Submission to the Inquiry into AI Data Centres in Tasmania

Digital Infrastructure Institute — 21 September 2026

About the Institute and this submission

The Digital Infrastructure Institute (DII) is an independent Australian research and education organisation covering data centres, energy, water, connectivity and workforce capability. The Institute takes no funding from data centre operators, energy utilities, project proponents or vendors and no position for or against any project, including any project currently proposed in Tasmania. The professional experience described here is disclosed as the basis of the submission's technical competence and does not represent any current project or client interest before the inquiry. Its research, assessment resources and plain English community information are published free at digitalinfrastructureinstitute.org. The Institute's founder lives in northern Tasmania and has spent more than 45 years designing, building and operating digital infrastructure in Australia and internationally. This includes work on a campus facility designed for up to 300MW in regional NSW and the design, build and operation of an immersion cooled facility delivering 100kW per rack in this state, work that required taking a project through the existing local government planning scheme and negotiating the grid connection. The Institute's submission to the Senate inquiry into artificial intelligence and data centres has been published as Submission 70 [8]. The Institute has provided its free community material to Tasmanian councils on request.

This submission addresses the Committee's terms of reference in order. Its single underlying argument is that the questions dividing Tasmanian communities are answerable and that most of the heat in the public debate has come from numbers that were never labelled, claims that were never designed to be checked and a planning system that was never asked to check them.

1. Whether the planning system adequately addresses these facilities

A large AI data centre is routinely assessed as a building that contains computers. At current scale it is better understood as energy, water and thermal infrastructure that contains computers. A facility with a continuous demand of one hundred megawatts consumes about 876 gigawatt hours of electricity a year at full load, a scale that invites comparison with towns and cities; any such comparison should state whether it concerns instantaneous demand, annual consumption or household equivalence, which is itself an example of the labelling this submission asks for. Nearly all of that electricity leaves as low grade heat within metres of the facility's neighbours. Depending on its cooling design, the facility may consume substantial volumes of water through evaporative cooling and return concentrated blowdown to the sewer under a trade waste agreement, or reject its heat dry at a cost in electrical efficiency, a trade that shifts with operating conditions. Each of these systems involves mature engineering disciplines and established measurement methods. They are not consistently or transparently examined under standard assessment practice, which asks how many generators rather than whether the backup philosophy fits the facility, accepts a single water figure rather than the journey of the litre and writes noise conditions in units poorly matched to the low frequency and tonal characteristics commonly associated with community concern [6].

Two further gaps matter for Tasmania specifically. Facilities are assessed one application at a time while their effects are cumulative across a corridor or precinct. Proposed commitments are assessed as design intentions, made before the facility exists, with no settled mechanism for testing what the operating facility actually does. New South Wales has now written numeric efficiency thresholds into its assessment pathway [1][2]; whatever this Committee concludes about the right settings for Tasmania's very different energy system, the mainland's

largest data centre market has demonstrated that assessment can run on auditable numbers rather than adjectives.

2. How resource consumption should be publicly disclosed

This term of reference is, in the Institute's view, the heart of the matter. The pattern the Institute has documented across noise, water, heat and energy is the same: the distance between what is promised at approval and what is measured in operation. We call it the verification gap. Disclosure is how that gap closes.

Disclosure should have two halves. At assessment, applications should state the full water balance (makeup, evaporation, blowdown and drift) where water is used for heat rejection, at design load in the hottest week and including peak daily demand, with every project stating its expected water use even where the design figure is zero or negligible; the source water hierarchy for normal operation and for drought and what happens to demand when restrictions apply; the quality of blowdown entering trade waste, stated in the application rather than left to the sewer authority to discover; energy demand with the denominator named, since a percentage of peak capacity and a percentage of annual energy are different claims that have both circulated in Tasmania's debate; noise predictions in units that can detect the problem, including low frequency criteria; the temperature at which heat is rejected, with reuse assessed before the site is chosen rather than after; the backup power philosophy, including fuel type, stored fuel volumes and expected testing run hours; and the end of life plan, covering decommissioning, site rehabilitation and recycling pathways for batteries and hardware.

In operation, facilities should report annually and publicly: actual energy use and efficiency (PUE), actual water use and efficiency (WUE), potable and recycled volumes, peak daily water demand and performance against the commitments made at assessment, with actual utilisation stated. The utilisation caveat matters technically. Design values typically assume full load. Real facilities can run well below full design capacity for extended periods and supporting plant carries fixed losses, so an honest framework compares operating performance with approved design at the load actually carried, rather than naively comparing two numbers [7]. Such disclosure is compatible with commercial operation: major operators already publish fleet level PUE and WUE performance against targets while competing successfully for business [4].

3. Parliamentary oversight

The Institute suggests oversight is most effective when it is boring, annual and public. A single register, reported to Parliament each year, would do most of the work: each approved facility, the resource commitments it was approved against, its energy and water allocations, its reported actual consumption and its compliance status. No new bureaucracy is required; the register simply gathers what recommendations under term 2 would already produce. Two additions would strengthen it. Where projects receive negotiated energy arrangements from publicly owned utilities, the existence and duration of those arrangements should be visible to Parliament even where prices are commercial in confidence, because the opportunity cost of publicly owned electricity is a matter for the public that owns it. And where any streamlined or negotiated pathway exists, Parliament should be told annually how many projects used it, since the credibility of any standard rests on knowing how many met it.

4. Benefits to Tasmanian communities

The Institute's research suggests the benefits debate has been conducted with unlabelled numbers. Data centre jobs figures come in two varieties, construction and operations. They are rarely labelled. These facilities are construction heavy and operations light, with ongoing employment best compared as roles per megawatt against the published international range [5]. Communities asked to weigh hundreds of construction jobs

against a small permanent workforce deserve the arithmetic labelled properly, whichever way it then persuades them. The same discipline applies to broader claims: where wider economic activity or new capability enabled by local AI infrastructure is put forward as a benefit, the claim should state its basis and assumptions and how it will be measured after the fact, so that indirect benefits can be weighed with the same rigour as direct ones. Benefit commitments deserve the same discipline as technical ones: specific, measurable and reported. The Institute has published a model AI Public Benefit Agreement for structuring exactly such commitments and makes it available to the Committee. The most durable community benefit is capability rather than headcount. The Institute's workforce research suggests the lasting return from construction heavy projects comes when approvals encourage local training pathways and skills investment, so that a short construction boom leaves a qualified workforce behind it. Grid support deserves the same attention. Large facilities carry substantial battery capacity in their uninterruptible power supplies and can be designed to support the network rather than simply draw from it; Ireland now requires new data centre connections to bring storage or generation with them [3]. Whether Tasmania should encourage grid interactive design is squarely within this inquiry's remit and properly designed participation could allow part of the facility's electrical infrastructure to provide a measurable grid benefit. Waste heat is a genuine opportunity in a cool climate and the honest lesson of practice, including this founder's own attempt to supply 53 degree water from a northern Tasmanian facility to a timber mill one kilometre away, is that reuse is a siting decision: by the time a facility is designed, the heat's customers are either within reach or they are not. If Tasmania wants the benefit, potential heat users belong in the location decision, not the landscaping plan.

Finally, communities themselves need neutral fact based information as part of the process. The Tasmanian debate has been vigorous, which is democracy working; it has also run substantially on contested and unlabelled figures. The Institute publishes free plain English explainers, including how data centre jobs are counted and what a claim about percentages of Tasmania's grid does and does not mean and makes all of them available to the Committee, councils and residents without restriction or registration.

Recommendations

1. Major data centre applications should disclose numeric and auditable design commitments for energy efficiency, water use, noise (including low frequency and tonal characteristics), heat rejection, backup power and decommissioning.
2. Assessment should consider cumulative impacts where multiple facilities are proposed within the same network, catchment, sewer system, airshed or community.
3. Applications should state expected annual and peak energy demand, identifying the denominator and assumed utilisation behind every percentage or equivalence claim.
4. Applications should provide a full water balance appropriate to the proposed cooling system, including source hierarchy, peak daily demand, hottest week performance, drought response and expected trade waste quality, with expected water use stated even where it is zero or negligible.
5. Approved facilities should report annually and publicly on actual energy and water consumption, PUE, WUE, peak water demand, actual utilisation and performance against approval commitments.
6. Approval conditions should require independent post commissioning verification of material energy, water, noise and heat rejection commitments.
7. Parliament should receive an annual public register covering approved facilities, resource allocations, reported consumption, compliance status, negotiated arrangements involving publicly owned utilities and the use of any streamlined or negotiated approval pathway. Commercial prices may remain confidential.

8. Employment and economic benefit claims should distinguish construction employment, ongoing direct employment and indirect activity, state their assumptions and identify how delivery will be measured.
9. Community benefit commitments, including training, apprenticeships, local capability and infrastructure contributions, should be specific, measurable and reported annually.
10. Site assessment should consider grid interactive operation, potential heat users and end of life rehabilitation before project design and approval are substantially settled.

The Institute would welcome the opportunity to give evidence to the Committee. Its methodology and material are available to the Committee without restriction, including an upfront design assessment tool the Institute has developed for evaluating the sustainability of proposed facilities against recognised references: the United Nations Sustainable Development Goals as a policy framework and engineering standards including relevant ISO standards and ANSI/BICSI 002, a widely used consensus standard for data centre design and implementation. The tool is designed for application by experienced practitioners, since an assessment instrument is only as credible as the competence and independence of whoever applies it, a discipline that protects proponents and communities alike.

Chris Molloy, Founder, Digital Infrastructure Institute
digitalinfrastructureinstitute.org · [redacted]

References

1. Infrastructure NSW, NSW Data Centre Guidelines, August 2026 — infrastructure.nsw.gov.au/expert-advice/data-centres
2. NSW Government, Nation leading framework to harness NSW data centre investment, ministerial release, 17 August 2026.
3. Commission for Regulation of Utilities (Ireland), Direction to the System Operators related to Data Centre grid connection processing, CRU/21/124, November 2021.
4. atNorth, Sustainability Report 2025, published June 2026 — atnorth.com.
5. Digital Infrastructure Institute, How data centre jobs are counted (and why the numbers differ) — digitalinfrastructureinstitute.org/how-data-centre-jobs-are-counted/ and the sources cited there.
6. Digital Infrastructure Institute, The rattle and hum: data centre noise is being measured in the wrong units — digitalinfrastructureinstitute.org/the-rattle-and-hum-data-centre-noise/ and the sources cited there.
7. Digital Infrastructure Institute, The 75-day bargain: what the NSW data centre framework trades and what it leaves open — digitalinfrastructureinstitute.org/the-75-day-bargain/
8. Digital Infrastructure Institute, Submission 70 to the Senate Environment and Communications References Committee, inquiry into artificial intelligence and data centres — published September 2026, aph.gov.au (committee webpage).