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Daintree Microgrid Project - EPBC Number: **2022/09341**

Provide reasons for why you believe this is/is not a controlled action

Douglas Shire Sustainability Group Inc. (DSSG) welcomes the opportunity to comment on the proposed Daintree Microgrid. DSSG is an incorporated association active in the Douglas Shire since 2005, in support of sustainability in this region.

DSSG is a community-based environmental advocacy organisation whose objects include:

- To promote and encourage the adoption of the principles of ecologically sustainable development to all sectors of the community throughout the Douglas Shire;
- To the protection and conservation of the unique environment in the Douglas Shire and its surrounds, including the Great Barrier Reef, the Wet Tropics and World Heritage areas;

Our position

DSSG maintains that the proposed project is a Controlled Action that requires approval under the *Environment Protection and Biodiversity Conservation Act (Cth)* (EPBC Act).

If the Minister decides that the action does not require approval under the EPBC Act, DSSG submits that it must be undertaken in a 'particular manner'¹ – to ensure the development footprint is as small as possible, and biosecurity risks are fully mitigated.

Matters of National Environmental Significance

Situated within the Wet Tropics World Heritage Area and a National Heritage place, the proposed project location includes listed threatened species and the endangered category (Lowland Tropical Rainforest) of the threatened ecological communities listed under the EPBC Act. The project also borders the Great Barrier Reef Marine Park. We submit that the proposed action is likely to have a significant impact on these Matters of National Environmental Significance (MNES).

¹ S77A EPBC Act

DSSG maintains there is a real possibility that the proposed action will have significant adverse impacts by causing one or more of the National Heritage values to be degraded or damaged, or notably altered, modified, obscured or diminished.

DSSG agrees generally with the descriptions of the existing environment made in Part 3 of the Referral document. We note this is a very special area where development of any kind must be subjected to rigorous assessment and conditions.

The Daintree lowland rainforests represent the last surviving, essentially intact lowland. This connectivity is essential for the long-term integrity of the forests and its associated fauna species. The condition of the lowland habitats of the study area is of great importance to the conservation of the wet tropical lowlands that have maximum chance of long term viability. Significant stands of a range of threatened lowland communities are now confined to this area, and all of them have connections with other habitats, rather than remaining as islands in a sea of development as is the situation in most other lowland areas in the bioregion. The biodiversity of the Daintree region is significant as it is unmatched anywhere else in Australia.²

A relevant summary of natural heritage values of the Project Area has been prepared by the Wet Tropics Management Authority (WTMA) and is presented in Attachment 6 of the referral -Natural Heritage Report (undated) NHR³. The NHR is an analysis of natural heritage constraints posed by the five electricity supply options identified in Sunverge Energy's 2018 Powering Daintree report⁴. It is noted that the Volt proposed action does not conform to any of the five options assessed in the NHR, but is roughly aligned to two of the three separate micro-grids outlined in Option 2 of the Powering Daintree Report⁵ and summarised as page 44 of the NHR. On that basis, the observations are somewhat relevant. The "Daintree Study Area" referenced in the NHR is shown on page 10 of the NHR.

"•The Daintree Study Area is a biodiversity hotspot. Any electricity supply option will be heavily constrained where it results in disturbance because significant natural heritage values exist across the entire study area.

- The Daintree Study Area exhibits a range of significant biodiversity attributes throughout, including lands both within and outside of the Wet Tropics World Heritage Area.

- The Study Area possesses significant values in terms of exceptional natural beauty and scenic landscapes, which are recognised as part of its World Heritage values and are also acknowledged under the Douglas Shire Council Planning Scheme.

- Any planning for an electricity micro grid (network) in the Study Area will need to take into account these inherent and significant natural heritage values; and recognise that this will impose environmental constraints and associated legislative considerations (assessment and approvals) on development options."

² Referral, part 3, 3.1.3, page 11

³ Pages 32 – 36 Attachment 6

⁴ [Daintree Report - ARENA 20180316 FINAL](#)

⁵ [Daintree Report - ARENA 20180316 FINAL](#)

These constraints reinforce that to the greatest possible extent, any micro grid network will need to be contained within existing disturbed areas and buried underground (i.e. undergrounding along existing roads or easements⁶).

In the NHR, WTMA has undertaken a provisional assessment of possible impacts from construction on natural heritage values within the existing footprint of disturbance (i.e. the road verge) which could include:

- temporary displacement or possible mortality of a suite of fauna species such as Cassowaries, reptiles, amphibians and mammals (e.g. tree kangaroos);
- damage to vegetation from trimming to allow machinery access for cable or pipeline installation and impacts to roots from digging and trenching;
- possible biosecurity risks if strict biosecurity protocols are not followed – such as the introduction of myrtle rust and other pathogens and vascular weeds;
- disturbance to soil, which may impact downstream water quality; and
- Disturbance to watercourses and aquatic ecosystems⁷.

The Natural Heritage Report makes the following observation on page 3: *“This would require assessment under the Wet Tropics Management Plan 1998 (WTMP) which would, among other aspects, include consideration of prudent and feasible alternatives to those proposed”*

This has not occurred.

In our view, the omission of a current WTMA report which includes an assessment of feasible alternatives, is significant. Consideration of an updated WTMA report, would provide more certainty about significant adverse impacts, and explore feasible alternatives. One of those feasible alternatives is Stand -Alone Solar systems (SAS) – an option which would have negligible environment impact.

In our view, there is insufficient information provided to be sure there is no significant adverse impact on the relevant MNES.

In such circumstances, we note that the Minister, is required to consider the Precautionary Principle⁸.

It is noted that the project location is within the endangered ecological community of the Lowland Tropical Rainforest of the Wet Tropics – listed in November 2021. The approved conservation advice⁹ lists *“Demand for community infrastructure: - housing, roads, electricity, water supplies, telecommunications”* as a key driver of change and direct pressure for the Wet Tropics region, which are the key threats facing this ecological community.

⁶ Page 3 Attachment 6

⁷ Page 41 Attachment 6

⁸ s391 of the EPBC Act

⁹ [Approved Conservation Advice for the Lowland tropical rainforest of the Wet Tropics \(environment.gov.au\)](https://www.environment.gov.au/conservation/advice/lowland-tropical-rainforest-wet-tropics)

There is also potential impact on the critically endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia where the main key threats to the ecological community include clearing of native vegetation, coastal development, visitor disturbance, weed invasion, animal grazing/browsing, fire and the effects of fragmentation¹⁰.

The Referral Documents

DSSG has several concerns about the claims and the omissions made in the Referral Documents.

1. The disturbance footprint of the cable network is not clear.

How many transformer / sub stations (kiosks) will be required and where will they be located? There would be significant visual impact from a construction of kiosks - each 3 x 2 metres. Their location is likely to require permanent loss of vegetation. What about noise impact?

How many distribution/ switch gear installations are required and where will they be located?

How many joint cabinets will be required and where will they be located?

2. The impact of the solar farm is not articulated.

The referral documents do not assess the impact on wildlife, including birds. Although the panels are expressed as not posing a threat by creating shade, what erosion impact of water flow from that surface in a heavy rainfall event?

3. Public consultation

In our experience, community consultation for this project has been negligible. "Community meetings" have been secretive and often 'invitation only' events. Information has been limited to select individuals. There has been no general survey of demand. A survey of residents was conducted by a local individual in 2020. Most respondents (61%) said they would not connect to a reticulated power system, and most (94%) want assistance to upgrade their systems. Most residents would prefer an upgrade of their standalone systems as they've already invested heavily in them. Connection to a grid would be very costly for most and they don't want to start having to pay power bills. The community view is that this project is designed to benefit a small number of heavy diesel users in the business sector. This EPBC process is the only opportunity that has been provided to most interested parties for comment.

4. Direct and indirect impacts

It is not contested that trenching and HDD set up pits along the road reserves within the WTWHA constitutes a direct impact. In our view the indirect impacts arising from that activity are likely to have a significant adverse impact on the MNES, notably:

- accidental release of fuels, oils, lubricants and other hazardous materials from machinery during operation.

¹⁰ [Approved Conservation Advice for the Littoral Rainforest and Coastal Vine Thickets of Eastern Australia ecological community \(environment.gov.au\)](https://www.environment.gov.au/conservation/advice/littoral-rainforest-and-coastal-vine-thickets)

- potential for construction machinery to act a dispersal vector for invasive species.
- noise and vibration during operations disrupting wildlife adjacent road reserve Project Area.
- sediments may be mobilised into adjoining habitats in periods of unexpected rainfall.
- there is potential for sediment from cable trenching activities to indirectly be transported via erosion into watercourses discharging directly to the Great Barrier Reef World Heritage Area.

DSSG considers the proposed action will facilitate third party impacts, which have not been addressed. The focus of the referral has been on construction of the network and solar farm. One of the key threats facing the ecological community is land clearing for housing and infrastructure which leads to fragmentation, weed and other pests and forest edge compromise.

It is our view that reticulated power will lead to increased development pressure.

The proponents say that the capacity of the proposed micro grid is limited to providing power to all existing lawful approved development, but no further as this impacts the ability to provide emergency power etc. In our view most residents on existing lawfully approved development will not take up an option to connect to the grid. This will leave plenty of capacity for new demand in the form of new development. This is a significant impact which is reasonably foreseeable.

5. Alternative Solutions

The proposed action is presented as assisting to with meet carbon emission reduction targets. In our view, this is misleading – the proposed action is claimed to provide a form of reliable renewable power to the Daintree Coast area. There is no evidence of any assessment of alternative approaches. There is a feasible alternative action available and highly desirable for the existing community which has not been considered – upgrade of individual SAS. This alternative is outlined in the Daintree Electricity Supply Study¹¹, and discussed in the WTMA Natural Heritage Report¹². It is feasible to achieve the provision of reliable renewable power and limit greenhouse gases with updated SAS (including commercial operators). Not all SAS use diesel back up and the commercial users who rely on diesel generators for power (up to 40% of all power needs on the Daintree Coast¹³) do not make any attempt to limit emissions.

There is also the issue of centralised versus decentralised power systems, especially in this environment which can be subject to serious weather events, including tropical cyclones. With SAS, failure of one system has no impact on others. This also supports the independent nature of the culture in the area.

6. Diesel usage and emissions reduction

¹¹ Attachment 9 to the Referral

¹² Attachment 6 to the Referral

¹³ [Daintree Report - ARENA 20180316 FINAL](#), page 78

It is asserted that existing usage of diesel in power generation on the Daintree Coast is approximately 4,000,000 litres of diesel each year¹⁴, creating between 6,000 to approximately 10,000 metric tonnes of carbon emissions each year.

It is unclear how the 4M litres of diesel usage is sourced. Ideally this will be sourced from invoices for fuel purchased by users¹⁵ and not from 'guesstimates' of proponents¹⁶. The resultant savings of emissions seems to rely on direct replacement of diesel for solar and battery/ hydrogen based power. What take up does this assumption require? As previously mentioned, demand from all residents appears to be low and there has been no formal demand survey undertaken.

DSSG submits it is not clear how much emissions will be reduced by this action.

It should also be noted that grid electricity reduces use constraints compared with SAS where users are necessarily careful with consumption. It almost certainly the case that grid electricity means people will use a lot more power. The proposed fossil fuel gas back-up may well have to work harder to meet demand at times of low solar radiation and result in similar if not more use of fossil fuel, albeit centrally located and likely more efficient than multiple stand-alone generators. This needs to be properly explored given the foundation of the proposed grid is the claim it will reduce fossil fuel use.

It also appears that weather patterns in the area are becoming cloudier, thus reducing available solar insolation, especially in summer when power demand becomes high.

Furthermore, given the Outstanding Universal Values of this region, biodiversity must be paramount consideration, not just diesel use

Finally, the diesel and petrol used by local and visitor traffic is likely an order of magnitude greater than the use for electricity generation. There is no mention in the proposal of the direct or relative impact of vehicle emissions.

7. Economics, tariffs and ownership

DSSG is very concerned about the viability of this project. There has been no demand survey, published business case or cost-benefit assessment.

The Sunverge report "Powering the Daintree"¹⁷ estimated costs for distributed power for a few options, including Option 2 which has many elements of the proposed action. It estimated \$60M capex, and \$2.8M ongoing opex for this option¹⁸. Volt Advisory has funding in the form of a grant of maximum \$20M to construct and run this project. The expectation is that the balance of the funding (for capex) will come from private investors. This raises significant questions about the viability of the project, and the ownership structure.

¹⁴ Attachment 1 to the Referral

¹⁵ [Estimating emissions and energy from fuel combustion guideline \(cleanenergyregulator.gov.au\)](#)

¹⁶ [Daintree Report - ARENA 20180316 FINAL](#) page 77

¹⁷ [Daintree Report - ARENA 20180316 FINAL](#)

¹⁸ Page 35 [Daintree Report - ARENA 20180316 FINAL](#)

In addition, the tariffs and costs to upgrade existing household wiring to code to permit connection are unknown (and are borne by residents) and represent a significant threat to accessibility, equity and viability of the project.

We note that the principles of ecologically sustainable development¹⁹ include “decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations”.

Laurene Hull
Secretary
7 December 2022

¹⁹ S3A EPBC Act