Environment Centre NT

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25 November 2025

Northern Territory Environment Protection Authority
GPO Box 3675
DARWIN NT 0801

Via open consultation webpage

To Whom it May Concern,

Re: Submission in relation to SunCable Muckaty Solar Precinct Referral.

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. ECNT has long advocated for the transformation of the Northern Territory's economy into one grounded in renewable energy production, rather than continued reliance on fossil fuels. ECNT's 'Recharging the Territory' report proposes an alternative economic vision for the NT that could see thousands of new jobs and lower power prices for Territorians.[1] ECNT believes that the Northern Territory can capture an incredible opportunity to turn the Northern Territory's abundance of solar resources into jobs, drive economic growth, and secure an affordable energy future for all Territorians.

3. ECNT refers to the proposed action by SunCable (AAPowerLink Australia Assets Pty Ltd) to develop a large-scale solar generation and Battery Energy Storage System precinct on Muckaty Aboriginal Land Trust **(Muckaty Proposal).** The Project Area comprises 105,000 hectares of land within the Barkly Regional Local Government Area (LGA), with a disturbance footprint of approximately 49,300 hectares. Within that area it is proposed that there will be several solar generation sites (including solar panels, local collector network, inverters, batteries, substations) as well as transmission infrastructure and non-process infrastructure.

[1] Recharging the Territory Report - Environment Centre NT

4. The Muckaty Proposal may be a step towards the goal of the Northern Territory becoming a renewable energy superpower. Nevertheless, the scale of the project is possibly unparalleled in Australia, or even globally. Furthermore, the referral is lacking crucial details that would enable a proper assessment of its impacts. For these reasons, ECNT submits that it requires a high degree of scrutiny for its impacts on nature and communities, at the level of environmental impact statement.

Uncertainty and insufficiency of information

5. The referral states that 'SunCable is exploring additional large-scale generation sites in the Barkly region that will position the company to respond to forecast and emerging growth in renewable energy demand… More recently, SunCable has also identified Data Centres as a highly prospective market and is exploring the potential for Data Centre customers to locate near a large-scale renewable energy supply.' There is no detail given about prospective data centre operators or customers. The project thus appears vague and speculative, and the referral seems premature.

6. There is thus a high degree of uncertainty about the Muckaty Project, including its purpose, scope and viability, which makes an assessment of its impacts very challenging, if not impossible. It is not possible, for example, to assess the project's social and economic impacts and benefits, for example, and how these are to be weighed against its significant environmental impacts. It is similarly not possible to ascertain why a project of this scale is actually required without any information about prospective industrial customers. ECNT notes, in this regard, that the current "boom" in AI data centres may be shortlived, and recent Northern Territory experience with failed large scale projects that have caused or are causing significant environmental impacts (the Darwin Shiplift, Project Sea Dragon, the AACo abattoir, the sandalwood industry, the Roper region "iron ore province", the green hydrogen industry) should encourage a precautionary approach being taken by the NTEPA regarding the project's mooted economic benefits.

7. Per regulation 47(a) of the *Environment Protection Regulations*, ECNT submits that the referral contains insufficient information for the NTEPA to make an assessment decision, including because of uncertainty about the project's purpose, scope and viability, the failure by SunCable to provide information on other suitable sites, and the failure by Suncable to prepare a Social Impact Assessment (SIA) or Social Impact Management Plan (SIMP) for the Muckaty Project. SunCable instead proposes to rely on the SIA and SIMP prepared for the Powell Creek project. Created three years ago in 2022, the SIMP was described by the Northern Land Council as "deficient" as well failing to "address the NT EPA's requirements for an SIMP, as set out in the NT EPA's

Guidelines for the Preparation of an Economic and Social Impact Assessment."[2] It is manifestly inadequate to rely on an SIA for a different and vastly different project, and would be inconsistent with the requirements of the NTEPA.

Decision-making hierarchy

8. SunCable must demonstrate that it will apply the decision-making hierarchy (section 26 of the *Environment Protection Act*).

9. ECNT is concerned that the Muckaty Project will entail very significant residual environmental impacts, especially to habitat critical to the survival of the vulnerable Greater Bilby.

10. SunCable must demonstrate how it will offset all residual biodiversity impacts (after demonstrating is has first attempted to avoid and mitigate these impacts). If these impacts cannot be appropriately and completely offset, then the project should be refused.

Significant impacts

<u>Terrestrial ecosystems - threatened and migratory species impacts</u>

11. The NTEPA environmental objectives in relation to land, are relevantly[3]:
    a. Conserve the variety and integrity of distinctive physical landforms.
    b. Protect the quality and integrity of land and soils so that environmental values are supported and maintained.
    c. Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.

12. The proposal within this referral spans 105,000 hectares, with a disturbance footprint 49,300ha. ECNT submits that this is a very significant amount of proposed clearing and land use change, the size of which is possibly unparalleled in Australia, or even globally.

13. ECNT is particularly concerned about the potential destruction of swathes habitat for the greater bilby, one of Australia's most iconic animals. Environmental surveys at Muckaty Station recorded signs of greater bilbys at 53 sites, of which 33 sites were 'confirmed bilby' and 20 sites were 'likely bilby'. Greater bilby signs included 73 burrows, numerous diggings and a few scats and tracks. ECNT understands that these surveys have extended the known habitat of the greater bilby in Australia, meaning that

[2] Northern Land Council's Submission to the Northern Territory Environment Protection on SUN CABLE'S AUSTRALIA-ASIA POWERLINK: SUPPLEMENTARY ENVIRONMENTAL IMPACT STATEMENT, p1. Northern Land Council - Submission on EIS supplement AA Powerlink

[3] NTEPA Environmental factors and objectives guidance (n 21), p 7.

the surveyed bilby population is an important population per the EPBC Act "significant impact" guidelines.

14. Prior to European colonisation, bilbies occurred across approximately 70 per cent of the Australian mainland. Population declines began in the late 1800s, and bilbies have now disappeared from approximately 80 per cent of their historical range.[4] It now mostly survives on arid and semi-arid areas in the Northern Territory; hence it being known as one of the last strongholds for the species[5].

15. The recovery plan for the greater bilby considers all areas where the animal is known or likely to occur to be habitat critical to the the survival of the species.[6] The recovery plan also says that habitat fragmentation and loss must be avoided where possible.

16. ECNT submits that the suggested mitigation measures offered by the Proponent are inadequate. For example, given the male bilby home range of 5km, wildlife corridors need to be designed so that they ecologically useful for the species (i.e. wider than the 200m minimum width as outlined in the NT's land clearing guidelines.[7] ECNT also submits that the Proponents suggestion that the clearing of 36,000 of critical habitat will not lead to a long-term decrease in the size of an important population has not been – and arguably cannot be – substantiated within this Referral.

17. As mentioned above, ECNT submits that SunCable must be required to offset residual impacts to bilby populations, per the decision-making hierarchy.

18. The Environmental Surveys undertaken at Muckaty also found a moderate likelihood of one of Australia's rarest birds of prey, grey falcons, as well as yellow spotted monitors, within the project area. The Referral points out that foraging, hunting and nesting habitat for grey falcons would be impacted by this project. Grey falcons are listed as Vulnerable under both the federal and Territory laws.

19. Solar facilities impact fauna through habitat loss and fragmentation, altered microclimate, and creation of novel habitat. Evidence also suggests increases in insect, bird and bat species richness and abundance around solar facilitates built over

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[4] Southgate, R. I. (1990). Distribution and abundance of the greater bilby Macrotis lagotis Reid (Marsupialia: Peramelidae). In J. H. Seebeck, P. R. Brown, R. I. Wallis, & C. M. Kemper (Eds.), Bandicoots and bilbies (pp. 293-302). Surrey Beatty and Sons.

[5] Conservation ecology of the greater bilby (Macrotis lagotis) by H.M. Geyle, p 6 Conservation ecology of the greater bilby (Macrotis lagotis)

[6] Recovery Plan for the Greater Bilby (Macrotis lagotis), DCCEEW, 2023, p 18 24 September 2025 Northern Territory Environment Protection.docx

[7] NT Planning Scheme Land Clearing Guidlines, land-clearing-guidelines.pdf

degraded landscapes but a decrease when comparison is made with relatively intact reference landscapes.[8]

20. Many animals, including insects and birds, have well-tuned polarisation vision and use the information from polarised light for navigation and to locate resources. Polarised light pollution, i.e. "light that has undergone linear polarisation by reflecting off smooth, dark buildings, or other human-made objects", can represent an ecological trap for birds and insects[9], which is known as the 'Lake Effect Hypothesis' (LEH). Solar panels would also reflect moonlight, and reflected polarised light from panels could be perceived as waterbodies by bats[10].

21. Given the proximity of large wetlands (such as Lake Woods) that are frequented by migratory species, and other regional wetlands like North-west Junction Swamp Bundara Swamp to the east, ECNT submits that LEH proposes a risk to species and that the Proponent's suggestion that 'an adaptive management approach will be applied, which allows for mitigation measures to be implemented commensurate to the realised risks as they arise' is not an adequate mitigation measure.

Hydrological impacts

22. Land clearing has the potential to significantly impact the health of rivers, creeks and other aquatic environments such as wetlands and groundwater dependent ecosystems (GDEs), particularly where cleared land borders rivers and creeks. It is a direct cause of erosion, sediment and chemical runoff and other pollutants entering into waterways – affecting in-stream habitat and the viability of aquatic wildlife populations.

23. ECNT is concerned about the proximity of the proposed solar farm to Lake Woods, which is a sensitive ephemeral wetland with conservation significance. The lake is about 26km to the north of the proposal, however the southern extent of area that these wetlands reach during a flood is about 13km from the proposal[11]. Lake Woods is an internationally significant wetland[12]. It is important for waterbird migration, breeding and populations. At times it supports over 100,000 waterbirds[13]. Tomkinson Creek

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[8] P.A. Fleming (2025) All that glitters – Review of solar facility impacts on fauna, Renewable and Sustainable Energy Reviews, https://doi.org/10.1016/j.rser.2025.115995 https://doi.org/10.1016/j.rser.2025.115995

[9] 16. Horvath, G (2024). Polarization Vision and Environmental Polarized Light. 10.1007/978-3-031-62863-4.

[10] 17. Horvath, G (2024). Polarization Sensitivity and Insensitivity in Bats. 10.1007/978-3-031-62863-4_19.

[11] 12. Digital Earth Australia https://maps.dea.ga.gov.au/#share=s-mYmYKh57NcZV7nUN8vaV52ZNO5S

[12] 13. Harrison, L. (2009) Lake Woods Northern Territory Government, Palmerston https://territorystories.nt.gov.au/10070/532083/0/3

[13] 14. Territory Weed Management Lake Woods Wetland https://territoryweed.com.au/projects/lake-woods-wetland/

flows through the proposed clearing footprint for this project. It delivers water to Lake Woods. Solar arrays of this scale can be expected to change the size and velocity of stream flows, risking erosion and flooding; and carrying sediments and other pollutants to Lake Woods. Extensive hydrological modelling, and assessment of erosion risk, must be undertaken by Suncable.

24. ECNT understands that proposed data centres may require extensive water, particularly for cooling. It is likely that this would need to be sourced from groundwater (and specifically the Cambrian Limestone Aquifer). Site-specific hydrogeological modelling is required to demonstrate that groundwater use for the Muckaty Proposal will not adversely impact groundwater dependent ecosystems and sacred sites.

Impacts of a changing climate and atmospheric processes

25. Under section 42(b)(v) of the EP Act, all actions that may have a significant impact on the environment are assessed, planned and carried out taking into account the impacts of a changing climate. The NTEPA's Guidance on environmental factors and objectives requires the impacts on air to be considered when assessing a proposal.

26. The NTEPA environmental objectives in relation to air, are relevantly[14]:
    a. Protect air quality and minimise emissions and their impact so that environmental values are maintained.
    b. Minimise greenhouse gas (GHG) emissions so as to contribute to the NT Governments goal of achieving net zero GHG emissions by 2050.

27. Solar energy technologies and power plants do not produce Greenhouse gas (GHGs) emissions when operating[15], however land clearing for solar generation does involve significant GHG releases. Using the NT Government's Carbon Emissions Calculator, ECNT estimates that clearing 49,000ha of native vegetation at Muckaty could generate more than 2,200,000tCO2-e. This does not include the emissions generated from clearing 13,000ha of native vegetation at Powell Creek.

28. The National Climate Risk Assessment, released in September 2025, found that Northern Australia will be hardest hit by global warming on many fronts, including extreme heat. It said: 'Northern Australia is likely to experience escalating challenges as its proneness to hazards increases as global temperature rise. This will put pressure on health, critical infrastructure, natural species and ecosystems, and primary

[14] NTEPA Environmental factors and objectives guidance (n 21), p 7.
[15] https://cleanenergycouncil.org.au/for-consumers/fact-sheets/environment-and-planning-get-the-facts/renewable-energy agriculture#:~:text=As%20a%20rule%20of%20thumb,land%20uses%20with%20other%20sectors

industries. It will also pose additional challenges to emergency responders.'[16] An article in the Conversation by Adjunct Professor at CQ University, Steve Turton, states 'any discussion about transforming Northern Australia must confront the climate hazards threatening the region's prosperity.'[17]

29. While this Referral states that the project is aimed at the reduction of greenhouse gas emissions, the impacts of climate change are already being felt in the remote Northern Territory, including in areas where the project is to be located. Aboriginal residents in nearby Elliott and Tennant Creek, as well as several neighbouring Aboriginal communities, are experiencing devastatingly high summer temperatures, failed wet seasons, and are forced to live in housing that is not fit for these conditions due to decades of government neglect. The cost of electricity in particular is extremely prohibitive in these communities.

30. ECNT also notes that large projects in the remote Northern Territory (for example, mines) have a reputation for extracting the natural wealth of the Northern Territory for overseas customers and/or corporate shareholders and executives, with little return for local Aboriginal people or local economies beyond those contained in native title agreements.

31. The Referral States that the AAPowerLink Project will supply renewable power sourced from the Barkly region in the NT to industrial customers in Darwin and Singapore. ECNT submits that its constituents have raised concerns this SunCable project, despite its clear benefits in reducing global greenhouse gas emissions, may be just another extractive project in the Northern Territory that delivers benefits elsewhere.

32. ECNT encourages SunCable to work proactively with local communities to find solutions to their lived experience of the effects of climate change. For example, SunCable should commit delivering local benefits such as solar energy and battery storage in local communities, and funding ranger groups to ensure communities remain connected to Country. SunCable should investigate the option of supplying power for the Tennant Creek grid, as well as Darwin and Katherine. Local benefits in terms of jobs, investment and affordable energy must be embedded in the project design, as well as ways the community can participate in the project throughout its development.

Cumulative impacts

[16] Australian Government, 'Australia's National Climate Risk Assessment', (2025), p5 (Available here: https://www.acs.gov.au/pages/national-climate-risk-assessment).
[17] Professor Steve Turton, The Conversation, 'Dangerous climate change threatens Northern Australia's big 'food bowl' dreams (23 September 2025), (online, available:

33. The Proponent States in the Referral that 'There is the potential for a moderate-significant level of cumulative Community and economy impacts to occur as a result of the Proposal being constructed, operated, and decommissioned alongside the neighbouring AAPowerLink Project. Potential cumulative impacts could also be generated through the implementation of other major projects in the NT, such as the Beetaloo Sub-Basin Gas project, and the Ammaroo Phosphate Project more generally alongside this Proposal'.[18]

34. The referral also states that the significance of this social impact within the region is likely to be HIGH: Reduced affordability/availability of public and private accommodation in Tennant Creek due to increased demand from the indirect workforce (i.e. workers employed by local businesses to fulfil contracts), which is estimated to be around 3500 FTE.

35. The SIMP referred to for this project claims 'The Proponent aims to minimise cumulative negative impacts through collaborative planning with stakeholders and communities in the social areas of influence' but makes no reference to how the Proponent will address a serious housing shortage.[19]

Further information required

Failure to provide alternative sites

36. ECNT submits that the Proponent has not demonstrated that Muckaty is the best site for this solar farm. The Referral states that only locations close to the existing overhead transmission line were considered and that public lands leased for pastoral purposes (included leases already cleared and badly degraded) were excluded as these properties have limitations due to leaseholder's requirements/demands (i.e. expensive to compensate).

37. ECNT submits that a far more expansive search of suitable sites is needed to potentially identify areas of land that have already been cleared or that contain less environmental value. The details of these sites must be made available to the public.

38. Because other potential sites have not been identified, ECNT submits that this Referral should be refused as there is insufficient information for the NTEPA to make an assessment decision.

Failure to provide SIA and SIMP

[18] Referral document, page 125
[19] Social Impact Management Plan, page 72

39. A tailored SIA and SIMP has not been devised for the Muckaty Solar Precinct. The Referral instead references Potential Social Impacts assessed for the Powell Creek solar farm and cites plan to provide and updated SIMP in the future.

40. Created three years ago in 2022, the Powell Creek solar farm SIMP[20] was described by the Northern Land Council as "deficient" as well failing entirely to "address the NT EPA's requirements for an SIMP, as set out in the NT EPA's Guidelines for the Preparation of an Economic and Social Impact Assessment."[21]

41. Deficiencies highlighted by the NLC included:
'1. The SIMP does not cover what Sun Cable will do if unanticipated impacts emerge, if impacts are more severe than expected, or if management strategies are unsuccessful.
2. The SIMP does not include details on the monitoring, review and reporting framework or how it will operate.
3. The SIMP does not include robust and relevant review mechanisms – many of the specific review mechanisms contained in the SIMP bear little relation to the social impact to which they are linked, and some simply do not make sense.'

Conclusion

42. ECNT submits that the Muckaty Project should be assessed by way of environmental impact statement.

Yours sincerely

Kirsty Howey
Executive Director, Environment Centre NT

[20] Social Impact Management Plan
[21] Northern Land Council's Submission to the Northern Territory Environment Protection on SUN CABLE'S AUSTRALIA-ASIA POWERLINK: SUPPLEMENTARY ENVIRONMENTAL IMPACT STATEMENT, p1. Northern Land Council - Submission on EIS supplement AA Powerlink