



20 August 2026

Dr Paul Vogel  
Chairperson, NT Environmental Protection Authority  
Level 1, Arnhemica House  
16 Parap Road  
PARAP NT 0820

## Submitted via online portal

Dear Dr Vogel,

### Re: submission on an application by Energy North for a hyperscale data centre campus on Murrnji Station

1. The Environment Centre NT (**ECNT**) is the peak community sector environment organisation in the Northern Territory of Australia, raising awareness amongst community, government, business, and industry about environmental issues, assisting people to reduce their environmental impact, and supporting community members to participate in decision-making processes and action.
2. We refer to the Invitation for Public Comment published on 8 July 2026 with respect to the referral made by Energy North Pty Ltd (**the Proponent**) for the “Project Ares - Integrated Hyperscale Data Centre Campus” (**the Proposal**) including:
  - a. A referral form;
  - b. A referral report;
  - c. Appendix A - Terrestrial ecology report;
  - d. Appendix B - Stakeholder Engagement Plan;
  - e. Project Ares – Draft Terms of Reference; and
  - f. Project Ares – Draft Statement of Reasons

(together, **the Referral**).

## A. BACKGROUND

3. Project Ares is proposed at Murrnji Station (NT Portion 851) in the Barkly Region of the Northern Territory (NT), approximately 683 km south of Darwin via the Stuart Highway and around 50 km north-west of Elliott. The Project Area comprises pastoral land held under a perpetual pastoral lease and is located within a remote setting characterised by low human population density and significant flora and fauna communities.



4. The Proposed Action consists of the following components:
  - a. A hyperscale data centre covering approximately 90 ha at full build-out;
  - b. Solar PV generation reaching approximately 3,000 MW across approximately 6,000–7,000 ha;
  - c. A co-located battery energy storage system (BESS), building to approximately 16 GWh;
  - d. Gas-fired generation providing firm power and independent backup, approximately 1,038 MW at full build-out, together with a gas supply spur pipeline within the project area. While not made explicit in the Referral, it is assumed that this gas will be sourced from fracking projects in the region;
  - e. A high-voltage on-site substation and internal electrical distribution;
  - f. A main access road, an internal road network of approximately 65–70 km, a rail siding connecting to the Tarcoola–Darwin Railway, a 2,000m sealed airstrip, a workforce accommodation village, and borefield, water treatment, storage and reticulation infrastructure; and
  - g. Internal telecommunications and fibre-optic infrastructure within the project area.
5. The Proponent calculates the Preliminary Disturbance Envelope (**the Envelope**) at approximately 19,150 ha, and Attachment 1 (Figures) identifies a diversity of vegetation types within this area, including Coolabah, Lophostemon and Gutta Percha swamps, Corymbia/Eucalyptus woodland, tussock grassland, lancewood forest and bullwaddy shrubland. The eastern extent of the Project Area intersects the headwaters of drainage lines for Bucket Creek and Goochegoochena Creek, which drain into Newcastle Creek then Newcastle Waters and ultimately into Lake Woods, 60km to the south.
6. The Proposal represents an unprecedented proposal in Australia and, if constructed, would be Australia's largest hyperscale data centre. It is the first of its size to be referred under the *Environment Protection Act 2019* (NT) (**EP Act**), with a range of impactful consequences for protected matters that have never been assessed by Northern Territory regulators.
7. Relevantly, ECNT notes that the Senate Inquiry into Artificial Intelligence and Data Centres (**Senate Inquiry**) is due to report on 16 November 2026. The Terms of Reference for this Inquiry include:
  - a. The effectiveness of existing regulatory frameworks in managing the growth of data centres in Australia, including in relation to existing and future deals between the Government and global Artificial Intelligence (AI) companies; and
  - b. The potential impacts of AI and data centres on Australian communities, industries and the environment, water and energy.
8. In addition, a process is currently underway to establish a set of uniform national standards for data standards.



## Legislative framework

9. The EP Act sets out the framework for environmental impact assessment of proposed activities such as the Proposal in question. Key aspects of the EP Act for this decision include:
  - a. The objects of the EP Act, which are set out in s 3 and must be applied by the NT EPA. These include protection of the environment, promotion of ecologically sustainable development (**ESD**), community involvement, and recognition of the role of Aboriginal people as stewards of country.
  - b. The principles of ESD, which are defined in Part 2, Division 1 and must be applied by the NT EPA.
  - c. The environmental decision-making hierarchy, which is set out in s 26 and must be applied by the NT EPA.
  - d. The purpose of environmental impact assessment, which is set out in s 42 of the EP Act.
10. Section 55 of the EP Act requires that the NT EPA consider and deal with the referral in accordance with the Environmental Protection Regulations 2020 (NT) (**EP Regulations**).
11. To determine the method of assessment for a referral, the NT EPA is required to have regard to the criteria in r 59, being:
  - a. the significance of the potential impact of the proposed action;
  - b. the level of confidence in predicting potential significant impacts, taking into account the extent and currency of existing knowledge;
  - c. the level of confidence in the effectiveness of any proposed measures identified in the referral to avoid, mitigate or manage potential significant impacts of the proposed action;
  - d. the extent of community engagement that has occurred in relation to the proposed action; and
  - e. the capacity of communities and individuals likely to be affected by the proposed action to access and understand information about the proposed action and its potential significant impacts.



12. In this submission, we set out the issues of concern and potential effects of the Proposal to inform the NT EPA's decision under rr 56-57 of the Environment Regulations

## B. INQUIRY LEVEL OF ASSESSMENT REQUIRED

13. The EP Regulations require the NT EPA to determine whether to assess a referred action, and if so the appropriate assessment method. The methods of environmental impact assessment are listed in r 5(1) as:
- a. assessment by referral information;
  - b. assessment by supplementary environmental report;
  - c. assessment by environmental impact statement; and
  - d. assessment by inquiry (which, according to r 5(2), can be carried out separately or with any of the other methods of EIA).
14. For the reasons discussed in this Submission, we submit that the NT EPA must assess the Proposal at the highest level, through an assessment by inquiry.
15. Further, should the Proposal be assessed by way of EIS, this should be combined with an inquiry as contemplated in r 5(2) of the Environment Regulations.
16. Should a combined assessment method be applied, an inquiry could be undertaken specifically into the potential impacts of the Proposal on environmental factors of Terrestrial Ecosystems, Aquatic Ecosystems, Hydrological Processes, and Atmospheric Processes (these impacts are discussed below in this Section). These impacts have the widest and most serious potential impacts and require the particular levels of transparency, community engagement and scrutiny that an inquiry assessment can deliver. Any inquiry should also examine how the broader NTG data centre policy impacts these factors.

## C. Significance of potential impacts and adequacy of the proposed Terms of Reference

17. The potential impacts of the Proposal and the NTG data centre policy are highly significant. ECNT is concerned that the significance of potential impacts is not adequately addressed in the Referral Document and that the Proponent has failed to identify several potential significant impacts altogether. The NT's lack of quality baseline data, long-term ecological monitoring and fine scale vegetation mapping means that the application of the precautionary principle is critical to avoid unacceptable and significant impacts.



## Adequacy of information presented in the Referral

### The Proponent must substantiate its estimated water extraction requirements

18. The proponent anticipates that the project will require extraction of 4GL water each year. We estimate that data centres of a similar size would ordinarily require 25ML for every megawatt of capacity. This would mean, based on historic data, that a project of this capacity would require 25GL of water per year.<sup>1</sup>
19. We recognise that data centre technology is evolving and new technologies are emerging to reduce water consumption from these facilities. However, the Proponent has not included information in the Referral about how it would achieve such a reduction.<sup>2</sup>
20. Given the considerable difference between the proposed extraction volume of 4GL and historic data centre consumption volumes, and the significant (in our submission, unacceptable) impacts of the larger extraction estimation on environmental factors, we submit that the Proponent should be directed to substantiate its estimate of water extraction required for the Proposal.

**Recommendation: The Terms of Reference should include a requirement to describe and verify water extraction estimates.**

### The Proponent has not adequately identified the areas of potential impact

21. ECNT submits that the Proponent has mischaracterised the potential significant impacts that could result from the Proposed Action's impacts on groundwater.
22. The Referral documentation takes a narrow approach to the potential geographic scope of water-related impacts, stating that "it is unlikely that significant groundwater dependent ecosystems (GDE) are present within the extent of the project area because vegetation typically cannot access groundwater reserves at aquifer depth greater than 20 m", and that there are no springs in the project area.
23. In restricting its assessment of potential impacts to GDEs and water resources to the project area, the Proponent has failed to account for the fact that impacts to groundwater

---

<sup>1</sup> Mytton, David (2021) Data Centre Water Consumption *Clean Water* 4 (11)

<sup>2</sup> We note that in its Referral to the Northern Territory EPA, that Proponent asserts that "The data centre cooling system will be designed to minimise water consumption. Direct liquid cooling, in which heat is removed directly from IT equipment using liquid coolant in closed loop, is the preferred cooling approach for the Project, consistent with emerging best practice for high-density AI and machine learning workloads." While this contains greater clarity than the information presented in the Referral currently under consideration, we are concerned about the lack of certainty afforded by this description of project infrastructure.



are not bound by the terrestrial perimeters of projects and would extend far beyond what has been identified in this Referral as the 'Preliminary Disturbance Envelope', by virtue of inter-aquifer and inter-basin connectivity.

**Recommendation: The Terms of Reference should include a requirement to model local and aquifer-wide impacts of drawdown, and this should inform identification and assessment of impacts on hydrological process, groundwater-dependent ecosystems, and aquatic ecosystems.**

**The Proponent must address impacts of gas-fired power generation.**

24. ECNT submits that insufficient information has been submitted about the nature and impacts of planned gas-fired power generation and as a consequence has failed to address related impacts to air quality.
25. We note that projected gas-fired capacity is 1,038 MW, which far eclipses power generation for the entire Northern Territory.<sup>3</sup> We estimate that this scale of gas-fired power generation would generate in excess of 5Mtpa of CO<sub>2</sub>-e per annum if running at full capacity<sup>4</sup>, and that even at 25% these emissions would exceed 1Mtpa.<sup>5</sup>
26. Such a project would likely trigger Referral under the EP Act in its own right, due to significant impacts on local populations of listed species and habitats critical to the survival of listed species, including but not limited to emission of air toxics, noise and light pollution, and planned and unplanned discharge of contaminants to terrestrial and aquatic environments.
27. We submit that the nature and significance of impacts of proposed gas-fired power generation have not been accurately described by the Proponent.

**Recommendation: The Terms of Reference must include details of various scenarios (including full dependence on gas-fired power generation), and detail risks and impacts associated with air toxics, noise, light, vibration, and contamination on all relevant environment factors.**

**Environment factors not identified for further assessment**

---

<sup>3</sup> Refer to overview of NT power generation at <https://territorygeneration.com.au/about-us/our-power-stations/>

<sup>4</sup> Based on calculated output of 80PJ

<sup>5</sup> Based on calculated output of 20PJ



28. While the Proponent acknowledges that six of the 14 possible factors of environmental impact per the NT EPA's environmental impact assessment framework should be further assessed, ECNT contends the following additional factors should also be included in the Terms of Reference.

- a. **(Land)** Landforms – despite the relatively low relief of landforms in the area, the impact on dunes, ephemeral creeks and associated structures and ecosystems following land clearing and inundation should be assessed.

**Recommendation: The Landforms be addressed as a relevant Environment Factor in the Terms of Reference.**

- b. **(Water)** Aquatic ecosystems – due to the extensive groundwater extraction essential to the Proposal, a comprehensive study should be undertaken to assess the impacts on aquatic ecosystems, noting in particular:
  - i. presence of stygofauna and other freshwater-dependent organisms contained in the aquifer both on-site and in adjacent areas. One surface species, *Ambassis agrammus* has been observed and noted in the Fauna Atlas NT<sup>6</sup> in the disturbance footprint of the Proposal.
  - ii. Overextraction of water from one basin within the broader Cambrian Limestone Aquifer (CLA) has the potential to impact aquatic ecosystems sustained in each basin including the Tindall Limestone Aquifer and its discharge into the Roper River and associated aquatic ecosystems including springs, wetlands and billabongs such as the Nationally Important wetland - Mataranka Thermal Pools, Bitter Springs, Longreach waterhole, Warloch Ponds and Red Lily Lagoon.
  - iii. It follows that impacts to these springs and waterways would have potentially significant impacts to aquatic ecosystems including but not limited to the vulnerable Speartooth Shark (*Glyphis glyphis*), the critically endangered Largetooth Sawfish (*Pristis pristis*), the endangered Pig-nosed Turtle (*Carettochelys insculpta*), the critically endangered Mitchell's water monitor (*Varanus mitchelli*), and a range of threatened and migratory bird species.
  - iv. These matters must be considered in the context of the NTG data centre policy and the prospect of a dozen such facilities extracting water from these interconnected systems.

**Recommendation: That the Environmental Factor “Aquatic Ecosystems” be included in the Terms of Reference, with specific reference to the issues raised above.**

<sup>6</sup>[https://www.ntlis.nt.gov.au/metadata/export\\_data?type=html&metadata\\_id=2DBC771208B06B6E040CD9B0F274EFE](https://www.ntlis.nt.gov.au/metadata/export_data?type=html&metadata_id=2DBC771208B06B6E040CD9B0F274EFE)



- c. **(Water)** Inland water environmental quality – due to the large quantity of water required annually and the need for disposal or treatment of black, grey and the Proposal’s wastewater, an assessment of the impacts this will have on groundwater, surface water and the interaction with hazardous waste and soils must be undertaken to ensure contamination will not occur.

**Recommendation: That the Environmental Factor “Inland water environment quality” be included in the Terms of Reference, with specific reference to impacts of salinity in the aquifer and risks of water quality deterioration.**

- d. **(People)** Human Health. The Referral has not adequately described or assessed potential significant impacts on human health, including:
  - i. The potential impacts from increased heat. It has been well established that large-scale data centres increase heat in their vicinity by up to nine degrees, in such a harsh arid environment like Murrnaji this increase could render the environment practically unliveable for the operational workforce – the effects of this temperature increase should be assessed. It is also understood that low frequency noise from such large facilities can travel more than eight kilometres, which will affect the workforce and residents of the Murrnaji Homestead. Low frequency noise pollution has been likened to the ominous drone associated with horror films; the effect this can have on humans physical and mental health requires assessment.
  - ii. The potential human health impacts of air toxics and air pollution released as a result of gas-fired power generation, including planned emissions and unplanned scenarios including pipeline rupture.

**Recommendation: That the environmental factor “Human Health” be included in the Terms of Reference, with specific reference to the impacts of heat, air emissions and sensory pollutants.**

- e. **(Air)** Air Quality. The referral fails to adequately describe impacts related to air quality, namely:
  - i. Impact on air quality from dust and vehicle emissions will be significant and ongoing through the operational life of the Proposal. An assessment on air quality should be made through the various construction phases as well as projections on air quality of maintenance and operational processes over the life of the Proposal.
  - ii. The impacts of gas-fired power generation, as discussed in [24]-[27].



**Recommendation: That the environmental Factor “Air Quality” be included in the Terms of Reference, with specific reference to the nature and impacts of gas-fired energy generation, and emissions related to construction and operation**

Significance of impacts in relation to NT EPA factors identified for further assessment.

## Terrestrial ecosystems

29. ECNT is unsatisfied that the environmental factor “Terrestrial Ecosystems” has been adequately addressed in the Referral Document. The deforestation of 19,500 hectares of land that contains recognised “significant vegetation” per Table 5-5 of the Referral Document, requires permanent protection rather than “ground truthing”.
30. Analysis of the only vegetation studies made of the Envelope show that significant weed infestation has occurred on the boundaries, along existing fence, road and rail lines. However, the interior of the Envelope is largely weed-free. This would be prime foraging and nesting habitat for threatened species such as the Greater Bilby and Grey Falcon.
31. Land clearing is acknowledged as a Key Threatening Process to threatened species (including in the Northern Territory) under the EPBC Act. Habitat loss and fragmentation, including due to land clearing, has long been recognised by the NT Government as a key threat to the NT’s biodiversity.
32. Research undertaken for the NT Government has suggested that significant, landscape-scale (> 3000 ha) impacts on biodiversity may occur if more than 50% of native vegetation is cleared, potentially reducing biodiversity to “a point where some populations may fall to unsustainable levels”<sup>7</sup>
33. Data scarcity impacts the certainty with which threats to biodiversity can be assessed through desktop analysis. Records are virtually non-existent in some remote areas of the NT, particularly on pastoral land; plants, invertebrates and reptiles are particularly underrepresented. As a result, it is vital that comprehensive, species and site-appropriate species surveys inform decision making with regard to this project and assessed through inquiry in the context of the NTG data centre policy.
34. Land clearing applications and major projects in the vicinity of the project area threatened to amplify the impacts of the proposed activities. The proposed scale of land clearing at Muckaty<sup>8</sup> is well beyond the level that research shows will have a significant impact on

---

<sup>7</sup> [https://environment.nt.gov.au/media/docs/annual-reports/AR\\_2009.pdf](https://environment.nt.gov.au/media/docs/annual-reports/AR_2009.pdf)

<sup>8</sup> ECNT (2025) Submission on the Referral of the Muckaty Solar Precinct Referral. Accessed via [https://www.ecnt.org.au/muckaty\\_epbc\\_referral](https://www.ecnt.org.au/muckaty_epbc_referral)



regional biodiversity. On this basis ECNT submits that regional, cumulative impacts on terrestrial ecosystems should be addressed as a potential significant impact pathway.

35. A total of 11 listed threatened species that may be found within or near the Primary Disturbance Envelope is presented in Table 5-6 of the Referral Document:

- a) Greater Bilby (*Macrotis lagotis*) – Vulnerable under the EPBC and TPWC Act
- b) Northern Blue-tongued Skink (*Tiliqua scincoides intermedia*) – Critically endangered under the EPBC Act, considered data deficient under the TPWC Act
- c) Grey Falcon (*Falco hypoleucos*) - Vulnerable.
- d) Plains Death Adder (*Acanthophis hawkei*) – Vulnerable under the EPBC and TPWC Act
- e) Yellow-spotted Monitor (*Varanus panoptes*) – Vulnerable under the TPWC Act
- f) Merten’s Water Monitor (*Varanus mertensi*) – Endangered under the EPBC Act and Vulnerable under the TPWC Act.
- g) Mitchells Water Monitor (*Varanus mitchelli*) – Critically endangered under the EPBC Act and Vulnerable under the TPWC Act.
- h) Sharp-tailed Sandpiper (*Calidris acuminata*) - Vulnerable, migratory under the EPBC Act
- i) Curlew Sandpiper (*Calidris ferruginea*) – Critically endangered under the EPBC and TPWC Act; migratory.
- j) Australian Painted Snipe (*Rostratula australis*) – Endangered under the EPBC and TPWC Act
- k) Common Greenshank (*Tringa nebularia*) – Endangered, migratory under the EPBC Act

36. Notwithstanding concerns about the impacts of the project of the above-listed species, ECNT submits that an expanded assessment of other impact pathways, including impacts to groundwater and air quality, and impacts rendered to transiting species should inform the identification of potentially-impacted species in a wider footprint area as discussed in [21]-[27].

37. The proposed project location represents important habitat for a number of threatened species, including:

- a) The Northern blue-tongued skink. Conservation Advice for the critically endangered Northern blue-tongued skink asserts that individuals of this species “move widely across savanna landscapes in the wet-season, but they spend an average of 95 % of their time in small, fragmented patches of relatively dense vegetation that provide cool, shaded, and damp conditions within an otherwise inhospitable landscape,” and as such, “(a)reas of dense vegetation that provide cool and moist conditions within otherwise hot, dry, and flammable landscapes that are within the historical



distribution of the northern blue-tongue skink (...) are habitat critical to the survival of this species.”<sup>9</sup>

- b) The Australian Painted Snipe. The National Recovery Plan for this species establishes that “habitat critical to the survival of the Australian Painted Snipe can be considered to include: Any natural wetland habitat where the species is known or likely to occur (...) [and] (a)ny location outside the above area that may be periodically occupied by Australian Painted Snipe when wetland conditions are favourable.” This should inform survey efforts to establish species likelihood, as “it is also important to note that the Australian Painted Snipe opportunistically uses areas depending on the occurrence of suitable wetland habitats and prey species. Areas that may be important habitat over time might not have birds in any given year.”<sup>10</sup>
- c) The Greater Bilby. Federal Conservation Advice establishes, as an interim guide, that habitat critical for the survival of that species includes “(a)ny area where the species is known or likely to occur as shown on the distribution map on the greater bilby SPRAT profile(...), Any location outside the known or likely distribution where bilbies are found to occur, (a)ny area, between the areas noted above, that may be periodically occupied by bilbies [and] (a)ny area which bilbies may naturally colonise or may feasibly be reintroduced.”<sup>11</sup>

38. Given that the project area overlaps with at least three habitats considered critical of the survival of listed species, it is of particular concern that the Referral fails to identify and assess a range of significant impact pathways on terrestrial ecosystems, including those related to heat generation, gas-fired power generation, sensory pollutants, and consequent cumulative impacts.

39. Up to 90% of data centre electricity usage is estimated to be converted to low-grade waste heat,<sup>6</sup> reaching between 30 and forty degrees Celsius.<sup>7</sup> Researchers have found that land surface temperatures around data centres increase by an average of 2 degrees Celsius, with some areas recording increases as high as 9 degrees Celsius. These impacts are experienced up to 10 kilometers away from data centre facilities.<sup>8</sup> The proposed 7,000 ha solar PV array adjacent to the data centre facility may similarly contribute to localised upwards temperature pressures.<sup>12</sup> The Proponent has not addressed the potential significant impacts of increased temperature in the area surrounding the project location.

<sup>9</sup> Department of Climate Change, Energy, the Environment and Water (2023) Conservation Advice for *Tiliqua scincoides intermedia* (northern blue-tongue skink) p7

<sup>10</sup> Department of Climate Change, Energy, the Environment and Water (2022) National Recovery Plan for the Australian Painted Snipe, p12

<sup>11</sup> Department of Climate Change, Energy, the Environment and Water (2023) Recovery Plan for the Greater Bilby (*Macrotis lagotis*), p16

<sup>12</sup> Barron-Gafford, G., Minor, R., Allen, N. et al. (2016) The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures. *Scientific Reports* 6, 35070.



40. This is of particular concern given that as a result of climate change, the project area is already projected to experience a sharp increase in the number of days of extreme heat; the nearby town of Elliot is projected to experience an additional 35 days of >40 degree heat by 2050.<sup>13</sup>
41. As an example of potential impacts, we refer to emerging research suggesting that the Greater bilby responds to heat by retreating deeper into their burrows. While this could mean bilbies are well-prepared to protect themselves from short spikes in heat, they “may suffer if they cannot cope with the high nocturnal temperatures they are exposed to during foraging, particularly during prolonged heatwaves.”<sup>14</sup> This is significant as the anticipated round-the-clock operation of the Proposed Action may significantly alter night time temperatures, with significant impacts on the ability of Greater bilby populations to engage in foraging activity.
42. The proponent indicated in the Referral that the Proposed Action has the potential to impact the Greater bilby due to loss of habitat, direct mortality and increase in predator populations. These are significant impacts that are amplified when considered in the context of additional pressures and behavioural changes that may result from increased heat, and potentially from avoidance or other behavioural changes that may result from noise, light, and vibration.

**Recommendation: ECNT submits that the Terms of Reference for Terrestrial Ecosystems must include:**

- **Identification of the potentially affected area that includes groundwater dependent ecosystems and other ecosystems outside the project area that may be impacted by changed to hydrological processes caused by water extraction and altered hydrological processes.**
- **Identification and assessment of risks and impacts associated with heat, air pollution, and sensory pollution such as noise, light and vibration.**
- **Identification and assessment of potential significant cumulative impacts of land clearing that accounts for current land clearing proposals in the region.**

## Hydrological processes

43. The Referral states that the Proposed Action will extract approximately 4 GL of water per year from the Montejinni Limestone Aquifer in the Wiso Basin, part of the broader Cambrian Limestone Aquifer (CLA). The Wiso Basin is one of three basins across the CLA – the Daly, Wiso, and Georgina – which are connected to each other.

<sup>13</sup> Climate Justice Alliance NT (2025) NT temperature projections resource. Accessed via <https://jss.org.au/policy-submissions/climate-justice-alliance-nt-temperature-projections-resource/>

<sup>14</sup> Arid Recovery (2025) Can bilbies and rabbits beat the heat? Accessed via <https://aridrecovery.org.au/news/2025/can-bilbies-and-rabbits-beat-the-heat>



44. Throughflow of water between these basins is poorly quantified but, according to analysis by Prof. Matthew Currell and Dr Christopher Ndehedehe,<sup>15</sup> appears nonetheless to be a significant part of the water balance of the entire CLA. Overextraction from one basin within the broader CLA therefore has the potential to impacts hydrological processes across the entire aquifer.
45. In our 2022 submission<sup>16</sup> to the Northern Territory Department of Environment, Parks and Water Security's public consultation on the Georgina Wiso WAP, we demonstrated that:
- a) Knowledge of the water balance, hydrogeology and groundwater dependent ecosystems of the Georgina Wiso Basin are currently not sufficient to fully understand the effects of large-scale water extraction.
  - b) There is considerable uncertainty associated with the recharge for the Georgina and Wiso Basins.
  - c) It is unclear how or why the value of 40% of recharge was determined to represent a sustainable level of extraction.
  - d) A report by Professor Matthew Currell and Dr Christopher Ndehedehe suggests that underestimated sustainable yield established in the Georgina Wiso WAP may lead to a situation where "significant aquifer overdraft may occur for many consecutive years (or decades) before the next episodic recharge event occurs."
  - e) The depletion of storage in the Georgina and/or Wiso basins to the south would result in throughflow from these basins no longer sustaining the Tindall Limestone aquifer, and a change to net loss of groundwater throughflow.
46. In relation to the environmental factor "Hydrological Processes", the Referral Document alarmingly identifies that:
- "The construction of a large area of photovoltaic panels is likely to alter the drainage and permeability of a significant area of land, and there is a high level of uncertainty on how the Project would affect surface flows, particularly during flood conditions."*
47. While the proposed Terms of Reference does include a requirement to assess how hardstand infrastructure may impact groundwater systems and surface water systems, we submit that the cumulative impacts of this and other existing and proposed projects need to be addressed.

<sup>15</sup> Currell, M.J., Ndehedehe, C., (2022) The Cambrian Limestone Aquifer, Northern Territory: Review of the Hydrogeology and Management Rules to Ensure Protection of Groundwater Dependent Values. Report prepared for Environment Centre NT. Accessed via [https://assets.pc.gov.au/\\_\\_data/assets/pdf\\_file/0003/378660/sub54-water-reform-2024-attachment2.pdf](https://assets.pc.gov.au/__data/assets/pdf_file/0003/378660/sub54-water-reform-2024-attachment2.pdf)

<sup>16</sup> ECNT (2022) Submission on the Draft Georgina Wiso Water Allocation. Accessed via [https://assets.nationbuilder.com/ecnt/pages/761/attachments/original/1671167243/Submission\\_-\\_Draft\\_Georgina\\_Wiso\\_Water\\_Allocation\\_Plan.pdf?1671167243](https://assets.nationbuilder.com/ecnt/pages/761/attachments/original/1671167243/Submission_-_Draft_Georgina_Wiso_Water_Allocation_Plan.pdf?1671167243)



48. The significance of impacts to hydrological processes will be amplified by the climate change, and resultant changes to rainfall and heat patterns. Appropriate climate impact modelling should also inform the identification and assessment of impacts.

**Recommendation: The Terms of Reference should include detailed groundwater modelling of the drawdown associated with water extraction, assessing local and regional impacts across the hydrological processes of the CLA, and a cumulative assessment of impacts to groundwater and surface water systems. Both of these assessments should be informed by climate modelling and anticipated changes to rainfall and heat patterns during the life of the project.**

## Atmospheric processes

49. ECNT is concerned that the environmental factor of “Atmospheric Processes” is not adequately addressed in the Referral Document or the Terms of Reference.
50. The Referral Document claims that the planned 3GW solar farm can do the heavy lifting for power generation for the Proposal, however the Proponent’s website asserts that “Gas would do real work rather than sit idle, carrying more of the load in the early years while the solar (up to 3,000 MWp) and battery storage (16 GWh) stages are built and commissioned, and progressively less as they come online.” No detail is provided about the anticipated period of gas-fired operation or consequences for atmospheric processes.
51. Even when the solar component comes online, modelling from an independent source contends that even at full operational capacity the Proposal would require gas power to augment renewable supply between 30% and 50% of the time – this requires significant investigation before the public and regulators can have confidence in the Proponents claims.
52. The atmospheric impacts of the project and the cumulative impacts of multiple projects on NT emissions potentially created by the NTG Data Centre Policy must be fully assessed in the context of NT and Federal emissions reduction commitments.

**Recommendation: The Terms of Reference for Atmospheric Processes should include a requirement to assess the project’s greenhouse gas emissions in a range of modelled project scenarios, including delayed construction and integration of the solar component as contemplated by the Proponent on their website.**

## Culture and heritage

53. ECNT submits that a substantive “Culture and Heritage” assessment can only be made following extensive consultation with the Traditional Owners of the Envelope parcel of land



but also the Traditional Owners of the broader Barkly region, assessing the impacts in a landscape-wide cultural heritage assessment.

## D. Community engagement and capacity

54. The extent of community engagement that has occurred in relation to the Proposal is minimal. We do not consider ECNT was properly engaged as a key stakeholder and representative peak body organisation ahead of the publication of the Referral Document.
55. We are aware of significant public interest and community concern about the Proposal and the NTG data centre policy which necessitates transparency and further opportunities for public participation in this assessment. This is evidenced by the intense level of media coverage and subsequent public commentary.
56. ECNT considers the cumulative effect of multiple data centres, their associated power and water requirements as a matter of utmost importance to the Northern Territory community, its environment and its commitments to achieve net zero emissions by 2050, articulating to the public and experts alike how these can be achieved is crucial for the Proponent to proceed.
57. The capacity of communities and individuals likely to be affected by the Proposal to access and understand information about the Proposal and its impacts is not adequately addressed by the Referral Document and the Proponent's engagement to date.
58. The Proposal and the NTG's data centre policy are of immense scale and technical complexity, including concepts such as deforestation, impacts on threatened species, power consumption, hydrological processes, and climate change.
59. Potentially affected communities and individuals for this referral include those with limited technical expertise or education, limited time and resources to devote to reading complex project documents, limited access to the internet, and cultural or language barriers including living remotely. These communities and individuals would be better able to understand information about the Proposal if the opportunities to participate in the assessment:
- a) included opportunities for oral engagement, which may include formal and/or informal settings (e.g. public hearings);
  - b) were transparent, independent and not conducted solely by Energy North representatives;



- c) were administered by appropriate persons (e.g. members of a panel with experience and/or suitable qualifications to engage with these affected communities); and
- d) had been determined and programmed well in advance so that communities and individuals were able to make necessary arrangements to participate (e.g. subject to a terms of reference which included a schedule of how an inquiry would be conducted).

## E. Conclusion

60. The Referral has failed to address significant impacts associated with large-scale power generation, water extraction, and the operation of the data centre facility and solar farm. Individually and cumulatively, these activities may present unacceptable risks and impacts, and it is imperative that the NT EPA require further information from the Proponent through amendment to the Terms of Reference and by requiring an inquiry level of assessment.
61. This Submission has outlined a series of recommendations in relation to information required about potential significant impacts, but we caution that the capacity of all stakeholders – including ECNT – to meaningfully engage in public consultation processes on this project is limited by the unprecedented nature of the proposal and limited public awareness of the range and nature of impacts. ECNT is deeply concerned that too little is understood about the nature of significant impacts of a hyperscale data centre of this nature; this uncertainty is reflected in major gaps in the Referral currently under consideration.
62. The Proposal and broader NTG data centre policy will have a wide range of potentially significant environmental impacts. As set out in this submission, the highest level of assessment must be applied, being assessment by inquiry. We appreciate the opportunity to provide comment on this Referral and welcome further discussion of the concerns raised in this Submission.

Please contact us at [bree.ahrens@ecnt.org](mailto:bree.ahrens@ecnt.org) should you wish to discuss the content of this submission.

Yours sincerely,



A handwritten signature in black ink, appearing to read 'Bree Ahrens', followed by a period.

Bree Ahrens  
Acting Executive Director  
Environment Centre NT