand for its own fracked gas.
  - **Project Meridien** (Western Australia) proposes 1.5 GW, about twice the size of the biggest gas power station running today. One backer owns a company that has sought to frack the Kimberley.

- **Project Ares** (Northern Territory) would initially run off a one GW gas power station, and even with its solar and battery running could burn more gas each day than all the Territory's homes and businesses use on average.

› The United States is a warning: 181 GW of new gas generation is being proposed alongside data centres globally, and more than 90% of that is within the US. Gas built while developers wait for grid connection risk being permanent.

4 It doesn't have to be this way. Approved clean energy projects that would cut climate pollution are waiting for buyers, like data centres.

› Matching data centre demand with new renewables and storage would largely neutralise the extra climate pollution and price risks.

› Renewables and storage already supply more than 45% of Australia's main grid, or nearly double six years ago.

› Another 43.6 gigawatts of approved renewable projects are awaiting buyers, more than enough for forecast data centre growth. More than 233 GW hours of big batteries are also moving through planning and construction.

› Before data centres switch on, they should sign long-term contracts to buy power from wind, solar and battery projects that aren't yet funded.

› Large-scale solar projects have taken 21 months on average to build once funded, and wind projects about 30 months. That means data centres can have new renewables and storage running within three years of connecting to the grid.

5 Strong national standards need to apply to all data centre proposals, or higher bills, pollution and water use will be locked in for decades to come.

› Some of the proposals are already moving through planning, and new ones keep arriving: 225 data centres are now lined up to connect to the main grid, more than double a year ago.

› Not all will go ahead, but those approved in the next few years will still be running in decades. Unless standards cover each one as it plans energy supply and starts operating, the industry will lock in climate harm that readily available renewable energy would avoid.

› At a minimum, standards must cover every data centre over 30 megawatts that starts operating after the Federal Government set out its expectations in March 2026.

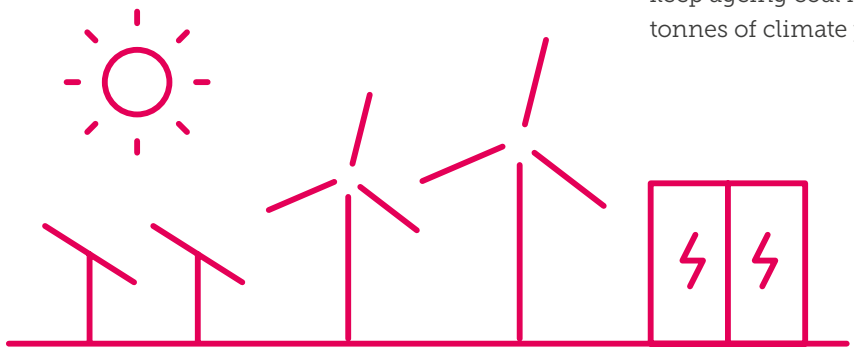
› They should require data centres to match demand with new renewable sources within three years, rule out gas as a main power source, and limit water use.

› Many of these companies already buy renewables, but it's voluntary and results in certificates not new projects. Strong standards can deliver the new clean energy we need, instead of dragging us back.



Introduction

Australians are building a cleaner grid as our ageing coal power stations retire. Renewables and storage now supply more than 45% of electricity in our main grid, nearly double their share six years ago, and gas generation is dropping to record lows (Open Electricity 2026). Households are leading the charge through rooftop solar and home batteries. That shift is cutting climate pollution, reducing wholesale power prices and better protecting communities from worsening fires, floods and extreme heat.



The data centre boom has arrived at a critical point in that shift. There are 225 data centres lined up to connect to the main grid, more than double the number a year ago. Within a decade the Australian Energy Market Operator (AEMO) forecasts this industry could use as much electricity as nearly all the homes in New South Wales and Victoria combined. The risks for our clean energy switch, power bills and climate pollution are significant.

Data centres should build on our progress to cut climate pollution from coal, oil and gas, not undermine it. How they are powered will decide which happens. If they bring their own new wind, solar and storage, their investment can expand our clean energy supply, avoiding impacts on power bills and additional climate pollution. If they draw on the existing grid or burn gas instead, they will push up power prices for households and businesses, keep ageing coal running longer and add millions of tonnes of climate pollution every year.

Modelling has consistently shown that if data centres are built without additional renewable energy and storage then wholesale power prices across the board will materially rise. For example, Baringa has found wholesale prices could be 20% higher on average across Australia's main grid by 2035 if data centre demand is not matched with new renewables and storage.

Gas is a key reason why power prices have been so high, but thankfully its role in our grid is small and shrinking. Yet several data centre developers, some with direct ties to the gas industry, want to build new, off-grid gas power stations that would be bigger than any operating in Australia today. That risks locking in decades of avoidable climate pollution, while diverting gas from industries that need it.

Our analysis of the largest data centre proposals in Australia reveals those that threaten to pollute the most are planned for New South Wales, Victoria, Queensland and the Northern Territory. If they don't bring new renewables and storage to match their demand – or worse, build dedicated gas generation instead of renewables – together they could add 39.7 million tonnes of climate pollution a year by 2035, almost as much as Australia's three most polluting coal power stations combined.

None of this is inevitable. If data centres are required to bring new renewables and storage to match their demand as soon as possible, their growth could help build Australia's clean energy supply instead of extending our use of polluting coal and gas, and driving up power prices.

The Albanese Government has promised mandatory national standards and aims to introduce legislation in early 2027. But the proposed approach so far leaves gaps that could let polluting proposals we've identified slip through, with no confirmed start date for the rules. Some proposals are already moving through planning, and new ones keep arriving.

To protect communities, the standards must apply to every data centre that starts operating, including those already in the pipeline. At a minimum, they must:

- match at least 100% of energy use with genuinely new renewables and storage, with storage from day one;
- build the new supply within three years, with real penalties;
- rule out gas as a main power source, including while renewables are being built or when it's labelled "firming";
- make recycled water the standard for liquid cooling, and ban any use of fresh water for cooling in water-stressed regions; and
- cover every data centre over 30 megawatts that starts operating after 23 March 2026, everywhere in Australia.

If we don't introduce strong national standards, it will be households, businesses, communities and the natural environment who pay for it, on their power bills and through worsening climate impacts for decades to come. That's the stark choice for our political leaders.



Image 1: Data centres should build on progress to cut pollution from coal, oil and gas.

1.

What Australia's most polluting data centre proposals could mean for our climate



Image 2: Climate pollution makes disasters like bushfires more frequent and intense.

Just nine data centre proposals could add 39.7 million tonnes of climate pollution a year – almost as much as our three most polluting coal power stations combined: Loy Yang A, Eraring and Bayswater – if they rely on coal and gas instead of new renewables and storage.

While not all proposals may end up going ahead, any one of these centres, as proposed, risks higher power prices and would add to pollution that is already worsening fires, drought, floods and extreme heat and extreme heat.

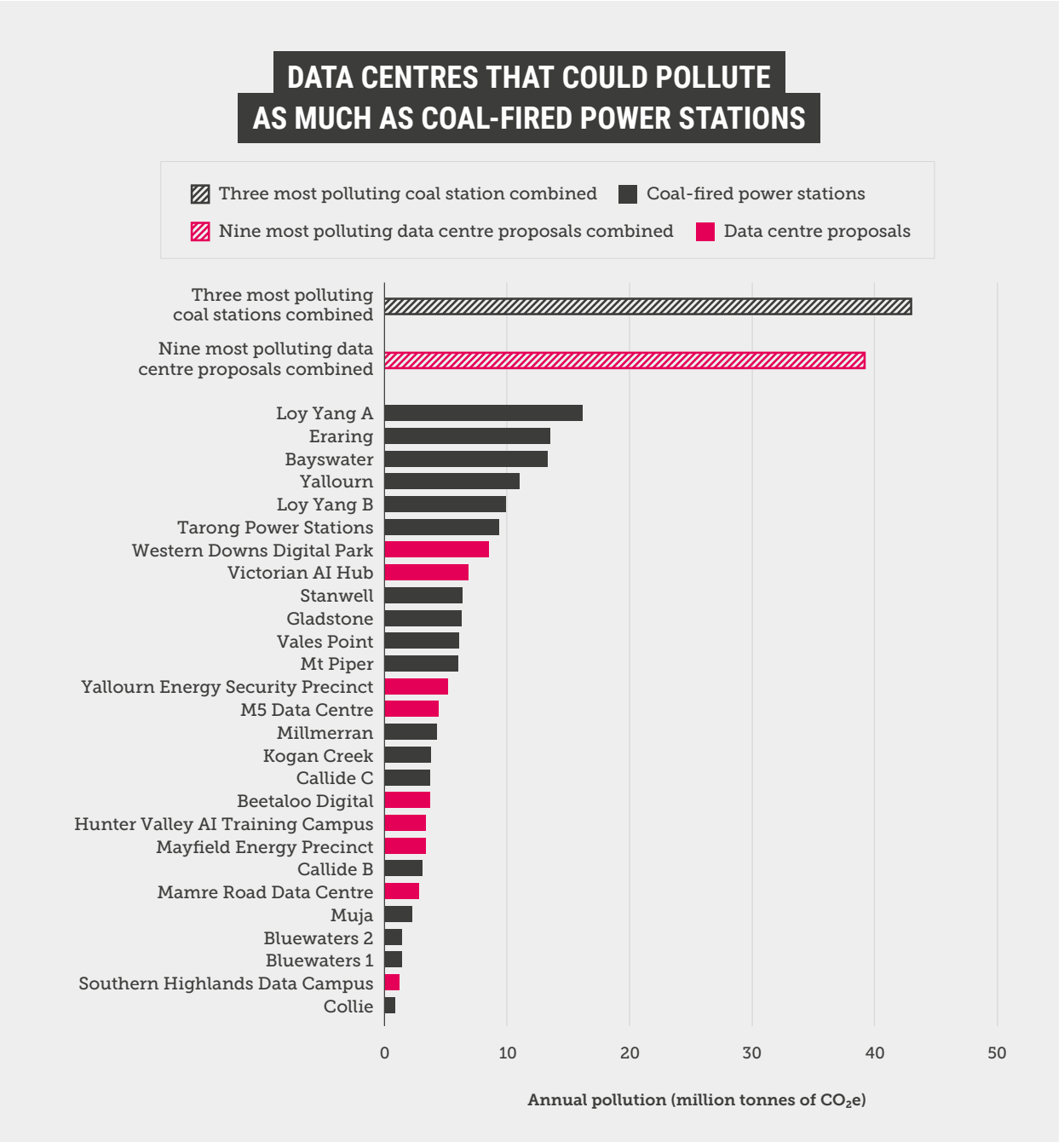


Figure 1: Data centres that could pollute as much as coal-fired power stations. **Sources:** Clean Energy Regulator 2026; Carbon Zero Initiative analysis of data centre proposals. Power station figures are reported Scope 1 climate pollution for 2024–25. Data centre figures are modelled estimates of climate pollution in 2035, mostly from grid electricity (Scope 2). The comparison is illustrative only, as the figures cover different years and are calculated on different bases.

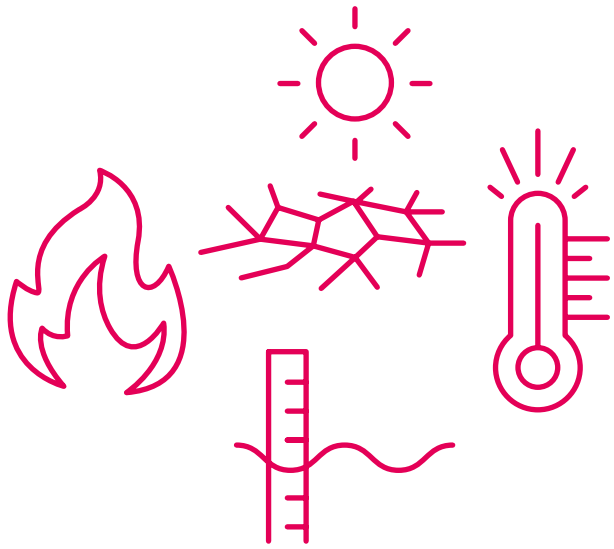
The large-scale renewable energy, storage and transmission being built in Australia is needed to replace our polluting and outdated coal power stations and meet growing demand as homes, transport and industry electrify. If data centres consume this supply rather than bringing on new capacity, there will be less available for the rest of the economy, coal stations could be kept open even longer and gas generation would increase. Our ageing coal-fired power stations are already breaking down daily; risking outages and price spikes, while gas is the main reason why power prices in Australia are so high (Climate Council 2026a).

By analysing Australia's data centre pipeline, we've identified the proposals that would add the most climate pollution if they connect to the grid without building new renewables and storage – or worse, build their own, polluting gas power stations. While some of these projects are still in early development, and not all may go ahead, together they show what's at stake when it comes to data centre development without stronger rules. Several proposals are situated in New South Wales, where the government's data centre guidelines apply. However, because those guidelines are voluntary developers can choose not to follow them. In Victoria, the Sustainable Data Centre Action Plan will apply to data centres now entering the planning process, but the details of Victoria's energy requirements are to be set in step with the national standards process.

If all these projects were to go ahead, they could use 51.7 terawatt hours (TWh) of electricity from the grid every year by 2035. That's equivalent to more than two-thirds of the electricity used by all the homes in Australia combined.[1] In doing so, they would produce 39.7 million tonnes (Mt) of climate pollution every year.[2] That's almost as much pollution as our three dirtiest coal power stations emit today: Loy Yang A, Eraring and Bayswater (Clean Energy Regulator 2026) and nearly as much as every car registered in Australia emits annually (42.4 Mt; DCCEEW 2026b).

The Australian Government has committed to cut climate pollution 62-70% below 2005 levels by 2035. Under current policies, we are already tracking well short of this target, and unchecked data centre growth would push it out of reach. The Government's own projections show the data centre industry – and its customers which include international AI and technology corporations – are slowing the progress that's being made towards this goal. It projects pollution from Australia's main grid will fall to 31.5 Mt in 2035 (DCCEEW 2025a). Just the seven grid-connected proposals on our list would add 35 Mt, more than double the grid's projected pollution and putting the 2035 target out of reach. In total, the pollution from the nine data centre proposals on our list would be equivalent to one-fifth of all the climate pollution that Australia's 2035 target allows for across the whole country.[3]

Without strong rules, the dirtiest data centres could pollute like coal power stations; worsening the fires, drought, floods and heat Australians face.



1 Total residential electricity consumption in 2025 was 267.4 PJ, equivalent to 74.3 TWh (DCCEEW 2026a).

2 Assumes data centres run at 50% of their maximum capacity on average at maturity, in line with the utilisation AEMO assumes in its 2026 Electricity Statement of Opportunities. This is conservative, noting AI training facilities – which several of these may become – are expected to have a much higher utilisation rate of around 80% (Smith et al. 2026).

3 Meeting the upper end of the Australian Government's 2035 target of a 62-70% reduction on 2005 levels, means cutting Australia's net economy-wide climate pollution to 182 MT CO_2e a year in 2035 (based on emissions of 608 MT CO_2e in 2005, according to the latest National Greenhouse Accounts).

Every tonne of extra climate pollution matters, because Australians are already living with the consequences of worsening climate change. Climate-fuelled disasters across the country are already more frequent and intense, insurance premiums are skyrocketing and communities are grappling with the damage. The 2025-26 summer saw Victorian communities flung from catastrophic fire warnings to flash flooding within a week and back to extreme heat 10 days later, western Queensland receiving its average annual rainfall in five weeks, and Western Australia's Eyre Highway closed by fire and then by floodwater within two days (Climate Council 2026b). In NSW, climate change is estimated to have reduced each person's income by more than $20,000, or approximately $180 billion in total in 2024 alone (NSW Net Zero Commission 2026). The Australian Government's National Climate Risk Assessment found that without workplace adaptation to higher temperatures, extreme heat alone could cut economic output by $135–423 billion by 2063 through lost worker productivity, with 700,000 working days lost to heatwaves each year by 2061 (Australian Climate Service 2025).

These impacts are also taking a growing toll on the health and wellbeing of Australians. Climate pollution is driving up the deadly risks from heat: across Australia and New Zealand infants and the elderly were exposed to 60% more heatwave days over the past decade than they were at the start of this century. Worsening heat is limiting safe outdoor time for children and increasing the risk of heat-related illness in adults. The harm reaches beyond physical health. Of more than 16,000 young Australians aged 14–19 surveyed, half reported being worried or sad about climate change, and about one in seven said these feelings were affecting their daily life (Beggs et al. 2026).



Image 3: Flooding rains are one of the climate impacts exacerbated by climate change.

Australians recognise climate change as an issue that impacts our cost of living, workplaces and economy. A national survey of 2,048 working Australians found three in four were concerned about climate change and its impacts on their health, jobs and security over the next two decades. They expect it to materially drive up their cost of living (Curtin Centre for Applied Ethics 2026).

Western Sydney's Mamre Road was Australia's biggest data centre proposal, until it was overtaken by several even bigger ones.

NINE MOST POLLUTING DATA CENTRE PROPOSALS IN AUSTRALIA[4]

Name	Location	Energy Source	What's planned	Annual pollution in 2035 if not matched with new renewables (CO_2-e)[5]
Western Downs Digital Park	**Dalby, Queensland**	**Grid** 	**The project:** The Western Downs Digital Park - a proposal by Zerra DC - is the biggest in the country, and is located in a major gas extraction and generation region. AI company Anthropic has signed a lease for the first stage, targeting operation from 2027. The project is progressing through the planning assessment process. **Energy:** IT load of 2.16 GW, with maximum power demand of 3.24 gigawatts (GW) across four buildings, including the power needed for cooling and other operations. Planning documents show it connecting to the national electricity grid, but Zerra DC has not ruled out building dedicated on-site gas generation. It also plans to install a battery (HDR 2026). **Water:** The Dalby community has concerns around the facility's water use, as the gas extraction industry is already impacting this region's water sources (Whiteman 2026). The developer indicates it intends to primarily use air-cooling technology at the facility, rather than water. It is considering on-site supply options including rainwater harvesting and treated wastewater, and will not draw from the town water supply (HDR 2026). However, the facility could still draw up to 30 million litres of water a year in total (based on 21,000 litres of water use each day per its four buildings).	8.3 million tonnes (equivalent to 3 million cars)
Victorian AI Hub	**Plumpton, Victoria**	**Grid** 	**The project:** The Victorian AI Hub, proposed by Syncline, is still in early development. It would cover a 350-hectare site beside the Melbourne Renewable Energy Hub in Plumpton. **Energy:** The project includes four large data centres connected to the grid, with a maximum power demand of 2.4 GW. Syncline had planned to install gas turbines at the site, but has recently indicated that it no longer intends to do so in response to community feedback. It is also considering a mix of investment in new renewable generation and power from the grid, though no firm commitments have been made (Senate Environment and Communications References Committee 2026). **Water:** Syncline plans to use recycled water at the facility (Senate Environment and Communications References Committee 2026).	7.0 million tonnes (or 2.6 million cars)
Yallourn Energy Security Precinct	**Latrobe Valley, Victoria**	**Grid** 	**The project:** EnergyAustralia is looking to develop its Yallourn coal power station site, due to close in mid-2028, into a new precinct including two data centres each up to 1 GW. **Energy:** The precinct would be connected to the grid, and include up to 300 MW of gas generation and up to 2.7 GW of battery storage (EnergyAustralia 2026). **Water:** Energy Australia has not outlined any plans to minimise water use at the site.	5.8 million tonnes (2.2 million cars)
M5 Data Centre	**Geelong, Victoria**	**Grid** 	**The project:** NEXTDC has acquired a site in the north of Geelong targeting 1.2 GW of IT capacity, with design and town planning underway (NEXTDC 2026). In October 2026, NEXTDC put all new developments on hold "for the foreseeable future", after electricity network works for its M3 Melbourne data centre were suspended amid community opposition (NextDC 2026). **Energy:** No commitments have been made in relation to energy. **Water:** No commitments have been made in relation to water use.	4.9 million tonnes (1.8 million cars)
Beetaloo Digital	**Weddell, Northern Territory**	**Gas** 	**The project:** Beetaloo Digital, a subsidiary of gas corporation Beetaloo Energy, has secured exclusive rights to a 185-hectare site about 30 kilometres (km) from Darwin for a gas-powered data centre development. **Energy:** Beetaloo Digital plans to build 2 GW of on-site gas generation that would burn gas piped from Beetaloo Energy's operations in the Beetaloo Basin (Beetaloo Digital 2026a). **Water:** Beetaloo Digital is investigating using closed-loop liquid cooling to minimise water use (Beetaloo Digital 2026b).	3.5 million tonnes (1.3 million cars)

4 Our analysis assumes data centres run at 50% of their full capacity on average when fully up and running; consistent with the Australian Energy Market Operator's (AEMO's) forecasts in the 2026 Electricity Statement of Opportunities (ESOO). Our full methodology is set out in the Appendix. At a 50% utilisation rate, several projects that plan to build a combination of gas and renewables do not make this list. However, if these proposals are dedicated to AI training they are likely to have a much higher utilisation rate of around 80% (Smith et al. 2026) and, therefore, higher pollution levels. They may also rely solely on gas in their initial years of operation. These proposals are outlined separately. We also note that Australia's data centre landscape is evolving rapidly. This analysis is based on the publicly available information for proposals at the time of publishing in November 2026. Our Dirty Data Centre Watch will be updated over time as new data centres are announced, or as existing project proponents make firm public commitments to build enough renewable energy and storage to match their demand within a defined period.

5 Based on average annual pollution of 2.7 tonnes per petrol or diesel car, calculated using total annual car pollution according to the National Greenhouse Accounts, and registered passenger vehicles according to the Bureau of Infrastructure and Transport Economics.

Name	Location	Energy Source	What's planned	Annual pollution in 2035 if not matched with new renewables (CO_2-e)
Hunter Valley AI Training Campus	**Hunter Valley, NSW**	**Grid** 	**The project:** Hunter Valley AI Training Campus is a proposed facility up to 1 GW in size in the Hunter Valley designed to make the most of the region's existing transmission. The site is next to the Redbank Power Station in Warkworth (Voltic DC 2026). **Energy:** The facility would connect to the grid. However, Redbank's owner Verdant Earth Technologies wants to convert the old coal power station to instead burn biomass – including "invasive native species" - to generate energy. The NSW Independent Planning Commission rejected the plan in 2025 based on potential environmental impacts (NSW IPC 2025). If it goes ahead, Voltic says it will explore power supply deals with Verdant (Voltic DC 2026). **Water:** The data centre would have access to water straight from the Hunter River.	3.1 million tonnes (1.1 million cars)
Mayfield Energy Precinct	**Hunter Valley, NSW**	**Grid** 	**The project:** The Mayfield Energy Precinct is a joint data centre campus proposal for up to 1 GW of IT capacity in the Hunter Valley from coal mining company Malabar Resources and Akaysha Energy. The facility would be co-located with Malabar's mining operations. **Energy:** The data centre would draw power from the grid and include a grid-connected battery of up to 2 GW/8 GWh. **Water:** No public commitments have been made on water use. An environmental impact statement is expected in the first half of 2027 (Akaysha Energy 2026).	3.1 million tonnes (1.1 million cars)
Mamre Road Data Centre	**Western Sydney, NSW**	**Grid** 	**The project:** The Mamre Road Data Centre, on a 52-hectare site in Western Sydney, would have a total maximum power demand of 1.2 GW and comprise six separate four-storey buildings, 936 cooling units, 852 diesel back-up generators, and 14.4 million litres of diesel storage (NSW Government 2026). Until recently, this was the largest data centre proposal in the country – and one of the largest in the world – but it has now been surpassed by several others. **Energy:** The developer has indicated that it will match its demand with renewable generation through contracts and certificates, though no commitments to bring on new renewable generation and storage have been made (E-Lab consulting 2026). **Water:** The Mamre Road facility plans to use air cooling technology, meaning no water will be used for cooling. A small amount of water will be needed for on-site plumbing, for example in bathrooms (E-Lab consulting 2026).	2.8 million tonnes (1.1 million cars)
Southern Highlands Data Campus	**Moss Vale, NSW**	**Gas** 	**The project:** Sydney company Cloud Carrier is planning a data centre campus on a 67-hectare site in the Southern Highlands. **Energy:** Cloud Carrier is seeking to build three gas power stations with a combined capacity of 703 MW to run its data centre campus. The largest, at 673 MW, needs state approval. The developer is appealing the Wingecarribee Shire Council's refusal of a smaller 16 MW gas power station in the NSW Land and Environment Court (Rushforth 2026). **Water:** Cloud Carrier plans to install on-site water harvesting systems (Cloud Carrier 2026).	1.2 million tonnes (430,000 cars)
Total pollution			Without renewables and storage that matches demand, all of these data centre proposals could add 39.7 million tonnes of pollution a year by 2035. This is: > Almost as much as Australia's **three most polluting coal power stations, combined**, emit every year: Loy Yang A, Eraring and Bayswater (42.9 Mt CO_2-e in 2024-25; Clean Energy Regulator 2026b) > **One-fifth of the pollution Australia can emit in 2035** if we were to successfully cut pollution by 70%, which would help protect us against worsening fires, heat, drought and floods that are already harming Australians.	

2.

The data centre developers planning Australia's biggest gas-fired power stations



Image 4: Some gas-powered projects within Australia are already progressing through planning and environmental assessment processes and risk being missed by the national standards still in development.

Some data centre developers are planning to build what would become the biggest gas-fired power stations in the country while claiming to be "sustainable". Allowing this would lock in decades of new gas use and millions of tonnes of climate pollution, just as we need to be doing the opposite to limit climate harm and keep energy bills in check.

The Australian Government has indicated that data centres running solely on gas will not be permitted under the national standards (Bowen 2026). However, there are several proposals seeking to build the largest gas plants in the country while claiming this is still a "firming" role, or would rely entirely on gas for their power while they build new renewables or connect to the grid. This is already common in the United States (US), where delays in connecting to the grid are pushing some data centre developers to build their own gas power stations while they wait. Globally, 181 GW of new gas generation is being proposed alongside data centres, and more than 90% of that is within the US. Once these gas power stations are up and running, the economics will encourage them to keep operating, locking in much higher pollution levels for the longer term (BloombergNEF 2026).

Some gas-powered projects within Australia are already progressing through planning and environmental assessment processes, and risk being missed by the national standards still in development. The Australian Government must make sure its national standards apply to all projects like these to avoid locking in new gas generation and pollution for decades.

The gas industry is already positioning itself to capture new data centre demand: most recently, in September 2026, oil and gas corporation Woodside's CEO Liz Westcott suggested its proposed Browse gas project, which is awaiting federal environmental approval, could power AI data centres (Smith 2026).

Some data centre developers have direct financial interests in the gas industry. In Western Australia, an enormous 1.5 GW gas-fired power station is being planned to power a new data centre – whose proponents are tied to a company which has previously sought to undertake fracking in the Kimberley (Environs Kimberley 2026).

In the Northern Territory, Beetaloo Energy has been clear that it intends for the steady energy demand from its planned data centre to accelerate the development of its Beetaloo Basin fracked gas project, by creating a "secure and durable domestic market" (Beetaloo Energy 2026). Fracking is one of the most polluting, energy and water intensive and and damaging ways to extract fossil fuels, and it is banned in many countries and parts of Australia. Despite this, the Northern Territory Government supports this project (Territory Coordinator 2026), and gas has recently started flowing from the Beetaloo Basin. If fully developed, it would be one of the largest fracked gas basins in the world, releasing more than three times Australia's annual climate pollution over two decades. This is a climate bomb Australia cannot afford to set off, but which data centre development risks igniting.

Just as polluting gas shrinks in our power grid, some data centre developers want to build the biggest gas power stations in the country.

Gas is a harmful fossil fuel that produces a significant amount of climate pollution wherever we extract, process and burn it. Its role in our power grid is already small: it supplies around 3% of electricity in Australia's main grid, mostly when demand peaks or wind and solar output is low. Its role is shrinking as battery storage grows, and has fallen to its lowest levels since 2000 (AEMO 2026b).

Proposals to power data centres with gas, rather than renewables and storage, don't stack up on an economic or business case – unless you are a gas company wanting to lock in new, long-term customers for its product. Waiting lists for new gas turbines now stretch five years or more, while solar and batteries are readily available and could be built faster to meet data centre energy demand (CSIRO 2026). Gas is also far more expensive to run than wind or solar, which have no ongoing fuel costs. CSIRO estimates that in 2025, electricity from new gas generation cost $131-192 per MWh at its cheapest, compared with $78-129 for onshore wind and $52-88 for solar (CSIRO 2026). Comparing the midpoints of these ranges, gas is 50% more expensive than wind and more than twice as expensive as solar. It is clear that gas generation would lock in higher costs and climate pollution for everyone, including data centre operators.

Some – including Queensland Premier David Crisafulli – have even suggested new coal-fired generation could be built to meet new data centre demand. This approach would also be highly polluting and expensive. Analysis by Green Energy Markets found that it could directly cost up to $15 billion to build a coal power station of the scale needed to power the Western Downs Digital Park (Edis 2026).



BOX 1: GAS-POWERED PROPOSALS THAT DIDN'T MAKE THE LIST

Our dirtiest data centre list ranks proposals by their estimated climate pollution, using a conservative utilisation rate of 50%. This means the data centres are assumed to use only 50% of their maximum power demand. If we were to use a higher utilisation rate, some data centres seeking to build a combination of gas and renewable generation could make the list because of their higher rates of gas use. Regardless, building gas generation on the scale these projects propose is risky. Gas is highly polluting and if it truly is intended to run only occasionally, or temporarily, then the costly investment doesn't stack up. BloombergNEF warns these "interim" gas plants risk locking in long-term, ongoing gas generation, because the economics may favour keeping them running (BloombergNEF 2026).

There is evidence that data centres dedicated to AI training – which these proposals may become – have a much higher utilisation rate of around 80% (Smith et al. 2026). There are also several proposals for which there is insufficient publicly available information to analyse. In addition to the Beetaloo Digital and Southern Highlands Data Campus proposals in our list, the gas-powered proposals outlined below present major risks to our environment and communities.

Project Ares (Barkly, NT): Energy North's proposed 1 GW campus is designed to operate entirely off-grid, relying solely on a 1 GW gas-fired power station in its early years, while it builds solar and a battery (Energy North 2026). Even after assuming its proposed solar and battery plans are fully up and running, analysis shows Project Ares would still require around 76 terajoules (TJ) of gas per day if running at 80% capacity. This is more gas than all the homes and businesses in the Territory use on average (66 TJ a day) (Climate Council 2026c). Project Ares could also draw 4 billion litres of water a year – enough to fill 1600 Olympic pools – from the Montejinni Limestone Aquifer, which supports important wetlands, springs and waterholes in the region (Energy North 2026).

Project Meridien (south of Broome, WA): Gingerah Energy has recently revealed plans to build an enormous 1.5 GW gas-fired power station – double the size of any gas plant operating in Australia today – alongside on-site renewables and storage. The project's proponents include Longreach Capital Investment, which owns Theia Energy – a company that has sought to frack the ancient and remote Kimberley (Collins 2019). While it plans to use a closed-loop water cooling system to reduce water use, the facility would still draw 1.5 billion litres of water a year in its first decade – equivalent to 600 Olympic pools annually (Gingerah Energy 2026).

Keralup Energy Hub (south of Perth, WA): APA – a major Australian gas company – is seeking approval for 870 MW of gas-fired generation capacity at Keralup, about 75 km south of Perth (APA KPS 2026). APA is reportedly in talks to power a neighbouring data centre, though no plans have been confirmed (Hastie 2026).

SkyLab South East Adelaide Co-Development (SA): This proposed development 120 km south-east of Adelaide would include a 1.2 GW data centre, together with 600 MW of gas generation and a battery (SkyLab 2026).

Tungkillo Compute and Energy Hub (Adelaide Hills, SA): Quantum DC is proposing a 1.2 GW hyperscale data centre campus, with on-site gas turbines in addition to contracted renewables (Quantum DC 2026). The proposed size of the gas generation has not been disclosed. In November 2026, Quantum DC paused the project after strong community opposition, saying it would not lodge a development application this year, but it has not ruled out proceeding (Carbone 2026).



3.

Risks to communities, industries and water resources



Beyond climate pollution, without strong rules the data centre boom will push up power bills, put pressure on industries that rely on affordable energy and gas, strain water supplies in a changing climate, and add harmful diesel pollution to local communities.

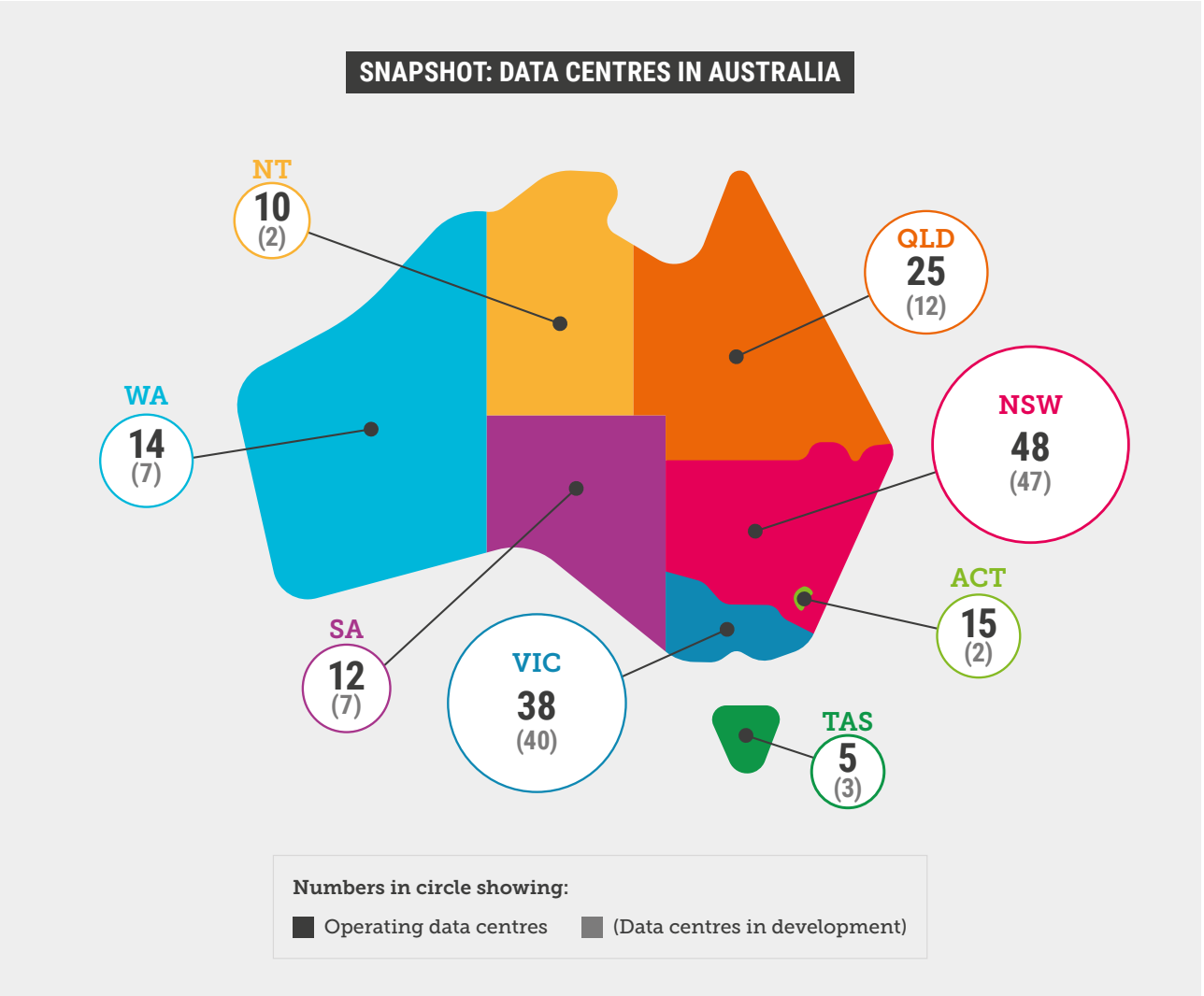


Figure 2: Data centres in Australia. **Source:** RenewMap as at 14 October 2026. Includes publicly announced proposals only. AEMO's 2026 Electricity Statement of Opportunities counts 225 data centre projects in the NEM pipeline, based on confidential connection information from network service providers, so many proposals are not yet public.

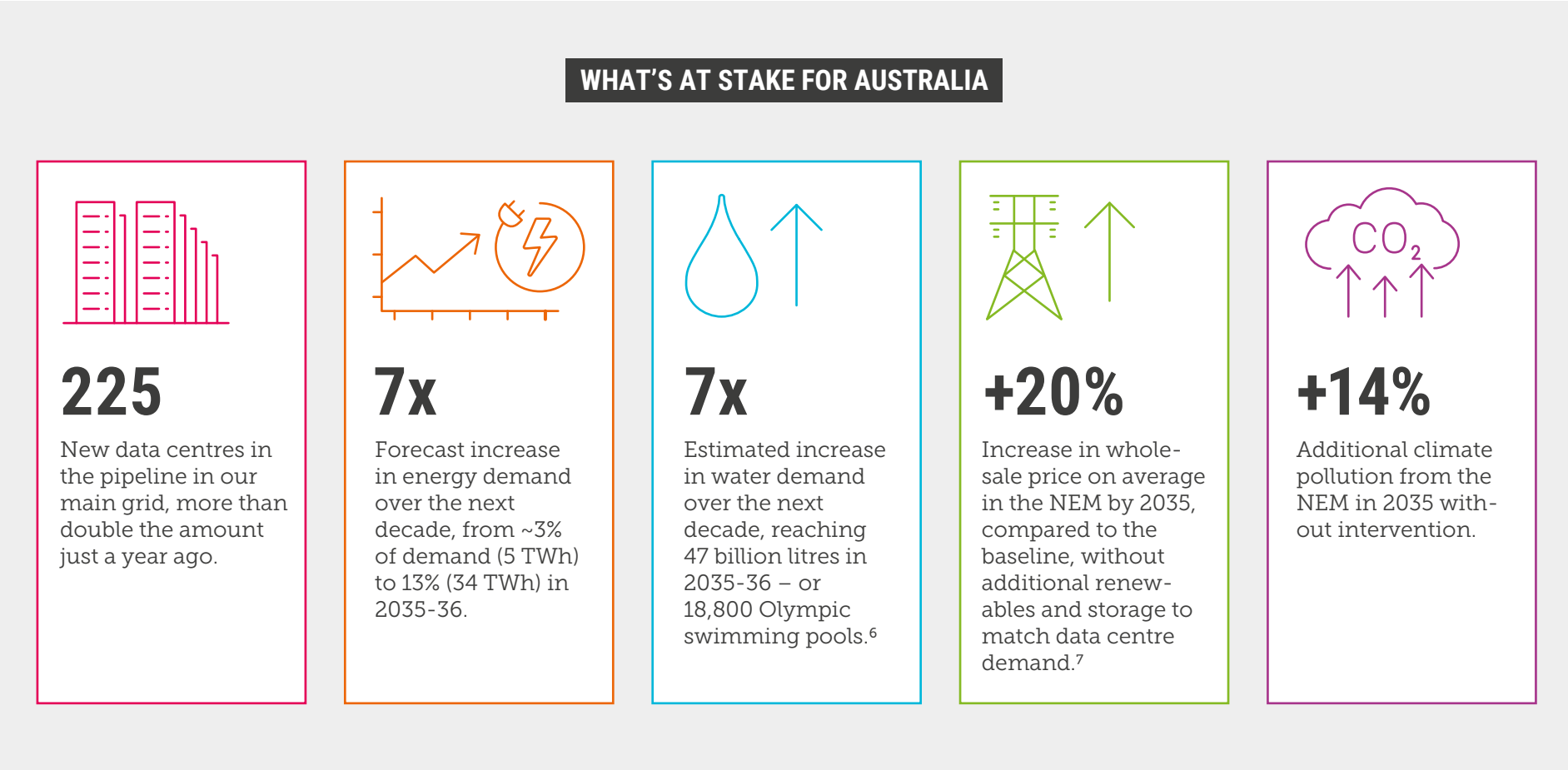


Figure 3: What's at stake for Australia. **Sources:** AEMO 2026 Electricity Statement of Opportunities; Climate Council analysis; Baringa and Clean Energy Finance Corporation report *Getting the balance right: data centre growth and the energy transition - December 2025.*

6 Climate Council estimates based on assumptions in Mandala and Data Centres Australia's report *Data Centres as Enabling Infrastructure*. This applies Mandala's calculated average WUE for Australian data centres of 1.8 and average PUE of 1.3 to AEMO's forecast energy consumption of 34 TWh in 2035-36. This assumes there is no improvement in data centre water efficiency between now and 2035-36.

7 Modelling of price and pollution impacts by Baringa and the CEFC was undertaken in 2025, using the latest figures available at the time including AEMO's 2024 Electricity Statement of Opportunities (ESOO). AEMO's 2026 ESOO forecasts larger growth in data centre demand. The impacts of unmatched demand may therefore be greater than the modelling shows.

PUSHING UP POWER BILLS

Modelling consistently shows that without bringing on new renewable generation and storage to match demand, data centres will push up wholesale power prices due to the increased fossil fuel generation needed to meet demand. For example, Baringa modelling for the Clean Energy Finance Corporation (CEFC) shows that if data centre demand isn't matched with new renewables and storage, wholesale power prices could rise by 20% on average across the NEM by 2035, including by 26% in NSW and 23% in Victoria.[8] With wholesale costs - what retailers pay for power - accounting for up to 40% of a typical household power bill, these impacts would flow through to homes and businesses.[9]

Baringa's modelling shows that matching data centre demand with new renewables and storage can almost entirely avoid these price impacts. Importantly, generation alone is not sufficient. As data centres run around the clock, their demand could widen the gap between what renewables generate in the middle of the day and peak demand periods in the morning and evening, leaving Australian homes and businesses to foot the bill. Data centres must therefore be required to contract with (or install) new battery storage from day one of operations.



Image 7: As cost of living continues to affect Australians, data centres risk piling on more pressure on energy bills unless they bring their own new renewable energy sources.

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8 As noted above, AEMO now forecasts much greater data centre demand than reflected in Baringa's modelling, so the real price and emissions impacts of unmatched demand are likely to be larger. For example, recent analysis by the Smart Energy Council found that adding an extra 5 GW of data centre demand without dedicated, additional clean power and storage, could mean everyday Australian households will face an estimated $9 billion hit to their domestic power bills between 2029-30 and 2034-35. Commercial users and manufacturers would pay an extra $31 billion. While modelling scenarios differ in their results, they consistently show higher wholesale prices.

9 For more information on what makes up a typical household power bill, and how fossil fuels push up prices, see the Climate Council's report *Power Games: Who's driving high power bills?*

IMPACTING INDUSTRIES

Large industrial energy users such as aluminium smelters, steelmakers and manufacturers use vast amounts of electricity that make up a large share of their operating costs. Many are already under pressure due to rising energy costs. The Tomago aluminium smelter in NSW – Australia's largest energy user – faced closure earlier this year due to high energy prices; ahead of its current energy contract ending in 2028. The Australian and NSW Governments stepped in with $2.5 billion to keep the smelter operating, securing lower-cost and firmed renewable supply through 2038.

Many large energy users have long-term electricity contracts that may shield them from data centre-driven price rises in the short term. However, whenever businesses need to re-negotiate contracts they will be forced to pay more for their energy, or risk being 'outbid' by the data centre industry and its customers, who have significant financial capital and are less price sensitive. This would put further pressure on Australian manufacturing and could mean more government support is needed to keep these industries operating in Australia.

Powering data centres with gas – whether on-site, or indirectly through the electricity grid – puts them in competition with existing gas users. Many of these users, including manufacturers, rely on gas for processes where there are few commercially available alternatives. In contrast, data centres can be fully powered by renewables and storage.

Using gas to meet their demand would tighten supply for industries that genuinely need it and undermine the Australian Government's proposed Domestic Gas Reservation Scheme, which aims to improve gas availability and put downward pressure on prices.

Other parts of the world are already seeing this play out. The average Irish household is estimated to have paid an estimated $589 in additional electricity costs between 2015 and 2023 due to the energy intensity of data centres (Friends of the Earth and Beyond Fossil Fuels 2026).

In the US, wholesale electricity costs alone have increased by as much as 267% within five years in places with heavy development of data centres (Bloomberg 2026). While this is occurring in the US at a much larger scale than in Australia, it illustrates how poorly managing rapid data centre growth can drive up electricity prices.



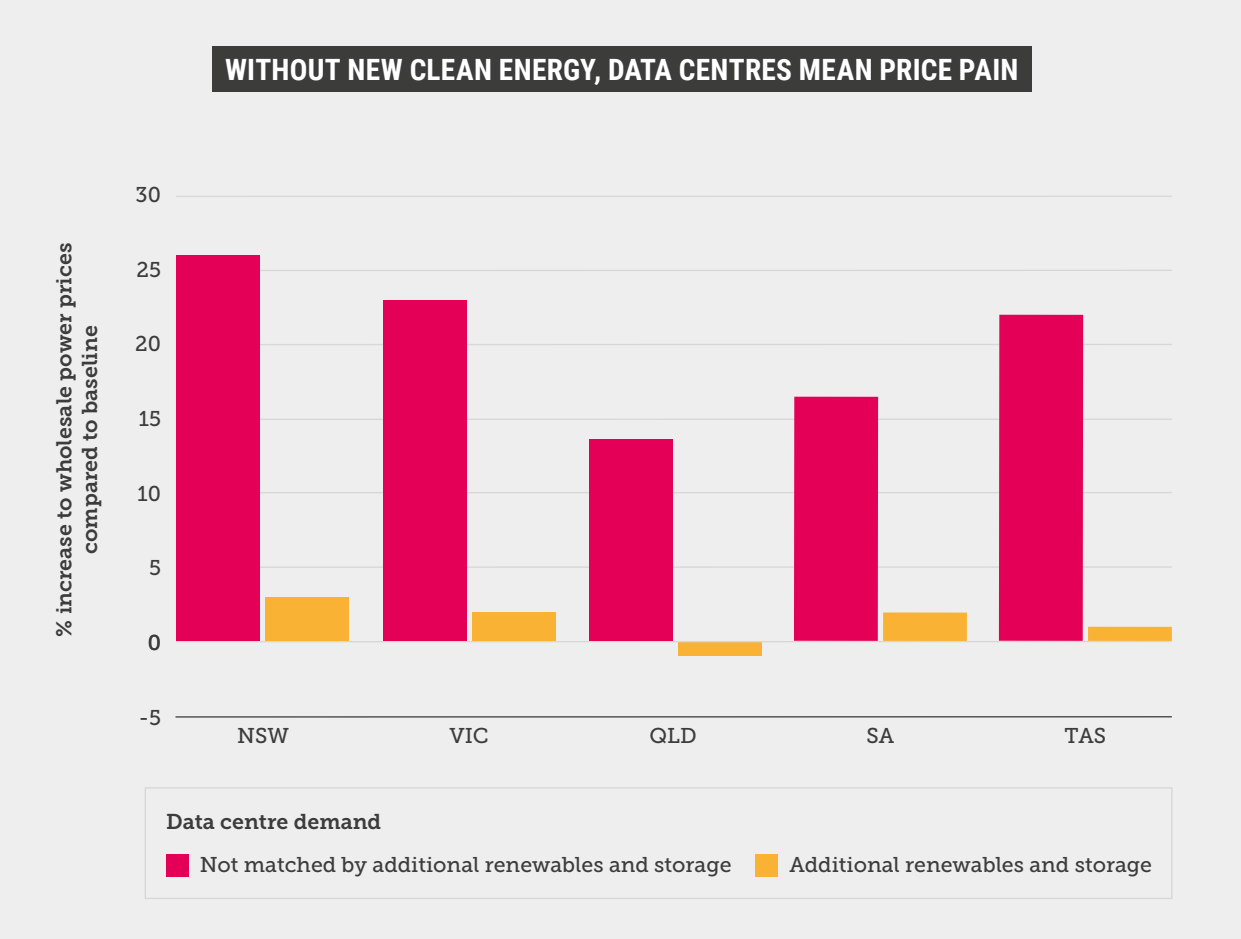


Figure 4: Without new clean energy, data centres mean price pain. **Source:** Baringa and Clean Energy Finance Corporation 2025.

Data centres have cost Irish households an estimated $589 in higher power bills, and without strong rules Australia could follow suit.

MORE PRESSURE ON WATER SUPPLIES IN A HOTTER, DRIER CLIMATE

Existing data centres across Australia use a relatively small share of our water: less than 0.1% nationally, 0.7% of Sydney's water supply and 0.2% of Melbourne's (Mandala and Data Centres Australia 2025).

However, demand is surging. If water efficiency doesn't improve, it could reach 47 billion litres a year in 2035-36 – or seven times higher than today.[10] Water utilities are already receiving requests for single sites to use up to 40 million litres a day, or 16 Olympic swimming pools, and Sydney Water forecasts that data centres could account for 15-20% of Sydney's water supply in 2035 (Water Services Association of Australia 2025).

Project Ares in the Northern Territory proposes drawing four billion litres of water a year from the Montejinni Limestone Aquifer, which is part of a connected groundwater system that sustains nationally important wetlands, springs and waterholes, and countless animals including the endangered Largetooth Sawfish and Pig-nosed Turtle (Environment Centre Northern Territory 2026).

This dramatic growth in data centre development is happening as climate change makes droughts in southern Australia more frequent and severe, and water supplies become less certain in the same cities where most data centres are being proposed and built. Since 1994, southeast Australia has experienced a rainfall decline of around 9% across April to October (CSIRO and BoM 2024). In Melbourne, water storage levels are currently sitting 20% lower than the same time two years ago (Melbourne Water 2026). While Greater Sydney has been in drought almost half of the past 20 years (Sydney Water and WaterNSW 2025).

Solutions are available: several data centres in Australia use advanced cooling systems, such as free-air cooling which uses the outside air to cool the data centre, or closed-loop systems which recirculate water Mandala and Data Centres Australia 2025). While existing data centres are largely reliant on drinking water from our water networks, recycled water is a key opportunity for the industry to reduce its use of this essential resource. Some data centres are also investing in on-site water harvesting to reduce their impact on the water network.

NSW and Victoria are already acting on these risks. Victoria's Sustainable Data Centre Action Plan sets water efficiency targets for new facilities and expects those using water-intensive cooling to use recycled or non-drinking water. NSW's Data Centre Guidelines require data centres to meet water efficiency standards to receive fast-tracked planning assessment. But these are state-by-state rules, and NSW's guidelines are not mandatory. Strong national standards are needed to protect water supplies across the country.



Image 9: This dramatic growth in data centres is happening as climate change makes droughts more frequent and severe.

A Northern Territory data centre wants to suck four billion litres a year from an aquifer that sustains wetlands and springs.

10 Climate Council estimates based on assumptions in Mandala and Data Centres Australia's report *Data Centres as Enabling Infrastructure*. This applies Mandala's calculated average WUE for Australian data centres of 1.8 and average PUE of 1.3 to AEMO's forecast energy consumption of 34 TWh in 2035-36. This assumes there is no improvement in data centre water efficiency between now and 2035-36.

HARMFUL DIESEL POLLUTION

Most data centres have diesel generators on-site for backup power, as they can face significant penalties under their agreements with customers for any "downtime" when their operations are interrupted. Climate Council estimates that 60-120 million litres of diesel could be held on data centre sites by 2035.[11]

Diesel generation releases greenhouse gas emissions as well as other harmful pollutants including carbon monoxide, nitrogen oxides and sulphur dioxide – with implications for our climate and fuel security. Around 90% of Australia's refined liquid fuel is imported, and this year's global supply disruptions compelled the Government to commit more than $13 billion to secure more fuel, increase fuel storage and temporarily cut fuel excise and heavy vehicle charges.

Burning diesel also carries significant risks for the environment and public health. It is estimated that pollution from non-road diesel engines in Australia cost the equivalent of 5,387 years of life lost in 2018 alone (DCCEEW 2024).

Use of diesel should be limited, at most, to genuine grid emergencies. Data centres should be encouraged to contribute to grid stability by reducing their demand on the grid in peak periods, but this shouldn't be achieved through over use of diesel. Shifting non-essential computing tasks outside peak demand periods should be prioritised.

Low emissions alternatives to diesel are also available, and some data centre operators in Australia are already investing in big batteries – including the Supernode project in Queensland. Flow batteries are a promising technology: they store power in liquid electrolytes, rather than in metal electrodes like lithium-ion batteries. They can run for tens of thousands of charge cycles and supply power for longer than most lithium-ion batteries installed today (Kazacos 2026). In Laufenburg, Switzerland, the world's largest flow battery storage facility is currently being built alongside a data centre (Flexbase 2026). Flow battery technology is also entering the Australian market, with a pilot at the Eraring coal-fired power station in NSW (Origin 2025).

Existing government settings tilt the playing field towards diesel use. The fuel tax credits scheme refunds fuel excise – currently 53.7 cents per litre – to businesses that use diesel "off-road", including data centres. This artificially lowers the running cost of diesel backup relative to cleaner alternatives.

Every time diesel is burned by a data centre, through testing, outages or demand response, taxpayers would foot the bill: this could be as much as $32–64 million in fuel tax credits by 2035. Public funds should not be used to subsidise diesel for technology corporations that can afford other backup options that don't pollute, and fuel tax credits should be phased out entirely for the data centre industry.

Data centres approved now could still be polluting in decades if national standards don't capture them as they're built.

11 Range of estimates reflects diesel storage to provide an average of 36 to 48 hours of backup generation per data centre respectively. Projected data centre capacity is based on AEMO's Step Change and Accelerated Transition scenarios respectively.

4.

How the Australian Government can protect our climate, water resources and power bills



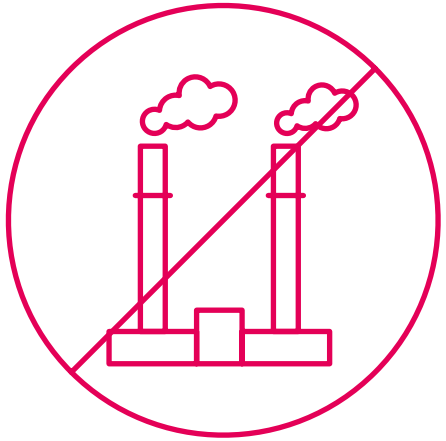
Our analysis shows what's at stake: if data centres draw power from a grid still reliant on coal and gas, or burn gas on site, they will drive avoidable and dangerous increases in climate pollution. But, if every large data centre is required to bring its own new renewable energy and storage, that demand can instead be met by new wind, solar and batteries. Modelling by Baringa shows that building enough new renewables and storage to match data centre demand would largely neutralise the extra climate pollution and help contain power price rises for everyone else (Baringa and CEFC 2025). Technologies are already available to reduce water and diesel use.

Strong, enforceable national standards can ensure the data centre boom expands Australia's clean energy supply instead of extending our reliance on coal and gas. Clear, strong rules are in everyone's interest. The data centre industry is asking for them: AirTrunk and CDC have backed national standards that give compliant projects greater certainty and faster approvals (Dux 2026). Communities want them too: 69% of Australians support strict, mandatory energy and water standards for new data centres (YouGov/Climate Council 2026). Standards that apply to every project, including those already in the pipeline, give investors a level playing field and give communities confidence that new data centres won't push up their power bills or pollution.

The Albanese Government has released some details of its proposed AI and data centre laws, but they contain gaps that could let proposals like these slip through. Importantly, many large proposals are already advancing through planning and environmental approvals processes. Unless the standards apply to projects already in the pipeline, not just future ones, the biggest polluters on this list could lock in decades of extra climate pollution before the rules take effect.

The loopholes must be closed before the standards are finalised and introduced into Parliament or cemented through electricity rule changes. This is the chance to make sure the industry's growth supports Australia's shift to renewables and our climate targets, rather than undermining them.

Data centres must not be allowed to hide new, polluting gas power stations behind the 'firming' label.



AT A MINIMUM, THE NATIONAL STANDARDS FOR AI AND DATA CENTRES MUST:



1. Match at least 100% of demand with new renewables and storage.

Data centres and their big tech customers should be required to sign long-term contracts with renewable and storage projects that haven't yet reached a final investment decision (FID), before they are allowed to start operations.

They must not be permitted to rely solely on cheap certificates to offset their energy use: certificate-only deals do not give financiers the revenue certainty they need to fund new projects. No certificate-only deal has yet underwritten a new renewable energy project in Australia, and buying certificates on the secondary market has consistently been found insufficient to support new projects (Briggs 2026).

To avoid impacts on power bills, data centres should also meet their firming needs with new storage from day one. There are already 233 GWh of big battery projects progressing through planning and construction processes across the country – far greater than the capacity required to meet our 2030 renewable energy target, and the peak demand of expected future data centre development (IEEFA and Green Energy Markets 2026).



2. Build new supply within three years.

New renewable generation should be built within three years of a data centre starting operations, with material penalties for non-compliance. This reflects real build times: since 2017, solar projects have taken 21 months on average to reach commissioning after FID; and wind 30 months (Clean Energy Council 2026). NSW already requires data centres seeking fast-tracked assessment to match their demand with new renewables within four years. Already across Australia, there is 43.6 GW of proposed renewable energy projects that have been approved by governments, but are uncontracted, more than enough to power the data centre demand growth forecast by AEMO (IEEFA and Green Energy Markets 2026).



3. Rule out gas as a primary power source.

Data centres should never be allowed to rely on fossil gas generation as a primary power source, including while new renewables are being built or by labelling significant new gas generation as "firming".



4. Protect water supplies.

Recycled or non-fresh water should be the standard for cooling, with strong water efficiency standards, and annual public reporting. In water-stressed regions, data centres should not be permitted to use fresh water for cooling under any circumstances.



5. Be applied to every large data centre, everywhere in Australia.

The new standards should cover every facility with more than 30 MW of total energy demand that starts operating after 23 March 2026 – when the Government's *Expectations of data centres and AI infrastructure* developers put the industry on notice. The requirements should be phased in for existing facilities as their current power contracts end. Anti-avoidance rules are needed so large projects can't be designed in ways that allow them to slip under the threshold.

These are the bare minimum requirements to protect our communities and climate from unchecked data centre growth. But data centres have many other impacts that should be managed, including by:

- ensuring data centres pay for the electricity and water network upgrades they need, so homes and businesses don't foot the bill;
- requiring annual public reporting of energy use, water use and climate pollution by both operators and their customers, alongside best-practice energy efficiency standards;
- limiting diesel backup generators to grid emergencies and removing fuel tax credits for data centre backup generation, so that flexibility comes from load shifting and batteries;
- requiring meaningful engagement and benefit sharing with communities and First Nations people, including free, prior and informed consent; and
- requiring an apprentice quota and training levy, so data centre construction adds to the electrical workforce rather than drawing workers away from other priority sectors including housing and renewable energy.

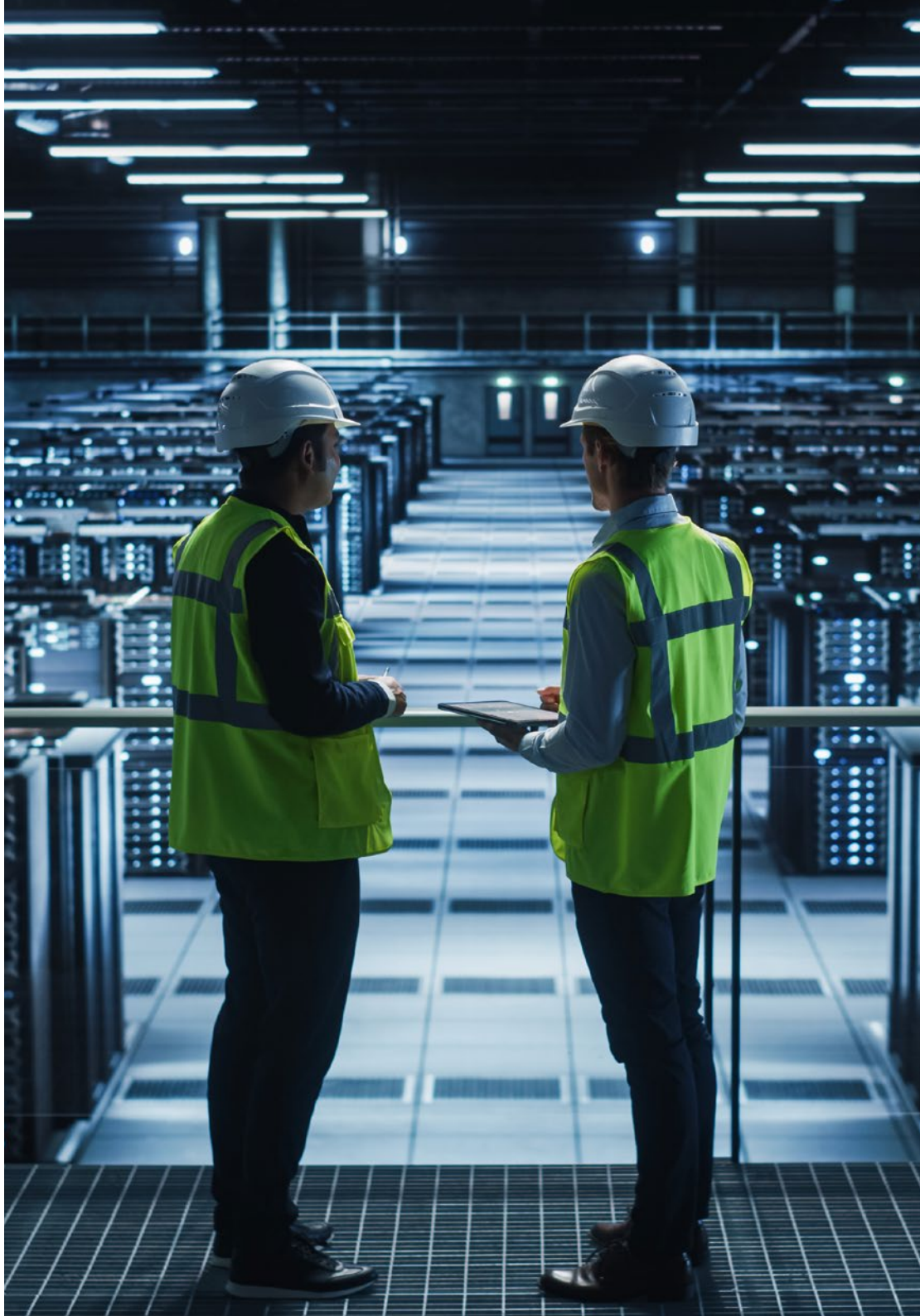


Image 11: Minimum standards for data centre development need to be in the interest of Australians, not corporations.

Conclusion

Data centres are fast becoming some of the biggest electricity users in the country. Within a decade, AEMO forecasts that the industry could use as much electricity as nearly all the homes in New South Wales and Victoria, and the data centres approved in the next few years will still be running decades from now. The rules governments set in the coming months will shape our power grid, power bills and climate pollution for a generation.

The Australian Government is at a crossroads. With weak rules, the data centre boom becomes a lifeline for the gas industry, and props up ageing and polluting coal-fired power stations. Gas companies and some state and territory governments are already pitching data centres as a new market for fracked gas. If the dirtiest proposals outlined in this paper don't bring new renewables and storage, together they could add 39.7 million tonnes of climate pollution a year by 2035.

These outcomes are not inevitable. The companies and their customers behind these proposals include some of the world's largest tech companies, and many already buy renewable energy. But it's voluntary, and often pays for clean energy that was going to be built anyway. If the national standards require data centres to sign long-term contracts for additional solar, wind and storage projects before they are switched on, their 24/7 appetite for energy can underwrite the extra clean energy we need, and help keep a lid on power prices for everyone else.

The detail of the national standards will determine how this pans out. To protect communities from worsening climate harm and higher power bills, the standards must require every large new data centre to match its energy use with genuinely new renewable energy and storage, built within three years. The standards must apply to every data centre over 30 megawatts that starts operating, anywhere in Australia, including proposals already in the pipeline. They must rule out off-grid gas as a primary power source, and place strong limits on the use of fresh water.

The Albanese Government has the chance to make the data centre boom a driver of the switch to clean energy. If it gets the rules right, data centres can help build the clean, affordable grid Australia needs. If it gets them wrong, households, communities and businesses will be paying for it, on their power bills and through worsening climate impacts, for decades to come.

Governments can make data centres bring on extra clean energy, so households don't foot the bill.

Appendix

METHODOLOGY

The Carbon Zero Initiative (CZI) estimated the climate pollution that 9 of Australia's largest proposed data centres could cause in 2035-36 if they do not bring new renewable energy and storage to match their additional demand. Seven of the projects would connect to the grid, and the other two plan to run their own (behind-the-meter) gas power stations.

We used two separate methods:

1. **Project-by-project estimate.** Each data centre's expected maximum electricity use is multiplied by its state's grid emissions factor or, for the two gas-powered projects, by the emissions from burning the gas needed to generate that electricity. This gives the figures for each project in this report, and a combined total of 39.7 million tonnes (Mt) of CO_2-e a year.

2. **Grid-wide estimate.** We assume the seven grid-connected projects' electricity has the same emissions intensity as today's grid, where coal and gas still provide about half of all electricity. We use the latest Australian government grid emissions factors. Adding the two gas-powered projects, this gives 39.0 Mt CO_2-e of additional climate pollution a year.

These two methods are independent, but arrive at a similar total which gives us confidence in the order of magnitude. They are mutually exclusive scenarios, and built on stated assumptions rather than what any single project will emit.

The numbers in this report are from the project-by-project estimate.

Project selection and power demand

We reviewed publicly announced data centre proposals across Australia and ranked them by the climate pollution they could cause drawing on the grid by not adding new renewables. We selected the list by that measure. Proposals with firm, public commitments to build new renewable generation and storage were excluded (for example, Firmus' South Australian AI factories and CDC's Ashfords Road Data Centre in NSW).

For each project we used the total facility power demand published in planning documents, company announcements or media reports. Where only IT demand capacity was published, we converted it to total demand using a power usage effectiveness (PUE) factor. PUE accounts for the extra power needed for cooling and other site infrastructure. We used 1.3 for NSW facilities, consistent with the national median PUE identified by Mandala and Data Centres Australia. A PUE of 1.4 was applied to the NEXTDC M5 site based on its target PUE of 1.4; noting the actual average PUE achieved by NextDC is higher at 1.48.

We converted capacity to annual electricity use with two factors:

- **50% average utilisation of total grid connection capacity**, consistent with AEMO's assumption for data centres in its 2026 Electricity Statement of Opportunities (ESOO). This is conservative for AI training facilities, which expect to run at around 80%.
- **90% operating factor**, the average time a data centre load operates at its average utilisation factor, also from the 2026 ESOO.
- In order to be conservative, the final utilisation factor is 0.9 * 0.5 = 0.45.

Based on these, each facility is modelled as drawing 45% of its total capacity on average across the year.

For the grid-wide method, the seven grid-connected projects ramp up gradually rather than starting at full load. We assume each reaches 25% of its modelled demand in 2028–29, then 37.5%, 50%, 62.5% and 87.5% in following years, and 100% from 2033–34. By 2035–36 the seven projects add 51.7 TWh a year of demand to the grid.

Emissions from grid connected projects

For the seven grid-connected projects, we modelled the emissions associated with each data centre using energy from the grid in its state, using the 2026 emissions factor for that state. Each project is assumed to use 50% of its maximum rated capacity by 2035, the year our emissions estimates refer to.

More renewable energy will be built between now and 2035, and AEMO and the Australian Government forecast the grid's pollution intensity will fall as a result. However, if data centres draw on existing supply instead of bringing on new capacity, ageing coal power stations could be extended, and gas generation could increase. As a result, the grid's pollution intensity may not fall as quickly as forecast. Using today's emissions factors reflects this risk. It shows the climate pollution these proposals could add if their demand is met by the grid as it runs now, rather than by new clean energy built to match it.

The resulting emissions estimate captures the incremental impact of data centre demand on total NEM emissions in 2035–36, relative to AEMO's projected emissions without that additional demand. This avoids assuming that new data centres can simply draw on the increasingly clean electricity mix forecast for existing consumers, without affecting the pace of decarbonisation.

Emissions from on-site gas

Beetaloo Digital and the Southern Highlands Data Campus plan to generate their own power from on-site fossil gas. Together, they produce 4.7 Mt CO_2-e a year in our estimate. For each project, we calculated the gas needed to generate its annual electricity use, then the emissions from burning that gas:

- **Annual electricity use** follows the same approach as the grid projects: capacity × 50% utilisation × 90% operating factor × 8,760 hours.
- **42% electrical efficiency** represents a typical simple-cycle gas turbine or reciprocating engine (for example, a GE LM6000-class aeroderivative turbine). At this efficiency, each MWh of electricity needs about 8.6 GJ of gas.
- **51.53 kg CO_2-e/GJ** is the Scope 1 combustion factor for pipeline natural gas in the NGA Factors 2025, covering CO_2, methane and nitrous oxide.

Capacities are Beetaloo Digital's stated 2,000 MW whole-of-facility load and the 673 MW gas plant proposed for the Southern Highlands campus under its State Significant Development application.

The estimates cover only gas burned on site. They exclude emissions from extracting, processing and transporting the gas (Scope 3), including methane leakage.

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