



Australian
Institute of
Architects

BUILDING AI INFRASTRUCTURE THAT WORKS FOR AUSTRALIA



Department of the Prime Minister and Cabinet

SUBMISSION BY THE COALITION OF:

- **THE ROYAL AUSTRALIAN INSTITUTE OF ARCHITECTS (AIA)**
- **THE ARCHITECTURE DESIGN ENGINEERING INNOVATION ALLIANCE (ADEIA)**
- **UNSW'S AI INSTITUTE**

SUBMISSION DATE: 9 OCTOBER 2026

ABOUT THE INSTITUTE

The Royal Australian Institute of Architects (Institute) is the peak body for the architectural profession in Australia. It is an independent, national member organisation with more than 13,500 members across Australia and overseas.

The Institute exists to advance the interests of members, support professional standards and contemporary practice, and advocate the value of architects and architecture to the sustainable growth of our communities, economy, and culture.

The Institute actively works to maintain and improve the quality of our built environment by promoting better, responsible, and environmental design.

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- + At the time of this submission the National President is David Wagner FRAIA. Hon. AIA
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The Royal Australian Institute of Architects recognises the unceded sovereign lands and rights of Aboriginal and Torres Strait Islander peoples as the First Peoples of these lands and waters.

This recognition generates acknowledgement and respect for Aboriginal and Torres Strait Islander Countries, Cultures and Communities, and their ways of being, knowing and doing.

Caring for Country practices including architecture and place shaping have existed on this continent since time immemorial.

The Institute recognises a professional commitment to engage and act meaningfully through reciprocal partnership and relationships with Aboriginal and Torres Strait Islander peoples. Together we will support and develop the emergence of new possibilities for our shared future.

ABOUT THE ARCHITECTURE DESIGN ENGINEERING INNOVATION ALLIANCE (ADEIA)

We are an alliance of architectural, design and engineering practices committed to improving outcomes for the public through a higher-quality, more productive built environment. By pooling resources and collective knowledge, we apply AI, data science and computational design to collaboratively develop proprietary tools, rigorous standards and key digital initiatives. This work is directed toward improving the design and delivery of buildings and places, ensuring they are safe, sustainable, high-performing and aligned with community needs.



ABOUT THE UNSW'S AI INSTITUTE

UNSW AI Institute is the new flagship UNSW Research Institute in artificial intelligence (AI), data science (DS) and machine learning (ML).

Learn more here: [UNSW.ai](https://unsw.ai) | [UNSW Sydney](https://unsw.edu.au/sydney)



BUILDING AI INFRASTRUCTURE THAT WORKS FOR AUSTRALIA

About this submission

This submission is provided as supporting material to the Australian Government's consultation on *Building AI infrastructure that works for Australia*.

The consultation is being conducted through an online survey that groups questions under three themes:

- Managing growth in large data centres and the AI training opportunity
- Requirements for data centres
- Conditions for AI training

In addition to uploading this submission, the coalition has responded to the consultation questions most relevant to its expertise through the online survey. The coalition has also provided supporting submissions and background material to assist consideration of this response.

1. Introduction

The coalition of the Australian Institute of Architects (AIA), UNSW's AI Institute and the Architecture Design Engineering Innovation Alliance (ADEIA) welcomes the Australian Government's decision to develop nationally consistent standards for large data centres and AI training. This work has a growing sense of urgency. Decisions made now about location, energy, water, land use and community impacts will shape Australia's infrastructure and communities for decades.

We support investment in the digital infrastructure Australia needs. However, success should not be measured only by capital expenditure or computing capacity. It should also be measured by whether investment strengthens Australian capability, supports the energy transition and delivers lasting public value.

Data centres are not simply technology assets. Like other major infrastructure developments, they are large physical projects that shape communities and place demands on shared infrastructure and resources. Their location, design and operation affect energy and water systems, land use, community outcomes and the long-term performance of the built environment. These impacts need to be considered early, before sites and infrastructure arrangements are locked in.

2. Recommendations

1. Recognise large data centres as strategic infrastructure within the built environment
2. Establish nationally consistent siting, design and performance principles, supported by state and territory spatial planning
3. Use more than electricity capacity alone to identify projects requiring stronger assessment, including cumulative water, land-use and community impacts
4. Apply core requirements early enough to influence site selection, design and infrastructure planning
5. Require proponents to meet attributable infrastructure costs and demonstrate that costs will not be shifted to consumers or communities
6. Require transparent, independently verified reporting on energy, water, whole-of-life carbon and resource performance
7. Embed early and meaningful engagement with Traditional Owners, communities, councils and nearby businesses
8. Ensure AI training investment delivers measurable public value through Australian skills, research capability, innovation, productivity and community outcomes.
9. Maintain human professional accountability where AI informs regulated built environment services
10. Protect architectural works, confidential project information and Indigenous Cultural and Intellectual Property in AI training and use

3. Managing growth in large data centres and the AI training opportunity

The coalition recognises the significant economic, research and innovation opportunities associated with AI investment.

AI has the potential to transform the planning, design, delivery and operation of the built environment. It may improve housing feasibility analysis, planning assessment, project coordination, building performance modelling, asset management and climate resilience. Used appropriately, these tools can improve productivity and support better decision-making across the property, construction and infrastructure sectors. This capability will become increasingly important as Australia seeks to increase housing supply, improve productivity and manage the transition to more sustainable and resilient built environments.

The coalition supports the Government's objective of attracting AI investment and building Australian capability. However, success should not be measured solely by the number of data centres developed or the amount of computing capacity deployed.

Success should be measured by whether investment delivers enduring public value, strengthens Australian skills and research capability, supports sustainable infrastructure outcomes and contributes to well-planned communities.

Large data centres are long-lived infrastructure assets. Decisions about their location, design and operation have implications for energy systems, water resources, housing, land use and community outcomes. The scale of anticipated growth is significant. Demand from data centres is projected to increase substantially over coming decades, reinforcing the need to establish clear planning, infrastructure and sustainability expectations before development patterns become entrenched. For this reason, the coalition supports nationally consistent standards that complement existing planning and approval processes and provide clearer expectations for industry, government and communities.

3.1 How we categorise data centres in Australia

The proposed energy tiers provide a practical starting point. However, electricity capacity cannot describe every impact. A smaller facility may still place significant pressure on a local water supply, occupy strategically important land or create unacceptable impacts close to homes and other sensitive uses. Several related facilities can also have a much greater cumulative impact than each project considered separately.

The coalition recommends that the standards consider ultimate capacity and cumulative development, together with water demand, land use, local infrastructure capacity and proximity to communities. National thresholds should set minimum requirements. They should not prevent states and territories from applying stronger place-based requirements where local conditions warrant them.

3.2 Applying the AI standards

While the consultation refers to "AI standards", the primary focus of this section in the consultation is the infrastructure that enables AI development and deployment, particularly large data centres. For the coalition, the key issue is ensuring that standards are applied early enough to influence decisions about the location, design and operation of data centres, before significant impacts on infrastructure, communities and the environment are locked in.

Requirements should apply early enough to influence the decisions that matter most. Site selection, scale, water strategy, energy supply and building systems are difficult and costly to change once a project is advanced. New projects should demonstrate a credible pathway to compliance through planning and design, then verify performance once operational.

Transitional arrangements may be needed for existing facilities and advanced projects. They should be clear and proportionate but should not allow major projects in the development pipeline to avoid transparency, community engagement or infrastructure obligations. Where new generation, storage or network capacity cannot be delivered in time, data centre loads should be staged so costs and reliability risks are not transferred to other users.

4. Requirements for data centres

4.1 Make a positive contribution to Australia's energy transition

The coalition supports the proposed requirement for data centres to bring forward additional renewable electricity and contribute to firming, storage and demand flexibility. Detailed market settings should be informed by energy specialists and aligned with AEMO and AEMC work. The coalition does not seek to prescribe certificate thresholds or technical market rules.

The standards should also address whole-of-life carbon. Data centres require substantial structures, services, cooling and electrical equipment, with ongoing replacement cycles. The AIA's *Architecture Decarbonisation Plan 2025-2050* supports measuring and reducing operational and embodied carbon from the earliest design stages.

4.2 Energy efficiency

The coalition supports national baseline requirements and independent verification. NABERS Energy for Data Centres provides an Australian framework based on measured operational data. It should remain central to the national approach, with energy, water, emissions and whole-of-life impacts considered together.

Performance should be reported regularly and in a form that can be compared across facilities. Design commitments should be followed by measured operational performance.

4.3 Use innovative, efficient and sustainable solutions to minimise water use

The coalition supports nationally consistent water efficiency and disclosure requirements. Assessment should consider the source and quantity of water, local water security, drought and climate projections, environmental requirements and cumulative demand within the catchment.

Efficient systems and non-potable or recycled water should be prioritised where feasible. Potable water should not be the default. Proponents should demonstrate

before approval that a facility can operate without undermining existing users or long-term water security, and report actual performance once operational.

4.4 Impose no net costs on consumers and communities

The coalition supports the proposed no net costs principle. Data centres should meet the reasonable costs of electricity, water, wastewater, transport and telecommunications infrastructure required by their development. These costs should not be transferred to households, existing businesses, councils or future communities.

Assessment should also recognise wider costs.

Poorly located facilities can compete with housing, agriculture and employment land, create noise and traffic, affect local amenity and draw skilled workers from other priority sectors. Planning decisions should consider these opportunity costs alongside claimed economic benefits.

4.5 Engage meaningfully with local communities and councils

The coalition supports mandatory early and meaningful engagement. Consultation should begin before a preferred site and design are fixed. It should include Traditional Owners, councils, residents, nearby businesses and relevant infrastructure providers. Communities need clear information about energy and water use, noise, traffic, backup generation, visual impacts and cumulative development.

Good engagement is not a one-off approval step. It should continue through construction and operation. Several jurisdictions are already developing more detailed planning responses to data centre growth, demonstrating the importance of nationally consistent principles that can be implemented through state and territory planning systems. Commitments should be documented, funded and enforceable. The coalition supports the Planning Institute of Australia's call for a national framework defining what makes a data centre well located, supported by a shared spatial evidence base.

4.6 Contribute to building skills and training opportunities

Data centre growth should expand Australia's workforce capability rather than simply draw scarce skills away from housing, energy, construction and defence. The coalition supports measurable workforce plans covering design, construction, commissioning and operation, with apprenticeships, graduate pathways and opportunities for under-represented groups. Training an AI-ready workforce in construction and the professional service industries will benefit two of Australia's largest employment sectors.

Partnerships with TAFEs, universities, professional bodies and local employers should build transferable skills and long-term capability. This includes capability in digital

design, advanced manufacturing, modern methods of construction, building performance analysis, infrastructure planning and the responsible use of AI and physical AI across the built environment. Investment should help expand Australia's capability rather than simply redistribute scarce skills between sectors.

5. Conditions for AI training

5.1 Security, safety and transparency

The coalition supports risk-based national safeguards for AI training and use. Its particular concern is the impact of AI on authorship, professional liability, business models and decision-making across the architecture, design and engineering sectors, as well as the growing use of AI in decisions affecting the built environment.

AI is already being used to assist the delivery of architecture through design, planning analysis, code interpretation, documentation and environmental assessment. Errors or untested assumptions in these areas can affect public health, safety and welfare. AI systems can produce incomplete, inaccurate or inappropriate outputs that may appear authoritative. Without appropriate AI literacy and governance capability, practitioners may not be able to identify errors, biases or unsupported assumptions. Building workforce capability will therefore be essential to ensuring AI is used safely, responsibly and effectively across the built environment.

The built environment should be recognised as an essential part of AI governance because decisions influenced by AI can have direct implications for public safety, accessibility, sustainability and long-term community outcomes.

Appropriately qualified professionals must remain accountable for statutory submissions, certification, safety-critical analysis and professional advice. The coalition supports detailed frontier model safety settings being informed by specialist expertise and considers the built environment an essential component of Australia's AI governance framework.

5.2 Invest in local capability, skills, research and innovation

Australia should secure lasting capability from AI training investment. Hosting resource-intensive infrastructure will not be enough if the research, expertise, intellectual property and commercial value are developed elsewhere.

The coalition supports contributions that improve access to the computing resources needed for Australian research, innovation and AI development, strengthen Australian research and engineering capability, expand university and public research partnerships, and support commercialisation.

Built environment applications should be recognised as a priority area for Australian AI capability. The built environment generates uniquely Australian datasets and has significant potential to improve productivity, sustainability and resilience outcomes across housing, infrastructure, planning and construction. AI can also support housing feasibility and supply analysis, planning assessment, design coordination, environmental performance modelling, modern methods of construction, asset management and infrastructure planning. These applications can improve productivity while supporting safer, more sustainable and better-performing buildings and places when used with appropriate professional oversight.

5.3 Support Australian creators and rightsholders

Architectural works should be expressly recognised. Architectural authorship for items such as architectural drawings, specifications, BIM models, digital twins, project datasets and other professional outputs represent significant intellectual, professional and creative effort. They may also contain confidential client information and culturally sensitive knowledge. The treatment of these materials in AI training systems should be transparent and consistent with copyright, licensing, confidentiality, consent and moral rights obligations. In this context liability and fee structures need to be discussed and potentially redefined. AI policy should also protect Indigenous Cultural and Intellectual Property and First Nations data sovereignty.

5.4 Create a simple and consistent national framework

The coalition supports a common national framework that reduces unnecessary duplication and gives communities and investors a clear understanding of requirements. Commonwealth reporting should use information already collected through state and territory planning, environmental, utility and building processes where possible.

Consistency should not mean lowering standards or overlooking local conditions. Streamlined pathways and incentives should be available only where projects are well located, infrastructure-ready and able to demonstrate public value, community benefit and strong environmental performance.

Conclusion

Australia can set a strong national direction before rapid data centre and AI investment locks in long-term patterns of land use, infrastructure demand and resource consumption. Getting the standards right will support investment certainty, protect communities and shared resources and help Australia build the capability it needs.

The coalition supports a framework that treats data centres as strategic infrastructure and judges AI investment by the public value it creates. Good planning, good design and clear accountability will be central to achieving that outcome.

Supporting submissions

The following documents provide a more detailed explanation of the positions summarised in this submission and should be read as supporting material. Collectively, these submissions outline the coalition's position on the planning, design, sustainability, public value and governance considerations associated with data centres and artificial intelligence in the built environment.

- [Australian Institute of Architects June 2026 Senate inquiry submission on AI and data centres](#)
- [Australian Institute of Architects August 2026 supplementary submission on AI governance in the built environment](#)
- [Architecture Design Engineering Innovation Alliance June 2026 Senate inquiry submission on AI and data centres #143](#)
- [UNSW AI Institute submission #21](#)
- [Architecture Industry Decarbonisation Plan 2025–2050](#)