Submission to the NSW Legislative Council Public Accountability & Works Committee on Data Centres in NSW

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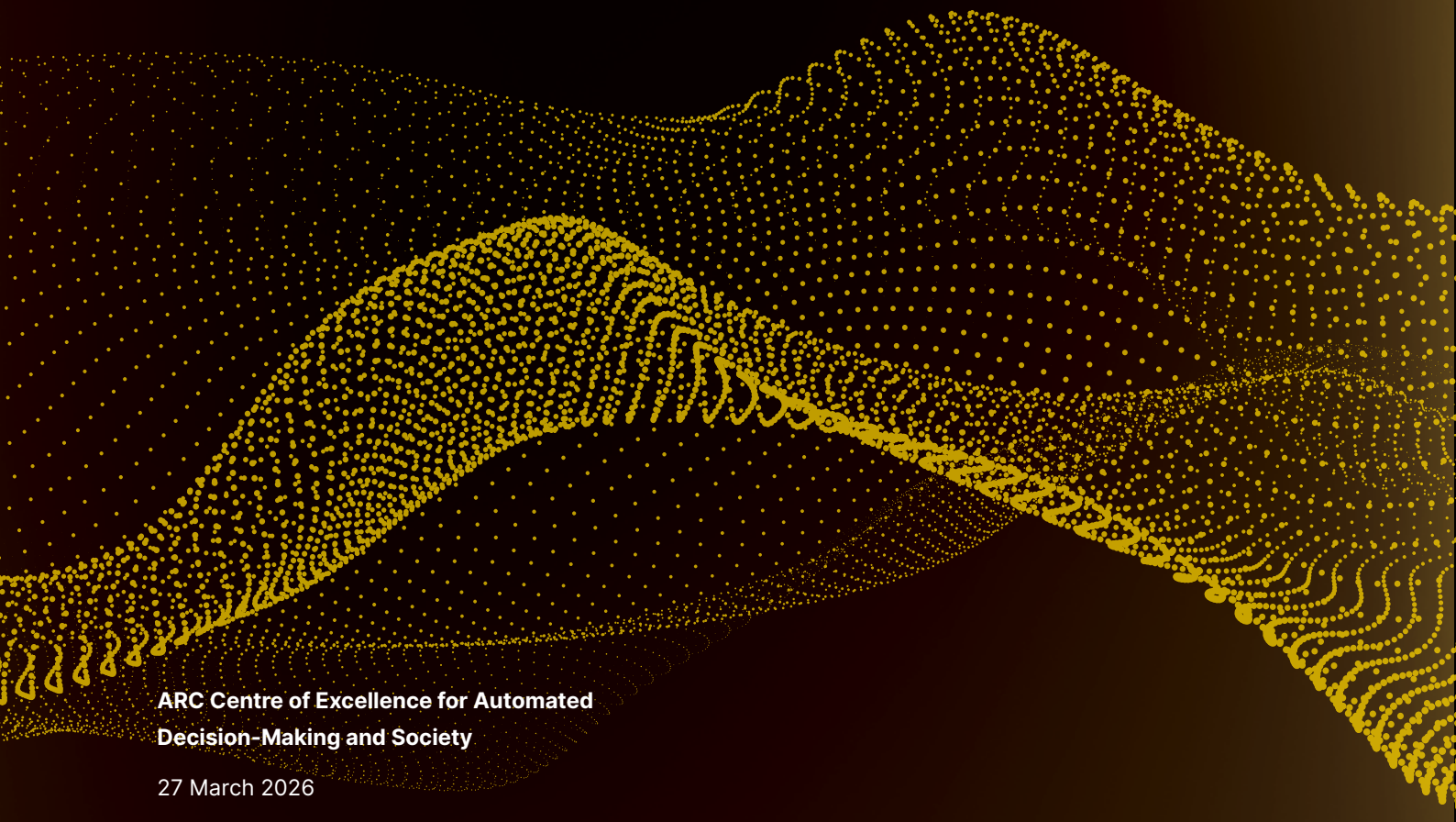

ARC Centre of Excellence for Automated Decision-Making and Society

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Acknowledgement of Country

In the spirit of reconciliation, we acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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About ADM+S

The ARC Centre of Excellence for Automated Decision-Making and Society (ADM+S) is a cross-disciplinary, national research centre established and supported by the Australian Research Council to create the knowledge and strategies necessary for responsible, ethical, and inclusive automated decision-making, including AI. ADM+S is pleased to have this opportunity to engage with NSW Legislative Council Public Accountability and Works Committee Inquiry on Data Centres.

This submission is a product of The Regulatory Project and ADM + Ecosystems, two ADM+S signature projects.

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This Submission

This submission focuses on the following three Terms of Reference: (b) the planning framework enabling data centre developments, (h) governance, transparency and accountability, and (j) lessons from other jurisdictions of the NSW Legislative Council Public Accountability and Works Committee Inquiry on Data Centres.

The submission is the product of a collaborative process involving direct contributions from the above researchers from ADM+S. ADM+S researchers come from many different institutions, disciplines and perspectives. It should not be assumed that every contributing author, or every member of the Centre subscribes to every comment or recommendation made below. The submission represents our best effort to consolidate research and thinking in a way that can be useful to the Inquiry on Data Centres. We would be very happy to engage further with the future stages of this important inquiry.

Executive Summary

Data centres have been an important object of study for ADM+S researchers because they provide critical infrastructure for the storage, processing, and distribution of all kinds of data including environmental data. In Australia, environmental impacts of land, water, and energy use are exacerbated by the unique nature of our environment and the stresses that already exist. Additionally, the significance of Country and First Nations custodianship must shape how environmental impacts are understood and anticipated. Our research shows that safe and responsible approaches to artificial intelligence and the digital futures of Australia and NSW require prioritising sustainable futures for people and the environment.

This submission focuses on the need for a stronger whole-of-life public accountability framework for data centres in NSW, treating them as infrastructure with significant environmental, social, cultural, and public-interest implications rather than as routine industrial development alone. It begins with planning and approval, where the current framework is too discretionary and fragmented to ensure consistent thresholds, accountability, and scrutiny. It then turns to operational monitoring, reporting and upgrading, arguing that post-approval oversight must be strengthened to address transparency, cumulative impacts, and changing facility conditions over time. Next, it addresses decommissioning, where closure, rehabilitation, and end-of-life responsibility are under-specified in current measures. Finally, it provides lessons from other jurisdictions that illustrate the potential for effective, targeted regulation. Together, these stages provide the structure for a stronger public accountability framework that serves the public interest and protects the environment of NSW.

Recommendations

1: Develop firm threshold limits for energy and water usage and emissions targets, crossing which can trigger refusal of project approvals.

2: Introduce stringent consultation requirements and appeals mechanisms through co-design processes with Traditional Owners that include the capacity to delay or reject projects that lack support.

3: Ensure stringent requirements regarding environmental impacts, community engagement and consultation, and Indigenous leadership and consent-seeking apply in all circumstances, including fast-tracking

4: Establish a standardised operational reporting framework for data centres.

5: Develop a cumulative impact and upgrade assessment framework for expanding facilities and clustered developments.

6: Strengthen public transparency, community consultation and Indigenous engagement across the operational life of data centres.

7: Establish a standardised decommissioning framework for data centres.

8: Require data centre proponents to prepare decommissioning and rehabilitation plans from the outset, backed by an appropriate bond.

9: Embed public accountability, Indigenous engagement and respect for Country in decommissioning processes.

Detailed Submission

Introduction

1. **Data centres are often framed as essential digital infrastructures necessary to support cloud services, platforms, and AI systems.** This makes them materially intensive developments with significant demands on land, energy, water, and associated networked infrastructures. In light of this, the public-interest case for rapid data centre expansion should not rest on contestable forecasts about AI-driven social or economic value, which are not yet evident in aggregate productivity statistics.[1] Similarly, the urgency of new data centre developments should also not be assumed, given the documented disparity between announced projects and buildouts in the United States.[2]
2. **Environmental impacts of data centres are extensive and should not be understated.** As the International Energy Agency has noted, data centres are becoming increasingly significant electricity consumers as demand for cloud services and AI expands.[3] Far from being immaterial components of a digital economy, they are resource-intensive physical facilities with substantial electricity demand and significant water use for cooling, and local impacts including heat, noise, traffic and air emissions from backup power systems.[4] Their development also depends on wider infrastructure and land-use change, including transmission, substations, water and drainage systems, transport access, and large built-form footprints.[5]
3. **The environmental impacts of AI should be understood in relation to the broader AI supply chain.** Data centres are only one visible node in a wider infrastructure of extraction, hardware production, transport, energy supply, maintenance, and disposal, through which the environmental and social costs of AI are distributed.[6] To assess only the footprint of the facility itself is to understate the wider material demands that make AI systems possible. Data centre burdens are thus displaced across sites of mining, manufacture, logistics, operation and end-of-life processing.[7] These pressures are becoming

[1] Organisation for Economic Co-operation and Development (OECD), OECD Compendium of Productivity Indicators 2025 (Paris: OECD Publishing, 2025). See especially the discussion noting that AI's impact is "not yet evident in the productivity statistics" and that any gains depend on complementary investments and organisational change.
[2] Paul Kedrosky, "Data Center Buildout Slowed Sharply," Paul Kedrosky, March 19, 2026.
[3] International Energy Agency, Energy and AI (Paris: International Energy Agency, 2025).
[4] Lawrence Berkeley National Laboratory, "Water Efficiency," *Centre of Expertise for Data Centre Efficiency*, see also Nuoa Lei, Jun Lu, Arman Shehabi, and Eric Masanet, "The Water Use of Data Center Workloads: A Review and Assessment of Key Determinants," *Resources, Conservation and Recycling* 219 (2025): 108310; N. Gour and M. Ash, "Health implications of the rapid rise of data centres in Virginia: an exploratory assessment," *Frontiers in Climate* 8 (2026): 1648912.
[5] Terry Nguyen and Ben Green, What Happens When Data Centres Come to Town? (Ann Arbor: University of Michigan, Science, Technology, and Public Policy Program, July 2025).
[6] Ana Valdivia, "The Supply Chain Capitalism of AI: A Call to (Re)Think Algorithmic Harm and Resistance through Environmental Lens," *Information, Communication & Society* (2025). L. Cellard, C. Parker, and F. Haines, "Beyond AI as an Environmental Pharmakon: Principles for Reopening the Problem-Space of Machine Learning's Carbon Footprint," *Environment and Planning E: Nature and Space* 8, no. 3 (2025): 1020–45.
[7] United Nations Environment Programme, *Artificial Intelligence (AI) End-to-End: The Environmental Impact of the Full AI Lifecycle Needs to Be Considered* (Nairobi: UNEP, 2024).

more significant as cloud computing and AI services are taken up by companies, governments, and the public.[8]

4. **Any assessment of data centre development in NSW should also address impacts on Country in ways that centre Indigenous knowledges, authority and community ownership.** Country is living and relational, shaped by cultural obligation, custodianship and continuing connection. These questions do not stop at the data centre site itself. In Australia, recent research finds that 57.8 per cent of critical minerals projects are located in areas where Indigenous peoples have a right to negotiate, rising to 79.2 per cent when native title claims are included, showing that the material supply chains supporting digital infrastructure frequently extend across Indigenous lands.[9]
5. **Evidence from other jurisdictions shows that there is increasing community opposition to data centres, especially as the number, size and environmental footprint of data centres grows.** Research conducted by Data Centre Watch reveals that as much as USD $64 billion worth of projects have been either blocked or delayed across the US, as a result of organised community opposition. It points out that despite the enthusiastic uptake of AI products like ChatGPT across many sectors and within the public, communities are nonetheless "not embracing the physical infrastructure behind it".[10] In the US, this opposition is bipartisan, growing, and becoming better organised. Similarly, organised opposition to data centres has also been steadily growing across Europe, with some groups focused on specific cities/regions and others operating transnationally. Some groups, like the Spanish Tu Nube Seca Mi Rio are campaigning against excessive water use, while others like Save the Wieringermeer in the Netherlands are organising to protect farmland from being turned into data centres.[11] This opposition has led the European Union to adopt the Energy Efficiency Directive (EED), the first comprehensive reporting framework for data centres, which aims to bring transparency to the sector's energy consumption.[12]
6. **The Australian Government's new "Expectations of data centres and AI infrastructure developers" framework provides a national signal about how data-centre projects should align with the public interest.**[13] But the framework is best understood as high-level guidance rather than a detailed regulatory instrument: it states broad expectations and says the Commonwealth will "prioritise" proposals that align with them, while leaving implementation largely to existing approval systems and future coordination with states and territories. Precisely because it establishes useful principles without strong project-level standards, enforcement mechanisms, or clear assessment criteria, it creates an opportunity for NSW to give those goals practical effect through more specific planning controls, assessment requirements and decision-making frameworks.

[8] OECD, "Competition in Artificial Intelligence Infrastructure," *OECD Roundtables on Competition Policy Papers*, no. 330 (Paris: OECD Publishing, 2025).
[9] J. Burton, D. O'Faircheallaigh, et al., "Mapping Critical Minerals Projects and Their Intersection with Indigenous Peoples' Land Rights in Australia," *Energy Research & Social S*cience 113 (2024): 103565.
[10] Data Center Watch, "$64 Billion of Data Centre Projects Have Been Blocked or Delayed amid Local Opposition," accessed March 27, 2026.
[11] Shauna Blackmon, "How to Resist Data Centres: A Guide For Local Communities in Europe," AlgorithmWatch, November 13, 2025.
[12] Raluca Besliu, Aniket Narawad, and Anna Toniolo, "Infrastructure or Intrusion? Europe's Conflicted Data Centre Expansion," *AlgorithmWatch*, July 25, 2025.
[13] Department of Industry, Science and Resources, *Expectations of Data Centres and AI Infrastructure Developers* (Canberra: Australian Government, March 23, 2026).

7. **NSW already has a planning framework for data centres, which provides a basis but still requires significant strengthening.** Data centres are expressly recognised in the planning system, permitted with consent in specified business and industrial zones under the Transport and Infrastructure SEPP, identified as a form of State Significant Development in the Planning Systems SEPPS, and assessed through the EP&A Act alongside relevant local LEP and DCP controls. Smaller projects generally proceed through the local pathway, while larger projects may enter the State Significant Development regime once they exceed the relevant power-consumption threshold, reflecting an existing recognition that some facilities warrant greater scrutiny. While inviting greater scrutiny at some levels, SSD designation also removes the need for data centres to meet certain environmental protection requirements under the EP&A Act, while simultaneously limiting the appeals framework to only judicial review.
8. **The unique characteristics of data centres render them a matter of public accountability, not merely private investment or technical planning.** The overarching priority for NSW is not simply to determine *how* to facilitate data centre development, but to decide *if and when* such development is justified, under *what conditions* it should proceed, and how *ongoing governance* promotes public interest in the long-term. **This requires a framework that moves beyond narrow questions of location and initial approval to include public accountability, ongoing oversight, community impact, and responsibilities across the entire lifecycle of these facilities.**
9. This submission responds to three specific Terms of Reference of the Inquiry:

    (b) the planning framework enabling data centre developments,

    (h) governance, transparency and accountability, and

    (j) lessons from other jurisdictions.

    To avoid replication and provide an integrated analysis, our responses are structured around the three stages of regulatory oversight required, followed by best-practice examples from other jurisdictions.

    1. Planning and Approval
    2. Operational Monitoring, Reporting & Upgrading
    3. Decommissioning
    4. Lessons from other Jurisdictions

1. Planning and Approval

NSW does not have an overarching, stand-alone, data-centre specific sustainability reporting regime at the approval stage. Instead, the reporting and disclosure obligations come from different layers: planning approvals, NSW climate guidance for large emitters, building sustainability rules, EPA licensing/pollution law, and federal emissions/energy reporting. Inconsistent regulatory frameworks mean that data centres are expressly defined in the Standard Instrument and treated as a form of high technology industry, while the Transport and Infrastructure SEPP establishes statewide permissibility with consent in specified business and industrial zones. Those statewide rules sit alongside the ordinary assessment framework under the EP&A Act

and Local Environmental Plans (LEP) and Development Control Plans (DCP), so proposals are already subject to both strategic permissibility settings and site-specific scrutiny.

The existing approval structure is explicitly two-tiered. Smaller projects generally proceed through the local development pathway, while larger projects can be escalated into the State significant development (SDD) regime when they exceed the relevant statutory power-consumption threshold. That distinction is important because it shows that while NSW already recognises that some data centres warrant a higher level of scrutiny, there is a simultaneous push to fast track some aspects of the regulation for these SSD projects. At the approval stage, then, the issue is whether the existing framework is adequate to the potential environmental and community impacts over the longer life of these facilities.

An important part of this framework at the state level is NSW Planning Secretary's Environmental Assessment Requirements (SEARs). SEARs identifies what information needs to be included in the environmental impact statement (EIS) by a project that is applying for approval. A request for SEARs must be made for all State Significant Development (SSD) projects. Notably, the NSW Department of Planning, Housing and Infrastructure has already streamlined SEARS specifically for data storage centres.[14] The reporting requirements laid out in this document provide a solid first step for proposed SSD data centres to disclose their projected energy and water usage, greenhouse gas emissions, impact on biodiversity and air quality, flood and bushfire risk, waste management, as well as impacts on local communities, Aboriginal Cultural Heritage, and environmental heritage. It also requires applications for new or expanding data centres to provide plans to mitigate these environmental and social impacts that are identified. However, there are important gaps in this framework that limit the effectiveness of this regulatory regime:

1.1. **Lack of thresholds.** While the SEARS framework provides a strong basis for eliciting disclosure of environmental and social impacts of proposed data centres, it is nonetheless not a hard-threshold model. In other words, while the SEARs requires the proponent to disclose and assess impacts in detail, in most areas they do not prescribe a numerical emissions, energy, water or community-impact ceiling that automatically bars consent. The general planning framework under the Environmental Planning & Assessment Act 1979 (EP&A), State Significant Development and SEARS requires the consent authority to consider relevant instruments, the likely impacts of the development, submissions, and the public interest "on their merits" having regard to economic, environmental and social impacts and ESD principles. That means disclosure of a very large impact does not, by itself, trigger refusal, as there are few set sustainability thresholds beyond which consent for the project must be refused. Instead, disclosed harms are assessed through a discretionary merits-based balancing exercise, often mediated by conditions of consent laid out in response to the reports submitted by the proposed development. While this discretion can be seen as essential to assessing individual projects on their own merits, the result is a framework that is comparatively effective at generating information, but less effective at ensuring that projects that are likely to have disproportionate impacts on climate, water or community are refused on these grounds. This issue is intensified in the case of clustered developments in the same area and potentially cumulatively across the state.

[14] NSW Department of Planning, Housing and Infrastructure, *Planning Secretary's Environmental Assessment Requirements: Data Storage Centres*, version 1 (Sydney: NSW Government, 2023)

1.2. **SSD designation and exemptions** Another point of concern in the current scenario is the fast-tracking of data centres. In NSW, this usually translates to accelerated access to SSD pathways, industry-specific SEARs, and more intensive case management and inter-agency coordination. While the proposed developments are still required to produce an EIS according to requirements laid out in SEARs, under s 4.41 of EP&A Act, they are exempt from requirements of certain kinds of licences, permits, and impact assessments. Under s 4.42 of EP&A Act, if the SSD is approved by the relevant consent authority, other authorities like the NSW Environment Protection Authority (EPA) cannot withhold approvals. SSD designation also results in a sharp delimitation of merits review before the NSW Land and Environment Court. This means that anyone who might object to the consent authority's decision to approve a project e.g., cannot seek a review of the approval by the court on the merits of this decision, unless the project is listed as a "designated development" under the EP&A scheme.[15] Under s 4.10(2) of the EP&A Act, SSD projects cannot be considered as designated development. Appeal rights are therefore effectively limited to judicial review. Similarly, data centres are currently not considered a scheduled activity under Schedule 1 of the Protection of the Environment Operations Act 1997, which means there is no unambiguous way to increase scrutiny of data centres under this legislation. Certain activities and products that may be unique or specific to data centres, like substantial amounts of e-waste, are also not mentioned in this schedule and can therefore escape enhanced scrutiny at the state level.

1.3. **Speed of approvals and community consultations** There is a need to ensure fast-tracking does not lead to time compression vis-a-vis community consultations. This includes the signing of non-disclosure agreements that undermine transparency and the capacity to hold data centre developers accountable for the impact of the centres on local communities.[16] In some cases, this has led to local communities not knowing who is building the data centre in their midst. [17] Research conducted by ADM+S researchers has shown that Australians, including those living in NSW, are concerned about the environmental impacts of data centres and how they may affect their own health and called for better government intervention and regulation of corporations' development of hyperscale data centres.18 Ensuring their concerns are given adequate attention and not papered over in order to fast-track projects should therefore be a key priority.

1.4. **Indigenous accountability.** A stronger public accountability framework should ensure that decisions affecting Country are informed by Indigenous knowledge and shaped with, not merely communicated to, the communities concerned. This accountability task should also be understood in relation to the wider material supply chains of AI and cloud infrastructure. The Aboriginal Cultural Heritage Assessment Report (ACHAR) - the framework currently in place in NSW for both SSD Data Centres approvals and approvals for infrastructure projects more generally under the National Parks and

[15] NSW Department of Planning, Housing and Infrastructure, "State Significant Development," *NSW Planning Portal*, November 18, 2025.
[16] Julian Cooper, "Tech Giants Are Trying to Cover Up the Environmental Impacts of Their Data Centres," *The Progressive*, October 22, 2025.
[17] Natalie Kainz, "How NDAs Keep AI Data Centre Details Hidden from Americans," *NBC News*, October 28, 2025.
[18] Deborah Lupton and B. Bailey-Charteris, "'Just One Prompt Is Enough to Kill a Tree': Knowledge and Attitudes Concerning the Environmental Impacts of Generative AI among Australians," *Environmental Communication,* (forthcoming).

Wildlife Act 1974 has already been a focus of critique.[19] These critiques have pointed out that the framework is proponent-driven, which means that Aboriginal groups do not lead or have control over the consultation process. In addition, the focus of this framework is on "consultation", and there is no requirement for receiving consent from Aboriginal groups before permits are issued by the government. There is also no express right for Aboriginal groups to appeal a decision to grant a permit. NSW Government itself refers to the current regime as "outdated", as one which "does not give aboriginal people enough say over the management of their heritage" and one that "Do(es) not produce the best heritage outcomes".[20] While this is a larger issue impacting all development projects in NSW, the significant upstream and downstream impacts of data centres and AI supply chains in relation to indigenous land and cultural heritage necessitate stronger protections for Aboriginal cultural heritage in data centre planning and approval processes.

1.5. **Social impacts.** Under the SEARS framework, proponents of proposed SSD data centres are also required to produce a Social Impact Assessment (SIA). This document requires proponents to identify and respond to social impacts of the development, as well as engage with and respond to community concerns about the project. Once more, while proponents are under obligation to disclose potential impacts and engage in community consultation, there is no obligation for redesign or refusal of the project in case community concerns continue despite such consultation, and there is no merits review available at the appeal stage as already mentioned.

1.6. **Clustering and cumulative impacts.** No clear directions exist for how the community might be made aware of harms related to the clustering of data centres in close proximity to one another, including the cumulative impacts from the "complex ways in which larger developments interact and aggregate to cause impacts that are more significant than when they are considered in isolation."[21] For data centres, this is especially important because many of the sector's most salient harms — cumulative resource demand, land-use displacement, amenity loss, uncertainty about backup generation, and uneven local distribution of costs and benefits — are capable of being scoped and modelled narrowly, classified as low significance, or deferred to mitigation and post-approval management rather than treated as reasons not to approve the project.

1.7. **Undefined categories.** In addition, the SIA assesses these impacts within an undefined category referred to as the "social locality". It is proponents, not the impacted communities, who have the right to define this term and delimit the relevant geographical area. This can undermine the objective of the SIA by allowing proposed projects to overlook impacted communities, AI supply chains, and the vital upstream and downstream social impacts.

1.8. **Environmental Security.** In the process of planning and approvals, data centres should be conceptualised not merely as digital or economic infrastructure, but as sites of environmental security whose governance is increasingly bound up with questions of national security. For many

[19] Janet Hunt, *Cultural Vandalism: Regulated Destruction of Aboriginal Cultural Heritage in New South Wales*, Topical Issue no. 3/2020 (Canberra: Centre for Aboriginal Economic Policy Research, Australian National University, 2020).
[20] NSW Government, "Aboriginal Cultural Heritage Reforms."
[21] Wentworth Group of Concerned Scientists, *Preventing "Death by a Thousand Cuts": Addressing Cumulative Impacts to Matters of National Environmental Significance (MNES) through Reforms to the EPBC Act: Recommendations to the Commonwealth Government* (Sydney: Wentworth Group of Concerned Scientists, August 2023).

years now, research on climate change has emphasised its risks to human and national security.[22] Data centres and AI supply chains exacerbate pressure on valuable natural resources and worsen environmental impacts, in a crucial decade for humanity when lowering emissions, transitioning away from fossil fuels and protecting vulnerable ecological systems is critical to stay within planetary boundaries.[23] The large-scale electricity consumption, water extraction, land use change, emissions, and ecological stress attributed to data centres should therefore not be treated as merely a cause for mitigating some of the worst environmental impacts in a conventional planning sense. Instead, environmental impacts of proposed data centres are more properly understood as "security concerns" because they affect the resilience of the energy, water, and ecological systems upon which digitally dependent societies rely. This means relevant consent authorities cannot view data centres as enhancing Australia and NSW's economic security and sovereign AI capabilities in isolation from their operations that intensify water insecurity, place additional pressure on already strained electricity grids, contribute to carbon-intensive development pathways, or further marginalise already vulnerable groups. Regulatory authorities need to view these impacts as constitutive of Australia's national security by encompassing the protection of the environmental conditions that make social and political life possible.

RECOMMENDATION 1 Develop firm threshold limits for energy and water usage and emissions targets, crossing which can trigger refusal of project approvals.

NSW needs to go beyond simply requiring disclosure of environmental and social impacts at the approval stage. While allowing discretion to regulatory authorities may be desirable, this approach must be complemented with firm threshold limits that are automatically triggered when disclosed impacts cross them. These limits should take into account the cumulative and clustering impacts of data centres, and their relevance to Australia's national security; and they should be strictly enforced and approvals denied in such cases.

Relevant Terms of Reference (h)(i) and (h)(ii)

RECOMMENDATION 2 Introduce stringent consultation requirements and appeals mechanisms through co-design processes with Traditional Owners that include the capacity to delay or reject projects that lack support.

NSW should undertake urgent reform of the current framework with respect to protection of First Nations cultural heritage and decision-making about Country (ACHAR) in the context of data centre planning and approvals. Such reform should ensure that consultation processes are led by Traditional Owners, and their object is to go beyond mere documentation and instead (i) engage in co-design processes, (ii) gain informed

[22] Tobias Ide, "Climate Change and Australia's National Security," *Australian Journal of International Affa*irs 77, no. 1 (2023): 26–44; Mathews, Jessica Tuchman. "Redefining Security." *Foreign Affairs* 68, no. 2 (1989): 162–177.
[23] Will Steffen et al., "Planetary Boundaries: Guiding Human Development on a Changing Planet," Science 347, no. 6223 (2015): 1259855.

consent from Traditional Owners, and (iii) provide adequate appeal mechanisms to First Nations communities and groups.

Relevant Terms of Reference (h)(ii) and (h)(iii)

RECOMMENDATION 3 Ensure stringent requirements regarding environmental impacts, community engagement and consultation, and Indigenous leadership and consent-seeking apply in all circumstances, including fast-tracking.

Under national and state level policy directives to fast-track data centre approvals, exemptions from seeking secondary environmental approvals under certain legislative provisions can become a serious concern in the long run and therefore should be avoided. Amendments in the relevant provisions could be made to (i) bring SSD data centres within the meaning of "designated development" requiring higher scrutiny (ii) include data centres as a scheduled activity in Schedule 1 of Protection of the Environment Operations Act 1997 (NSW) as another way to ensure adequate scrutiny (iii) include data centre specific activities with excessive environmental harm like generation of e-waste within Schedule 1 of PEO Act. In addition, fast-track processes should not be allowed to circumvent detailed and time-intensive community consultations and consent seeking requirements. Instead, community consultation and social impact statement models should be amended to ensure affected communities have a say in defining the contours of social and geographical impact, keeping the AI supply chain in mind.

Relevant Terms of Reference (b) (ii)

2. Operational Monitoring, Reporting and Upgrading

Operational monitoring and reporting requirements, particularly in the context of data centre upgrades and the cumulative effects of clustered developments, require significant reform to be sufficiently robust. The current NSW framework for operational monitoring and reporting is strongest for SSD and more variable for locally approved projects. For all data centre approvals under the EPA, consent conditions may require monitoring, reporting, and environmental audits. For SSD projects, this is reinforced by Post Approval Requirements (PAR), which standardise the process, content and frequency of reports, including independent audits. Oversight of upgrading is also under-specified, with gaps in current monitoring and reporting reducing the capacity of consent authorities to assess expansion proposals in light of a facility's evolving operational impacts.

The issue, then, is not whether monitoring and reporting obligations exist, but whether they are adequate to the operational realities of contemporary data centres. Current arrangements rely heavily on consent conditions, resulting in uneven obligations, limited transparency, and uncertain triggers for further scrutiny as facilities expand, intensify, or change in function over time. Several aspects of the present framework warrant closer attention.

2.1. **Uneven obligations**. SSD projects have more structured obligations than non-SSD approvals, which are heavily dependent on the content of individual consent conditions. This patchwork arrangement means that obligations vary across facilities, even when they have reasonably similar operational

impacts. Project-specific consents limit consistency, comparability, and regulatory clarity. Scrutiny is also reduced because data centres are not scheduled activity under Schedule 1 of *POEO Act.*

2.2. Limited transparency. Even when monitoring occurs, the public accessibility of operational data is limited. This makes it difficult for communities and other stakeholders, including government departments and agencies, to understand whether approved facilities are operating within limits. Weak visibility into operational performance includes energy use, water consumption, backup power emissions, noise, traffic, and land use. Community and Country impacts are not accounted for. This weak visibility is exacerbated by a lack of shared industry standards and norms around self-reporting.

2.3. Inadequate review triggers. Data centres are not static entities: they expand as needs and expectations change, which can involve upgrading equipment, altering cooling systems, or increasing power consumption over time. Current requirements do not make clear when such changes trigger oversight review, except for increases in power or water consumption.

2.4. Cumulative effects not captured. Project-level reporting might capture the performance of an individual data centre site, but is not suited to understanding the combined effects of clustered or expanding data centre developments. Clustering and expansion can place additional stressors on existing infrastructure, utilities, surrounding communities, and waterways and land.

2.5. Limited review and oversight for upgrading pathways. As data centres expand or intensify over time, they should be subject to stronger monitoring, reporting, and oversight proportionate to their changing impacts. The current framework does not explain in sufficient detail how an existing locally approved facility is to be reassessed if planned expansion will push it beyond the SSD threshold. This problem is intensified by the lack of consistent monitoring standards, such that adherence to a defined and comparative standard could be tracked over time and considered in relation to any upgrade application.

2.6. **Approval Lock-ins and BIT investments.** In some cases, the parameters agreed upon at the approval stage can quickly become irrelevant as the data centre ends up requiring more/other energy sources or the renewable energy sources agreed upon cannot be operational quickly enough. If the data centre then applies for an upgrade, the approvals for such an upgrade are usually a less detailed process. In case the data centre is financed by an investor protected by the Bilateral Investment Treaty (BIT), this fact can force the hand of the regulator as denial of such an upgrade approval may make the data centre unusable or reduce its value, thereby triggering BIT protections.

RECOMMENDATION 4: Establish a standardised operational reporting framework for data centres.

NSW should introduce a consistent framework for monitoring and reporting that applies across both SSD and locally approved data centres, with requirements scaled to the facility. At a minimum, this framework should cover energy use, water consumption, backup power use, and emissions, noise, traffic and other material impacts. It should specify clear triggers for further review where operational conditions change. While pursuing its own framework, NSW should push for the coordination of a national standardised reporting framework, recognising that digital infrastructures operate across states and businesses, community, and government would all benefit from strengthened capacity to compare sustainability. Aligned standards at the state and national level would improve consistency, comparability, and clarity across project operations and upgrades.

Relevant Terms of Reference: (h)(i), (h)(ii), and also (b)

RECOMMENDATION 5: Develop a cumulative impact and upgrade assessment framework for expanding facilities and clustered developments.

NSW should ensure that monitoring and reporting requirements support the assessment of cumulative impacts across precincts or regions where data centres are clustered, rapidly expanded, or present distinct risks to the local environment. The reporting framework should include clearer guidelines on how locally approved projects will be re-assessed when pushed beyond the SSD threshold, with a consistent record of operational performance over time made central to the process. This would strengthen oversight of expansion and intensification and reduce public and industry uncertainty around upgrade pathways.

Relevant Terms of Reference: (b)(i), (b)(iii), and (h)(i)

RECOMMENDATION 6: Strengthen public transparency, community consultation and Indigenous engagement across the operational life of data centres.

Operational reporting should be made accessible to affected communities, relevant public agencies, and Traditional Owners. NSW should also require active engagement when facilities materially change in scale, intensity or impact, so that consultation is not confined to the point of initial approval. This would strengthen transparency, improve visibility into operations over time, and ensure that data centres are not treated as static entities.

Relevant Terms of Reference: (h)(i) and (h)(ii)

3. Decommissioning

Decommissioning data centres requires more than simplifying switching them off: closure can involve removal of specialised energy and cooling plant, backup generators, batteries, server hardware, cabling, and other equipment, with risks around contaminated materials, waste classification, e-waste handling and site remediation. NSW does not presently appear to have a standardised decommissioning framework specific to data centres. Instead, end-of-life obligations are addressed through a combination of consent conditions, SSD project requirements where applicable, and general laws on contaminated land, remediation and waste, leaving closure and rehabilitation responsibilities comparatively under-specified for this class of infrastructure.[24] Weak decommissioning settings risk shifting costs and environmental burdens onto

[24] NSW Environment Protection Authority, "E-Waste," *NSW EPA*.; NSW Environment Protection Authority, "Embedded Batteries," *NSW EPA*.; NSW Environment Protection Authority, "Waste Classification Guidelines," *NSW EPA*.; See also, NSW Environment Protection Authority, "Managing Contaminated Land in NSW," *NSW EPA*, which explains that significantly contaminated land is regulated by the EPA under the Contaminated Land Management Act 1997, while other contaminated land is managed through the planning and development process.

communities, Country, or the public sector at the end of a facilities life.[25] Consequently, there are several issues that require redress in NSW:

3.1. Under-specified decommissioning obligations. NSW does not appear to have a standardised decommissioning framework specific to data centres. This means that closure planning, rehabilitation responsibilities, monitoring at end of life, and the long-term condition of sites may be left to project-by-project negotiation rather than governed through a clear and consistent statewide standard.

3.2. Fragmented responsibility for waste, remediation and long-term site condition. Data centre decommissioning raises more than ordinary demolition issues, because it can involve specialised infrastructure, hazardous or difficult-to-classify waste streams, potential contamination, and substantial remediation obligations. In NSW, these issues are governed through multiple general frameworks rather than a single data-centre-specific closure pathway, making responsibilities more fragmented and potentially harder to coordinate.

3.3. Limited accountability for end-of-life costs and environmental burdens. Without clear closure obligations, the costs and environmental burdens of decommissioning may be deferred or shifted onto communities or the public sector. With large volumes of equipment and supporting infrastructure, data centres require advance planning for reuse, refurbishment, recycling, recovery, and site rehabilitation. Decommissioning should also be approached with respect for Country, recognising that the life cycle of data centre infrastructure is tied to critical minerals extraction that already places significant pressure on Indigenous lands in Australia and internationally. A weak or fragmented framework therefore risks treating closure as an afterthought rather than a core element of responsible infrastructure governance.

RECOMMENDATION 7: Establish a standardised decommissioning framework for data centres.

NSW should introduce a clear statewide framework for data centre decommissioning that applies across both SSD and locally approved facilities. At a minimum, this framework should require closure planning, identification of end-of-life risks, allocation of responsibility for demolition, waste, remediation and rehabilitation, and clear standards for post-closure monitoring where needed. This would reduce reliance on project-by-project consent conditions and provide greater consistency and certainty across the sector, particularly if data centre upgrade cycles and lifecycles continue to tighten in response to rapid advancements in computing power.

Relevant Terms of Reference: (b) and (h)(i)

RECOMMENDATION 8: Require data centre proponents to prepare decommissioning and rehabilitation plans from the outset, backed by an appropriate bond.

[25] M. S. Hoosain et al., "Tools Towards the Sustainability and Circularity of Data Centres," *Sustainability* 14, no. 13 (2022); International Telecommunication Union and World Bank, Green Data Centers: Towards a Sustainable Digital Transformation—A Practitioner's Guide (Geneva and Washington, DC: International Telecommunication Union and World Bank, 2023).

Approval processes should require proponents to identify, at an early stage, how end-of-life plant, equipment, batteries, e-waste, fuel systems and other infrastructure will be removed, managed, reused, recycled or disposed of, and how the site will be rehabilitated. This should be backed by an appropriate bond, as required in the mining sector. Data centre plans should also address the future use and condition of the site after closure. This would strengthen accountability for end-of-life costs and environmental burdens and ensure that decommissioning is treated as a core part of infrastructure planning rather than an afterthought.

Relevant Terms of Reference: (b) and (h)(i)

RECOMMENDATION 9: Embed public accountability, Indigenous engagement and respect for Country in decommissioning processes.

Decommissioning frameworks should require public transparency around closure obligations, waste handling, remediation and rehabilitation, and should ensure that affected communities, relevant public agencies, and Traditional Owners are engaged where closure may affect Country. In doing so, NSW should recognise that the life cycle of data centre infrastructure is linked to critical minerals extraction and other burdens borne on Indigenous lands in Australia and internationally. This would strengthen accountability across the full life of data centre infrastructure and ensure that end-of-life governance is shaped by environmental responsibility and respect for Country.

Relevant Terms of Reference: (h)(i) and (h)(ii)

4. Lessons from Other Jurisdictions

International jurisdictions now provide important examples of clearer, stronger data centre public accountability measures. Although these approaches vary, they demonstrate that governments can build robust regimes for operational reporting, performance standards, expansion controls, and infrastructure accountability. The following vignettes highlight selected measures that are particularly relevant to NSW because they treat data centres as infrastructure with significant public, environmental, and social implications.

European Union. The EU has moved beyond case-by-case planning controls by establishing a common reporting framework for larger data centres. Under the recast Energy Efficiency Directive and Delegated Regulation (EU) 2024/1364, data centres above the reporting threshold must disclose standardised information on energy performance and sustainability, including water-footprint-related indicators, through a central European database.[26] The Commission describes this as a transparency measure designed to create a

[26] European Commission (n.d.), "Energy Performance of Data Centres,"; Commission Delegated Regulation (EU) 2024/1364; Commission Delegated Regulation (EU) 2024/1364 of 14 March 2024 Supplementing Directive (EU) 2023/1791 of the European Parliament and of the Council with Regard to a Common Union Rating Scheme for Data Centres, *Official Journal of the European Union,* May 17, 2024. This is consistent with the approach being taken to the environmental impact of general purpose AI systems under the EU AI Act (Regulation (EU) 2024/1689), which will encourage AI developers to report transparently on the environmental impact of development and deployment of AI systems across their lifecycle including through use of data centres. A technical standard for this purpose, *Sustainable Artificial Intelligence – Guidelines and metrics for the environmental impact of artificial intelligence systems and services*, is currently being drafted.

comparable evidence base across member states, supported by common key performance indicators and public reporting.[27] However, disclosure requirements alone do not provide the public with sufficient opportunity to have a say on questions of growth, resource use, or community impact. As AlgorithmWatch argues, even where data centres are framed as critical infrastructure and subject to greater transparency, local communities can still face high electricity and water demand, land-use change, overstated economic benefits, and limited influence over siting and expansion decisions.[28] The lesson is that reporting frameworks are useful, but insufficient unless paired with stronger planning controls, clearer public-interest tests, and mechanisms that make operators accountable for local environmental and social effects.

Key lesson: oversight can extend beyond development approval to require ongoing, standardised operational disclosure at sector level.

Germany. Germany's Energy Efficiency Act illustrates a stronger statutory approach to data centre regulation. The Act does not stop at disclosure: it establishes data-centre-specific legal requirements around energy efficiency, environmental and energy management systems, reporting obligations, the use of waste heat, and the progressive use of electricity from renewable sources, while framing the sector within Germany's broader climate-neutrality agenda. The federal government presents the Act as creating a clear legal framework for energy efficiency, including specific obligations for data centres and waste-heat utilisation. A limitation of this approach is that operational regulation alone does not settle the broader politics of expansion: as critics note, stricter efficiency rules can coexist with continuing disputes over local impacts, grid pressure, and democratic accountability.[29]

Key lesson: governments can move beyond transparency alone to impose ongoing operational duties backed by legislation rather than relying solely on planning approval conditions.

Singapore. Singapore's approach shows how data-centre growth can be linked to sustainability performance rather than treated as a simple question of planning approval. Under the Green Data Centre Roadmap, the government frames data centres as foundational digital infrastructure but ties their continued growth to sector-wide sustainability measures, including refreshed standards, targeted energy-efficiency programs, and certification schemes.[30] The BCA–IMDA Green Mark for Data Centres scheme is especially significant because it gives operators a recognised rating framework and creates clearer market signals by making higher-performing facilities more visible and legible to customers.[31] However, certification and performance-linked growth still depend on the strength of the underlying standards and do not, by themselves, resolve broader questions of cumulative infrastructure demand, local impact, or democratic accountability.[32]

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[27] European Commission, Directorate-General for Energy, "Energy Performance of Data Centres," accessed March 27, 2026.
[28] Raluca Besliu, Aniket Narawad, and Anna Toniolo, "Infrastructure or Intrusion? Europe's Conflicted Data Center Expansion," *AlgorithmWatch*, July 25, 2025.
[29] Raluca Besliu, Aniket Narawad, and Anna Toniolo, "Infrastructure or Intrusion? Europe's Conflicted Data Center Expansion," *AlgorithmWatch*, July 25, 2025.
[30] Infocomm Media Development Authority, "Green Data Centre (DC) Roadmap," Government of Singapore, last updated September 11, 2025.
[31] Infocomm Media Development Authority, "BCA-IMDA Green Mark for Data Centres Scheme," Government of Singapore, last updated November 4, 2024.
[32] Dan Swinhoe, "Singapore Lays the Groundwork for Smart Data Centre Growth," *Data Centre Dynamics*, June 25, 2024; Eco-Business, "As AI Fuels Growth of Data Centres, Critics Fight Back," *Eco-Business*, June 10, 2025.

Key lesson: accountability measures can shape the conditions under which sectoral expansion is encouraged, measured, and publicly recognised.

British Columbia, Canada. British Columbia has taken a purpose-specific approach to electricity-intensive digital infrastructure by distinguishing between data-centre uses that it considers beneficial and those it considers contrary to the public interest. In 2025, the Province announced that new BC Hydro connections for cryptocurrency mining would be banned permanently, while introducing a broader electricity-allocation framework that places limits on power available for data centres and AI and prioritises projects seen as delivering greater benefits for British Columbians.[33] The Province's rationale is explicit: emerging high-demand sectors should not be treated as automatically entitled to grid access, but should be assessed against wider economic and public-interest objectives, including jobs, revenues, affordability, and responsible energy use. However, this kind of selective approach depends heavily on how governments define "benefit," and it can leave unresolved questions about transparency, fairness, and how competing claims on electricity infrastructure are assessed in practice.

Key lesson: governments can adopt purpose-specific rules that actively direct scarce energy infrastructure toward uses judged to be in the public interest, including by excluding especially energy-intensive uses considered counterproductive.

United States of America. An emerging policy strand treats data centres and AI infrastructure as matters requiring greater environmental transparency and public accountability, rather than leaving their impacts largely implicit within broader technology policy. At the federal level, the proposed *Artificial Intelligence Environmental Impacts Act of 2024* would direct the Environmental Protection Agency to study and publicly report on the energy, pollution, and disparate environmental impacts of AI models, hardware, and data centres, while also tasking NIST with developing methodologies and standards for measuring and reporting those impacts.[34] This is significant because it frames data-centre and AI expansion as an environmental-governance issue requiring common metrics, disclosure, and public oversight, a position publicly endorsed by the research institute *Data & Society*.[35] However, US critiques of current approaches also show the limits of transparency alone: as recent California analysis argues, data-centre growth can still be concentrated in already overburdened communities, where weak siting rules and inadequate cumulative-impact assessment leave major questions of health, environmental justice, and community power unresolved.[36]

Key lesson: transparency and reporting are important foundations, but they are insufficient unless paired with planning and regulatory mechanisms that address cumulative local impacts, environmental justice, and the conditions under which new capacity is approved.

Not all useful international lessons take the form of direct accountability measures. Some show how data centres can be interlinked with wider urban, energy, and heating systems, creating stronger incentives for

[33] Government of British Columbia, Ministry of Energy and Climate Solutions, "New legislation powers economy with clean energy, North Coast Transmission Line," *BC Gov News*, October 20, 2025,.
[34] Artificial Intelligence Environmental Impacts Act of 2024, S. 3732, 118th Cong. (2024), introduced February 1, 2024.
[35] Brian J. Chen and Tamara Kneese, "Why We're Endorsing the AI Environmental Impacts Act," *Data & Society: Points*, February 1, 2024.
[36] Cecilia Marrinan, "Data Centre Boom Risks Health of Already Vulnerable Communities," *Tech Policy Press*, June 12, 2025.

efficiency, heat recovery, and infrastructure integration rather than assessing facilities as stand-alone developments.

Recovering Surplus Heat. Sweden, Finland, and Ireland offer useful examples of treating data centres as part of wider energy and urban infrastructure rather than as isolated industrial facilities. In Stockholm, the Stockholm Data Parks initiative was developed by the City of Stockholm, Stockholm Exergi, and industry partners to connect data-centre investment with the city's district-heating system by recovering surplus heat for local use.[37] In the Helsinki region, Fortum and Microsoft have developed a large-scale model in which waste heat from new data centres in Espoo and Kirkkonummi is transferred into the district-heating network, with Fortum stating that the project will eventually cover about 40 per cent of district-heating demand in Espoo and neighbouring areas.[38] In Ireland, the Tallaght District Heating Scheme similarly reuses waste heat from a nearby data centre to supply low-carbon heat to public buildings and, more recently, apartments and commercial space.[39] However, these approaches depend on enabling infrastructure, coordination capacity, and favourable local conditions, which means they are not universally transferable and do not in themselves limit overall growth in energy demand.

Key lesson: data-centre policy can be strengthened by treating facilities as part of broader urban and energy systems, including through planning and infrastructure settings that support heat recovery and other forms of public-value integration.

Netherlands. Data centres are treated as high-energy using facilities and are therefore covered by a national legal requirement known as the Energy Saving Obligation (Energiebesparingsplicht). This obligation is set out in the Environmental Activities Decree (Besluit activiteiten leefomgeving, Bal) and the Environment Buildings Decree (Besluit bouwwerken leefomgeving, Bbl). It requires any business, including data centres, that uses 50,000 kWh of electricity or 25,000 m³ of natural gas (or equivalent) or more per year to actively reduce its energy use by identifying, implementing, and reporting all cost-effective energy-saving measures, defined as measures that pay for themselves within five years.[40] Compliance is mandatory and must be reported to the Dutch government every four years. This shifts attention from whether a facility may be built to how it must operate over time, embedding efficiency expectations within a continuing compliance regime rather than treating sustainability as a matter resolved at the approval stage. However, because it is a general business-energy rule rather than a data-centre-specific regime, it does not by itself address the distinctive land-use, water, community, or cumulative infrastructure impacts associated with rapid data-centre expansion.

Key lesson: NSW could complement planning controls with ongoing operational obligations that require major measures after approval, as recommended in this submission.

[37] Stockholm Data Parks, "Stockholmers Bask in Warmth of Nearby Data Parks," Stockholm Data Parks, January 30, 2018.
[38] Fortum, "Data Centres in the Helsinki Region,"; Fortum, "Microsoft x Fortum: Energy Unites Businesses and Societies," March 26, 2024.
[39] South Dublin County Council, "Spotlight: Tallaght District Heating Scheme," *South Dublin County Council*; South Dublin County Council, "Development of the Tallaght District Heating Scheme," South Dublin County Council.
[40] Netherlands Enterprise Agency (RVO), "What Is the Energy Saving Obligation?," RVO, April 29, 2024; Netherlands Enterprise Agency (RVO), "Energy Saving Obligation," RVO, October 14, 2025.

Conclusion

The central question for NSW is not whether data centres are valuable in the abstract, but under what conditions their development can be justified in the public interest. Existing planning and regulatory settings do not yet provide sufficiently clear thresholds, consistent operational oversight, strong community and Indigenous accountability, or adequate end-of-life obligations for infrastructure of this scale and intensity. The examples discussed in this submission show that stronger alternatives are available. NSW should therefore move beyond a narrow approvals model and establish a more comprehensive framework for data centre governance that addresses cumulative impacts, ongoing reporting, upgrading, decommissioning, and public accountability across the full life of these facilities. A strong public accountability framework ensures that data centre developments prioritise the public interest of NSW, now and into the future.