Comments on NT EPA Referral for Wak Wak Solar Farm proposed by Darwin H2 Project Nominee Pty Ltd

By Grusha Leeman, Darwin 5th March 2026

Dear NT EPA, this development proposal has significant potential environmental impacts so please recommend its rejection to the Minister. I am a local and this proposal needs a lot of work to meet environmental and community requirements.

Heritage should always come first

Heritage should always be considered before a project proceeds this far. Statements like *"further survey and consultation is required to determine if there are further unregistered sacred sites within the proposal area"* show extreme disregard for the cultural heritage of the local indigenous people.

My understanding is many sacred sites are not registered deliberately to protect their sanctity. This is due to the fact that declared sacred sites are repetitively and wantonly desecrated. Assuming it is a mere box to tick to check that there are no more sacred sites, is akin to presuming that sacred sites are dreamt up to deter development.

Please ensure proposals are rejected until there has been the courtesy to sit down with the local custodians to determine where is special to them. And when they say no, then quit the pestering, and the proposal.

Locations better suited for solar development with lower ecological impact

To avoid the ecological costs of clearing prime savanna forests, solar development should be located in areas with minimal biodiversity and ecosystem disruption.

The first priority should be at the end use location. Industrial rooftops and their carparks can host vast arrays of solar panels, reducing the need for new land use as well as eliminating the need for more hideous pylons. That's assuming the MAD goes ahead, which would be mad. Middle Arm should not be made into factories. But if it is to be then it should be covered in solar panels.

Dual-use agrivoltaics, combining solar panels with compatible agricultural activities optimises land use without clearing natural habitats. There are plenty of nearby agricultural fields and cattle lots where the cattle often swelter with insufficient shade. The fields that grow grass in the Wet would still grow as the sun shifts and comes in either side plenty enough and would also slow the drying out of the soil and so facilitate sufficient growth. These panels could be propped a little higher to allow the tall cattle to pass under the higher part of the panels and graze underneath, and double the productiveness of these properties.

There are also crocodile farms where the crocodiles are denied access to deep cool water, instead having a tiny warm puddle and a plank of concrete for their entire existence. Adding solar panels to shade and therefore cool the water, and probably reduce the algal growth. This could double the productiveness of the property and possibly slightly reduce some of the cruel treatment of these ancient native animals. Dual-use agrivoltaics is perfect for the Darwin region.

Water storages in the NT suffer from our low topography and high irradiance, being shallow, becoming warm and evaporating often at higher rates than precipitation. There's a movement to install floating solar panels on dams to

both shade the drinking water whilst simultaneously providing space for power. The Darwin River Dam would be an excellent resource for this dual use.

Exploration of distributed renewable energy systems would reduce the need for large old growth forest areas to be bulldozed. Consideration of utilising greenfields properties should only be attempted after all available alternatives have been fully pursued. And even then, they should be located as close as possible to the end use.

Alternatives to this project were not properly considered.

A fragmented application with no sustainable landscape plan

It is alarming that there is acceptance of piecemeal applications. The whole landscape plan needs to be considered. The future local energy needs, the entire purpose and ramifications of a proposal, the desires and future possibilities for the region must be incorporated to ensure a single proposal doesn't ruin things for others.

Although there is an expensive government funded energy corridor being planned to primarily facilitate gas production (further proving the Pepper Inquiry correct that fracking could not be economically sensible), the proposed overhead power pylons should not be considered as a separate proposal. There's already plans to have overhead pylons and pipes going every which way. Indeed our generous government is rolling out the red carpet for the billionaires to install mega-pylons so tall they will need lights to come through this rural community on the vast trip to Singapore. As if the sun don't shine there, and bilbies are not endangered.

If the future is to be clean, or else the NT will be undoubtedly unlivable, where are the residents and businesses of the Humpty Doo, Middle Point, Lloyd Creek, Noonamah, and Acacia communities to source their power? We need a plan to ensure we keep capacity for sustainable, environmentally, culturally and socially accepted roll out of renewable power options, so that each community has access to solar farms with batteries and avoid losses from huge overheard pylons descrating the countryside.

Please look at the whole picture, not just those penciled in by this proposal. At the very minimum, the suggested overhead pylons would necessitate even more old-growth savanna forest bulldozing too.

Our climate will be impacted

Proper environmental consideration attempts to predict the climate ramifications of a proposed project. This proposal merely states: *"Greenhouse Scope 1 emissions will arise from land clearing and the use of diesel-powered machinery and vehicles, while Scope 2 emissions associated with electricity consumption during construction and operation will be minimal. Once operational, GHG emissions will be limited due to the minimal requirement for diesel-powered machinery and vehicles, with vehicle use restricted to site maintenance and monitoring."*

They do not attempt to even vaguely account for their cradle to grave greenhouse gas emissions or whether this project would facilitate strengthening or delaying our progress to protecting the only safe and livable climate in the Universe.

As estimates of scope 1, scope 2, and relevant material scope 3 greenhouse gas (GHG) emissions are required to be provided in a Referral to the NT EPA under the Environmental Protection Act 2019 (the EP Act) as part of the Atmospheric Processes section and are also specified under the National Greenhouse and Energy Reporting (NGER) legislation, I strongly recommend that they be carefully determined.

One example is the landclearing component of the 2024 Holtze development which was found[1] to emit nearly 38,000 TCO_2e for bulldozing and torching 126 hectares of bush. As this proposal involves the bulldozing of 2,500 hectares, that could amount to 750,535.71 TCO_2e.

It's possible that the powers that be have now tossed all considerations of the ramifications of polluting our only livable climate, but their paper bag on their head does nothing to protect our climate and our way of life. The following is an excerpt from the Holtze greenhouse gas calculations and suggests, if the estimates are vaguely correct, this project should have its climate consequences scutinised.

The NT EPA has incorporated the Northern Territory Government's net zero greenhouse gas emissions by 2050 target into the environmental objective for the NT EPA's Environmental Factor: Atmospheric Processes. The draft guideline states that under the Environmental Factor: Atmospheric Processes a proponent is to refer a proposed action to the NT EPA if its emissions exceed:
• Land use project threshold: Estimated scope 1 emissions of 500 000 T CO2e generated from a single land clearing action OR cumulatively from multiple land clearing actions on a 'property' over time.

As this proposed project could trigger this threshold, it is advisable that a full greenhouse assessment be determined for this project. It's possible that the emissions from obliterating a highly biodiverse old-growth forest and its ancient soils is less per hectare than that reported for the Holtze development, but it still should be determined.

Assuming that all these landclearing emissions would be offset because the purpose is to produce clean electricity is completely lost as this project is actually to facilitate a social licence for even more fossil gas. This is years past the time when the world knew we must desist with such ecocidal pollution. The IEA stated no new gas[2] projects from 2021 if we are to have a hope of a livable climate. This proposed project appears to be part of the greenwashing of the gas industry in the NT, and we will not be duped.

Let's not forget that for clean energy to facilitate a livable climate it must be used *instead* of filthy fossil fuels.

In this case this project is aimed at the totally unpopular, *still-in-proposal-stage,* hyper-expensive, gas-infested Middle Arm Development. They renamed this MAD gas hub "sustainable" because they hope it will ensure the sustaining of gas beyond their lifetimes. Therefore it is planned to be used in conjunction with and in addition to even more fossil fuels.

Unless this solar power is used solely -instead of fossil gas- it is important to recognise this proposal is simply not beneficial to our precious climate.

Please ensure a full greenhouse gas assessment is made, including whether it will replace fossil fuels.

Connectivity or greenwashing?

Whilst it is admirable to see efforts made to provide wildlife corridors *"in accordance with the NT Land Clearing Guidelines (DEPWS, 2024b) to allow for long-term connectivity and refuge habitat to persist at the landscape scale,"* they must be designed with care. The corridors are clearly the creeks which run a torrent in the Wet season and are basically unsuitable for stable infrastucture. Areas of Melaleuca forests are also subject to flooding and unsuitable for development.

Will there be bridges to cross these rivers when they are flooded? Or will this development insist on fording them and further deteriorating these precious water ways?

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[1] Appendix D - Greenhouse gas calculations
[2] https://www.carbonbrief.org/iea-reiterates-no-new-oil-and-gas-needed-if-global-warming-is-limited-to-1-5c/

The image below shows that greater connectivity would be achieved were the two remnant islands on the right have corridors to the main riparian zones and also a corridor connecting the riparian zone creek below the sign Humpty Doo, to the main creek riparian zone wildlife corridor.

Source: https://www.abc.net.au/news/2026-02-19/darwin-solar-farm-court-application-abandoned/106357534?

All these riparian zones need a wider buffer, not only to prevent the riparian zone from being bulldozed and that this is likely an area subject to flooding in the Wet, but to ensure space for a fire-trail, access road across the facility. Workers will choose to take the shortest distance to where they need to go and as such these wildlife corridors may become thoroughfares, and planning should be made to encompass or discourage that. I imagine a wider distance from vegetation and infrastructure in the event of fire would necesitate a wider fire perimeter. Such access trails will need to be not too windey so that emergency vehicles can quickly reach where they are needed. It is important to plan for cutting into the panel perimeter rather than the remnant forest.

In addition, the property will be fenced. How do they expect larger wildlife to use the corridors if they are fully fenced? Is this gesture to wildlife care merely greenwashing? Please ensure barbed wires are prohibited as they advance the demise of micro-bats. Cat traps would alleviate pressure from wildlife as cats appreciate clearing.

Solar panels require washing, likely with solvents that will run off into the catchment. In addition, it is likely that lazy weeding techniques will rely on noxious herbicides, like glyphosate which will also have spray drift, runoff into the creeks, adversely affecting the wildlife as well as the flora. Consequently, the wildlife corridors need proper buffering to minimise the impacts.

An attempt has been made to plan for wildlife corridors, or leave unsuitable areas undeveloped. For it to actually work as wildlife corridors, there needs to be more and better plans to care for them. The edge effects are real and bulldozing should not be done too close to creeks.

Water is precious

It is deplorable to have such gestures to flora and fauna conservation by planning a wildlife corridor, yet the creek they cover is slandered by being referred to as a drain. Creeks are truely special places and I hope the proponent ensures proper respect for these vital places. If these narrow riparian corridors are to be sprayed with herbicide and treated as a drain, it is inevitable they will become degraded.

There are several places where several of the figures suggest the space between the creek and the panels is inadequate. For example in Figure 5.12, the panels seem to be in the water for at least three stretches. It is vital that the riparian zone both have a buffer and then an access, firebreak trail.

The creeks will receive all the runoff from much of the whole property and its operations too, diesel and oil spils, erosion and herbicide. I didn't notice any precise plans to limit runoff speeds. The first Wet season after the bulldozing will, as anticipated, be the worst. I hope it is not like when they built the much smaller Royal Darwin Hospital. The ramifications of the severe erosion can be found in Casuarina Coastal Reserve with at least a fifty centimetre zone found upon doing soil sampling hundreds of metres away. Great efforts should be made particularly as the swamp lands to the East would be severely degraded by lots of sludge.

There is no piped town water nearby, the precipitation is inadequate as it infrequently rains for possibly half the year, yet plenty is required to wash all the panels. I am surprised that the plan is to consider trucking in the required water. Maybe the lack of a proposed bore is related to the failure of nearby Noonamah Ridge and its lack of good bore water. It might be advisable to have all the buildings guttered and rainwater tanks built. They will still require topping up from trucked water from the Darwin water supply, but it will be more sustainable and frugal that way.

It is not advisable to plan to build on swamp - the blue zoned area in figure 5.1 should be omitted from the bulldozing, with a good margin so there's no mowing on slush. I am not convinced the planned avoidance of flood is adequate. Is it ok to flood solar panels?

Good forests need protecting

Talls trees in the Darwin region are rapidly in decline. Many forests, even in the national parks have fat stumps but there are very few if any fat tall trees still living. Figure 5.9 shows where the tall trees are and there is a small patch which shows a mass of tall trees on the death row list. These must be excluded, buffered and protected.

The avoidance of dense forest is necessary particularly because they may be the only ones left standing. The assumption that *"the broader ecological integrity and function within the surrounding landscape — and broadly across the bioregion — is expected to be maintained"* simply cannot be assumed.

The piecemeal fashion of development proposals are almost always rubber-stamped, sometimes after decades of community opposition. For example, the neighbouring forest is a proposed to become the Noonamah Ridge housing development[3] which has been renamed because it was so unpopular. It is expected the Lloyd Creek development will severely degrade a further 2641 hectares, to construct 4200 homes and a central business district.

The Wak Wak pylon line will likely go right through the middle of this power hungry development. It is expected the Lloyd Creek community will be powered by gas from the grid. This is nuts. They promote this lifestyle living stating there will be 500 hectares of forest around the development to enjoy. That means this too will be degraded.

[3] https://planinc.org.au/lloyd-creek/

Furthering the inability of the region to be the environmental saviour, there is ongoing degradation in the forms of unmanaged weeds. Particularly the escaped pastoral weeds like gamba grass facilitate the burning of the forests to become biodiversity-desert grasslands. There is as stated in this proposal largely unmanaged and frequently facilitated annual burning of these forests, drastically diminishing the biodiversity and encouraging the weeds. There are aggressive introduced pest species like cats and cane toads which are also largely unmanaged. Also, there is the ongoing threat of elevated climate change, which is already observable and expected to be progressively deleterious to the environment.

Increasing levels of landclearing is fragmenting the savanna forests diminishing their outstanding biodiversity. The draining of the aquifers and laying of drainage culverts is accelerating the decline in the swamplands. It is tragically incorrect to anticipate that bulldozing one large section is insignificant.. The trees are being attacked all around in many ways, and every tree adds up.

The proposal states *"it will result in the clearing of 28 hectares of significant vegetation, ... the magnitude of the impact is considered to be minor because other high-quality – and more extensive – patches of significant vegetation have been avoided. These will persist in the surrounding area and continue to support ecological function. Based on this, the residual impact significance has been assessed as minor."*

As the surrounding patches are unlikely to have a protected status, it is not an excuse to bulldoze these areas. It is recommended that the significant regions with buffers and fire access trails be removed from the clearing portion.

The Melaleuca forests might not be considered significant in the proposal, but they arent so common. The plan is to bulldoze and fill these swamps in, but I am not alone in considering them special and they should be avoided. Their key values[4] include:
• Biodiversity including locally unique ecological communities and threatened species such as swamp orchids.
• Ecosystem functions, including primary production for aquatic food webs.
• Drought refuges for water-dependent fauna.
• Mitigation of acid sulphate soils.
• Flood mitigation and nutrient sinks—a key part of floodplain systems.
• Honey and florist products—flowers and foliage, also important for native bees.

The reputation of translocated Cycads is that there is a glut, they are expensive and unlikely to survive. They are ungainly in tiny suburban gardens. If we are to protect endangered species, we must desist with bulldozing their forests. On page 76 is the disturbing statement about the impacts to cycads: ...*"potential introduction of grassy weeds which could increase the intensity of fires."* Cycads fail when burned too hot or too frequently.

Weeds are prevalent in the Darwin region, and a major cause of tree death, but I noticed no promise to eradicate from the site. *"Weeds will be managed in accordance with TE H2's obligations under the Weeds Management Act 2001, and strict biosecurity measures are considered to be effective at not introducing or spreading weeds to the surrounding area."*

Perpetually spraying weeds, including in the riparian zone will be detrimental in the long run. I've been to development sites where they spray weeds -after- they have seeded. It is best to have an aim to remove all major weed species and manage them for eradication. Too often such places are havens for the spread of noxious species and neighbours become despondent. The best case would be to aim for eradication.

Please insist the Melaleuca forests are saved and the weeds are managed for eradication.

[4] https://www.dcceew.gov.au/sites/default/files/documents/mvg9-nvis-maleuca-forests-and-woodlands.pdf

Native animals need protecting

After the cruel killing of all the animals when the old-growth forest at Lee Point was chained, it is heartening to see plans to *"undertake pre-clearance surveys and employ a suitably qualified fauna-spotter catcher."* Let's hope they get a good amount of time to do their task, for a quick job is a nasty one.

However, it is my understanding that many relocated animals do poorly. Funds need to be put to ensure animal boxes are placed in similar environments that are protected, found to be depauperate, and that requires research.

We are in an extinction crisis and landclearing and fragmentation are key drivers. All areas where vulnerable animals have been found should be avoided and properly buffered. There can be zero expectation that the animals found beyond the bounds of this project are ample and protected enough to ensure their demise is avoided. Even with the habitat corridors, the main food sources for many animals are in the forests but will be obliterated. Consequently conscientious offsetting should be mandatory. We can anticipate a mass death upon the clearing of this forest.

Green hydrogen is greenwashing in the gas-infested Northern Territory

"The Middle Arm Precinct (the precinct) masterplan[5] will be designed to allow production of blue and green hydrogen, with Blue Hydrogen likely to be the initial product that will enable the development of appropriate infrastructure and logistics that will be required to enable the transport of Hydrogen from production to market."

As our governments are rolling out the red carpet for all the filthy gas, even though there are limited and diminishing markets, and the switch to clean energy is inevitable, the gas industry will pursue blue hydrogen in the first instance, and promise it will go green only when it suits them. This proposal sweeps over this greenwashing as they propose to *"produce firm renewables energy supply to existing industrial end users on Middle Arm initially and to power green hydrogen production at the MAP at a later stage."*

Consequently, this proposed solar farm would exacerbate our exuberant climate pollution, as it would prop up and support even more extraction of filthy fossil fuels.

While green hydrogen can reduce fossil fuel emissions, destroying biodiverse habitats undermines ecological integrity and long-term resilience of the planet. Ecosystems like savanna forests and their soils are carbon sinks, so clearing and burning them releases stored carbon, eliminating some climate benefits. Fragmentation further endangers vulnerable and endangered species, actively diminishing biodiversity and can destabilize ecological networks.

Green hydrogen may be a promising clean energy carrier, but if its production leads to bulldozing critical habitats, the net environmental benefit diminishes significantly. Protecting endangered species and biodiverse ecosystems is essential for a sustainable future, so renewable energy development must be carefully sited and managed to avoid ecological harm.

Greenwashing filthy fossil fuels should be an offense. Holding polluters accountable for greenwashing is essential to protect ecosystems, communities, and future generations. Should this solar provider wish to be more accountable, they would scrap this project and consider solar on the cattle farms, shopping centre and carparks to provide power for the local communities.

[5] https://middlearmprecinct.nt.gov.au/Industries/hydrogen

Decommissioning plans need to be well before the end

Although it is far off, it is not inconceivable that yet another development goes bust and drops out before decomiasioning and rehabilitation works are even begun. We need a plan for the worst case scenarios so that it isnt the tax payers left with the burden. There needs to be a bond that grows and a plan that is regularly reviewed so that it isnt a shock in the last few years. When developments are planned and built with a decommissioning plan in place, they are often done in a swifter and more economical fashion. As such a full end of life plan should be mandatory.