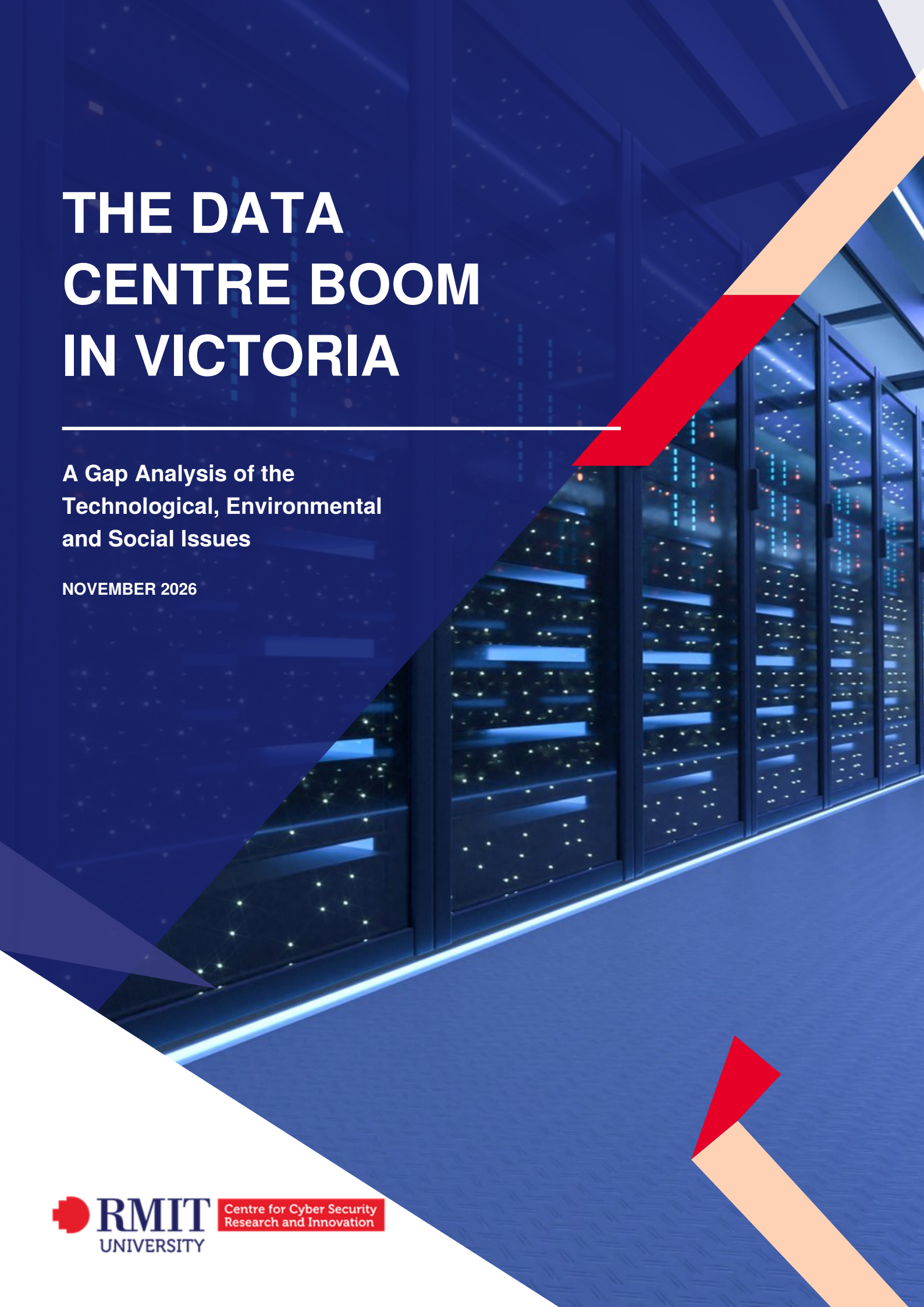


THE DATA CENTRE BOOM IN VICTORIA

A Gap Analysis of the Technological, Environmental and Social Issues

NOVEMBER 2026

RMIT UNIVERSITY
Centre for Cyber Security Research and Innovation

AUTHORS

Meredith Primrose Jones[a], Matthew Warren[a] and Laki Kondylas[a]

[a] Centre for Cyber Security Research and Innovation, RMIT University, Melbourne, Australia

SUGGESTED CITATION

Jones, M. P., Warren, M. and Kondylas, L. (2026) *The Data Centre Boom in Victoria: A Gap Analysis of the Technological, Environmental and Social Issues*. Melbourne: RMIT Centre for Cyber Security Research and Innovation, RMIT University.

FUNDED BY

RMIT UNIVERSITY CoBL Technology Initiative

ACKNOWLEDGEMENT OF COUNTRY

RMIT University acknowledges the people of the Woi wurrung and Boon wurrung language groups of the eastern Kulin Nation on whose unceded lands we conduct the business of the University. RMIT University respectfully acknowledges their Ancestors and Elders, past and present. RMIT also acknowledges the Traditional Custodians and their Ancestors of the lands and waters across Australia where we conduct our business.

ACKNOWLEDGEMENTS

This research was funded by CoBL Tech, the technology initiative of RMIT University's College of Business and Law. CoBL Tech works at the intersection of technology, commerce, law and regulation, supporting research that is industry-relevant and delivers real-world impact. The authors gratefully acknowledge CoBL Tech's support, which made this review of the technological, environmental, social and cyber security dimensions of Victoria's data centre growth possible.

The views expressed in this report are those of the authors and do not necessarily reflect those of CoBL Tech or RMIT University.

ABOUT

COBL TECH

CoBL Tech brings together expertise across technology, commerce, law and regulation to deliver education, research and engagement with real-world impact. Rather than treating technology in isolation, CoBL Tech embeds it as a way of working across the College, preparing graduates and advancing knowledge for a future shaped by emerging technologies.

CoBL Tech partners with government, industry, start-ups, not-for-profit organisations and professional associations through research partnerships, work-integrated learning, curriculum co-design and applied projects. Its engagement is guided by principles of mutual value, academic integrity and independence, long-term partnership, commitment to First Nations economic participation, and responsible and ethical use of technology.

ABOUT

CCSRI

The RMIT Centre for Cyber Security Research and Innovation (CCSRI) brings together researchers from across all disciplines and colleges of RMIT University to address cyber security as a technical, human, organisational and societal challenge.

The Centre works with government, industry and community partners to deliver research that informs policy and practice. CCSRI's research spans critical infrastructure protection, national security and defence, cyber policy and governance, online safety, and secure and responsible adoption of artificial intelligence.

CONTACT

ccsri@rmit.edu.au
www.rmit.edu.au/cyber

EXECUTIVE SUMMARY

The state of Victoria, Australia, is in the midst of an unprecedented data centre construction boom, driven by the convergence of cloud computing and artificial intelligence. More than 50 data centres were operating across Victoria by mid-2026 (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b), the Victorian Government estimates that up to $25 billion in further investment could be unlocked, and electricity demand attributable to data centres is forecast to rise from roughly 2% to 8% of Victoria's grid supply by 2030/31 (AusNet Services, 2025).

The Australian and Victorian governments have each responded with new policy instruments, including the Australian Government's *Expectations of Data Centres and AI Infrastructure Developers* and Victoria's *AI Mission Statement* and *Sustainable Data Centre Action Plan*. Notably, policy is developing faster than the underlying evidence base, and community opposition to individual projects is already emerging.

The Victorian Government has released the Sustainable Data Centre Action Plan (22 September 2026), which introduces energy, water, land-use and local-benefit requirements for new data centre developments (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b; Premier of Victoria, 2026). The Plan applies prospectively and does not affect projects already underway or under assessment.

This report presents the findings of a structured review and gap analysis of the academic and grey literature bearing on data centre development in Victoria, examined through three lenses: technology, environment and society.

Structured around the sector's global emergence and its subsequent strategic and policy treatment at federal, Victorian and other-state level, the review finds a market that is well documented commercially but poorly served by peer-reviewed, jurisdiction-specific research, particularly on physical security, cumulative environmental effects and social licence.

The paper closes with recommendations for the primary research and policy attention needed to close these gaps ahead of the sector's continued expansion.

50+
data centres operating across Victoria by mid-2026

Up to $25bn
in data centre investment the Action Plan aims to unlock

2% → 8%
data centres' projected share of Victoria's grid supply by 2030/31

TABLE OF CONTENTS

4 **Executive Summary**

6 **1. Introduction**

8 **2. Methodology**

9 **Results / Findings**

9 **3. The Rise of Data Centres: A Global Phenomenon, an Australian Position**

11 **4. Historical, Strategic and Policy Considerations**

11 4.1 Federal Policy Response

12 4.2 Data Centres in Victoria

14 4.3 Data Centres in Other Australian States

16 **5. Social Considerations**

16 5.1 Power: Cost and Allocation

16 5.2 Water

17 5.3 Local Amenity: Noise, Heat and Land Use

18 5.4 Jobs and Local Benefit

20 **6. Cyber Security Considerations**

20 6.1 Data Centres as Critical Infrastructure

20 6.2 Data Sovereignty Issues

21 6.3 Lack of Cyber-Specific Guidance for Data Centres

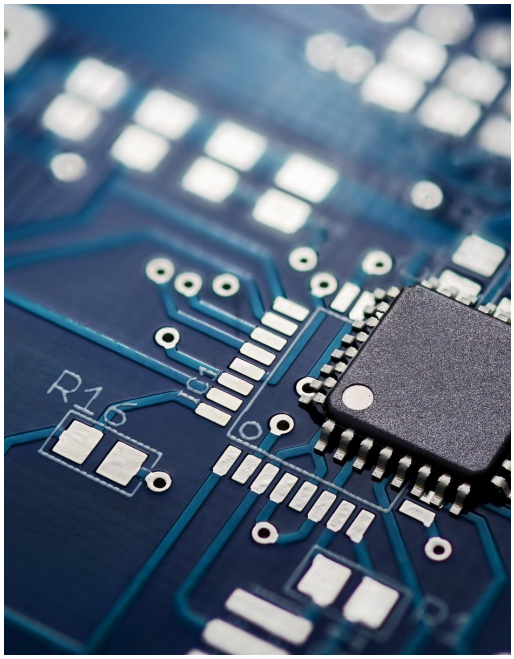
21 6.4 Guidance on Cloud and Third-Party Hosting Security

22 **7. Conclusion**

23 **8. Recommendations**

24 **References**

1. INTRODUCTION



The state of Victoria in Australia is in the midst of the largest data centre construction boom in its history. More than 50 data centres were operating across Victoria by mid-2026, up from around 40 in late 2025 (Premier of Victoria, 2025; Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b), and a commercial directory identifies 46 locations, the great majority clustered around Melbourne (Datacenters.com, n.d.). The Victorian Government estimates that its Sustainable Data Centre Action Plan could unlock a pipeline of projects worth up to $25 billion (Premier of Victoria, 2025). Sector-tracking data corroborate the scale of the wider national pipeline: Data Centres Australia's (2026) national forecast identifies a pipeline of 21.6 GW under active tracking nationally across 90 projects, of which the Melbourne market accounts for approximately 9.0 GW, reinforcing Victoria's position as one of the two largest data centre markets in the country by committed and prospective capacity. The demand driving this growth is structural rather than cyclical: operators are being asked to host not only conventional cloud and enterprise workloads but also the compute-intensive training and inference workloads associated with generative artificial intelligence.

AusNet Services' (2025) forecast, prepared by Oxford Economics Australia for the Australian Energy Regulator, projects that data centre electricity demand will rise from around 2% to as much as 8% of Victoria's grid supply by 2030/31, concentrated in a small number of geographic clusters in western, north-western, south-eastern and inner Melbourne. Left unmanaged, this concentration of demand has the potential to place material stress on network capacity and wholesale pricing. Modelling commissioned by the Clean Energy Finance Corporation estimates that, if data centre growth is not matched by new renewable generation and storage, Victorian wholesale electricity prices could rise by as much as 23% by 2035 (Baringa and Clean Energy Finance Corporation, 2025). This risk has also been a central concern of the Australian Energy Market Commission's 2026 reforms to grid connection standards (Australian Energy Market Commission, 2026a, 2026b). AEMO's own updated forecasting methodology corroborates the direction, though not the magnitude, of this projection: data centre consumption is projected to rise from around 2.2% of National Electricity Market demand in 2024/25 to as much as 6% by 2029/30 under AEMO's Step Change scenario, a growth trajectory derived independently of the wholesale-price modelling above and not, on the evidence reviewed, extending to a published price-impact figure (Australian Energy Market Operator, 2025a).

The Victorian Government has not been passive in the face of this growth. In November 2025 the Victorian Government announced a $5.5 million *Sustainable Data Centre Action Plan* under its *AI Mission Statement*, setting out an intent to grow the sector while managing its environmental footprint (Premier of Victoria, 2025; Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026a), and on 22 September 2026 it released the full Action Plan (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). At the federal level, the Australian Government's *Expectations of Data Centres and AI Infrastructure Developers* (Australian Government, Department of Industry, Science and Resources, 2026) establishes the first national statement of expected conduct for developers and operators. A Senate inquiry into artificial intelligence and data centres, established in May 2026 and now due to report by 23 March 2027, is underway, and a New South Wales parliamentary inquiry into data centres reported on 5 November 2026 with 26 recommendations, evidence that the issue is now firmly on the national policy agenda (Senate of Australia, Environment and Communications References Committee, 2026; NSW Parliament, Legislative Council, Public Accountability and

Works Committee, 2026).

Yet policy is developing more quickly than the evidence base that should underpin it. Much of what is publicly known about the sector's technological trajectory, its environmental footprint and its social acceptability is contained in industry-commissioned forecasts, law firm client updates, parliamentary submissions and media reporting, rather than in peer-reviewed research conducted in, or applicable to, the Australian and Victorian context. At the same time, community opposition to individual projects is emerging, illustrated locally by the 'Stop the South Morang data centre developments' petition before the Victorian Parliament (Parliament of Victoria, 2026) and by transparency concerns raised directly in Parliament (Ettershank, 2026).

This report discusses the findings of a structured literature review and gap analysis. Its purpose is to establish the first integrated, Victoria-specific evidence base on the technological, environmental and social issues associated with data centre development, mapped against the state's development pipeline and current policy settings.

The review is organised around three analytical lenses:

1. Technology (AI/GPU compute, cooling, energy storage, connectivity, cyber and physical security);
2. Environment (energy, water, land use, heat and noise, and the policy instruments used to manage them); and
3. Society (social licence, community engagement and local benefit).

The discussion presented here follows the sector's development chronologically and geographically: its emergence as a global phenomenon, the strategic and policy response at federal level, the specific position of Victoria, and the comparative experience of other Australian states.

The paper concludes with recommendations for the primary research and policy attention needed to close the gaps the review has identified.

2. METHODOLOGY

This review draws on three categories of source material, consistent with the project scoping brief's approach (CoBL Tech Scoping Project, 2026) of mapping the academic and grey literature against Victoria's development pipeline and policy settings.

Academic sources. Peer-reviewed and other scholarly material was sought via general academic search rather than direct interrogation of subscription databases (Scopus, Web of Science and IEEE Xplore were not accessible from the research environment used for this review; a direct search of these databases, using defined search strings and PRISMA-style screening, is recommended for future work). Where peer-reviewed Australian material exists, for example Li et al.'s (2021) analysis of environmental noise exposure and mental health in Australian households, it has been included. Where the search failed to identify Australian or Victorian peer-reviewed work on a given topic, most notably data centre physical security and social licence, that absence is treated as a substantive finding of the gap analysis rather than papered over with international literature that cannot be assumed to transfer to the Victorian regulatory and social context.

Government sources. The review draws heavily on primary federal, Victorian and other-state government material: energy market institutions (the Australian Energy Market Commission and Australian Energy Market Operator), the Department of Industry, Science and Resources' national Expectations of Data Centres and AI Infrastructure Developers, the Cyber and Infrastructure Security Centre's guidance on the *Security of Critical Infrastructure Act 2018* (Cth), the Victorian Department of Jobs, Skills, Industry and Regions' Sustainable Data Centre Action Plan, Environment Protection Authority Victoria's licensing and noise-reporting framework, Victorian planning legislation, and the parliamentary inquiry and petition record in Victoria and New South Wales. These sources anchor the review's policy analysis and are treated as authoritative statements of the current regulatory position, while being read critically as documents that state government intent rather than independently evaluate its adequacy.

Desktop research and grey literature. The review also draws on industry-commissioned forecasting (notably AusNet Services' (2025) Data Centre Forecasts to 2030/31 and Oxford Economics Australia's (2025) Data Centre Energy Demand report, both prepared for energy market regulators), commercial directories of operating facilities (Datacenters.com, n.d.; RenewMap, 2026), law firm and consultancy client updates on the national Expectations framework and state planning reform (Ashurst, Bird & Bird, Clayton Utz, Herbert Smith Freehills Kramer, KWM), sector and energy media (Energy Magazine, Energy-Storage.News, w.media), think tank commentary (the United States Studies Centre's Australia-focused analysis of data centres and the grid), and advocacy and community submissions (the Concerned Waterways Alliance, Noizend Pty Ltd, and formal submissions to the NSW parliamentary inquiry). This material is industry-sponsored or advocacy-oriented rather than independently peer-reviewed and is treated in the analysis as evidence of stakeholder positions and of the quantitative scale of the sector rather than as neutral scholarship; this distinction is made explicit wherever such sources are relied upon for a substantive claim.

Scope and limitations. In line with the project brief, and to keep the evidence base directly applicable to Victorian decision-making, the review has limited its reliance on sources that either originate from outside Australia or that do not substantively discuss the Australian or Victorian context. A considerable international literature exists on subjects such as data centre cooling technology, AI workload power profiling and grid-interactive facility operation; this material has been excluded from citation here except where it has been directly localised by Australian commentary, and its absence in Australian peer-reviewed form is instead recorded as a gap. This is a deliberate methodological choice rather than an oversight, and it is the principal reason the gap analysis in Section 7 identifies technology and cyber/physical security as areas where Victorian-specific evidence remains thin despite a large adjacent international literature.

3. THE RISE OF DATA CENTRES: A GLOBAL PHENOMENON, AN AUSTRALIAN POSITION

The current data centre boom is a global phenomenon with a distinctly Australian, and Victorian, focus. Two structural forces are contributing to the rise and expansion of this industry. The first is the evolution of public cloud computing, which has shifted enterprise and government IT workloads from on-premises infrastructure to hyperscale and colocation facilities over more than a decade. The second, more recent, force is the emergence of generative artificial intelligence, whose training and inference workloads require far denser concentrations of compute, power and cooling capacity than traditional enterprise computing (Ashurst, 2026). Commentary from Australian-focused analysts frames this second wave as substantially different from the sector's earlier growth: it is computing capacity rather than storage that is driving new investments.



Australia has become a significant hub for this industrial expansion, and Victoria, together with New South Wales, anchors the country's position. Industry mapping identifies 46 data centre locations across Victoria, the overwhelming majority concentrated around Melbourne, in a market that is both mature and structurally diverse (Datacenters.com, n.d.). Three broad tiers of operator are present (a classification derived from Datacenters.com's (n.d.) facility-level data and cross-checked against RenewMap's (2026) project tracking, rather than from an existing peer-reviewed taxonomy of the Victorian market):

1. Hyperscale cloud providers, such as Amazon Web Services, Microsoft Azure and Oracle Cloud, operate Melbourne-region infrastructure clustered around Truganina, Yarraville and Tullamarine, supporting cloud computing, storage and enterprise workloads at national scale.

2. Carrier-neutral colocation and interconnection providers, principally NEXTDC, with three Melbourne facilities (Port Melbourne, Tullamarine and West Footscray), and Equinix, with four (ME1 and ME2 in Port Melbourne, ME4 in Derrimut and ME5 in West Melbourne). These facilities provide the ecosystem that connects enterprises, cloud platforms and telecommunications networks, and are widely regarded as the backbone of Victoria's digital economy rather than simply commercial competitors to the hyperscalers.

3. A third, increasingly important tier of large-scale wholesale and colocation operators has emerged rapidly over the past several years: CDC Data Centres (Laverton/Laverton North and Brooklyn), AirTrunk

(Derrimut), Digital Realty (Deer Park), Vantage Data Centers (Tullamarine), Stack Infrastructure (Truganina) and NTT Global Data Centers (Port Melbourne). This tier is where most of the pipeline's new capacity, and most of the compute-intensive, AI-oriented development, is concentrated (Datacenters.com, n.d.).

This market structure has direct implications for the questions this review is designed to answer. AusNet Services' (2025) commissioned forecast, prepared by Oxford Economics Australia for the Australian Energy Regulator, is the most methodologically substantial account of how this growth is likely to unfold in Victoria to 2030/31. Rather than simply cataloguing facilities, it outlines the geographic concentration of anticipated capacity around four clusters (western Melbourne, Port Melbourne/Melbourne CBD, north-west Melbourne and south-east Melbourne) and identifies electricity availability, alongside telecommunications connectivity, water availability and land, as the determining factors in where new facilities are able to locate.

This is a significant reframing as it positions data centres within Victoria's wider critical-infrastructure system, competing for the same finite network capacity, water allocations and industrial land as other users, rather than treating them as a purely digital-economy asset that sits outside those constraints.

From an academic standpoint, the AusNet/Oxford Economics report should be read as industry-sponsored research commissioned for a regulatory purpose rather than independent peer-reviewed scholarship, and its principal contribution to this review is quantitative: a defensible, publicly available forecast against which the adequacy of current policy settings can be tested.

The scale of the demand this growth represents is now central to national energy-market planning. The Australian Energy Market Operator's *Digital demand surge* report and its *2025 Inputs, Assumptions and Scenarios Report* both treat data centre load growth as a first-order input to network and generation planning, rather than a marginal or localised effect (Australian Energy Market Operator, 2025b, 2026). Oxford Economics Australia's (2025) companion *Data Centre Energy Demand* report, prepared directly for AEMO, provides the sector-wide demand modelling that underpins this planning. The Australian Energy Market Commission has responded with two significant rule-change processes in 2026:

1. the modernisation of grid connection rules to accelerate the energy transition while managing the AI-driven demand boom, and
2. a proposal for new grid connection standards specific to data centres (Australian Energy Market Commission, 2026a, 2026b).

Both explicitly acknowledge that the existing connection framework was not designed with facilities of this scale and demand profile in mind.

What this section establishes, and what the remainder of the paper builds on, is that Victoria's experience of the global data centre boom is not a passive one. The state hosts one of the country's two most mature, most diversified data centre markets, its principal operators span every tier of the global industry from hyperscaler to wholesale colocation, and its regulators are already treating the sector's growth as a first-order planning problem rather than a niche one. The strategic and policy response this has produced, across Australia, at both state and federal levels is the subject of the following section.

4. HISTORICAL, STRATEGIC AND POLICY CONSIDERATIONS

Government responses to the growth described above have emerged at three levels (federal, Victorian and other Australian states), each with a different mix of instruments and a different depth of evidence behind it. This section considers each in turn.

4.1 Federal Policy Response

The Australian Government's policy response to the data centre and AI boom has developed rapidly across 2025 and 2026 and has concentrated on three areas: setting behavioural expectations for developers and operators, adapting energy market rules to accommodate large, fast-growing loads, and treating data centres as critical infrastructure subject to security obligations.

The centrepiece is the Department of Industry, Science and Resources' (2026) *Expectations of Data Centres and AI Infrastructure Developers*, as it was the first national statement of the standards the Australian Government expects developers and operators to meet. Legal and consultancy commentary published in its immediate aftermath is broadly consistent in reading the document as a signal of intent rather than a binding instrument. Clayton Utz (2026a) frames it as setting 'great expectations' without accompanying enforcement mechanisms, Bird & Bird (2026) situates it within Australia's emerging national approach to AI infrastructure more broadly, and Herbert Smith Freehills Kramer (2026) reads it as the clearest indication yet that data centres and AI infrastructure will be treated as a distinct, nationally significant asset class for planning and investment purposes. Read together, this commentary suggests that the Australian Government's immediate priority has been to establish expectations and outline voluntary compliance requirements, leaving the harder question of compulsory and enforceable regulation, particularly on energy, water and community engagement, substantially to the states, and to the energy market bodies discussed below.

Energy market reform has, in practice, been where the Australian Government's response has had the most concrete effect to date. The Australian Energy Market Commission's 2026 rule-change processes, modernising grid connection rules to accelerate the energy transition while managing the AI-driven demand boom, and proposing new connection standards specific to data centres, represent a direct regulatory response to the load-growth profile discussed in the previous section (Australian Energy Market Commission, 2026a, 2026b). These changes are being made against the backdrop of AEMO's own assessment, in its *Digital demand surge* report and *2025 Inputs, Assumptions and Scenarios Report*, that data centre demand needs to be explicitly modelled in national electricity market planning rather than absorbed within general load-growth assumptions (Australian Energy Market Operator, 2025b, 2026), supported by Oxford Economics Australia's (2025) commissioned demand forecast. Together, these documents indicate that the federal energy-market institutions, rather than the Expectations statement itself, are functioning as the more substantive current mechanism for managing the sector's growth.

The third output of federal policy treats data centres as critical infrastructure. The *Security of Critical Infrastructure Act 2018* (Cth), as amended by the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* (Cth) and the *Cyber Security Act 2024* (Cth), establishes obligations including the maintenance of a register of critical infrastructure assets, risk management programs, and in some cases government assistance and directions powers, that extend to the data storage and processing sector (SOCI Act). The Cyber and Infrastructure Security Centre's guidance materials set out how these obligations apply specifically to data storage and processing operators (Cyber and Infrastructure Security Centre, n.d.a, n.d.b). This is a substantial and directly applicable regulatory regime; however, it has not, on the evidence reviewed here, been matched by a body of independent, peer-reviewed research assessing how well Australian data centre operators are meeting these obligations in practice, nor by published research on the physical security of

data centre campuses specifically. SafeAI-Aus's (2026) work on AI data centres and compute governance is a relevant grey-literature contribution in this space, but the review has not identified academic literature that tests these questions empirically in the Australian context.

Finally, the Australian Government itself is now actively scrutinising the sector. The Senate's Environment and Communications References Committee established an Inquiry into Artificial Intelligence and Data Centres in May 2026 (Senate of Australia, Environment and Communications References Committee, 2026), and its progress is being tracked closely by the legal and consultancy sector, illustrated by Clayton Utz's (2026b) 'Watts on the line?' commentary on the inquiry's energy-system implications. On 20 October 2026 the committee extended its reporting date from 16 November 2026 to 23 March 2027 (Senate of Australia, Environment and Communications References Committee, 2026). Following the New South Wales inquiry discussed in the section below, which reported in November 2026, the Senate inquiry is likely to be the most significant single source of new primary evidence, including submissions, hearing transcripts and a final committee report, and its findings should be monitored closely by researchers and policymakers.

Read as a whole, the federal strategy to date is best characterised as expectation-setting on developer conduct, substantive and increasingly urgent reform on energy market access, and an existing but under-evaluated critical-infrastructure security regime, all being tested in real time by an active Senate inquiry. That expectation-based approach is now shifting: on 26 August 2026 National Cabinet agreed to develop consistent, mandatory national standards for data centre energy, water and land use, with Commonwealth legislation expected in early 2027 (Clayton Utz, 2026c). The gap, however, is not in the volume of policy activity, which is considerable, but in the absence of independent research evaluating whether that policy activity is proving effective. This is a gap that recurs, in a more acute form, at the Victorian level discussed next.

4.2 Data Centres in Victoria

Victoria's position within the national data centre market discussed above is one of the country's two most mature and diversified markets, concentrated in four clusters around Melbourne. Its policy response is correspondingly more developed, and more contested, than that of any other Australian jurisdiction.

The Victorian Government has explicitly embraced the sector's growth. Invest Victoria (2026) positions data centres as a priority digital technology sector for the state, and the AI Mission Statement, under which the Government announced a $5.5 million Sustainable Data Centre Action Plan in November 2025 (Premier of Victoria, 2025; Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026a), commits the government to growing the sector while managing its environmental footprint. Notably, this announcement was also the first Victorian policy statement to treat 'sustainable' data centre growth as an explicit, funded objective rather than an implicit assumption. This sits alongside a significant reform of the state's planning system: the *Planning and Environment Act 1987* (Vic), the state's foundational planning statute, has been amended by the *Planning Amendment (Better Decisions Made Faster) Act 2026* (Vic), following the 2025 Bill of the same name, in a reform that KWM's (2025) analysis frames as aimed squarely at speeding up decisions on major projects, of which data centres are a prominent category. Read together, these instruments indicate a state government actively using both economic development levers and planning-system reform to accelerate the sector's growth, in a way that goes further than the Commonwealth's more cautious, expectations-based approach described in the preceding section.

On 22 September 2026 the Victorian Government released the full *Sustainable Data Centre Action Plan*, the most detailed state-level policy instrument on data centres identified by this review (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). Announced under the heading 'We need data centres but we set the rules', the Action Plan is organised around four enablers (land use and local impact; new energy supply and grid readiness; the protection of drinking water; and Victorian jobs, skills and local benefit) and is delivered principally through a new data centre category within the planning scheme together with new energy and water referral and notification controls (Premier of Victoria, 2026). The Action Plan records a sector that now

numbers more than 50 operating facilities in Victoria, delivered $5.8 billion in capital expenditure over the past year, and accounts for roughly 30% of national data centre electricity consumption; it also notes that Victorian data centre electricity demand nearly doubled in the twelve months to mid-2026 (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b).

The Action Plan's requirements fall into four groups, each examined in Section 5. On energy, proponents must offset their actual operational electricity use by investing in new renewable generation and storage, meet the full cost of connection and any network augmentation, participate in demand flexibility services and design to best-practice power usage effectiveness (Section 5.1). On water, cooling is expected to use recycled or other non-drinking water, with design water-usage-effectiveness targets and public reporting of water use (Section 5.2). On land use and amenity, data centres are prohibited on residential-zoned and Green Wedge Zone land, a 150-metre residential buffer applies, and a statewide night-time noise limit of 55 dB(A) is set (Section 5.3). On jobs, a Local Investment Guarantee is to be established, with its detail still to be developed with local government and industry (Section 5.4). Mandatory referral authority status is extended to EPA Victoria, WorkSafe Victoria, VicGrid, Fire Rescue Victoria and the relevant urban water corporations, and the Minister for Planning is the responsible authority for applications progressed through the Development Facilitation Program (Premier of Victoria, 2026; Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b).

Victoria's environmental regulatory framework for the sector rests on the *Environment Protection Act 2017* (Vic) and its associated *Environment Protection Regulations 2021* (Vic), which impose a 'general environmental duty' on operators and are administered by Environment Protection Authority Victoria. The EPA maintains a public dataset of licensed sites (Environment Protection Authority Victoria, 2025) and specific guidance on noise complaints, alongside its broader framework document (Environment Protection Authority Victoria, 2026). This is, on paper, a comprehensive regulatory architecture. However, the review has not identified a published case study testing how the general environmental duty applies in practice to a Victorian data centre, whether in relation to noise, heat rejection or cumulative water use, despite the framework having been in force since July 2021 and the sector's most significant growth having occurred since. Water in particular has become a specific point of public concern, with the Concerned Waterways Alliance (2026) publishing advocacy material arguing that the Victorian Government must act on data centres' use of drinking water, a claim this review treats as evidence of a live public concern rather than as independently verified fact, precisely because no peer-reviewed Victorian study of data centre water use was located to test it against.

Community response to individual projects has moved from general concern to specific political action. The clearest instance is the 'Stop the South Morang data centre developments' petition, tabled in the Victorian Parliament in 2026 (Parliament of Victoria, 2026), opposing a proposed development in Melbourne's outer north. This sits alongside a direct call for greater transparency in data centre decision-making raised in Parliament by Ettershank (2026), and by industry reporting, for example Dux's (2026) report of four new Melbourne proposals emerging in quick succession, which suggests the number of projects attracting this kind of scrutiny is likely to grow rather than shrink in the near term. w.media is an industry trade-news outlet rather than a peer-reviewed or government source; it is used here, consistent with the review's treatment of similar grey literature elsewhere, as an indicator of pipeline momentum rather than as independently verified evidence. RenewMap's (2026) tracking of Victorian data centre projects provides a further, independently maintained record of the pipeline that can be used to cross-check the AusNet/Oxford Economics Australia (2025) forecast discussed in Section 3.

Two observations follow from bringing this material together. First, Victoria's policy settings are, at face value, more developed than the Commonwealth's. Importantly, Victoria has a funded sustainability action plan, an established environmental regulator with specific noise and licensing powers, and a planning system explicitly amended to accelerate project decisions. Second, and more significant for this report's purpose, none of the three lenses that structure the review (technology, environment and society) is yet supported by independent Victorian research that tests whether these settings are working as intended.

This materially changes the second of the two observations above. Victoria now has, on paper, the most prescriptive state-level data centre regime in the country, and one of the specific gaps identified by this review, the absence of any requirement on operators to disclose water consumption, is addressed directly by it. Three qualifications are nonetheless material to the analysis that follows. First, the Action Plan applies prospectively: it does not affect projects already underway or under assessment (Holding Redlich, 2026), so the operating fleet and the pipeline described in Section 3 are largely untouched by it. Second, its most consequential detail is deferred, with statewide planning policy on siting, design and built form scheduled for 2027 and the Local Investment Guarantee yet to be designed. Third, and most important for this review's purpose, a policy commitment is not evidence. The Plan states what will be required of operators, not what operators are doing; it therefore raises the regulatory baseline against which the evidence gaps should be judged without closing any of them.

4.3 Data Centres in Other Australian States

The comparative picture across other Australian jurisdictions is considerably less developed in the literature than Victoria's, and this section reports that limitation directly rather than substituting international material for it.

New South Wales is the one other state jurisdiction for which the review identified a substantive, comparable body of primary material, reflecting its position as Australia's other major data centre market. The NSW Parliament's Legislative Council Public Accountability and Works Committee self-referred an Inquiry into Data Centres in New South Wales on 29 January 2026 (NSW Parliament, Legislative Council, Public Accountability and Works Committee, 2026), broadly parallel in scope to the federal Senate inquiry discussed in Section 4.1. The committee tabled its report on 5 November 2026, making 26 recommendations to the NSW Government; it stopped short of recommending a moratorium on approvals, but called for cumulative impact assessment, designated data centre precincts, renewable energy and water requirements, and mandatory public reporting of energy and water use (Clayton Utz, 2026c). The inquiry also generated primary evidence directly relevant to this review's environment and society lenses. The NSW Net Zero Commission's (2026) submission addresses the sector's energy and emissions implications from an independent statutory-body perspective, while Noizend Pty Ltd's (2026) submission, from a specialist noise-consultancy perspective, provides technical evidence on noise impacts that has no clear Victorian equivalent in the material reviewed to date; Environment Protection Authority Victoria (n.d.) provides a complaints channel for data centre noise in Victoria, but this review did not locate a comparable piece of independent technical evidence submitted to a Victorian inquiry or regulator. This suggests that, at least on the specific question of noise, the NSW inquiry process has generated more detailed public evidence than is yet available in Victoria, and that Victorian researchers and policymakers would benefit from drawing on the NSW inquiry's submissions, its report and the NSW Government's response to it.

Beyond NSW, this review has not identified an equivalent, jurisdiction-specific body of primary material for other states with significant or growing data centre activity, such as Queensland or Western Australia. National-level sources go some way to filling this gap: the Water Services Association of Australia's (2025) national resource on data centres and water, and the Water Diplomat's (2025) reporting on the rapid growth of water-resource-intensive data centres across Australia, both discuss the sector's water impacts at a national rather than state-specific level, and are useful for benchmarking Victoria's position but cannot substitute for state-specific evidence from jurisdictions outside Victoria and New South Wales.

It is also worth noting that several of the federal instruments discussed in Section 4.1 already apply uniformly across state borders, most importantly the Security of Critical Infrastructure Act 2018 (Cth) security obligations and the Australian Energy Market Commission's national electricity market rule changes, both of which apply to a data centre in Queensland or South Australia in the same way as one in Victoria or New South Wales. This means the states' comparative policy discretion is concentrated specifically in planning approval, environmental regulation and economic development settings, precisely the areas where Victoria's approach (Section 4.2) and the New South Wales inquiry's recommendations differ most, and where jurisdiction-specific comparative research would be most valuable to policymakers in each state.

Two implications follow for future research. First, comparative analysis between Victoria and other states is, on current evidence, best supported for New South Wales, and future work should prioritise the NSW inquiry's report and the NSW Government's response to it as a direct comparator to the Victorian and federal material analysed in Sections 4.1 and 4.2. Second, a targeted search for equivalent state-level primary material (parliamentary inquiries, state environmental regulator guidance, and state energy or planning agency forecasting) in Queensland, Western Australia and South Australia would allow Victoria's experience to be situated within a genuinely national, rather than two-state, comparative picture.

5. SOCIAL CONSIDERATIONS

Society is the third of the review's three analytical lenses, and on the evidence assembled here it is the least well served. Where the technological and environmental dimensions of Victoria's data centre boom can at least be traced through regulatory instruments and industry forecasting, the social dimension is largely visible only through its symptoms: petitions, parliamentary questions and advocacy campaigns. This section draws that material together around the four channels through which the sector's growth reaches Victorian communities most directly (electricity, water, local amenity and employment), before returning to the question of social licence that underlies all four.

5.1 Power: Cost and Allocation

The most widely felt social consequence of the boom is likely to be an indirect one. AusNet Services' (2025) forecast projects data centre demand rising from around 2% to as much as 8% of Victoria's grid supply by 2030/31, and AEMO's updated forecasting methodology places data centre consumption on a comparable trajectory nationally (Australian Energy Market Operator, 2025a, 2025b, 2026). Modelling commissioned by the Clean Energy Finance Corporation estimates that, if data centre growth is met by gas-fired generation rather than new renewable generation and storage, Victorian wholesale electricity prices could rise by as much as 23% by 2035 (Baringa and Clean Energy Finance Corporation, 2025), a cost that, if realised, falls on households and small businesses that derive no direct benefit from the facilities driving it. This distributional question is the point at which an energy-market issue becomes a social one, and it is close to the framing adopted by the Australian Energy Market Commission's 2026 rule changes, which treat large data centre connections as a matter of system-wide equity as well as of technical capacity (Australian Energy Market Commission, 2026a, 2026b). The United States Studies Centre's (2026) Australia-focused analysis makes a related argument from the opposite direction, contending that data centre load can become a grid asset rather than a burden if flexibility obligations are attached early enough. This review did not identify an Australian study testing either proposition empirically against Victorian consumer outcomes.

The *Sustainable Data Centre Action Plan* addresses this concern more directly than any instrument previously identified by this review. Its first energy requirement obliges proponents to offset their actual operational electricity use by investing in new renewable generation and storage, and its second requires them to meet the full cost of connection and of any network augmentation their investment makes necessary (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). The Premier's framing, that data centres 'must power themselves, protect homes and pay their way', states the distributional principle explicitly (Premier of Victoria, 2026).

What the Action Plan does not do is quantify the effect. The same modelling suggests that matching new demand with renewable generation and storage would limit the Victorian price rise to around 2% (Baringa and Clean Energy Finance Corporation, 2025), but the Action Plan is not accompanied by price modelling of its own, its requirements do not reach projects already underway, and this review has not identified any independent assessment of whether its offset requirement will achieve that outcome in practice. The distributional question set out above therefore remains open, but it is now a question about the adequacy and enforcement of a stated requirement rather than about the absence of one.

5.2 Water

Water is the concern on which Victorian community mobilisation is furthest advanced relative to the evidence available to assess it. The Concerned Waterways Alliance (2026) argues that the Victorian Government must act on data centres' use of drinking water, and the Water Services Association of Australia's (2025) national resource, together with the Water Diplomat's (2025) reporting on the growth of water-resource-intensive facilities across Australia, establishes that the concern is neither purely local nor speculative. What does not exist, as

Section 4.2 notes, is a peer-reviewed Victorian study of cumulative data centre water use, or any published assessment of how the general environmental duty under the Environment Protection Act 2017 (Vic) applies to it. The result is an asymmetry that is itself socially consequential: operators hold facility-level water data that communities and, on the evidence reviewed, regulators cannot independently verify, which makes disagreement about impact difficult to resolve on the merits. That asymmetry is the substance of the transparency concern raised in Parliament by Ettershank (2026).

The asymmetry described here is the specific problem the *Sustainable Data Centre Action Plan*'s water requirements are designed to remove (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). Facilities with water-intensive cooling are expected to meet their cooling needs from recycled or other non-drinking sources; where those are unavailable, interim drinking water use must be offset; facilities relying on potable water must be designed so that use can be reduced under restrictions; and, most relevant to the gap identified above, operators must, unless otherwise agreed with the relevant water corporation, design to a water usage effectiveness of 1.0 or lower for potable water and 1.6 or lower for non-potable water, measured under ISO/IEC 30134-9:2022, and publicly report their water use against national standards, with those standards reviewed annually (Gilbert + Tobin, 2026).

The Action Plan also publishes figures of the kind this review found missing: data centres currently draw less than 1% of potable water across the Melbourne and Geelong networks, while Greater Western Water is assessing nineteen applications seeking a combined 19,714 megalitres a year, approximately 4% of Melbourne's supply, a figure the Action Plan is careful to note represents applications rather than approvals (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). The disclosure gap is addressed in principle but not yet in fact, since no facility-level data has been published under the new requirement; and the underlying evidence gap identified above, the absence of a peer-reviewed Victorian study of cumulative data centre water use, is untouched by a reporting obligation that will generate operator-supplied figures rather than independent analysis.

5.3 Local Amenity: Noise, Heat and Land Use



At the scale of the individual neighbourhood, the sector's most persistent impacts are noise from cooling plant and standby generation, rejected heat, and the conversion of industrial land. Environment Protection Authority Victoria maintains a noise-complaint channel that applies to data centres as to other licensed premises (Environment Protection Authority Victoria, n.d., 2025, 2026), but a complaints channel records impacts rather than anticipating them. The one substantive piece of independent technical evidence identified by this review sits in another jurisdiction: Noizend Pty Ltd's (2026) submission to the NSW inquiry, which has no Victorian equivalent. The relevant Australian peer-reviewed literature is adjacent rather than specific: Li et al.'s (2021) longitudinal analysis of environmental noise exposure and mental health in Australian households establishes that the health pathway is real, but was not conducted in relation to data centres, and no work applying its findings to this source type was located. Because Victoria's pipeline is geographically concentrated in four clusters (Section 3), the question

that matters is cumulative rather than facility-by-facility impact, and it is the question the current framework is least equipped to answer. The NSW parliamentary inquiry reached a similar conclusion for that state, finding that data centres are assessed primarily as individual developments even though their most significant impacts are cumulative (Clayton Utz, 2026c).

The *Sustainable Data Centre Action Plan* is the first Victorian instrument to set data-centre-specific amenity controls (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). Data centres are prohibited on residential-zoned land and on Green Wedge Zone land; a 150-metre buffer is required between a residential building and a proposed data centre building; facilities may not be sited near schools or childcare centres; a statewide night-time noise limit of 55 dB(A) applies; backup diesel generation is confined to emergencies and testing, with best-available generator technology and continuous runtime and emissions monitoring; and traffic management plans are required for construction and operation (Premier of Victoria, 2026). This meets the specific objection at the heart of the local opposition described in Section 4.2, and the buffer is a substantial departure from existing practice, with separations in Melbourne's west reported as close as fifteen metres (Holding Redlich, 2026). It does not resolve the cumulative-impact question raised above. The controls operate facility by facility and apply prospectively; the detailed siting, design and built-form guidance that would address clustering is deferred to a statewide planning policy scheduled for 2027; and this review has identified no Victorian noise or heat study of the kind that would allow the 55 dB(A) limit to be tested against health outcomes in the four clusters described in Section 3.

5.4 Jobs and Local Benefit

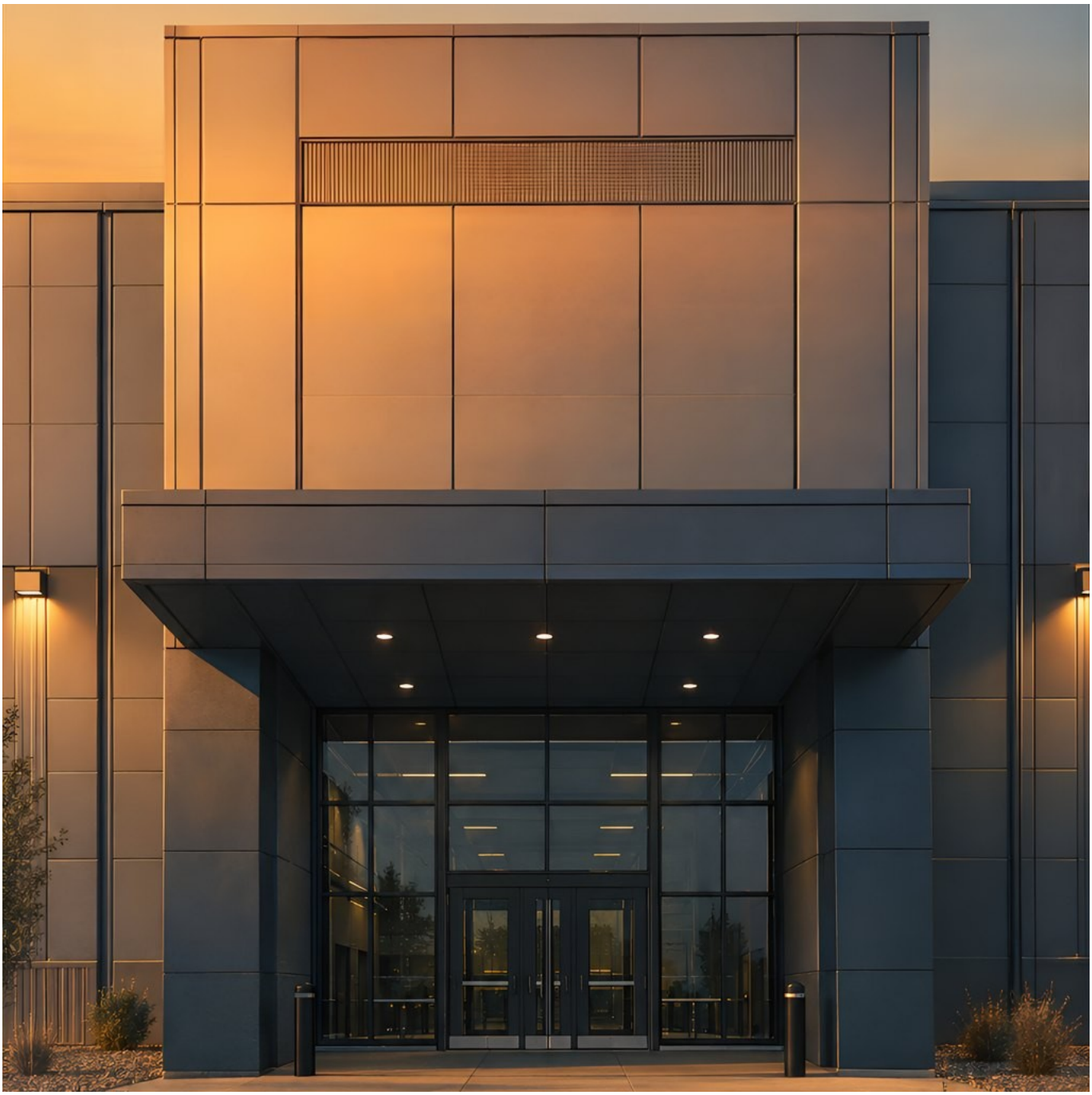
Employment is the principal benefit claim made for the sector, and it is the claim least tested in the material reviewed. Invest Victoria (2026) positions data centres as a priority digital technology sector, and the November 2025 announcement of the Action Plan under the AI Mission Statement committed $5.5 million to growing the sector sustainably (Premier of Victoria, 2025), but neither source published an operational employment estimate per facility or per megawatt against which the claim could be evaluated. The federal Expectations of Data Centres and AI Infrastructure Developers (Australian Government, Department of Industry, Science and Resources, 2026) asks developers to deliver community benefit without defining or measuring it, and the NSW Data Centre Guidelines (NSW Government, 2026) address workforce settings in more detail but likewise stop short of a benchmark. The distinction that matters socially, between construction employment, which is substantial but temporary, and ongoing operational employment, which is comparatively small for a capital-intensive facility, is not drawn in any Victorian source located by this review.

The full Action Plan, released in September 2026, responds to both halves of this gap (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). It commits the Victorian Government to establish a Local Investment Guarantee under which developments deliver community benefit, with the announcement naming jobs, TAFE training, parks and other local infrastructure as examples (Premier of Victoria, 2026), and it places four obligations on proponents: to support training through apprenticeships, traineeships, TAFE and tertiary partnerships connected to real employment; to prioritise Victorian content and local suppliers; to coordinate with industry, government and unions so that skills development matches sector demand; and, in regional Victoria or in communities with high unemployment, to work with local training providers. It also commits government to publish sector-wide construction and ongoing employment figures, which is precisely the benchmark this review found to be missing. The Guarantee's content is to be developed with local government and industry and is not yet specified, so it is at present a commitment to create an obligation rather than an obligation; and the figures, when published, will be government-sourced aggregates rather than the per-facility or per-megawatt analysis that would allow the sector's benefit claims to be independently tested.

These four channels converge on a single question: whether the sector holds social licence in the communities where it is expanding. The evidence that it may not is specific and recent: the 'Stop the South Morang data centre developments' petition before the Victorian Parliament (Parliament of Victoria, 2026), the transparency concerns raised by Ettershank (2026) and the Concerned Waterways Alliance's (2026) campaign. Meanwhile,

the evidence that would allow the question to be answered rather than asserted does not exist. No peer-reviewed Australian study of social licence specific to data centres was identified by this review; the nearest analogues are drawn from extractive-industry and forestry research, whose transferability to urban digital infrastructure cannot be assumed. The two parliamentary inquiries (Senate of Australia, Environment and Communications References Committee, 2026; NSW Parliament, Legislative Council, Public Accountability and Works Committee, 2026) have generated submissions on precisely this point: the NSW committee reported on 5 November 2026, and the Senate committee is due to report by 23 March 2027. Together they are, for now, the most productive available source of primary social evidence. Section 8 returns to this as the review's most urgent recommendation.

The *Sustainable Data Centre Action Plan* is a regulatory response to community opposition rather than a measure of community acceptance, and the finding above stands: there is still no peer-reviewed Australian study of social licence specific to data centres against which the adequacy of that response could be judged.



6. CYBER SECURITY CONSIDERATIONS

Cyber security and critical-infrastructure protection are a fourth, and the least evidenced, dimension of Victoria's data centre boom, alongside the technological, environmental and social lenses introduced in Section 1. The material identified here is grey literature and policy documentation rather than independent research, organised below around four gaps: data centres' status as regulated critical infrastructure, the unsettled treatment of data sovereignty, the absence of data-centre-specific guidance, and the narrower but more developed guidance that exists for cloud and third-party hosting.



6.1 Data Centres as Critical Infrastructure

Section 4.1 outlined the Commonwealth's critical-infrastructure regime for the sector: the *Security of Critical Infrastructure Act 2018* (Cth), as amended, together with the Cyber and Infrastructure Security Centre's sector-specific guidance (Cyber and Infrastructure Security Centre, n.d.a, n.d.b). What that discussion did not resolve is whether this regime is matched, at facility level, by independently verified physical- and cyber-security practice. The NSW Data Centre Guidelines (NSW Government, 2026), the only comparable state-level guidance document identified by this review, illustrate the point: they address energy, water and workforce settings in detail but contain only a single, non-technical reference to security, encouraging operators to prioritise the carriage of 'sovereign data' in the national interest. No equivalent Victorian guidance document was identified, and, consistent with the finding in Section 4.1, this review continues to find no published, peer-reviewed Australian study of how the SOCI Act's obligations are being met in practice at individual Victorian facilities, whether measured against physical intrusion, insider threat or supply-chain risk.

6.2 Data Sovereignty Issues

Data sovereignty has emerged as an explicit, though still loosely defined, policy concern. In announcing the Australian Government's *Expectations of Data Centres and AI Infrastructure Developers* (Australian Government, Department of Industry, Science and Resources, 2026), the responsible ministers framed onshore hosting as a national-security and economic-benefit issue in its own right, arguing that securing this infrastructure onshore ensures 'Australian data benefits Australians – not offshore jurisdictions' (Ayres, Bowen and Charlton, 2026). The NSW Data Centre Guidelines echo this, encouraging operators to prioritise the carriage of sovereign data 'to support Australia's national interest, including … national security and data sovereignty' (NSW Government, 2026). Read together, these documents establish data sovereignty as a stated expectation rather than an enforceable requirement: neither instrument specifies what 'sovereign' data carriage means in practice, who is responsible for verifying it, or how it interacts with the ownership structures of the

multinational hyperscale and colocation operators that dominate the Victorian market (Section 3).

6.3 Lack of Cyber-Specific Guidance for Data Centres

General-purpose data-security policy is itself still under construction. The Department of Home Affairs' National Data Security Action Plan remains at consultation stage (Australian Government, Department of Home Affairs, n.d.), meaning there is not yet a settled national data-security framework, let alone one written for the specific operational context of a data centre campus. Internationally, a mature, facility-level standard already exists: ANSI/TIA-942 sets minimum requirements across site selection, electrical and mechanical systems, fire safety and physical security, framed explicitly around achieving 'fail-safe operations' and 'robust protection against disaster' (Telecommunications Industry Association, n.d.). Its adoption in Australia is voluntary and market-driven rather than regulator-mandated: this review did not identify Australian regulatory guidance that references it, or an equivalent locally developed standard, leaving data-centre-specific cyber and physical security practice to be inferred from the general critical-infrastructure regime discussed in Section 6.1.

6.4 Guidance on Cloud and Third-Party Hosting Security

The most developed Australian mechanism identified by this review is the Digital Transformation Agency's Hosting Certification Framework (HCF), established in 2021 to assess whether external hosting providers, including the private data centres and cloud providers used by government, meet requirements covering data protection, ownership structure, transparency, privacy, physical security, cyber controls and supply-chain risk (Digital Transformation Agency, 2023). Twenty-two providers had achieved certification at the time of that report, and the DTA was reviewing the framework for possible extension to state and territory governments and to a wider range of hosting arrangements, including software-as-a-service (SaaS) and managed services. This is a substantive framework, but its scope is anchored to government tenancy rather than to the wider commercial and AI-training workloads driving Victoria's pipeline (Section 3), and no evidence was identified that its assessment criteria, or an equivalent, extend to the private-sector capacity that now represents the majority of the state's data centre footprint.

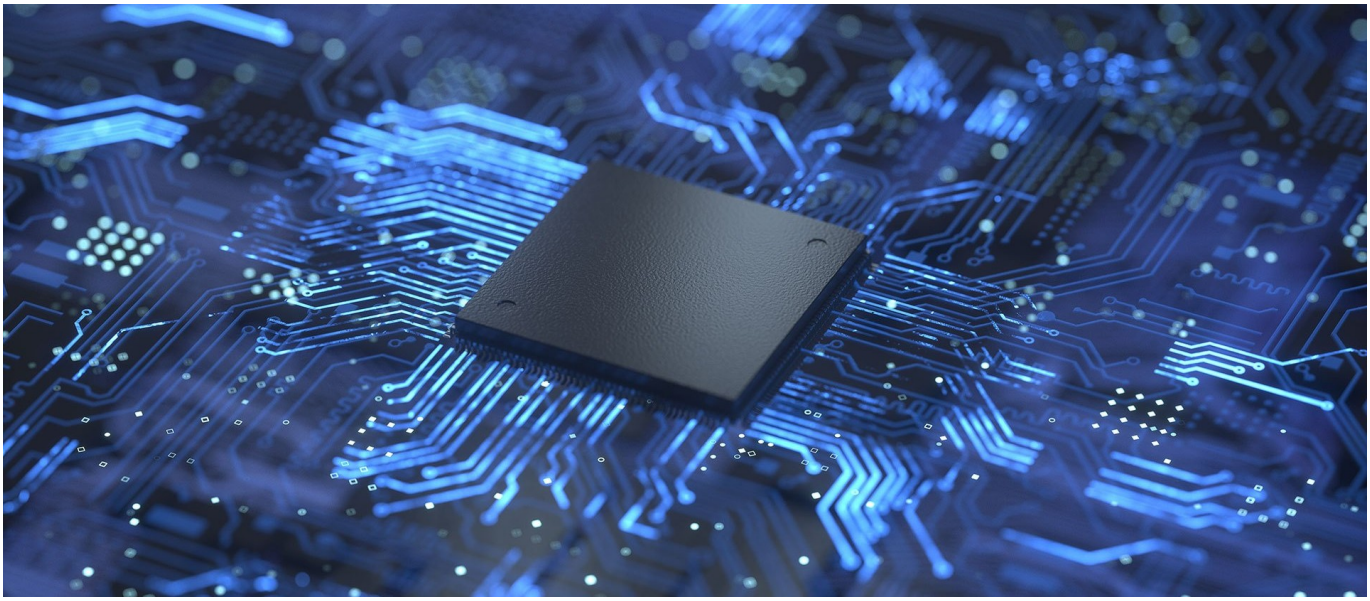
Taken together, these four gaps confirm the review's central finding: Australia's cyber-security and critical-infrastructure settings for data centres are being assembled piecemeal (from federal critical-infrastructure law, an unfinished national data-security policy, a voluntary international standard and a government-hosting scheme not extended to the states) rather than through a single, data-centre-specific or Victorian framework tested by independent research. Closing this gap, alongside the technological, environmental and social gaps identified earlier, is the focus of the recommendations that follow.

7. CONCLUSION

Bringing the preceding sections together, this review finds a Victorian data centre sector that is commercially mature, strategically significant to two levels of government, and increasingly visible to affected communities, but that remains only thinly supported by independent, jurisdiction-specific research across all three of the project's analytical lenses and the cyber-security dimension examined in Section 6. This section summarises the gap analysis; the recommendations that follow from it are set out in Section 8.

Victoria's data centre pipeline, which the Victorian Government expects to attract up to $25 billion in further investment and which is projected to take the sector's share of state electricity demand from around 2% to as much as 8% by 2030/31, is proceeding at a pace that neither the federal framework (still expectations-based, pending the mandatory national standards agreed by National Cabinet in August 2026) nor Victoria's own, more developed, planning and environmental settings has yet been independently tested against. Government has responded with genuine and, in the case of Victoria's planning reform and Sustainable Data Centre Action Plan, well-resourced policy activity; but as this review has shown, that activity is running ahead of the peer-reviewed evidence base, most acutely on questions of physical and cyber security, cumulative environmental impact, the distribution of the sector's energy and water costs, and, most urgently, social licence. Delivering an integrated, Victoria-specific evidence base on these issues is therefore both an academic contribution and a timely, practically significant one, in a policy debate that is unfolding in real time across every level of Australian government.

This conclusion should be read alongside the *Sustainable Data Centre Action Plan*, released on 22 September 2026 (Victorian Government, Department of Jobs, Skills, Industry and Regions, 2026b). The Plan substantially narrows the policy gap described above on energy, water, land use and local benefit, and in the case of water reporting it addresses a disclosure gap this review identified. It does not narrow the evidence gap. Its requirements are prospective, its most consequential detail is scheduled for 2027, and it is silent on the physical and cyber security questions set out in Section 6. The central finding, that policy is running ahead of the independent evidence base, is if anything reinforced: Victoria has now committed to a detailed regulatory regime for the sector without a published Victorian study of the water, noise, price or employment effects that regime is designed to manage.



8. RECOMMENDATIONS

Table 1. Recommended actions: research and policy attention to close the evidence gaps

No.	Recommended action	What it involves
1	**Commission a Victorian data centre security study.**	Assess how operators are meeting their Security of Critical Infrastructure Act obligations.
2	**Set a water-use baseline now.**	Record current facility-level and cumulative water use before the first reports under the Action Plan arrive, so its water usage effectiveness (WUE) thresholds can be tested against real data rather than taken on trust.
3	**Model the price impact on households.**	Independently estimate how data centre demand will affect Victorian retail and wholesale electricity prices, and whether the Plan's renewable-offset and full-cost-connection rules keep prices below the unmanaged-growth scenario.
4	**Gauge community sentiment where development is concentrated.**	Run surveys or interviews with residents near recent or proposed data centres. This would give Victoria its first direct evidence on social licence for data centres.
5	**Push for per-facility employment figures.**	Ask government to publish jobs per facility or per megawatt, with temporary construction jobs reported separately from ongoing operational roles, so the sector's main benefit claim can be checked.
6	**Monitor parallel inquiries and reforms.**	Track the Senate inquiry (reporting by 23 March 2027), the NSW Government's response to the NSW inquiry report, the national mandatory standards and the 2027 planning policy, and compare them with Victoria's future needs.



REFERENCES

Ashurst (2026) Australia's evolving data centre landscape: policy meets pipeline. Available at: https://www.ashurst.com/en/insights/australia-evolving-data-centre-landscape-policy-meets-pipeline/ (Accessed: 3 August 2026).

AusNet Services (2025) Data Centre Forecasts to 2030/31, Final Report, prepared for the Australian Energy Regulator. Available at: https://www.aer.gov.au/system/files/2025-12/ASD%20-%20Oxford%20Economics%20Australia%20-%20Data%20Centre%20Forecast%20-%20Nov%202025%20-%20PUBLIC.pdf (Accessed: 12 August 2026).

Australian Energy Market Commission (2026a) AEMC modernises grid connection rules to accelerate energy transition, manage AI boom. Available at: https://www.aemc.gov.au/news-centre/media-releases/aemc-modernises-grid-connection-rules-accelerate-energy-transition-manage-ai-boom (Accessed: 3 August 2026).

Australian Energy Market Commission (2026b) AEMC proposes new grid standards for data centre connections. Available at: https://www.aemc.gov.au/news-centre/media-releases/aemc-proposes-new-grid-standards-data-centre-connections (Accessed: 3 August 2026).

Australian Energy Market Operator (2025a) AEMO's updated forecasting methodology targets rapidly growing electricity loads. Available at: https://www.aemo.com.au/newsroom/news-updates/aemos-updated-forecasting-methodology-targets-rapidly-growing-electricity-loads (Accessed: 18 September 2026).

Australian Energy Market Operator (2025b) *2025 Inputs, Assumptions and Scenarios Report*. Melbourne: AEMO. Available at: https://www.aemo.com.au/Energy-systems/Major-publications/Integrated-System-Plan-ISP/2026-Integrated-System-Plan-ISP/2025-26-Inputs-Assumptions-and-Scenarios (Accessed: 12 November 2026).

Australian Energy Market Operator (2026) Digital demand surge: preparing Australia's power systems for the rise of data centres. Available at: https://www.aemo.com.au/newsroom/news-updates/digital-demand-surge (Accessed: 12 August 2026).

Australian Government, Department of Home Affairs (n.d.) National Data Security Action Plan: submissions and discussion papers. Available at: https://www.homeaffairs.gov.au/reports-and-publications/submissions-and-discussion-papers/data-security (Accessed: 18 September 2026).

Australian Government, Department of Industry, Science and Resources (2026) Expectations of data centres and AI infrastructure developers. Available at: https://www.industry.gov.au/publications/expectations-data-centres-and-ai-infrastructure-developers (Accessed: 12 August 2026).

Ayres, T., Bowen, C. and Charlton, A. (2026) An Australian approach to AI: expectations for data centres that deliver for Australians [joint media release]. Available at: https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-australian-approach-ai-expectations-data-centres-deliver-australians (Accessed: 18 September 2026).

Baringa and Clean Energy Finance Corporation (2025) Getting the balance right: Data centre growth and the energy transition. Sydney: CEFC. Available at: https://www.cefc.com.au/insights/market-reports/data-centre-growth-and-the-energy-transition (Accessed: 18 September 2026).

Bird & Bird (2026) Australia sets new national expectations for data centres and AI infrastructure. Available at: https://www.twobirds.com/en/insights/2026/australia/australia-sets-new-national-expectations-for-data-centres-and-ai-infrastructure (Accessed: 3 August 2026).

Clayton Utz (2026a) Great expectations: what the Australian Government requires of data centres and AI infrastructure. Available at: https://www.claytonutz.com/insights/2026/march/great-expectations-what-the-australian-government-requires-of-data-centres-and-ai-infrastructure (Accessed: 3 August 2026).

Clayton Utz (2026b) Watts on the line? Unpacking the Senate's data centre and AI inquiry. Available at: https://www.claytonutz.com/insights/2026/may/watts-on-the-line-unpacking-the-senates-data-centre-and-ai-inquiry (Accessed: 12 August 2026).

Clayton Utz (2026c) Report tabled, rules coming: what the NSW Parliament's data centre inquiry means for industry. Available at: https://www.claytonutz.com/insights/2026/november/report-tabled-rules-coming-what-the-nsw-parliaments-data-centre-inquiry-means-for-industry (Accessed: 12 November 2026).

CoBL Tech Scoping Project (2026) Project brief: The data centre boom in Victoria, a literature review and gap analysis of the technological, environmental and social issues. Melbourne: RMIT University (internal scoping document).

Concerned Waterways Alliance (2026) Data centres and drinking water: why the Victorian Government must act now. Available at: https://concernedwaterwaysalliance.org/data-centres-and-drinking-water-why-the-victoria-government-must-act-now/ (Accessed: 11 August 2026).

Cyber Security Act 2024 (Cth). Available at: https://www.legislation.gov.au (Accessed: 12 November 2026).

Cyber and Infrastructure Security Centre (n.d.a) Data storage and processing sector: legislation, regulation and compliance. Available at: https://www.cisc.gov.au/information-for-your-industry/data-storage-and-processing/legislation-regulation-and-compliance/soci-act-2018 (Accessed: 5 August 2026).

Cyber and Infrastructure Security Centre (n.d.b) SOCI Act 2018. Available at: https://www.cisc.gov.au/legislation-regulation-and-compliance/soci-act-2018 (Accessed: 5 August 2026).

Data Centres Australia (2026) Australian Data Centre Forecast Report, Issue 1. Available at: https://datacentres.org.au/wp-content/uploads/2026/04/2026_Australian-Data-Centre-Forecast-Report-Issue-1-1.pdf (Accessed: 18 September 2026).

Datacenters.com (n.d.) Victoria data centre locations. Available at: https://www.datacenters.com/locations/australia/victoria (Accessed: 12 August 2026).

Digital Transformation Agency (2023) DTA working to keep your data safe and secure. Available at: https://www.dta.gov.au/articles/dta-working-keep-your-data-safe-and-secure (Accessed: 18 September 2026).

Dux, S. (2026) 'Victoria's data centre pipeline grows with four new Melbourne proposals', *w.media*, 24 July. Available at: https://w.media/victorias-data-centre-pipeline-grows-with-four-new-melbourne-proposals/ (Accessed: 3 August 2026).

Energy Magazine (2026) Why data centres are the grid's untapped opportunity. Available at: https://www.energymagazine.com.au/why-data-centres-are-the-grids-untapped-opportunity (Accessed: 3 August 2026).

Energy-Storage.News (2026) Australia can turn the data centre boom into a grid growth story. Available at: https://www.energy-storage.news/how-australia-can-turn-the-data-centre-boom-into-a-grid-growth-story/ (Accessed: 3 August 2026).

Environment Protection Act 2017 (Vic). Available at: https://www.legislation.vic.gov.au (Accessed: 12 August 2026).

Environment Protection Authority Victoria (2025) EPA Victoria licence, location points [dataset]. Available at: https://discover.data.vic.gov.au/dataset/epa-victoria-licence-location-points (Accessed: 6 August 2026).

Environment Protection Authority Victoria (2026) Our environment protection framework. Available at: https://www.epa.vic.gov.au/our-environment-protection-framework (Accessed: 12 August 2026).

Environment Protection Authority Victoria (n.d.) Report noise. Available at: https://www.epa.vic.gov.au/report-noise (Accessed: 12 August 2026).

Environment Protection Regulations 2021 (Vic). Available at: https://www.legislation.vic.gov.au (Accessed: 3 August 2026).

Ettershank, D. (2026) Data centre transparency [Victorian Parliament speech/motion]. Available at: https://davidettershank.com.au/data-centre-transparency/ (Accessed: 3 August 2026).

Gilbert + Tobin (2026) Data centres under new rules: how Victoria's plan compares across Australia. Available at: https://www.gtlaw.com.au/insights/data-centres-under-new-rules-how-victorias-plan-compares-across-australia (Accessed: 12 November 2026).

Herbert Smith Freehills Kramer (2026) Australian national expectations for the development of data centres and AI infrastructure, what you need to know. Available at: https://www.hsfkramer.com/insights/2026-03/national-expectations-for-the-development-of-data-centres-and-ai-infrastructure-have-been-released-what-you-need-to-know (Accessed: 3 August 2026).

Holding Redlich (2026) New data centre rules in Victoria: implications for developers and operators. Available at: https://www.holdingredlich.com/new-data-centre-rules-in-victoria-implications-for-developers-and-operators (Accessed: 28 September 2026).

International Organization for Standardization and International Electrotechnical Commission (2022) *ISO/IEC 30134-9:2022 Information technology — Data centres key performance indicators — Part 9: Water usage effectiveness (WUE)*. Geneva: ISO.

Invest Victoria (2026) Data centres. Available at: https://www.invest.vic.gov.au/explore-your-sector/digital-technology/data-centres (Accessed: 7 August 2026).

KWM (King & Wood Mallesons) (2025) Overhauling Victoria's planning system: the Planning Amendment (Better Decisions Made Faster) Bill 2025. Available at: https://www.kwm.com/au/en/insights/latest-thinking/overhauling-victorias-planning-system-the-planning-amendment-better-decisions-made-faster-bill-2025.html (Accessed: 7 August 2026).

Li, A., Mansour, A., Martino, E. and Bentley, R. (2021) 'Environmental noise exposure and mental health: an analysis of a longitudinal survey of Australian households', International Journal of Epidemiology, 50(6). Available at: https://doi.org/10.1093/ije/dyab168 (Accessed: 12 August 2026).

Noizend Pty Ltd (2026) Submission No. 7, Inquiry into Data Centres, NSW Parliament, Legislative Council. Available at: https://www.parliament.nsw.gov.au/lcdocs/submissions/94626/0007%20Noizend%20Pty%20Ltd.pdf (Accessed: 6 August 2026).

NSW Government (2026) NSW Data Centre Guidelines. Available at: https://www.infrastructure.nsw.gov.au/media/4jlictae/id0073_nsw-data-centre_guidelines.pdf (Accessed: 18 September 2026).

NSW Net Zero Commission (2026) Data Centres Inquiry submission. Available at: https://www.netzerocommission.nsw.gov.au/sites/default/files/2026-03/Net-Zero-Commission-Data-Centres-Inquiry-Submission.pdf (Accessed: 6 August 2026).

NSW Parliament, Legislative Council, Public Accountability and Works Committee (2026) Inquiry into data centres in New South Wales [self-referred 29 January 2026; report tabled 5 November 2026]. Available at: https://www.parliament.nsw.gov.au/parliamentary-business/committees/inquiry-details?committeeInquiryId=3169 (Accessed: 12 November 2026).

Oxford Economics Australia (2025) Data Centre Energy Demand, Final Report, July 2025, prepared for AEMO. Available at: https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/2025-iasr-scenarios/final-docs/oxford-economics-australia-data-centre-energy-consumption-report.pdf (Accessed: 12 August 2026).

Parliament of Victoria (2026) Stop the South Morang data centre developments [petition]. Available at: https://www.parliament.vic.gov.au/get-involved/petitions/stop-the-south-morang-data-centre-developments/ (Accessed: 12 August 2026).

Planning and Environment Act 1987 (Vic). Available at: https://www.legislation.vic.gov.au (Accessed: 12 November 2026).

Planning Amendment (Better Decisions Made Faster) Act 2026 (Vic). Available at: https://www.planning.vic.gov.au/guides-and-resources/legislation-regulation-and-fees/updating-the-planning-and-environment-act (Accessed: 4 August 2026).

Premier of Victoria (2025) Putting People First In A Future With AI [media release]. Available at: https://www.premier.vic.gov.au/putting-people-first-future-ai (Accessed: 12 November 2026).

Premier of Victoria (2026) We need data centres but we set the rules [media release], 22 September. Available at: https://www.premier.vic.gov.au/we-need-data-centres-we-set-rules (Accessed: 28 September 2026).

RenewMap (2026) Victorian data centre projects: Melbourne. Available at: https://renewmap.com.au/resources/projects/vic/datacentre/ (Accessed: 5 August 2026).

SafeAI-Aus (2026) AI data centres and compute governance. Available at: https://safeaiaus.org/safety-standards/ai-data-centres-compute-governance/ (Accessed: 5 August 2026).

Security of Critical Infrastructure Act 2018 (Cth). Available at: https://www.legislation.gov.au/Details/C2018A00029 (Accessed: 12 August 2026).

Security Legislation Amendment (Critical Infrastructure Protection) Act 2022 (Cth). Available at: https://www.legislation.gov.au (Accessed: 12 November 2026).

Senate of Australia, Environment and Communications References Committee (2026) Inquiry into artificial intelligence and data centres [referred 13 May 2026; reporting date extended to 23 March 2027]. Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/AIdatacentres48P (Accessed: 12 November 2026).

Telecommunications Industry Association (n.d.) ANSI/TIA-942 standard. Available at: https://tiaonline.org/products-and-services/tia942certification/ansi-tia-942-standard/ (Accessed: 18 September 2026).

United States Studies Centre (2026) Powering the cloud: data centres and the future of Australia's grid. Available at: https://www.ussc.edu.au/powering-the-cloud-data-centres-and-the-future-of-australias-grid (Accessed: 3 August 2026).

Victorian Government, Department of Jobs, Skills, Industry and Regions (2026a) Sustainable Data Centre Action Plan [webpage]. Available at: https://djsir.vic.gov.au/priorities-and-initiatives/ai-mission-statement/sustainable-data-centre-action-plan (Accessed: 12 August 2026).

Victorian Government, Department of Jobs, Skills, Industry and Regions (2026b) *The Sustainable Data Centre Action Plan: Providing certainty for business and community* [released 22 September 2026]. Available at: https://djsir.vic.gov.au/__data/assets/pdf_file/0015/2502330/Sustainable-Data-Centre-Action-Plan-August-2026.pdf (Accessed: 28 September 2026).

Water Diplomat, The (2025) 'Rapid growth of water resource intensive data centres in Australia'. Available at: https://www.waterdiplomat.org/story/2025/09/rapid-growth-water-resource-intensive-data-centres-australia (Accessed: 3 August 2026).

Water Services Association of Australia (2025) Data Centres and Water in Australia: A Resource for Sustainable Data Centre Growth. Available at: https://wsaa.asn.au/Common/Uploaded%20files/library/report/WSAA%20Data%20Centres%20and%20water%20in%20Australia%20-%20December%202025.pdf (Accessed: 4 August 2026).