Justice and Equity Centre

NSW Parliamentary Inquiry into data centres

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About the Justice and Equity Centre

The Justice and Equity Centre is a leading, independent law and policy centre. Established in 1982 as the Public Interest Advocacy Centre (PIAC), we work with people and communities who are marginalised and facing disadvantage.

The Centre tackles injustice and inequality through:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change to deliver social justice.

Energy and Water Justice

Our Energy and Water Justice work improves regulation and policy so all people can access the sustainable, dependable and affordable energy and water they need. We ensure consumer protections improve equity and limit disadvantage and support communities to play a meaningful role in decision-making. We help to accelerate a transition away from fossil fuels that also improves outcomes for people. We work collaboratively with community and consumer groups across the country, and our work receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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The Justice and Equity Centre office is located on the land of the Gadigal of the Eora Nation.

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Recommendation 9

That data centres be subject to strengthened community protection requirements, including early and ongoing engagement and the assessment and mitigation of local impacts such as noise, traffic, heat rejection, and water and air quality.

Acronyms list

Acronym	Full name
AI	Artificial Intelligence
EWCAP	Energy and Water Consumers' Advocacy Program
PUE	Power Usage Effectiveness
REZ	Renewable Energy Zone
WUE	Water Usage Effectiveness

1. Introduction

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the NSW Legislative Council Public Accountability and Works Committee Inquiry into data centres in NSW (the Inquiry).

The JEC supports ensuring high standards, and robust planning controls and operational guidelines are applied to data centres to ensure their development presents optimum value to the NSW economy, while avoiding unnecessary costs and risks to the NSW community.

In this context, this Inquiry is both timely and necessary. Data centre development in NSW is accelerating, accompanied by significant speculation about future demand for cloud computing, artificial intelligence and associated digital services. This rapid growth brings opportunities, risks, and unanswered questions about how these facilities should interact with the essential energy and water systems that every household depends on. These questions will be critical in identifying and enabling genuinely beneficial data centre opportunities and distinguishing them from the larger array of speculative proposals which present unacceptable risk of cost and wider impacts to NSW energy and water consumers.

The JEC considers this Inquiry has a critical role:

To clarify the behaviours and outcomes NSW should require and encourage from data centre operators, and those it should prevent and discourage, in promoting and protecting the interests of the NSW community.

Without clear expectations[1], policy – through ad-hoc approvals - risks drifting toward reactive, project-by-project decisions that fail to account for broader system impacts. It also risks acting to accommodate all data centre 'opportunities', assuming a benefit which is not demonstrated and is unlikely to be realised. In doing so, this approach invite long-term costs, risks and other impacts on the NSW community. A coherent framework is needed. It must be one which applies robust principles and assessments, and one that rewards developments which operate efficiently, reduce pressure on public infrastructure, support system reliability, and operate transparently, while preventing practices that shift costs or risks onto energy and water consumers and the NSW community.

Accordingly, we encourage the Committee to consider data centres not just as a liability to be managed but also as a potential system asset and opportunity to support and enable efficiency. That is, the Inquiry should identify the practical ways data centres can contribute to fairer, more resilient energy and water systems. When designed and integrated well, large digital loads can offer valuable utilisation and flexibility, support renewable integration, and strengthen reliability. These benefits should not remain private advantages enjoyed only by operators or their clients.

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[1] We welcome the Commonwealth's recently issued Statement of expectations of data centres and AI infrastructure developers. We encourage the Committee to ensure developments in NSW align with these guidelines.

They should be shared with the households who ultimately pay for, and rely on, the essential energy and water services involved.

This submission sets out how NSW can steer data centre development so it serves the public interest by ensuring strong standards, fair cost allocation, and clear signals which reward projects that genuinely support affordable, sustainable and dependable energy and water for the NSW community.

2. Account for variation across data centres

A robust framework for data centre development must recognise the variety in data centres and be able to enable data centre development where their function is most suitable – for instance due to energy and water needs, and capacity for flexibility - and prevent or restrict it where it is not – such as in areas of limited capacity.

Public debate often treats data centres as if they were a single, uniform type of infrastructure. They are not. If the Committee is to judge whether New South Wales is prepared for the scale and speed of development now underway, it must begin by recognising this diversity.

Data centres – according to their different purposes, as well as varying design specifications - differ markedly in their energy use, water consumption, cooling methods, redundancy standards, and capacity to vary their load. These differences occur not only between broad categories—such as hyperscale, enterprise, and colocation facilities—but within them. One hyperscaler may pursue aggressive energy-efficiency and demand-flexibility strategies; another may not. A colocation centre serving many tenants may have very different operational constraints from a single-tenant enterprise facility. Treating these facilities as interchangeable risks poor planning and poor regulation.

These distinctions matter because each type of data centre imposes a different set of demands on the energy and water systems. Some facilities draw almost constant loads with little scope for flexibility. Others may be configured to shift demand[2] or integrate onsite renewable generation and storage. Some can rely on recycled water; others cannot. Their choices shape the reliability, affordability, and resilience of essential services for households and businesses across NSW.

Recommendation 1

That the Committee acknowledge data centres are not a homogeneous class of infrastructure and require differentiated assessment based on their function/purpose, as well as their energy, water, and system security impacts.

The Committee should therefore support assessment of data centre proposals not only according to their direct economic contributions, but for their net system-level value. Value cannot be reduced to headline numbers about jobs or investment. A development that stresses local water supplies, drives up network augmentation costs, or reduces the flexibility of the electricity system imposes far greater costs on the public than the potential private benefits it is reputed to deliver.

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2 Emerald AI https://www.emeraldai.co/

Conversely, a project that is efficient, reduces its demands on the grid, uses recycled water, or provides genuine demand flexibility may deliver the benefits flowing from its inherent function, as well as improve energy and water system outcomes and reduce costs for all NSW consumers. This should be the objective of an effective framework for data centres.

These broader considerations are essential because data centres are not like typical commercial loads. Their potential scale, general continuity of operation, and high reliability requirements (of many data centre types) can give them outsized impacts on both wholesale electricity markets and ancillary services. They can either deepen existing constraints or, if well-designed, help manage them. Similarly, they can catastrophically exacerbate structural water supply deficits or help support efficient recycled water solutions. For this reason, it is not enough to consider only their contribution to network costs. Their presence can influence the price, security, and emissions profile of the entire energy system, and the sustainability and resilience of the water supply.

Recommendation 2

That data centre proposals be evaluated on their net system-level value, beyond narrow economic modelled benefits – often speculative - such as jobs or investment, and include impacts on reliability, affordability, flexibility, sustainability/resilience and environmental outcomes.

The NSW Government should therefore ensure that the policy framework can differentiate between data centre typologies, and sends clear signals favouring higher-value developments—that is, facilities which;

- deliver high value,
- can be accommodated within the energy and water system capacity planned at the time of construction,
- are optimally efficient in design and operation, minimising their draw on public infrastructure,
- contribute flexibility or local generation and/or water recycling where feasible, and
- avoid passing costs or risks on to energy and water users.

Aligning data centre development with the long-term interests of NSW consumers will require more than generic planning and connection processes and must certainly avoid ‘ad-hoc’ approvals through ‘state significant project’ assessments. It will require more active guidance, firmer standards, and transparent expectations, consistent with how other large loads with system-wide impacts are treated.

In short: data centres are not all alike, and the risks they create are not theoretical. Sound policy must distinguish between different types of facilities, set clear limits and requirements, reward those that reduce their system impact, and ensure none impose unnecessary impacts on NSW households.

3. Managing risks and realising opportunities

Data centres can support a stronger, more flexible energy and water system if they are planned and integrated with care. Realising these benefits will require more than a passive “do no harm” approach. It will require a clear, positive expectation that operators meet robust standards,

contribute to the efficiency of the wider system(s) and share the value they create with the people who rely on the essential energy and water services they connect to.

To date, operators have behaved rationally within the incentive structures they face. They have sought connections wherever land is cheap and where their function is best fulfilled (for instance, where high latency is best avoided). These are key considerations for data centres, but insufficient for the NSW community. As it stands, when asked to make flexible resources available to the system, they typically argue that those resources exist solely to serve their customers, or that they will only share them if the incentives are right. These arguments reveal the limits of voluntary arrangements. Data centres will not be cited where they present best value to the community, and will not operate in a way which is most efficient for the NSW community, without clear standards, requirements and incentives to do so.

For example – in the case of energy flexibility - if NSW wants to make smarter use of large flexible loads (and allocate costs fairly among users) it cannot rely on goodwill alone. It will need to set clear efficiency standards, mandate participation in demand-flexibility schemes or set firm obligations on how large loads respond during periods of system stress.

Recommendation 3

That the Government set robust efficiency standards and mandate participation by large data centres in appropriate demand-flexibility or system-support schemes voluntary participation is insufficient.

As noted above, the opportunities offered by data centres are not uniform. Some developments will be well-placed to provide demand flexibility, onsite generation, or recycled-water use; others will not. NSW should allow and enable projects according to their demonstrated merits, not their promises.

Where proponents claim system benefits, those claims must be specific, measurable, and grounded in present capability—not speculative forecasts of how future technology might evolve. Uncertain benefits cannot justify certain and immediate costs imposed on the NSW public. For example, approval based on sourcing recycled water in the medium term future – while relying on drinking water for years to come – presents unacceptable concrete risks and costs to NSW consumers without certainty the eventual benefit will actually be delivered in the future.

A consistent principle should guide all decisions in the design of a framework for data centres:

Data centre developments should not impose costs or risks on NSW energy and water consumers.

Because data centres operate at a scale unlike ordinary commercial loads, they can create risks and impose costs that extend well beyond the initial grid or water connection. This should be recognised in the assessment and planning frameworks for data centres, the connection costs recovered from data centres and the ongoing operational requirements for data centres.

Their presence can materially affect wholesale energy markets, ancillary services, system security, and long-term infrastructure planning in energy and water. Proponents should therefore be responsible for these wider impacts to the greatest degree possible. A clear causer-pays /

beneficiary-pays framework is needed to ensure households and small businesses, who have no say in these investment decisions, are not left with the bill. Doing so also ensures a maximum incentive for efficient data centre design, construction and operation is signalled to potential data centre proponents.

If the government determines that doing so will impose 'unacceptable' material costs on data centres and that subsidising data centre development is in the public interest, any such support should be funded transparently through the budget—not through higher energy or water bills.

Recommendation 4

That a framework for data centres ensure NSW energy and water consumers do not carry the costs or risks associated with data centre development.

For the same reason, NSW must resist any calls to weaken existing energy or water regulations or to fast-track approvals by lowering assessment standards. Doing so will only enable scope for 'lower value' operations at significant ongoing cost and risk to the NSW community.

The better path is to integrate data centres into robust, transparent planning regimes. This includes setting high efficiency standards in construction and proposed operation, and assessing proposals against current electricity and water capacity maps, so developments occur where systems can support them without unnecessary risk to energy and water system sustainability/reliability/resilience, or costly upgrades. Co-planning allows government and system operators to steer new developments toward places where they can do the least harm—and, ideally, the opportunity to do the most good (which may also include encouraging citing where spare capacity also aligns with renewable energy zones or identified community benefits, such as jobs).

Planning risk presents another challenge. Developers know where the most desirable sites from their perspective are: cheap land, close to substations, fibre routes, and reliable water supplies or efficient recycled water opportunities. Again, these cannot be the only determinants for approval, and community interest assessments (as outlined) must also be applied. Notwithstanding these requirements, once a developer secures one of these sites, there is currently no matching incentive to build promptly.

This creates further risks to NSW consumers by enabling a form of land banking, where the developer captures speculative strategic value while the public bears the cost of delays, uncertainty, and constrained capacity. The volatility of demand for AI services deepens this risk. Rising expectations about future demand give developers valuable optionality, but they leave consumers exposed to the downside if projected workloads fail to materialise. Where energy and water networks are required to proceed on the assumption all such 'approved' proposals will be delivered, the long-term cost implications of this for NSW energy and water consumers are potentially enormous.

For these reasons, the Committee should recognise both the opportunities and the risks that data centres present. With strong standards, transparent expectations, and a fair allocation of costs, data centres can support a more resilient system. Without them, NSW households may face higher bills, higher risks, and fewer choices. Setting robust planning requirements - including

capacity mapping and ‘use-it-or-lose-it’ provisions as detailed in the next section - serves both to ensure high quality proposals proceed, in a way which most benefits the NSW community, while also helping to filter ‘lower value’ and ‘speculative’ proposals which present increase cost and risk to the community.

4. Regulatory architecture for the public interest

Data centres should be treated like any other large load under NSW’s energy and water frameworks. The scale and pace of development, however, means their impacts stretch further across supply chains than most large users. The Committee should therefore consider, as we have outlined, additional standards and guardrails to ensure that data centre development serves the long-term interests of NSW consumers and does not impose costs or risks they are unable to manage.

Accordingly, this should take the form of further prescription in the following areas.

Minimum performance standards

Data centres should support sustainable and efficient use of both energy and water. Clear and robust performance standards give proponents certainty and help ensure that efficiency claims are grounded in measurable practice rather than optimistic projections of future demand or potential. These standards should rely on established metrics such as Power Usage Effectiveness (PUE) and Water Usage Effectiveness (WUE).

Where projects have significant cooling or water needs, efficiency must be tied to real-world operation. This could include triggers for the use of recycled water, closed-loop cooling, or other technologies that reduce or remove pressure on local water supplies. Because water availability varies greatly across NSW, proponents should be required to engage early with water utilities, local communities, and First Nations peoples to identify appropriate locations and secure water sources that reflect, and which do not exceed, local constraints.

Recommendation 5

That the NSW Government establish strong mandatory minimum energy and water performance standards for the design and operation of data centres, including required PUE/WUE thresholds and the use of recycled water or closed-loop systems where appropriate.

Cost-reflective connections

Data centres must cover the full costs of their connection. This includes both shallow and deep energy and water network costs, as well as any system security or augmentation expenses triggered by their development. A connection agreement must be prevented from spreading these costs across small customers who neither cause nor benefit from the new load (or water use).

Large energy users can affect the stability of the grid, especially if they can trip suddenly or draw high volumes of power in weak parts of the network. Developments above a defined threshold should therefore undergo system security impact modelling. This modelling should assess their

ability to withstand and avoid creating large step changes in load, their behaviour in low-strength environments, and the risks they pose through rapid load shedding or unexpected outages.

Recommendation 6

That all data centres be required to pay full shallow, deep and system-security-related energy and water network connection costs, supported by system-security impact modelling for large energy loads.

Planning and siting controls

Effective planning begins with knowing where the system can support new energy and water demand, and the degree to which it can do so. Data centre siting should therefore align with electricity and water capacity maps and planning over near-term (current regulatory period) timescales – rather than long-term, future capacity - so new facilities locate where they do not create unnecessary strain or trigger expensive upgrades. Co-planning pathways such as alignment with Renewable Energy Zones (REZs) – where appropriate - can help ensure that some new developments contribute to, rather than detract from, broader system needs. Similarly, using new data centres to help support the accelerated development of efficient water recycling solutions may represent an opportunity to be realised through effective planning and coordination.

The Committee may also consider bid-for-capacity mechanisms in constrained areas, such as dense urban/brownfield sites. This may be particularly relevant for water requirements where an existing structural water supply deficit exists and significant new 'loads' cannot be sustainably accommodated without increasing that deficit.

In any case such 'bid for capacity' mechanisms encourage competition for scarce hosting capacity, incentivise (and can be linked to) efficient design and operational practices, and deter speculation and connection hoarding by tying approvals to use-it-or-lose-it milestones. Such mechanisms should also promote transparency through standardised disclosures on load profiles, flexibility, and water use to support better planning and strengthen public accountability for how these facilities operate.

Recommendation 7

That data centre planning and siting be aligned with current electricity and water capacity maps and include mechanisms such as bid-for-capacity and use-it-or-lose-it milestones to prevent speculation and ensure efficient, transparent allocation of hosting capacity.

Emissions

Data centres should demonstrate credible, near-term decarbonisation pathways which are at a minimum consistent with NSW's emissions targets. These pathways must rest on real, measurable action to source renewable energy and not rely on speculative future offsets that may never materialise. Data centre development should accelerate the clean-energy transition, not slow it.

The Committee should consider mechanisms that encourage the sector to invest in onsite renewables, energy storage, flexible operations and require the contracting of 100% renewable

energy to meet their needs. Used well, data centres can become important drivers of NSW's transition by adding or supporting new clean capacity, providing controllable loads, and reducing pressure on peak demand. Requiring data centres to be supplied by 100% renewable energy sources would be in line with requirements imposed on Sydney's Desalination Plant – a similarly large, high-impact energy load - since its construction.

Without such measures, data centres risk becoming a bottleneck that makes emissions reduction more difficult and more expensive, rather than acting as an enabler of an accelerated transition.

Recommendation 8

That data centres be required to demonstrate credible decarbonisation pathways which are at least consistent with NSW emissions targets, and are supported by measures to encourage onsite renewables, storage and flexible demand operations. This should include requiring energy to be met 100% by renewable generation.

Community protections

Data centres must operate in ways that respect and support the communities around them. Building and maintaining social licence requires upfront engagement with local residents, transparent communication, and a willingness to respond to concerns.

The Committee should consider the indirect but significant impacts these facilities can have on their neighbours. These include noise from cooling equipment, traffic from construction and servicing, heat rejection, and local water and air impacts. Properly assessing these risks, and ensuring proponents mitigate them, is essential to protect community wellbeing and maintain public trust in the planning system.

Recommendation 9

That data centres be subject to strengthened community protection requirements, including early and ongoing engagement and the assessment and mitigation of local impacts such as noise, traffic, heat rejection, and water and air quality.

5. Continued engagement

We welcome the opportunity to meet with the NSW Legislative Council Public Accountability and Works Committee and other stakeholders to discuss these issues in more depth. Please contact Jan Kucic-Riker at jkucicriker@jec.org.au regarding any further inquiries.