

Daintree Coast Power Supply Policy Position

Background and issues for consideration

The debate about an appropriate - power supply along the Daintree Coast has been ongoing for over 25 years. The policy question is how to provide suitable power without compromising the ecological values which make the area so valuable and attractive to both residents and visitors.

Given the exceptional ecological values at stake, DSSG argues that all levels of Government must adopt the position that any form of subsidised power provision should have a conservation dividend that delivers a net gain to the environment.

DSSG is of the view that the installation of a single reticulated system for the whole area would cause substantial environmental damage, both through the installation process and arising from the subsequent development facilitated by provision of reticulated power.

The profound impact on the World Heritage values cannot be underestimated. The proposed installation of a single reticulated power system threatens to undermine the only significant employment and income streams for the Daintree Coast, by impacting the ecological integrity and scenic values of the region.

Not all sectors of Daintree Coast have the same power needs. Commercial operators require a greater quantity of reliable power all year round. Private residential households do not have the same needs.

While the current extent of use of fossil fuel in the area has been greatly exaggerated by some, its reduction or elimination remains something that we should aim to achieve.

Commercial establishments using stand-alone generators currently have little incentive to minimise power usage - largely because of the perceived need to maintain base loads on their generators. Reticulated power is not the best way to reduce fossil fuel dependence as there is unlikely to be sufficient surplus energy in this cloudy environment to support heavy commercial users who are likely to increase energy use with a grid system, and it will encourage more commercial users and more demand.

Over the last two decades stand-alone Remote Area Power Systems (RAPS) have improved tremendously and finding equitable ways to assist private households to upgrade will have a significant effect on reducing their fossil fuel based needs.

In arriving at a policy position, we have carefully examined two issues:

- 1. What is the potential customer base for improved power supply?**
- 2. What is the most appropriate and cost effective method of producing and delivering power to each of the sectors represented on the Daintree Coast?**

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1. What is the real potential Customer Base?

While it is well known that many of the commercial operations in the Daintree Coast area seek a reliable reticulated power supply, it remains less known how the needs of private households may be met in an affordable manner; or if there is, in fact, a demand for reticulated power from that sector.

Many households have already committed financially towards stand-alone systems and, while these are not without their issues, many residents have indicated a reluctance to change direction towards a reticulated system due to potential cost.

We note that each of the previous studies into powering the Daintree Coast have exaggerated the number of potential customers a reticulated system could potentially service.

- In 1990 there were over 1100 individual properties within the study area.
- Our research has shown that a total of 467 properties have some level of settlement on them today. This includes at least 30 that have non Council compliant dwellings (and therefore could not legally hook up to a grid) and 15 that are predominantly used for casual short term stays with only modest - structures (usually sheds).
- A further 138 properties have the legal right to settle (but have no structures), should the current owners choose to do so. All the rest have either been purchased for conservation purposes or had their development rights removed and cannot now be settled.
- Also of note has been the proliferation of Airbnb properties where absentee landlords are renting out their houses to the short-term accommodation market. At least 65 are known to exist in the study area.

2. Appropriate power production and delivery options

It is most difficult to provide an appropriate power supply to the commercial sector.

We have identified 31 commercial establishments without RAPS in the study area. They have tended to rely almost exclusively on diesel generators for their power needs with very few augmenting their requirements with any form of renewable production. This heavy reliance on diesel generators has meant that there is little incentive to minimise power usage as the generators are “running anyway” and “the power may as well be used rather than wasted”.

There are two main hubs of commercial activity – Cow Bay (primarily at the junction of Buchanan Creek road and Cape Tribulation road) and Cape Tribulation. If commercial customers could be given assistance to upgrade/re-organize their facilities to reduce their power demands, local micro-grid networks may be able to service their needs, subject to further cost and feasibility analysis.

Although some fossil fuelled generation is likely to be required for back-up in cloudy weather, an energy audit should be undertaken and advice on efficiency offered. In return for an assistance package, commercial consumers should be required to undertake an energy audit and to install as much solar capacity as their roof spaces and access to sunlight will allow, as a condition to accessing a local micro grid. We note these audits can be undertaken at minimal or no cost if they are already accredited by Ecotourism Australia.

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While Hydrogen (H₂) based generation has been proposed as a “Green alternative” the reality is quite different. Hydrogen is a very high technical and resource intensive option, (electrolysers and fuel cells and the ancillary equipment) and the cycle efficiency (electricity to H₂ and H₂ back to electricity) is less than 40%; compared to battery storage which can be as high as 80%. In addition it would require skilled permanent service staff to operate.

While there are some commercial outliers that will be more challenging to supply, the potential exists to establish two micro-plants, one in Cape Tribulation and one in Cow Bay. These would be based on large solar arrays with battery storage plus generator backup supplying the needs of high energy commercial consumers through a local underground distribution network.

Power supply in the private residential sector is characterised by a high penetration of “Hybrid RAPS” systems (usually solar plus some form of fossil-fuelled backup for cloudy weather conditions).

The study area is understood to be a low socio-economic zone¹ and many households lack the financial capacity to take up expensive power supply options, to pay ever increasing power bills and to upgrade their household wiring to the standard required for grid connection.

There has never been an estimate of the cost to customers, i.e. the capital installation, infrastructure service fees, power use or the cost of connection to individual premises. Because these costs can be high, remote communities and individuals are increasingly turning to RAP systems as an alternative to grid connection.

We note that in Queensland, while there is a tariff equalisation subsidy, there is no subsidy for the cost of connection which is often considerable, even for short distances.

Upgrading older installed RAPS systems to modern technology should be a priority; (and would be at a significantly lower cost than reticulated power) and should be coupled with efforts to educate users on energy efficiency and system maintenance.

Standardising of installed RAPS equipment would facilitate a locally based capacity to deal with equipment failures, maintenance and advice on design or upgrade – a necessary feature of reliable RAPS.

We strongly recommend that upgrading individual RAPS systems at private residences with a uniform system platform (to allow for more efficient maintenance and repair and to reduce purchase costs), would be the most economical and the most equitable way forward for this sector. Additionally, it would be far more energy efficient than - a reticulated system.

We suggest that residences be financially assisted to upgrade their systems in return for a conservation dividend. For example, a conservation covenant on their land could take the form of managing weeds, containing pets and restoring rainforest.

We also believe that the provision of a locally based service centre to deal with equipment failures, maintenance and advice on design or upgrade would be highly valued and would contribute to local community resilience.

¹<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~IRSAD%20Interactive%20Map~16>

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Note

We understand that all options require much more detailed analysis before any conclusion can be reached. For this reason DSSG is opposed to the single grid proposal, which does not intend, so far as we know, to look at or assess any other options and is silent on costs to the taxpayer and to potential customers. DSSG is participating in the Queensland Government process which is examining all options.

Acknowledgement

This policy position was researched and presented by members of Daintree Coast Environment Network (DCEN) in consultation with residents of Daintree Coast and members of DSSG during 2019.