

CiFi Pty Ltd - "Christmas Island Fibre Internet"

ACN 637 574 317

ABN 61 637 574 317

Email: info@cifi.com.au

www.cifi.com.au



Submission for the JSCNCET inquiry into Availability and access to enabling communications infrastructure in Australia's external territories

About CiFi:

CiFi (AKA Christmas Island Fibre Internet) is a locally owned & run telecommunications provider based on Christmas Island. At our core, we are a small group of highly motivated & skilled technicians and engineers with a real passion for telecommunications & technology on the island territories of Australia. Our team have worked for years in the IT & Telecommunications industries specializing in niche solutions for the island territories, specifically Christmas & Norfolk Islands. We work in conjunction with many different telecom & solution providers, especially Vocus, with whom we have formed a healthy strategic partnership.

Over the years we have lived & worked on the islands, we have completed multitudes of private projects, as well as delivering some large-scale public projects such as:

- NBN LTSS Skymuster rollout, under the acceleration program (mid-late 2017), delivering 800 services in 6 months on Christmas Island. See <https://www.perthnow.com.au/news/wa/christmas-island-internet-services-cut-over-nbn-rollout-ng-211225b92071a21930db951cbdd9f0c7>
- Working alongside Vocus to provide a rapid deployment high speed public access WiFi network in the international detention center on Christmas Island, in response to the facility being used for COVID19 evacuee quarantine in February 2020.

We know from firsthand experience how challenging and limiting the infrastructure & internet access options can be on external island territories, not to mention getting an effective connectivity solution and support for your service from mainland-based companies. CiFi's mission is to change this.

You can read more about CiFi and our mission on our website: www.cifi.com.au

Christmas Island:

When VOCUS announced the Perth – Singapore undersea fibre optic cable (ASC), with a tail landing on CI, we knew we had an opportunity to do some great work together: create a new local ISP network with all new carrier-grade infrastructure, to bring a new age of internet connectivity, speed, service & reliability to people on Christmas Island.

Since announcing CiFi's new network in March 2020, CiFi has built & delivered an island first carrier grade 4G LTE mobile data network, as well as a fixed wireless network enabling residents & visitors to connect their homes & mobile devices to the internet at speeds normally reserved for those living in mainland cities - a huge leap forward for communications on Christmas Island.

Christmas Island has a fairly harsh tropical environment, with high humidity and a huge amount of rainfall per year (mean annual rainfall is 2.1 meters), which detrimentally impacts satellite internet services (NBN LTSS Skymuster) making total outages a regular occurrence. With the off-island backhaul provided by the Vocus ASC fibre undersea cable, and CiFi's locally supported hybrid 4G/Fixed Wireless network, these outages are now a thing of the past.

Unfortunately, CiFi's network is currently only able to service around 40% of the populated areas of the Christmas Island. This is due to a combination of extreme elevation changes (over 200m) within the township, and lack of suitable infrastructure (communications towers especially).

CiFi has been working relentlessly to progress the construction of new infrastructure to enable us & others to effectively service the community, including an application to the Department of Planning, Land & Heritage WA (DPLH) for access to, and lease of land on which to construct infrastructure, as well as an application to the Federal Government Regional Connectivity Program for grant funding to assist with the capital cost.

CiFi have found throughout this journey that support for small operators like us can be hard to find, and it often takes a long time for answers to come back and progress to be made. We fully appreciate & understand that a lot of the delays we encounter are due to the remote nature of our location, and the lack of general knowledge of the island and which laws it falls under. I am sure some of our requests have resulted in the dusty basement filing cabinets being accessed by a couple of government departments at least.

It is for this reason CiFi encourages the inquiry to consider pathways to enable small operators to progress applications for infrastructure projects more quickly through government barriers such as requests for crown land access, and to provide financial support in the form of grant funding such as the Regional Connectivity Program.

Christmas Island has an aging Telstra 2G mobile network (voice+sms only) which was constructed circa 1993, which is the only remaining 2G network in the country and is surely due for decommissioning in the next couple of years. CiFi's new 4G mobile network was built with the future in mind, is 5G compatible and can support full voice communications as well as the data services it currently provides. The key barrier with offering voice services is the considerable increase in cost of operating the network versus the marginal increase in revenue. This is also something that CiFi encourages the inquiry to look into in the form of additional grant funding support, as we feel the local operators will always serve the community best in this area.

CiFi provided many examples of the social & economic benefits of improved communications infrastructure as part of our Regional Connectivity Program grant application, including statements from local businesses/education facilities as well as public surveys. If the inquiry would be interested a copy of

this, please contact us and we will be happy to provide.

Norfolk Island:

In 2017, CiFi in partnership with Norfolk Island Data Services (NIDS) established the first 4G LTE data only network on Norfolk Island, operating under the name: GloNet. This network is still operating to this day and has provided the only form of mobile “on the go” internet access on Norfolk for the last 3 years. This network was especially useful to tourism, which is the most prominent industry on Norfolk.

Only two weeks ago, Norfolk Telecom launched their new 4G network (upgraded from 2G) which also now provides both voice & data communications, but operates as a separate country for the purposes of telecommunications, meaning a call to the Australian mainland is considered an international destination. Norfolk Telecom use the +672 country code, and call rates to Norfolk Island from mainland carriers average around \$1.95 per minute via Telstra and an incredible \$8.40 per minute via Optus, putting calls to Norfolk Island as one of the most expensive in the world – calls to a destination within our own country.

<https://www.telstra.com.au/content/dam/tcom/small-business/bundles/pdf/sb-international-call-rates.pdf>

<https://www.optus.com.au/mobile/plans/international-minutes-pack>

GloNet’s 4G LTE network is somewhat limited, only available in the main township as well as the Kingston & Arthurs Vale world heritage areas. For years, GloNet applied for access to co-locate equipment within the existing communications compound atop Mt Pitt (the only high point on island with communications infrastructure) but were repeatedly denied by Norfolk Telecom, effectively halting network expansion in its tracks. GloNet appealed to the Canberra based MP for Norfolk, as well as other authorities, but was unable to progress this request.

The eventual outcome was GloNet approaching National Parks directly (now DAWE) and requesting a lease for a parcel of land atop the mountain to build a compound alongside the existing one to erect a new communications tower to finally enable the GloNet network to expand. This was a long and complicated process and 3 years later, construction commenced in late 2020.

Granted, Norfolk Island has a complicated political environment, but we draw the inquiry’s attention specifically to:

- The Norfolk Island Telecommunications Act (1992), which is the only Australian territory to have its own telecommunications act
<https://www.legislation.gov.au/Details/C2019Q00069>
- Norfolk Telecom, who are a wholly owned local council (Norfolk Island Regional Council) private enterprise, who operate all telecommunications infrastructure on the island – much of which was funded via Commonwealth grants:
http://www.norfolkisland.gov.nf/sites/default/files/docs/NIRC/MediaReleases/2019_09_27%20MR%20-%20Future%20Proofing%20Telecommunications%20on%20Norfolk%20Island.pdf
https://www.aph.gov.au/~media/wopapub/house/committee/ncet/norfolkgov/subs/sub13attachment_g_pdf.ashx

As a small operator, GloNet has struggled to grow against the anti-competitive practices and restrictions placed against it, and in our opinion, this would severely hamper any new local or external operator

looking to invest in telecommunications infrastructure on the island. We encourage the inquiry to look into ways of evening the playing field on Norfolk Island, and to establish a non-prescriptive grants program to financially support operators and encourage further growth & diversity in this area.

GloNet also encourages any initiative in building a subsea cable spur to Norfolk Island, either from an existing Pacific Ocean cable or on any future planned cables. Norfolk already has cable landing infrastructure built as part of the cross island fibre optic backbone network funded via the Networking the Nation grant.

Cocos Keeling Islands:

Cocos Keeling Islands is the most remote island territory in Australia, and is Christmas Islands closest in-country neighbour. Cocos Keeling Island, along with Christmas Island, plays a significant role in Australia's defence & border control interests.

Cocos Keeling Islands currently has very limited satellite internet connectivity, with the only viable option for the internet access being NBN LTSS Skymuster services. Considering the Vocus ASC undersea cable spur that lands on Christmas Island, and that Cocos Keeling is less than 1000km away, we encourage the inquiry to investigate options to bring a spur of the Vocus ASC cable to the island as soon as possible. This would provide far greater connectivity for defense purposes, as well a multitude of options for private operators to better serve the local community & tourists to the island.

There is a recently completed 4G LTE data only network on this island, operated by Indian Ocean Territories Telecom, which would be drastically improved by off-island backhaul provided by an undersea cable, and an initiative CiFi would be happy to support. Delivery of high speed fixed wireless connections around the islands of Cocos Keeling would also be uncomplicated given the extremely flat landscape, and would provide connectivity better than most densely populated mainland locations.

This level of connectivity would enable the community to access real time services such as online learning & distance education, video conferencing and more. CiFi would also encourage consideration of a grants program to encourage further investment in telecommunications on the island.

For any questions regarding this submission, please contact:

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