



# Submission to the 2021 Regional Telecommunications Review

30 September 2021

## Disclaimer

This document is provided for information purposes only. The recipient (including third parties) must make and rely on their own inquiries as to the currency, accuracy and completeness of the information contained herein.

Copyright © 2021 NBN Co Limited. All rights reserved.



## Contents

<b>1.</b>	<b>Executive Summary.....</b>	<b>3</b>
<b>2.</b>	<b>NBN in Regional Australia .....</b>	<b>6</b>
2.1	2018 Regional Telecommunications Review: Getting it right out there.....	6
2.2	Regional Development and Engagement.....	8
2.3	COVID-19 and regional and remote Australia .....	10
2.4	nbn™ network resilience and emergency management .....	13
2.5	Network investment plan and spend in Regional Australia.....	14
2.6	Segments and Stakeholder Relations .....	14
<b>3.</b>	<b>nbn™ Network Infrastructure .....</b>	<b>17</b>
3.1	Network Performance .....	19
<b>4.</b>	<b>Government Investment Programs.....</b>	<b>22</b>
4.1	Government Policy and Regulatory Frameworks .....	22
4.2	Government Investment Programs.....	23
<b>5.</b>	<b>Conclusion .....</b>	<b>26</b>



# 1. Executive Summary

**NBN Co Limited (NBN Co/The Company) is pleased to have the opportunity to respond to the Regional Telecommunications Review 2021 call for submissions.**

This year's review by the Regional Telecommunications Independent Review Committee (the Committee) is timely and of strategic importance. This is because it arrives at a point where the major construction component of the national broadband network (nbn™ network) is complete and NBN Co's efforts have been redirected towards optimising the performance, capacity and resilience of its networks, particularly in regional Australia, for the benefit of households and businesses.

There has been significant change at NBN Co in the three years since the 2018 Regional Telecommunications Review. In October 2019, NBN Co formed a dedicated regional and remote business unit headed up by one of NBN Co's senior executives, consistent with a recommendation of the last Review. This business unit – Regional Development and Engagement (RDE) – is responsible for planning and developing the capabilities of NBN Co's Fixed Wireless and Satellite networks, and for maximising the social and economic benefits from all nbn™ network technologies in regional and remote areas.

The head of RDE reports to NBN Co's Chief Executive Officer (CEO), ensuring that regional and remote interests are represented in all key discussions at the senior leadership level. RDE has a team of telecommunications advisers and stakeholder managers based in regional and remote locations around the country to promote and assist understanding of the nbn™ network and research emerging technologies to assist planning for network improvements across regional Australia. They are also developing strategies and working with relevant interest groups to advance the use of nbn™ network technologies within several priority sectors such as health, education, agriculture, tourism, the arts and Indigenous communities.

NBN Co now has more than a decade of experience deploying and operating broadband infrastructure in regional and remote Australia and knowledge and insights into the future data needs of its customers.

In 2010, broadband speeds were commonly only eight megabits per second (Mbps); hundreds of thousands of homes and businesses had little or no broadband connectivity, particularly in regional areas where there was limited or no commercial incentive to deliver high-speed broadband. Australia is now in a much better place with around 12 million premises able to order nbn™ network services, and close to 8.3 million premises with an active service. Approximately 3.7 million premises in regional Australia can access an nbn™ network service, and around 2.2 million have an active service. While the mission of RDE is to raise awareness of broadband options in regional and remote areas, the fact that only a small number of Retail Service Providers (RSPs) offer the full suite of nbn™ network technologies to their customers remains a challenge.



For more than ten years, NBN Co has worked to improve the resilience of its networks against a backdrop of natural disasters, a global pandemic and evolving customer expectations and demand. Recent events have led to a change in the way individuals, families and businesses use their broadband connection; with more people than ever working and learning from home, and others seeking a lifestyle change, peri-urban and regional Australia is seeing sustained growth. This opens opportunities for these areas, particularly if broadband can support and accelerate this growth, and if households and businesses are able to capitalise on emerging technologies.

NBN Co has made investments in its regional networks to increase access to the technologies and infrastructure that will enable Australia to transition to a digitally-enabled economy. Since 2020, the Company has been implementing a network investment plan to enhance the nbn™ Fixed Line network making NBN Co's highest wholesale speed plans available, on a customer-demand basis, to up to 75 per cent of homes and businesses on the nbn™ Fixed Line network by 2023. In addition, the Company has established 295 nbn™ Business Fibre Zones covering more than 860,000 business premises across Australia – including 120 Business Fibre Zones in regional Australia reaching approximately 300,000 businesses – and created a \$50 million co-investment fund to engage state governments and local councils to create future Business Fibre Zones.

NBN Co has also introduced a Regional Co-investment Fund of up to \$300 million to improve broadband services for Australia's regional and remote communities and leverage opportunities with federal, state/territory and local governments to jointly invest in upgrades.

The Company continues to dedicate significant resources and capital to help regional and remote areas of Australia stay connected and aware of their broadband options. This includes collaborating with government agencies and peak organisations to improve telehealth capabilities and connectivity for Indigenous and isolated communities.

Consistent with its new Statement of Expectations, issued in August 2021, NBN Co will continue to improve its wholesale services to address access challenges in regional and remote areas. The Australian Government recognises that NBN Co can not generate a commercial return on all of its activities in regional and remote Australia and expects the Company to support these activities through returns in other parts of its business, and contributions from the Regional Broadband Scheme (RBS). NBN Co has an ongoing role to improve outcomes in regional and remote areas, including proactively engaging with stakeholders and working with governments and other organisations to fund and deliver enhanced services. This will be important as customer expectations grow for more data and higher speeds, particularly in NBN Co's Fixed Wireless and Satellite footprints. NBN Co will need to make additional investments in network capacity in future years to address this growth and in response to record population shifts to regional areas and increasing concurrent usage of multiple devices in households and businesses.

More than \$4 billion has been invested in the rollout of the nbn™ Fixed Wireless and nbn™ Sky Muster™ Satellite networks, accessible to around one million farms, homes and businesses. A further \$200 million (approx.) is spent each year on the nbn™ Fixed Wireless network to meet current capacity commitments as demand grows. Work is also ongoing to optimise the performance and utility of NBN Co's Satellite product offerings, which has already included the



introduction of nbn™ Sky Muster™ Plus to support unmetered plans for most broadband applications apart from video streaming and use of Virtual Private Networks (VPNs). Since the last Review, the Business nbn™ Satellite Service has also been introduced and made available nationally. Additional investments in the Satellite and Fixed Wireless nbn™ networks will continue to be required, particularly in innovative and new solutions for regional Australia, to achieve further improvements in speed and capacity and an upgrade in customer experience.

The Company stands ready to make further investments in coming years and incorporate non-metropolitan areas in upgrade plans where commercially prudent, including through working with governments and other organisations to co-fund and deliver enhanced services in these areas to address the requirements of the Australian Government's Statement of Expectations.

NBN Co has been successful in securing a number of government grants via open government tender processes to support nbn™ network upgrades including through the Regional Connectivity Program (RCP) which was part of the Australian Government response to the 2018 Regional Telecommunications Review, and the Strengthening Telecommunications Against Natural Disasters Program. The Company is also participating in the Australian Government's Alternative Voice Services Trials Program, working to demonstrate the capabilities of its Fixed Wireless and Satellite technologies for delivering voice services instead of legacy copper lines or older radio systems.

NBN Co will continue to look for opportunities to access funds to enhance and improve services in regional and remote Australia.

Underpinning this significant network investment is a regulatory and policy framework that is still in transition, with NBN Co now the default Statutory Infrastructure Provider (SIP) across Australia but the future of some elements of regulation still yet to be determined. In addition, some newer aspects of the telecommunications regulatory framework, such as the RBS, may need to evolve in response to a rapidly evolving industry landscape, particularly with a view to supporting a model which sees revenues from urban areas supporting non-commercial services in other parts of Australia.



## 2. NBN in Regional Australia

The Australian Government expects NBN Co to generate sufficient revenue to support investment to meet the needs of Australians, *wherever they live*. This is a key part of the NBN Co model and has produced a unique outcome where premises across an entire continent can access fast, reliable broadband. Revenue from more populated areas helps support investment in areas where, historically, telecommunications providers have not been able to generate a return. Now, more than 2.2 million regional<sup>1</sup> households and businesses have an active service on the nbn™ network, which has become critical enabling technology for many individuals, businesses, schools, hospitals, farms and communities in regional Australia.

### 2.1 2018 Regional Telecommunications Review: Getting it right out there

Following the Committee's last Review in 2018, NBN Co has implemented a number of initiatives and enhanced its support and products in regional Australia. The Company has:

- Assigned responsibility for improving its regional and remote assets to an experienced member of the Company's senior executive management team and created a new business unit known as 'Regional Development and Engagement' (RDE). This business unit is led by Chief Development Officer, Regional and Remote, Gavin Williams and has a critical role in bringing together all aspects of the nbn™ Fixed Wireless and Satellite teams, from engineering through to operations, as well as stakeholder engagement, vendor management and strategy and transformation functions, to ensure regional customers remain front and centre, post the completion of major construction of the nbn™ network. This team also has a role in monitoring and supporting the delivery of all nbn™ Fixed Line technologies in non-metropolitan areas.
- Publicised its plans for the next evolution of the nbn™ network – a \$4.5 billion investment to advance the capability, reach and value of the nbn™ network nationally. Working closely with its delivery and industry partners, NBN Co is progressively announcing the suburbs and towns where additional homes and businesses will become eligible for fibre upgrades by ordering selected higher speed retail plans. Likewise, NBN Co has disclosed publicly the details of its new nbn™ Business Fibre Zones to deliver premium business-grade fibre to eligible business premises across Australia, with no charge for the design and construction of Fibre to the Premises (FTTP) when they order a premium business nbn™ Enterprise Ethernet service. This has seen the creation of 120 nbn™ Business Fibre Zones in regional centres.
- Established a \$300 million Regional Co-Investment Fund (as part of its \$4.5 billion nbn™ network investment plan) to further enhance broadband services for rural and regional households, businesses and communities. The Fund aims to encourage

---

<sup>1</sup> Areas outside 'Major Urban', as classified by ABS Release — 1270.0.55.004 — Australian Statistical Geography Standard (ASGS): Volume 4 — Significant Urban Areas, Urban Centres and Localities, Section of State, July 2016.



governments and local councils to co-invest alongside NBN Co to uplift digital capability in areas primarily served by the nbn™ Fixed Wireless and Satellite networks by increasing the number of premises that can access technologies that support higher speeds where those investments would otherwise be sub-commercial. More information on NBN Co's Regional Co-Investment Fund can be found here: [nbn™ Regional Co-Investment Fund Guidelines](#)

- Participated in the Australian Government's RCP which will see 18 'place-based' nbn™ network infrastructure projects co-funded by NBN Co, government and or business. In addition to the almost \$35 million in Commonwealth RCP funding for these projects, NBN Co will contribute more than \$28 million as part of its continued commitment to providing regional Australia with access to high-speed broadband.
- Introduced new metrics to NBN Co's published set of data in its [Monthly Progress Reports](#) including *nbn™ Sky Muster™ Satellite Network Faults* and *nbn™ Sky Muster™ Satellite Network Faults – Average Time to Restore*. These are in addition to NBN Co's metric reporting on *Fixed Wireless Busy Hour Cell Performance* and *Fixed Wireless Busy Hour Backhaul Performance*. The Company continues to publish its Transparency Dashboard which provides regular updates on the growth in connections, fault numbers, restoration timeframes, and the levels of congestion on the nbn™ network. NBN Co also provides transparency on service performance and makes assurance processes available for RSPs to troubleshoot, and if necessary, report and resolve issues within the nbn™ networks.
- Conducted a pilot across 11 nbn™ Satellite beams to more closely examine radio frequency strength (RF signal) between earth stations and a sample number of premises to determine performance over the nbn™ Satellite network. The pilot highlighted the importance and significance of embedding resources, such as the RDE business unit, in regional areas to conduct ad hoc visits to end users experiencing challenges with their nbn™ network connectivity.
- Initially launched NBN Co's Sky Muster™ Plus product in August 2019 and subsequently made enhancements in April 2020, providing access to fast and accessible broadband services with the additional benefit of unmetered data for activities other than streaming video and traffic via VPNs. This layer 3 product enables NBN Co to better manage capacity on individual Satellite beams and provide a better, functionality-based end user experience.
- Launched the Business nbn™ Satellite Service in September 2019 providing business-grade services and operational support to larger companies working in rural, regional, and remote areas, and expanded coverage of this service nationally in August 2021.



## 2.2 Regional Development and Engagement

NBN Co's role is not limited to building Australia's digital backbone, it is also about the realisation of the socioeconomic value made possible by this asset. This is especially true in regional Australia where digital inclusivity<sup>2</sup> lags the capital cities.

In creating the RDE business unit, the Company reinforced its commitment to regional and remote areas and elevated the presence of regional Australia within NBN Co's strategy, infrastructure development, program management, customer experience and process excellence.

RDE's focus is on meeting customer needs and raising the digital capability of regional and remote areas of Australia. This business unit has three key strategic imperatives:

- Developing regional infrastructure by leveraging financial grants programs, co-funding programs and other investment opportunities.
- Delivering better products to regional and remote areas by drawing on returns in other parts of NBN Co's business as set out in the Australian Government's Statement of Expectations.
- Expanding thought leadership and community engagement in key segments to lift the digital capability of households and businesses across regional Australia.

Through its engagement with all tiers of government, and community and business stakeholders, RDE seeks to identify opportunities to co-invest in upgrades of the nbn™ networks serving regional Australia. RDE continues to evolve its product offerings to best serve the needs of its customers and enable participation in the digital economy. For example, in 2021 NBN Co broadened the reach of the Business nbn™ Satellite Service to 100 per cent of Australia's mainland and surrounding large islands. This service provides a suite of innovative product solutions and gives businesses in regional and remote areas an ability to experience business-grade network services including committed information rate and specialist business operations centre support. Additionally, this service provides disaster recovery capabilities to businesses and can be configured to support mobile carriers as a primary backhaul link for existing cells sites and for mobile black spots, and as a redundant path for mobile towers.

As part of developing RDE, NBN Co has expanded its community and stakeholder engagement teams to better support the voices of regional and remote communities, and to listen to and act on their feedback. nbn™ Local, the community engagement arm of NBN Co, sits within RDE and provides on-the-ground community engagement, raises awareness about nbn™ network availability, offers support with local issues and help with getting a broadband service to stay connected to the online world.

---

<sup>2</sup> <https://digitalinclusionindex.org.au/>





nbn™ Local operates in 22 regions across regional and rural Australia and has scaled its team to 54 Full Time Equivalent (FTE) staff, comprising community engagement managers, community ambassadors, and business leads based in regional areas to engage directly with their communities at a grassroots level.

Community engagement managers are based in each of the 22 regions and are tasked with developing and fostering relationships with local stakeholders representing regional communities and businesses to identify and resolve local issues and demonstrate how the nbn™ network can be leveraged to realise opportunities in their regions. Supporting the team are regionally-based community ambassadors who engage with community organisations and individuals to build their digital capability through the delivery of targeted programs and campaigns.

Finally, to support the development of digital capability in regional businesses, dedicated Business Leads have been established in the regions where they focus on the local business ecosystem in their regions including businesses, business associations, RSPs and local ICT partners to increase awareness of nbn™ network business products.

Key focus areas for the nbn™ Local team include:

- **Identifying and fostering opportunities for co-investment with NBN Co:** For example, the nbn™ Local team worked with local communities to secure close to one million dollars in co-funding through the North Queensland Telecommunications and Energy Improvement Grant program. The project, totalling almost \$2 million dollars, will convert up to 207 premises from nbn™ Fixed Wireless to nbn™ FTTN technology in the town of Bowen in the Whitsunday region of Queensland. The upgrades will enable faster and more future-proof broadband connectivity for residents and businesses in Bowen, as well as enhancing disaster resilience and recovery for the wider region.
- **Developing Business Capability:** In support of NBN Co's Business Fibre initiative and launch of nbn™ Business Fibre Zones the nbn™ Local team delivered 85 events in FY21. This nbn™ Local experiential activity in nbn™ Business Fibre Zones has contributed to an uplift in quotes and orders for nbn™ services with regional Australia accounting for approximately 26 per cent of all nbn™ Business Fibre Zone Enterprise Ethernet orders.
- **Regional Hotpots:** nbn™ Local focuses on known areas of poor sentiment towards the nbn™ network. The nbn™ Local team often meet with local stakeholders and visit communities where there are issues raised about nbn™ Fixed Wireless and Satellite networks. In some instances, the nbn™ Local team send field technicians to these areas to undertake nbn™ Fixed Wireless service qualifications or use an nbn™ Sky Muster equipped Road Muster Truck to demonstrate a connection to the nbn™ Sky Muster service. These visits have contributed to an uplift in the take up of nbn™ Fixed Wireless and Satellite services in these regional areas.



- **Supporting communities in their time of need:** In FY21 the nbn™ Local team supported regions impacted by natural disasters through the use of nbn™ Sky Muster Satellite broadband equipped Road Muster Trucks to provide WiFi access for voice and internet access to emergency services and communities many of which had been isolated due to disruption to power networks impacting the nbn™ network and mobile carriers, as was the case for Cyclone Seroja in Western Australia. nbn™ Local team members were also deployed to support the response to the New South Wales floods in March 2021 and Cyclone Niran in North Queensland. More information on NBN Co supporting communities in their time of need can be found at section 2.4 and at the nbn™ website.

nbn™ Local is also supported by a further team in RDE - nbn™ Segments – which facilitates NBN Co’s industry partnerships in sectors including agriculture, small business, health, education, tourism, the arts and Indigenous communities. The nbn™ Segments team works closely with representatives from within industry and communities to go beyond discussing the basic internet connection to maximising the benefits from their connection. Examples of the industry partnerships supported by the nbn™ Segments team include:

- **Warakirri Cropping Group – nbn™ in the paddock trial:** in collaboration with rural connectivity solutions provider, Zetifi, voice and data communications have been enabled via a non-standard solar-powered nbn™ Fixed Wireless connection in a paddock and broadcasted farm-wide via Zetifi’s long-range WiFi to Internet of Things (IoT) sensors and moving farm vehicles. The trial is due to end in January 2022; however, early learnings have informed the development of a Zetifi solution being tested in the Australian Government’s Alternative Voice Services Trial and also used to validate other technical solutions.
- **Laynhapuy Health Services:** together with a working group led by the Cooperative Research Centre for Developing Northern Australia seven health care centres within the Laynhapuy Homelands in North East Arnhem Land were enabled with an off-the-shelf solution comprising an nbn™ Sky Muster™ connection, computer with camera and microphone, and video calling software, to demonstrate that access to an affordable digital health care solution is possible. These services have been in operation for more than 12 months, providing the communities with access to health care and reducing the number of 4WD or light aircraft trips for treatment (up to 440km round trip).

Consistent with NBN Co’s 2022 Corporate Plan, RDE will continue to deepen connectivity support for regional and remote communities and enable households and businesses to get the best out of their nbn™ network connection.

## 2.3 COVID-19 and regional and remote Australia

The onset of the COVID-19 pandemic and its enduring effects have created ongoing challenges for our communities and seen significant shifts in Australia’s internet usage patterns as more people worked, studied, shopped and streamed more content from home. COVID-19 brought about an increase in traffic across the entire nbn™ network, including in regional and remote communities.



NBN Co responded with a range of temporary measures designed to support users at various times throughout the pandemic. Much of NBN Co's sustained assistance and financial relief through COVID-19 has supported households and businesses in regional and remote Australia to stay connected. This includes, at various times:

- **Industry Sector Engagement:** supporting the Regional, Rural and Remote Communications Coalition (RRCC), National Rural Health Alliance (NRHA) and peak bodies within the Education sector through the provision of information and updates via facilitating weekly industry roundtables to keep stakeholders informed of NBN Co's response to the COVID pandemic, listen to sector needs, and provide regular check-ins on the performance of the nbn™ network. A key example of this engagement was a stocktake of software used by the education sector to deliver online learning and ensuring that these applications were unmetered on the nbn™ Sky Muster™ Plus service. These roundtables were initiated when the country first went into lock-down in the week commencing 23 March 2020 and continued for a period of up to eight weeks until the stakeholders agreed to discontinue.
- **Pricing Relief:** NBN Co's total support for the Industry and end customers during COVID has led to NBN Co providing more than \$110 million in RSP funding support and additional capacity-related network investment. This has included:
  - Offering the COVID-19 CVC Credit which enabled extra CVC bandwidth for nine months from March to November 2020.
  - Payment of COVID-19 CVC Credit Transitional Rebates in December 2020 and January 2021.
  - Bringing forward investment between March and November 2020 to augment the capacity of the nbn™ network to accommodate increased data demand.
  - NBN Co also provided additional data and credits for RSPs with Sky Muster™ and Sky Muster™ Plus customers throughout 2020 (refer to below point on Data Increases for more detail).

As a result of the most recent lockdowns, NBN Co has also provided COVID-19 relief credit payments totaling \$5.2 million to eligible RSPs for July 2021; \$3.7 million for August 2021, and has committed to making a COVID-19 relief credit payment available to eligible RSPs for September and October 2021, if usage exceeds the long term trend.

- **Data Increases:** offering an increase of 45GB to the data usage limits that apply to standard nbn™ Sky Muster™ for Peak Period average download usage, from the end of March to 30 November 2020, at no cost to RSPs. In August and September 2021, NBN Co have also provided support to RSPs who have nbn™ Sky Muster™ customers by providing additional usage benefits as customer needs change due to Regional lockdowns.



- **Financial Assistance:** delivering connectivity relief packages to help RSPs connect low-income households with school-age children needing access to online learning, support emergency and essential service organisations, and assist small and medium businesses facing financial hardship. This included a Temporary 5GB+ Plan for nbn™ Sky Muster™ Plus which provided a 100 per cent discount offer to RSPs to support and encourage them to offer affordable broadband services to low-income Australian families in regional Australia needing an nbn™ network connection to support online learning. This was introduced in April 2020 and in September 2020 NBN Co notified RSPs of the extension of the availability of the Temporary 5GB+ Plan to 15 January 2021.
- **WiFi Connectivity:** installing community WiFi services powered by the nbn™ Sky Muster™ Satellite at 52 isolated communities to enable members of these communities to remain in contact [at central locations in those communities] and have broadband provisioned to support essential services until June 2022 or longer.
- **Accelerating Capacity:** dimensioning the nbn™ networks serving Australia to seek to meet the growing nightly peak busy hour throughput requirements and routinely planning for periods of exceptionally high traffic. This included limiting all maintenance activities to the early morning maintenance window (11pm to 8am) so as to minimise the daytime and peak time impact of all scheduled and planned outages in order to maintain network availability as much as possible for people living, working and learning at home as well as businesses.

The COVID-19 pandemic has demonstrated the importance of a reliable, fast broadband connection as the way in which Australians work, learn, stay in touch with loved ones and engage with essential services like healthcare, which continues to undergo a digital transformation.

This challenging period has reinforced the importance of the availability and reach of NBN Co's Fixed Wireless and Satellite services in regional and remote communities. The data demand on nbn™ Sky Muster™ Plus has been unprecedented, with over a year's projected data growth occurring in a matter of weeks during the early stages of the pandemic. The months following the onset of COVID-19 saw gross connection orders for Satellite increase significantly, in particular nbn™ Sky Muster™ Plus which saw the number of active services grow by close to 500 per cent between March and July 2020. Further to this, improvements to the nbn™ Sky Muster™ Plus program resulted in an increase in connectivity for regional and remote Australians and an increase in first time connections to the nbn™ network. This was consistent right across Australia where NBN Co saw an acceleration in connections and customers upgrading to higher speed plans as the pandemic set in.

NBN Co continues to monitor data consumption patterns and the additional demand that could be expected because of COVID-19 and its longer-term impacts, and the network adjustments or upgrades required to support this.



## 2.4 nbn™ network resilience and emergency management

The recent challenges of natural disasters and extreme weather events such as bushfires, floods and cyclones have tested the nbn™ network, but the nbn™ network and NBN Co's emergency response teams have performed well.

Restoring and providing essential communication services that families can rely on to stay in contact with each other and emergency services at the time of these events remain the Company's highest priority during these times. These types of events also demonstrate the critical role NBN Co's Satellite and Fixed Wireless networks play as they often become the only reliable means of telecommunications services for affected communities.

The nbn™ Local community engagement team helps support affected communities by establishing vital communication services. For example, during the bushfires, nbn™ Local facilitated the deployment of three Road Muster Satellite Trucks with support crew to provide the only connectivity available for impacted communities of Batemans Bay, Malua Bay and Cobargo to access critical information and connect with loved ones. NBN Co also installed nbn™ Sky Muster™ Satellite services and free WiFi at 33 evacuation and recovery centres, utilising rapidly designed capability with significant support from service delivery partners and local technicians. These communications services helped support more than 4,700 residents, business owners, volunteers and other support staff at these sites.

NBN Co has also supported emergency services and communities in several other natural disasters and emergencies, including Cyclone Seroja in Western Australia, Cyclone Niran in North Queensland, the New South Wales floods in March 2021, and the severe storms in Victoria in June 2021. Additionally, nbn™ Local has increased its operational capability by establishing national coverage for the Emergency Liaison Officer (EMLO) function within this team. The number of trained EMLOs within this team has increased to 48 in the past 14 months.

NBN Co continues to work with third parties on several initiatives and to invest in multiple areas to improve the resiliency of nbn™ networks including:

- investing in temporary network infrastructure to expedite network recovery and increase the number of temporary emergency network services, with the support of funding from the Australian Government's Strengthening Telecommunications Against Natural Disasters (STAND) program. This includes the deployment of five additional Road Muster Trucks, 12 transportable, "fly-away" nbn™ Satellite kits, and plans to deploy up to 2,000 community WiFi or Business nbn™ Satellite Services at nominated evacuation centres and emergency services organisations across Australia. 117 Satellite installations have occurred as of August 2021.
- increasing the number of hybrid generators (i.e. Hybrid Power Cubes) under the STAND program to support the continuity of power supply to various technologies during extended outages, this is particularly important in servicing Fixed Wireless sites in regional and remote areas.
- supporting a redundant link and backup site for the NBN Co Satellite Point of Interconnect (Pol) to ensure failover in the case of a loss of the current Pol.



- facilitating additional redundancy to transit fibre spurs.

NBN Co will continue to invest in resilience initiatives and preparedness activities such as expanding support capability and trialling and introducing improved power resilience for its network assets.

## 2.5 Network investment plan and spend in Regional Australia

NBN Co recognises that its network is an asset that will continue to grow with Australia's evolving data and broadband needs. NBN Co's network investment plan includes three key initiatives:

1. NBN Co will make its highest wholesale speed plans available, as demand arises, to up to 75 per cent of homes and businesses on the nbn™ Fixed Line network by 2023. This investment includes extending fibre deeper into many regional neighbourhoods serviced by FTTN technology to enable on-demand access to higher wholesale speed plans via FTTP technology.
2. Creation of 295 nbn™ Business Fibre Zones of which more than one-third of NBN Co's business-grade fibre services investment will be spent on regional businesses. This initiative will provide access to Enterprise Ethernet at significantly reduced wholesale prices to around 300,000 eligible business premises in regional areas.
3. A \$300 million fund to leverage co-investment opportunities with all levels of government to improve broadband services in Australia's regional, rural and remote communities. NBN Co's Regional Co-Investment Fund is designed to uplift the digital capability in regional and remote areas that are primarily served by NBN Co's Fixed Wireless and Satellite infrastructure, by increasing the number of premises that can access technologies that support higher speeds.

Analysis by economics and data analytics advisory firm [AlphaBeta](#), commissioned by NBN Co, shows the benefits of these network investments will extend into rural and regional Australia, generating around \$1.5 billion in economic activity, and creating 2,800 businesses and 10,000 regional jobs.

NBN Co continues to investigate upgrade opportunities for networks in regional Australia, in the context of the financial constraints in which the Company operates.

## 2.6 Segments and Stakeholder Relations

NBN Co has established a team to focus on key market segments and elevate digital capability and participation within these segments which are critical to regional and rural communities and economies. Supported by a dedicated head of each segment, the key priority areas are: agriculture, health, education, small business, the arts, tourism, and Indigenous Australians.

The nbn™ Segments team partners with each of the market segments to understand and resolve existing connectivity challenges, align and support current and future priorities as well as operationalise opportunities through technology and innovation advancements.



## Case Study

The Indigenous Australians segment at NBN Co is led by Che Cockatoo-Collins, a KuKu Yalanji man from Far North Queensland. Through Che and the nbn™ Local team, NBN Co is engaged with federal, state, and local government agencies and peak industry bodies and, indeed, communities themselves.

Digital inclusion is much lower for Indigenous Australians than the general population, as evidenced by the Australian Digital Inclusion Index<sup>3</sup> and validated through NBN Co's own engagement. NBN Co has informed the development of a plan to address digital inclusion for Indigenous communities focused on three key pillars:

1. Connect – connecting communities to services over the nbn™ network safely
2. Engage – delivering culturally sensitive needs-based engagement
3. Build Capability – supporting digital literacy to participate in a life online, safely and prosperously

In the past 12 months, NBN Co has engaged with more than 40 remote Indigenous communities on country, enabled telehealth consultations for remote communities such as Laynhapuy Homelands and Gawa on the Elcho Islands, and conducted digital audits with the National Aboriginal Community Controlled Health Organisation (NACCHO) and AusCo supported Art Centres to bridge connectivity and capability gaps.

Based on its engagement, NBN Co has identified that:

- Typically, the way Indigenous Australians, particularly those in remote areas, interact digitally is via mobile devices. Mobile devices with internet access are commonly shared communally within Indigenous communities.
- Affordability is often cited as a barrier to connect to the nbn™ network for Indigenous Australians. Prepaid mobile data is typically the preferred means of connectivity, however NBN Co's research suggests the costs of average prepaid data is far more expensive than the data offered by entry level nbn™ Sky Muster™ Satellite retail plans. Some communities don't have good mobile coverage, making Satellite options important.

### ***NBN Co's Communities in Isolation Program***

NBN Co's Communities in Isolation Program is aimed at uplifting the digital capability of regional and rural Australia through supporting a potential pathway towards improving broadband access and usage for Indigenous communities in these areas.

During the early stages of COVID-19 in 2020, NBN Co and participating RSPs enabled community WiFi services powered by the nbn™ Sky Muster™ Satellites Services in 52 isolated communities. Broadband connectivity is delivered via a single wireless access point located within a communal area or building nominated by a community (i.e. a community centre or health centre). In

---

<sup>3</sup> [Measuring Australia's Digital Divide: Australian Digital Inclusion Index 2020](#)



consultation with each community, NBN Co established the hours of operation and the types of internet sites accessible via these community WiFi points to manage risk and safety.

These services remain installed at these locations today, and in many instances have instigated additional nbn™ network services, such as nbn™ Sky Muster™ Satellite services (with an average uplift in Sky Muster™ services of up to 3 per cent), to be ordered by the community. This program has shown there has been consistent usage at the central point where the service was installed with an average of 52,000 WiFi sessions consuming a total of 7 terabytes of data per month, over approximately 50 communities. This level of usage suggests this solution is solving for connectivity challenges and in the remote community of Gawa on the Elcho Islands, services such as these are also allowing access to quality health services for the first time.

With support from industry and government, there is potential for NBN Co to expand on this program or offer other technology solutions or programs to encourage the take up of nbn™ network services in regional and remote areas where there is low penetration or digital exclusion.





### 3. nbn™ Network Infrastructure

The nbn™ network was built using the multi-technology mix (MTM), which matches the most appropriate technology to the local community, based on population density, geography and cost.

The MTM approach utilises Fixed Line technologies, including Fibre-to-the-Curb (FTTC), FTTN / Fibre to the Basement (FTTN/B), Hybrid Fibre Coaxial (HFC) and FTTP. Located outside the Fixed line footprint, approximately five per cent of Australian premises have access to Fixed Wireless and approximately 3 per cent to Satellite<sup>4</sup>. Of the approximately 3.7 million premises in NBN Co's footprint located in regional Australia, approximately 72 per cent are within the footprint of Fixed Line technologies, with the remaining premises covered by either Fixed Wireless or Satellite.

#### ***Fixed Line***

There are more than 2.6 million premises in regional Australia within the nbn™ Fixed Line footprint that are ready to connect (RTC)<sup>5</sup>. As part of NBN Co's significant network investment upgrades announced in September 2020, the Company will be taking fibre deeper into the FTTN footprint and enabling access to higher wholesale speed plans via FTTP technology in regional areas. Almost half of the premises that will be able to order speeds of up to 1Gbps<sup>6</sup> under this initiative are in regional Australia.

#### ***Fixed Wireless***

An nbn™ Fixed Wireless connection utilises data transmitted over radio signals to connect a premises to the nbn™ network. Data travels from a transmission tower located as far as 14 kilometres to an outdoor antenna that has been fitted to the premises by an NBN Co approved installer. NBN Co's Fixed Wireless network has a coverage area of almost 200,000 square kilometres across Australia and is enabled by over 2,200 towers and 20,000 cells on-air. More than 600,000 premises are within the nbn™ Fixed Wireless footprint, predominantly in regional and rural Australia, and more than 57 per cent<sup>7</sup> of these premises have an active service.

NBN Co's Fixed Wireless service commits to providing a wholesale Peak Information Rate of 25Mbps download and 5Mbps upload at least once during a 24-hour period. NBN Co's Fixed Wireless cell capacity upgrade program gives priority to cells which fall under its design threshold of 6Mbps monthly busy hour cell performance (or that NBN Co forecasts to fall under this threshold).

NBN Co currently offers an nbn™ Fixed Wireless Plus wholesale product which supports wholesale, layer 2 download speeds of up to 75Mbps and is designed to manage the finite capacity available on

---

<sup>4</sup> [Weekly Progress Report \(Build\) | nbn \(nbnco.com.au\)](#)

<sup>5</sup> As at end August 2021

<sup>6</sup> Regardless of the retail service the end customer purchases, the actual wholesale speeds delivered by NBN Co's highest wholesale speed tiers of 500 to close to 1000 Mbps will be less than 1Gbps due to equipment and network limitations and the peak information rate may fall anywhere in this range.

<sup>7</sup> As at 17 September 2021



the nbn™ network more efficiently to deliver the maximum potential wholesale speed the nbn™ network is capable of delivering at the time of use.

NBN Co's focus for Fixed Wireless over the coming planning period is on maintaining a positive customer experience in the face of significant usage growth. This includes optimising the performance, capacity and resilience of the nbn™ Fixed Wireless network within its finite spectrum and resource limitations.

### **Satellite**

NBN Co's Satellite service continues to play a vital role connecting people in Australia, particularly for those in remote areas. NBN Co's Satellites are designed and built to provide services across Australia and to its external territories via 101 individual beams. The capacity allocated to each Satellite beam is fixed, and is based on the population density within the associated geographical area when the Satellites were designed, and on predictions of the capacity required at 2030, the nominal end-of-life date for NBN Co's two spacecraft. However, it is difficult to make predictions over this span of time, and NBN Co will need to monitor usage and consider options in highly utilised beams.

NBN Co carefully monitors Satellite utilisation and has developed products to manage available capacity. NBN Co currently offers 12/1Mbps and 25/5Mbps wholesale services within its nbn™ Sky Muster™ product range, with average data usage of 45GB per month during peak periods. NBN Co's layer 2 Satellite service commits to providing a wholesale Peak Information Rate at least once in a 24-hour period. In 2019, NBN Co launched nbn™ Sky Muster™ Plus, which also provides 25Mbps wholesale download speeds with potential burstable speeds of up to 50Mbps, and 5Mbps wholesale upload speeds with potential burstable speeds of up to 20Mbps (subject to available network capacity). All data on nbn™ Sky Muster™ Plus plans is now unmetered, except video streaming and VPN traffic. RSPs can offer plans with metered data allowances from 25GB (peak/off-peak) to 150GB (peak/off-peak) for video streaming and VPN.

nbn™ Sky Muster™ Plus as a percentage of the Satellite base has increased from approximately 6 per cent to over 20 per cent in FY21. This is compared to the nbn™ Sky Muster™ product where 100 per cent of data is metered. The increase in popularity of nbn™ Sky Muster™ Plus is driven by the added value of the unmetered data feature which, typically on average, represents 70 per cent of a customer's data over a month. NBN Co is currently considering opportunities to increase the data allowances for nbn™ Sky Muster™ but also increase the amount of unmetered data available to nbn™ Sky Muster™ Plus customers.

In addition to NBN Co's Sky Muster™ consumer products, the Company recently expanded the coverage of the Business nbn™ Satellite Service (BSS) to 100 per cent of the Australian mainland and surrounding large islands. This initiative is helping RSPs to deliver business-grade services to businesses with hard-to-reach remote operations.

Currently NBN Co is the default SIP in Australia, making NBN Co the infrastructure provider of last resort in all areas where other carriers do not offer high-speed broadband services. This important role is particularly relevant in very remote locations where Satellite technology may be the only broadband option available due to land geography and topography. The SIP framework, set out in



the *Telecommunications Act 1997*, places an obligation on carriers to self-declare as the SIP for areas where they have been contracted to install infrastructure, such as in real estate development or building redevelopment projects. The framework also allows for the Minister for Communications to designate a carrier as SIP for a particular area.

The Australian Satellite industry continues to evolve with new global Satellite carriers entering the market in recent years, particularly Low Earth Orbit (LEO) operators which are proposing direct-to-consumer models. These trends indicate that in the near future, consumers within NBN Co's Satellite footprint may have more broadband options for connectivity, in addition to nbn™ Sky Muster™ Satellites. NBN Co recommends consideration of how these new satellite providers fit within the context of the telecommunications regulatory framework including the SIP and RBS.

### 3.1 Network Performance

Population shifts to regional areas, natural population growth, and increased data usage are increasing demand for the nbn™ network in regional Australia, with predictions customer demand for data to grow by 300 per cent over the next ten years.

NBN Co recognises that some technologies available in regional Australia are capacity constrained, but the Company strives to deliver as much utility as possible without compromising stability. NBN Co is investing more than \$200 million per year on average to FY25 in its Fixed Wireless network to help meet current performance thresholds.

Wireless technologies, such as the nbn™ Fixed Wireless and nbn™ Satellite service, are typically constrained by the amount of capacity in a given cell or beam, which is shared between users and can adversely affect user experience if not managed properly.

#### ***Fixed Wireless***

NBN Co proactively manages upgrades to its network to keep Fixed Wireless network cells and backhaul links performing within the Company's design thresholds, including that all cells meet a minimum 6Mbps target busy hour performance. This performance is reported on publicly each month<sup>8</sup>. NBN Co's Wholesale Broadband Agreement with RSPs includes a Wireless Speed Performance Rebate that applies to persistently congested cells.

Performance of the nbn™ Fixed Wireless network has improved significantly over the past two years as NBN Co has implemented a program of works to uplift the network. This has included uplifting cell and backhaul capacity to reduce congestion, changing the frame configuration of the network to dedicate a greater proportion of resources to downloads by cells on the network, time-shifting network upgrade works from day to night to reduce end-user disruption, and implementing carrier aggregation.

Efforts to improve customer experience include the planned introduction of new tools to implement the Fair Use Policy designed to protect the user experience of those on the nbn™ Fixed Wireless

---

<sup>8</sup> <https://www.nbnco.com.au/corporate-information/about-nbn-co/updates/dashboard-august-2021>



network from the small number of excessive data users. As the spectrum in a cell is a shared resource, overuse by one person in a cell can have a detrimental effect on everyone else in that cell. NBN Co is planning to use a Demand Management System (DMS) from Q2 2022 which will protect all users during peak periods from individuals using a small number of high-intensity applications, like peer-to-peer file service, by implementing a service reduction on the high-intensity application being used by the service.

The Company continues to invest from within its existing funding envelope on improvements to the network to allow it to efficiently reuse spectrum through the creation of more cells. While the network that has been built is a tremendous asset, and incremental improvements are made on an ongoing basis, it is a platform that could be used to deliver even greater benefit with further funding and investment outside the Company's current budget constraints.

### **Satellite**

NBN Co is aware of some negative perceptions of some intrinsic factors affecting an end user's experience of Satellite services such as the distance travelled by signals to the geo-stationary Satellites and return (latency) and weather events such as heavy rain causing interference. There can also be other external factors including the configuration over which services are delivered to an end user's premises, whether an end user is using the internet during the busy period, and some factors outside of NBN Co's control such as in-home equipment quality, software, broadband plan, signal reception and how a service provider designs its network.

Analysis indicates that in-home factors are a significant contributor to customer dissatisfaction. Key contributing factors include in-home wiring, as well as appropriate WiFi router choice, configuration and location within the premises. In response to this, NBN Co runs educational campaigns directed towards end customers to support in-home optimisation. The nbn™ Local team encourages end users to not accept poor performance on their Satellite connection, and to contact their retailer to help troubleshoot the issue.

Some software applications and platforms may have some performance issues when accessed via Satellite connections. The providers of these applications have acknowledged that performance issues experienced by end users on Satellite in Australia are similar to issues faced on these technologies in other countries. NBN Co continues to closely monitor these issues and is actively engaged with the software providers locally and globally to provide feedback that may assist with future improvements for Satellite customers using these applications.

Supporting RSPs with tools that can assist with troubleshooting customer issues is an important step in ensuring network performance. NBN Co has worked with RSPs to provide an enhanced test and diagnostic tool - the nbn™ Service Health Summary - which provides RSPs with a view of a customer's service based on data that is proactively collected and interpreted from the nbn™ network. The nbn™ Service Health Summary was recently rolled out for nbn™ Fixed Wireless and is part of NBN Co's product roadmap for nbn™ Satellite, with a current expected delivery date in 2022.



NBN Co acknowledges that there is a need for greater consumer awareness of nbn™ Satellite availability, the different products offered, and the value these can deliver to end users in regional and remote communities. This is particularly the case with nbn™ Sky Muster™ Plus, where community members have told the nbn™ Local team that they are unaware of this product offering. Customers in these communities often think that they can't connect to the nbn™ network. In some circumstances this is because their provider does not offer an nbn™ Sky Muster™ Satellite service, or a lack of awareness of the broad coverage of the nbn™ Satellite service.

Awareness-raising of NBN Co's suite of products for regional and remote Australia remains a priority for the Company. nbn™ Local has a clear mandate to help ensure customers are sufficiently informed to make the best decisions for their broadband needs. NBN Co will continue media and advertising campaigns targeting communities, particularly in the nbn™ Satellite footprint, which is already leading to increased activations in areas targeted by nbn™ Local.

Like Fixed Wireless, a Demand Management System (DMS) is planned that will enable better management of the fixed nbn™ Satellite capacity.

NBN Co is also aware of issues some customers have matching the location of their premises on NBN Co's maps and that some customers would like the ability to input their own location. NBN Co uses a system of unique location codes (LocIDs) for premises linked to a physical geography. The Company has an Address Management Operations (AMO) team that manages the addressing footprint and works to improve the accuracy and integrity of NBN Co's location data. When a customer is unable to find their address when engaging with an RSP an enquiry will be lodged through to NBN Co by their RSP. The AMO team will review this RSP enquiry and if the address meets the nbn™ Wholesale Broadband Agreement definition of a Premises, provide a LocID, and if required make it serviceable with the relevant technology. This process of supplying a valid and accurate LocID ensures multiple business rules on addressing and serviceability logic are adhered to so that a successful connection can occur. An uncontrolled user-generation of LocIDs would put at risk the accuracy and integrity of the addressing footprint, as well as likely cause further challenges when the order is placed against the LocID if not created correctly. Uncontrolled creation of LocIDs would also likely have a flow-on of errors in NBN Co's data and records and would not be the preferred approach.



## 4. Government Investment Programs

Government programs and policies play an important part in supporting the rollout and availability of essential telecommunications services in regional and remote communities. With the initial nbn™ network rollout now complete and NBN Co operating in a capital expenditure constrained environment; Government policies, programs and co-investment opportunities are a critical means by which NBN Co can continue to provide technology upgrade pathways and support improved connectivity in regional and remote Australia.

### 4.1 Government Policy and Regulatory Frameworks

Government policy and regulatory frameworks can have a significant influence on the viability and sustainability of NBN Co's regional services. With the Company's shift in focus from building infrastructure towards optimising its networks and services, the time is right to consider what adjustments to the policy and regulatory framework may be required, to achieve balance and efficiency in the continued delivery of NBN Co's services.

In 2021 the Australian Government's RBS commenced. It is a critical tool for ensuring there are long-term funding arrangements for the provision and maintenance of essential broadband services in regional Australia. NBN Co pays approximately 95 per cent of the RBS levy, with the remaining five per cent being paid by competing fixed line service operators which offer services that are substitutable for an nbn™ network service. Currently, there are services in market that are not required to pay the RBS levy, despite the fact they are often marketed as direct substitutes for an nbn™ network service (e.g. 4G/5G Fixed Wireless services to the premises, and some mobile services). Given the NBN Co model relies heavily on services in populated areas supporting services in regional Australia, this is an area that could be examined further to ensure the charge base for the levy adequately captures all the services that are substitutable for an nbn™ network Fixed Line service. NBN Co considers that those network operators that seek to compete directly with NBN Co should do so subject to regulatory symmetry, regardless of technology choices made by those operators.

NBN Co has also been actively engaged in ongoing discussions with the Australian Government about its role in delivering aspects of the USG, particularly in relation to potential reforms to the voice component of the USG. The primary purpose of the nbn™ network is to provide broadband services. In most areas where there are fixed-line telecommunications networks the nbn™ network is replacing the existing Telstra copper landline-based phone services, and Telstra is required to migrate its wholesale and retail customers to the nbn™ network within approximately 18 months of the nbn™ network services becoming operational. In contrast, NBN Co's Fixed Wireless and Satellite networks in rural and regional areas were always designed to complement, not replace, Telstra's existing copper services. As a result, there is no migration obligation and no mandatory disconnection of those copper services.

The USG utilises the nbn™ network to deliver broadband services, and Telstra's existing Universal Service Obligation (USO) is used in rural and remote Australia to guarantee voice services in nbn™ Fixed Wireless and Satellite areas. Consistent with the Productivity Commission's



recommendations on the USO reform in 2017, NBN Co suggests that a key focus in exploring alternative voice solutions should not be to find a single voice service solution to replicate and replace Telstra's Standard Telephone Service; but instead to identify voice coverage gaps, and enable the way for multiple voice solutions to be introduced where they are needed.

It is important that any USG reform activities include a full end-to-end examination of the regulatory framework, legislation and supporting policies (such as the Customer Service Guarantee (CSG) and other consumer safeguards). In undertaking this exercise, strong collaboration between the various policy and regulatory bodies is also needed (both with each other and with industry) to develop effective, workable frameworks that balance consumer and industry outcomes, to ensure sustainable provision of high quality broadband and voice services to regional customers.

NBN Co considers that there is also scope for further reforms to the regulatory framework to ensure that NBN Co can provide effective, efficient and targeted initiatives where needed in regional and remote Australia. For instance, from time to time NBN Co undertakes targeted projects which are designed to address emergency situations, areas of specific need and to help uplift the digital capability of certain vulnerable groups. Examples include responding to bushfires, COVID-19 outbreaks in specific locations, uplifting digital capability and uptake in Indigenous communities and finding appropriate solutions for vulnerable community groups. These activities can require an immediate or timely response and are sometimes delivered under difficult conditions or in regional and rural locations with access limitations.

NBN Co's ability to respond to these emergency scenarios can be slowed down where the complexity of the current regulatory framework operates to limit NBN Co's capacity to nimbly address areas of concern. NBN Co invites the Committee to consider whether there are any options for further regulatory reforms, to provide increased flexibility in these situations to all SIPs delivering services to regional Australia.

## 4.2 Government Investment Programs

NBN Co has proactively participated in a number of financial grants programs, and co-investment opportunities over the past 12 months including the:

- **Regional Connectivity Program (RCP):** Partnering with governments and local councils to deliver technology upgrades and enhance connectivity in regional and rural communities under the Australian Government's RCP. Under this program, 18 nbn™ projects have been approved for almost \$35 million in RCP funding, with NBN Co contributing more than \$28 million towards these projects.
- **Strengthening Telecommunications Against Natural Disaster (STAND):** Implementing upgraded connectivity through the Australian Government's STAND package. In partnership with the Government, NBN Co has now deployed Hybrid Power Cubes (i.e. generators) and five new generation Road Muster Trucks, 12 transportable fly-away Satellite kits and plans to deploy up to 2,000 nbn™ Sky Muster™ Plus Community WiFi or Business nbn™ Satellite Services at nominated evacuation centres and emergency services organisations across





Australia. NBN Co's involvement with the STAND program has also supported the launch of the first nbn™ Disaster Service in Namadgi, Australian Capital Territory, boosting the support offered to communities and emergency services in the aftermath of emergency events such as bushfires and floods.

- **Alternative Voice Services Trials Program (AVST):** Participating in the Australian Government's AVST to demonstrate the voice service capability of nbn™ Fixed Wireless and Satellite technologies. NBN Co is delivering up to 260 trial services across Australia via participating phone and internet providers. Real time feedback from participants and their providers will assist NBN Co and the Australian Government in developing voice solutions that help meet the needs of people living in regional and remote areas. Further expansion of services or introduction of new technologies will, however, be subject to spectrum availability and funding. Trial services will operate until 30 June 2022.
- **Regional Co-investment Fund (RCIF):** Administering the \$300 million RCIF established by NBN Co to co-invest with federal, state/territory and local governments to help uplift digital capabilities in regional and remote areas primarily connected to nbn™ Fixed Wireless or Satellite infrastructure by 'place-based' technology upgrades designed to increase the number of premises that can access technologies that support higher speeds.

These programs and other co-investment opportunities enable NBN Co to make investments in regional and remote communities that would otherwise be sub-commercial. They will continue to remain relevant as the migration of urban and city dwellers contributes to heightened growth in peri-urban and regional Australia, putting additional strain on existing networks serving these areas.

State Governments in particular are increasingly looking at co-investment opportunities with industry to support improvements in the way their communities are connecting digitally. NBN Co considers that State Governments are well-placed to partner with industry on such investments as they often have greater understanding of the needs of their local communities and knowledge of and an interest in significant strategic planning matters that may be contingent upon digital connectivity.

NBN Co sees a continued role for governments to facilitate telecommunications co-investment opportunities. The Company considers working with all levels of government is proving successful for upgrading or complementing technologies in the regions. The sharing of expenses associated with delivering network upgrades acts as an additional incentive to encourage third parties to co-fund improved broadband connectivity in regional and remote communities where such investments are uneconomic. These additional sources of funding may have the effect of enabling a project to clear financial hurdles for sustainable investment and proceed to implementation, or to achieve synergies that allow expansion of a project's benefits to a broader number of people. NBN Co continues to work with local communities and all tiers of government to determine the feasibility of upgrading and/or changing the nbn™ network technology type in regional locations and how and where this could be implemented. NBN Co considers it important that financial grants and co-investment programs continue to factor in the full telecommunications landscape and contribute to





a long-term solution that can meet growing data demand and capacity requirements. NBN Co notes the importance and value of open access networks and would encourage consideration of this arrangement in co-investment program guidelines and criteria. Likewise, the development of responses to government co-investment programs can often require consultation with third parties to validate proposals before they can be put forward. Providing sufficient time within and between grant program rounds to undertake these consultations has the potential to further encourage participation in these opportunities.

NBN Co has been able to create a number of effective partnerships with federal and state governments to co-invest in nbn™ network upgrades and improved broadband services in regional and remote Australia. A recent example of this is NBN Co's agreement with the Victoria Government under the \$550 million Connecting Victoria program, dedicated to fast-tracking better mobile coverage and broadband across the state. As part of this program, the State of Victoria and NBN Co have entered into a \$73 million agreement to establish the 'Victorian nbn State Program Fund' to be held on trust by NBN Co for co-funding new nbn™ network infrastructure in key areas of the state, as part of the Company's various area switch technology change programs.



## 5. Conclusion

Meeting the high-speed broadband needs of regional Australia remains a priority for NBN Co. The Company has made substantial improvements in this area since the last RTIRC report, with the creation of RDE and expansion of nbn™ Local and a continued focus on technology improvements, product development, disaster and emergency management services, and raising customer awareness of nbn™ products and services in regional and remote areas.

More broadly, the creation of NBN Co and the rollout of the nbn™ network has enabled significant improvements in the availability of high-speed broadband across regional Australia over the past decade. However, demand for data and technology upgrades across the entire nbn™ network, including in regional and remote areas, continues to grow. This is being strengthened by record population shifts to regional centres, as well as natural growth in data usage, both of which have been accelerated by COVID-19.

The Company remains firmly focused on meeting the evolving broadband needs of Australians. With the major construction component of the nbn™ network now complete, NBN Co has shifted its focus to optimising the performance, capacity, and resilience of the nbn™ network. The new Statement of Expectations, issued on 26 August 2021, has also outlined an ongoing role for NBN Co in regional and remote areas “by incorporating non metropolitan areas in upgrade plans where commercially prudent, including through working with governments and other organisations to fund and deliver enhanced services in these areas”.

The Company is engaged in a range of initiatives designed to anticipate and meet the future broadband needs of customers in regional Australia. These include the dedicated Regional Co-investment Fund, delivery of 120 nbn™ Business Fibre Zones in regional centres, and enhancements of the nbn™ Fixed Line network to make NBN Co’s highest wholesale speed plans available, on a customer demand basis, to up to 75 per cent of homes and businesses on the nbn™ Fixed Line network by 2023.

In addition to these initiatives, NBN Co continues to explore new and emerging technologies and network improvements. Within the Company’s current capital expenditure constraints, the focus is on maximising the value and return from investments already made that can be reinvested into nbn™ network improvements, consistent with the Australian Government’s Statement of Expectations. Significant resources have been allocated to maintain current capacity and performance benchmarks to keep pace with growing demand for data. Further investments in newer technologies with higher capacities and capabilities would be required particularly if there is a change in the available technology mix, given Telstra has flagged it is likely to determine the “end-of-life” date for its copper-based services ADSL platform within the next couple of years<sup>9</sup>.

**End**

---

<sup>9</sup> <https://www.accc.gov.au/system/files/Telstra%20-%20Submission%20to%20WADSL%20declaration%20inquiry.pdf>