Australian Government

Regional Telecommunications Review

Regional Telecommunications Review 2021

Issues Paper

July 2021

© Commonwealth of Australia 2021
July 2021 / INFRASTRUCTURE

Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia (referred to below as the Commonwealth).

Disclaimer

The material contained in this publication is made available on the understanding that the Commonwealth is not providing professional advice, and that users exercise their own skill and care with respect to its use, and seek independent advice if necessary.

The Commonwealth makes no representations or warranties as to the contents or accuracy of the information contained in this publication. To the extent permitted by law, the Commonwealth disclaims liability to any person or organisation in respect of anything done, or omitted to be done, in reliance upon information contained in this publication.

Creative Commons licence

With the exception of (a) the Coat of Arms; and (b) the Regional Telecommunications Review photos and graphics, copyright in this publication is licensed under a Creative Commons Attribution 4.0 Australia Licence.

Creative Commons Attribution 4.0 Australia Licence is a standard form licence agreement that allows you to copy, communicate and adapt this publication provided that you attribute the work to the Commonwealth and abide by the other licence terms.

Further information on the licence terms is available from https://creativecommons.org/licenses/by/4.0/

This publication should be attributed in the following way: © Commonwealth of Australia 2021

Use of the Coat of Arms

The Department of the Prime Minister and Cabinet sets the terms under which the Coat of Arms is used. Please refer to the Commonwealth Coat of Arms - Information and Guidelines publication available at http://www.pmc.gov.au.

Contact us

This publication is available in hard copy or PDF format. All other rights are reserved, including in relation to any departmental logos or trademarks which may exist. For enquiries regarding the licence and any use of this publication, please contact:

Director – Creative Services
Communication Branch
Department of Infrastructure, Transport, Regional Development and Communications
GPO Box 594
Canberra ACT 2601
Australia

Email: publishing@infrastructure.gov.au

Website: www.infrastructure.gov.au

Table of Contents

Overview 4

Have your say 4

Introduction 5

Key Issues 6

Adequacy 6

- Changing Demand 6
- Service Reliability 8
- COVID-19 9
- Indigenous Australia 9

Opportunity 10

- Regional Development 10
- Emerging Technologies 11
- Maximising Outcomes 11

Awareness 12

- Education 12
- Public Information 13

Appendix A – List of Questions 15

Appendix B – Terms of Reference 16

Overview

A Regional Telecommunications Independent Review Committee (the Committee) is established every three years under Part 9B of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* to conduct a review into telecommunications services in regional, rural and remote parts of Australia.

The Committee for the 2021 Regional Telecommunications Review (the Review) was appointed on 1 June 2021. The 2021 Committee is comprised of the Hon Luke Hartsuyker (Chair), Ms Kristy Sparrow, Professor Hugh Bradlow, Mr Michael Cosgrave and Ms Sue Middleton.

As part of the Review, the Committee will consider:

- the impact of Government policies and programs to improve regional connectivity and digital inclusion;
- insights from COVID-19 on the changing digital needs of regional, rural and remote areas;
- service reliability issues which impact regional communities and options for mitigating them;
- the role of emerging technologies in delivering telecommunications services in regional Australia;
- ways of encouraging further investment in regional telecommunications;
- the role of telecommunications in supporting broader regional development goals;
- ways to improve co-ordination between government and industry in telecommunications investment; and
- consumer awareness and education regarding telecommunications options in regional areas.

The full Terms of Reference for the Review are at **Appendix B**.

The Committee invites regional communities, businesses and governments to engage directly with the Review over the coming months through face-to-face consultations, written submissions and online forums.

The Committee will report to the Minister for Regionalisation, Regional Communications and Regional Education by 31 December 2021. The Committee may make recommendations to Government. Where it does so, it should consider the costs and benefits.

Further information about the 2021 Regional Telecommunications Review and the Committee is at www.rtirc.gov.au.

Have your say

The Committee welcomes submissions from individuals, businesses, peak bodies and other interested organisations. This issues paper provides an outline of key areas of interest and invites submissions that share a range of experiences and perspectives.

There are questions in this paper to provide guidance for framing submissions. You can address all the questions or just those that are relevant to you. However, submissions are not limited to the questions provided.

Submissions will be accepted until 30 September 2021 via:

- webform: www.communications.gov.au/have-your-say
- email: secretariat@rtirc.gov.au
- post: 2021 Regional Telecommunications Review Secretariat
  Department of Infrastructure, Transport, Regional Development and Communications
  GPO Box 594
  CANBERRA ACT 2601

Submissions will be made publicly available at www.rtirc.gov.au unless the submission is confidential or is inappropriate for publication. All submissions will be treated as non-confidential unless the submitter specifically requests that a submission, or part of a submission, is kept confidential. Any personal information which is provided in a submission will be treated in accordance with the Department of Infrastructure, Transport, Regional Development and Communications' privacy policy and the Australian Privacy Principles.

Introduction

Telecommunications plays a key role in supporting the productivity and wellbeing of regional, rural and remote Australia and the significant contribution the bush makes to the nation.

The particular importance of regional telecommunications has been underlined by a number of recent events, including natural disasters and the COVID-19 pandemic. These events have reinforced the value of high-speed, reliable and resilient broadband and mobile networks in regional areas to support public safety, day-to-day business, social contact and access to essential services like health and education.

Connectivity is also a big part of encouraging people to live, work and invest in regional areas. The regions offer attractive lifestyle amenity for many people and regional Australia is experiencing renewed interest from business and government. Taking advantage of this opportunity for regional growth requires residents and businesses to be able to access the same level of telecommunications services available in urban areas.

Since the 2018 Regional Telecommunications Review (the Edwards Review), the telecommunications market in regional Australia has continued to transform through increased private and public investment, the development of new technologies and the ongoing implementation of policy reforms. Major changes include the effective completion of the National Broadband Network (NBN), the rollout of 5G mobile services, the creation of the Universal Services Guarantee, and the delivery of new government grants programs and public awareness initiatives.

However, providing quality telecommunications services in regional Australia remains a challenge. Significant investment is necessary to provide connectivity across Australia's large landmass, despite the relatively small population in remote areas. The rollout of new systems takes time, and planning for the future needs to start early so new systems are available when needed.

The 2021 Review aims to gain a better understanding of the role telecommunications services and technologies can play in addressing the challenges and opportunities facing regional, rural and remote Australians. This includes remote Indigenous communities, which have their own unique digital needs.

Through the Review, the Committee hopes to understand the lived experience of regional consumers, communities and businesses in getting and staying connected, and wants to examine whether current and emerging services, technologies, programs and policies are adequate to meet future needs.

The Review can also play a valuable role in setting a long-term forward agenda for infrastructure improvements to maximise the opportunity and prosperity of the bush. The Committee is looking for ways to improve collaboration between regional communities, government and the telecommunications industry to make sure that investments in telecommunications are coordinated and deliver to regional needs.

Key Issues

The Committee seeks views on a wide range of telecommunications issues in regional, rural and remote Australia, including issues of adequacy, opportunity and awareness.

Adequacy

Changing Demand

The three main telecommunications services used in both regional, rural and remote areas and urban Australia are mobile voice and data, broadband internet and fixed voice services. These are used for a variety of purposes and are delivered using a range of technologies.

The Committee wants to identify the most important telecommunications services in regional, rural and remote areas, and whether they will meet future needs. This includes the extent to which the technologies available to regional Australians allow them to access everyday digital services, and how this experience is different to that in urban areas.

Mobile

Mobile services are available to 99.5 per cent of Australia's population and 33 per cent of the Australian landmass. Mobile phones remain the device most frequently used to connect to the internet and to make voice calls. While mobile devices continue to be mainly used for sending messages and making calls, more data-intensive uses like navigation, emails, social media and streaming are becoming common. However, rates of usage for these purposes are significantly lower outside of the major cities.

Mobile networks, as well as some satellite and broadband networks, are increasingly being used for machine-to-machine applications using the 'Internet of Things' (IoT). This can range from the monitoring of council utilities and EFTPOS machines in regional communities, to tracking transport and freight on regional highways, to monitoring and controlling on farm processes, such as irrigation and stock control.

At present, mobile services are mainly delivered over the 4G network, which covers 99.2 per cent of the Australian population. 3G networks are also still widely used alongside 4G coverage for voice services, although other options such as Wi-Fi calling, apps like WhatsApp and Facebook Messenger, and Voice over Long-Term Evolution (VoLTE) are becoming increasingly popular.

About 0.3 per cent of Australia's population (around 75,000 people), located mainly in remote areas, receives 3G-only mobile coverage. 3G networks are also used to provide connectivity for some IoT devices. Additionally, basic 3G-only handsets are sold by some retailers as affordable and accessible devices for older Australians.

Australia's three major mobile network operators, Telstra, Optus and TPG Telecom (formerly Vodafone Hutchison Australia) have commenced the rollout of fifth generation (5G) mobile networks in a number of larger regional locations, with plans from Telstra to cover 75 per cent of the population this year. The Government is also supporting trials of new 5G uses in sectors like agriculture, mining, medical technology and construction through its 5G Innovation Initiative.

To support its 5G network rollout, Telstra has announced that it will decommission its 3G network in 2024. Telstra has indicated that it will expand its 4G network to a similar footprint as the current 3G network, but specific detail around the timeframe and extent of this transition are not yet widely available.

This is not the first switch-over of mobile networks. However, given that many regional people rely on 3G networks, the Committee would like to identify ways to support regional communities through this transition in order to minimise its impact on existing quality of service and the accessibility of telecommunications services.

Additionally, in parts of regional Australia, the costs of improving mobile coverage are high due to factors such as the distance from existing infrastructure. Given the smaller populations in many regional areas, this high cost reduces the commercial incentives for carriers to expand their networks.

To address this issue, the Government has provided significant investment in the cost of building new infrastructure through grants programs like the Mobile Black Spot Program (MBSP) and the Regional Connectivity Program (RCP). These

are discussed further on pages 11-12, along with programs run by other tiers of government and industry. The Committee is interested in examining the effectiveness of these programs over the course of the Review.

Broadband

In December 2020, the Minister for Communications, the Hon Paul Fletcher MP, declared that the National Broadband Network (NBN) should be treated as built and fully operational. Currently, roughly 2.85 million regional premises can access NBN fixed-line services, more than 600,000 can access NBN fixed wireless services and over 400,000 can access Sky Muster satellite services. In 2019, NBN Co launched the Sky Muster Plus and Business Satellite Service products, which provide increased unmetered data and access to business-grade services.

A number of alternative internet options also exist in regional Australia. In the NBN fixed wireless and satellite footprint, some existing ADSL networks continue to be used, though this number is rapidly decreasing. A number of Wireless Internet Service Providers (WISPs) have deployed regional fixed wireless networks on a commercial basis, offering diverse speed tiers and data limits compared to those provided via the NBN.

The provision of broadband services in Australia is underpinned by the Universal Services Guarantee (USG), which guarantees all premises in Australia have access to broadband regardless of location. This is supported by the Statutory Infrastructure Provider (SIP) regime, which creates obligations on wholesale broadband providers to supply services with minimum peak speeds upon request.

However, the costs of providing broadband services in regional Australia are very high. The Australian Competition and Consumer Commission (ACCC) estimates that the NBN Co fixed wireless and satellite networks will incur a net loss of around $12.9 billion (present value) over 30 years. The new Regional Broadband Scheme is designed to support the sustainable funding of these NBN services.

In regional Australia, the most common reported uses of broadband internet include sending email and web browsing, as well as watching videos, banking, accessing news, shopping and using social media. However, other uses, such as remote working, online education and telehealth, while not new to many consumers in regional areas, are becoming increasingly critical to everyday life across the regions.

The Committee is interested in views on the different types of broadband access technology used by regional communities and businesses, and whether these are reliable and affordable. The Committee is also interested in examining the effectiveness of the USG in ensuring access to baseline broadband connectivity in regional Australia.

Fixed Voice

Nation-wide, Telstra provides access to basic voice services through the Universal Services Obligation, which legislates the provision of standard telephone services to premises, as well as public payphones.

On the NBN fixed-line network (which services the majority of premises), fixed voice services are delivered via Voice over Internet Protocol (VoIP) using a broadband connection. Outside the fixed-line footprint, users can also access VoIP telephony over the NBN fixed wireless and Sky Muster satellite networks, or can choose to keep their existing landline phone service active.

Outside the NBN fixed-line footprint, Telstra delivers approximately 400,000 telephone services through a mixture of its copper network, the High Capacity Radio Concentrator (HCRC) and Wireless Local Loop (WLL) systems and satellite.

Telstra also operates around 15,000 payphones nationally. Payphone usage has been declining steadily, although they are still used in some remote Indigenous communities and urban locations (such as transport hubs and public housing).

While fixed voice services to homes and businesses continue to play an important role for some community members, their delivery faces a range of challenges. In particular, much of the infrastructure is aging and expensive to maintain, raising concerns about service quality, reliability and longevity. This legacy infrastructure is also less functional and harder to upgrade than other platforms like mobile and broadband, which have replaced fixed voice for the majority of Australians.

The Government has provided $2 million for Alternative Voice Services Trials (AVST) to identify new ways of delivering voice services in regional areas, including over fixed wireless, satellite and mobile. The 12-month trials will explore the potential for alternative technologies to provide better services and functionality, more in line with consumer preferences for mobile and broadband services.

The Committee is interested in hearing views on the future delivery of fixed voice services, particularly from consumers and businesses who use copper and other legacy technologies like HCRC.

Questions

1. What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?
2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?
3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?

Service Reliability

The reliability of fixed-line, mobile and satellite networks is critical in regional, rural and remote Australia, including semi-rural communities on the fringes of major cities. Access to networks is of limited value if they are not reliable, whether on a day-to-day basis, or in time of particular need, such as COVID lock-downs or natural disasters.

Temporary or persistent network issues cause disruption to everyday life, including work and study. They may mean that regional businesses cannot communicate with clients or process customer payments. In remote communities, issues with telecommunications can affect residents' access to basic services such as groceries, banking or emergency services.

While some consumer protections exist, particularly for landline telephone services, the Committee is interested in hearing from regional, rural and remote communities about their experiences with service outages and how these have been handled by service providers.

Natural disasters like bushfires and extreme weather events place pressure on telecommunications networks when they are most needed. Telecommunications outages caused by loss of mains power and damage to networks can affect local emergency coordination efforts and the operation of public warning systems, as well as disrupting supply chains and access to essential services in the aftermath of disaster events.

No communications system is totally resilient during an emergency. However, it is vital that regional telecommunications networks are as reliable and redundant as possible, so that regional communities can respond to, and recover from, natural disasters.

In response to the 2019-20 bushfires, the Government has provided $37.1 million in initiatives to prevent, mitigate and manage telecommunications outages in natural disasters. This includes $18 million for the Mobile Network Hardening Program to upgrade the backup power supply at telecommunications facilities in disaster-prone areas.

Other measures include $10 million for the deployment of temporary telecommunications facilities such as Cells on Wheels and NBN Co Road Muster trucks, $7 million for the installation of NBN Sky Muster services at emergency centres, and $2.1 million to improve public information on access to telecommunications in natural disasters. NBN Co Road Muster trucks have already been successfully deployed in response to the 2019-20 bushfires and Cyclone Seroja in Western Australia in April 2021.

All of these measures will help to address issues of telecommunications resilience in regional areas. However, the Committee welcomes views on further ways to maintain and increase the reliability and redundancy of telecommunications networks in times of stress.

Questions

4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?
5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?

COVID-19

The COVID-19 pandemic has had an unprecedented impact on Australia's regions. Extended periods of lockdown, interstate and national border closures and social distancing measures to prevent the spread of COVID-19 have disrupted normal patterns of work, study and travel across regional Australia.

In this environment, telecommunications services have played a key role in the continued function of everyday life. In regional Australia, almost two-thirds of internet users either commenced or increased work from home. The NBN saw significantly increased downstream and upstream growth between March and June 2020, as workers adopted online collaboration platforms like Zoom and Microsoft Teams while working from home.

Similarly, COVID-19 response measures saw an increased uptake of online education and telehealth services in the regions. Over half of regional internet users reported new or increased study from home activities, and 4 in 5 started or increased their participation in telehealth consultations. These data-intensive activities generated additional demand for high-speed connectivity across regional areas.

The telecommunications industry responded to increased demand for connectivity as a result of the pandemic. NBN Co provided a temporary boost to network capacity on its network and increased download data limits and data capacity on the Sky Muster service to support online learning in regional areas. Mobile carriers also provided a range of financial hardship assistance and bonus data measures to support customers.

While these measures were designed as a temporary response to the pandemic, the Committee is interested in understanding the extent to which the industry's COVID-19 response reflected increasing demand for connectivity in regional Australia and what this indicates for the future delivery of telecommunications services in the regions.

Commonwealth, state and territory governments also worked with the telecommunications industry, schools and health providers to support the transition to remote learning and telehealth. The Australian Government added a number of temporary Medicare items to help health care practitioners deliver telehealth services. Some state and territory education departments also loaned computers, SIM cards and other devices to students to facilitate online education during school closures, though in some cases this was left to individual schools.

Initial studies into the uptake of telehealth in Australia during the pandemic suggest that patients have generally been satisfied with the service, with many indicating that they would continue using it after the pandemic. However, parents and educators have identified significant challenges with wide-scale remote learning, particularly due to varying levels of telecommunications access between individual communities, schools and families. These challenges are increased in regional Australia by lower levels of digital access and affordability compared to urban areas.

The Committee is therefore keen to hear the lived experiences of regional, rural and remote consumers in using telecommunications services for health and study during the COVID-19 pandemic, including regarding barriers to access and the effectiveness of government initiatives to facilitate remote education and telehealth.

Questions

6. How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

Indigenous Australia

Levels of digital inclusion amongst Aboriginal and Torres Strait Islander Australians continue to remain lower than the national average, including in regard to the take-up and affordability of telecommunications services.

As with the wider community, mobile phones are the most commonly used device for voice and data services in Indigenous communities. However, Aboriginal and Torres Strait Islander Australians are also more likely to only use mobile services than the national average. This likely reflects a strong preference towards pre-paid mobile plans due to the ability to 'pay-as-you-go', providing more financial control than other forms of access which charge monthly fees.

Wi-Fi services are also available in some remote areas, both through free access at local community facilities or using a pre-paid voucher system with data quotas. The National Indigenous Affairs Agency also funds community phones which may use a similar payment model. While Sky Muster is available across Australia, take-up is low in remote communities.

Although pre-paid mobile and Wi-Fi internet options are often easier to manage, these services can charge higher costs for data than post-paid mobile and broadband plans. Additionally, higher levels of 3G-only mobile coverage in remote areas can lead to slower speeds and heavy network congestion, which may reduce uptake of data-intensive activities.

The Committee is interested to examine the adequacy of telecommunications for Indigenous Australians in regional, rural and remote areas. In particular, the Committee welcomes views on ways to improve levels of telecommunications access and affordability in remote Indigenous communities.

Questions

7. What can be done to improve the access and affordability of telecommunications services in regional, rural and remote Indigenous communities?

Opportunity

Regional Development

The regions are a key source of Australia's economic productivity, with regional industries representing approximately 30 per cent of national Gross Domestic Product and two thirds of export earnings. Regional development has the potential to assist economic recovery and diversification, increasing resilience against future economic shocks and driving new opportunities for trade and investment.

The Government is prioritising growth in key regional industries, including food, resources, tourism, education and healthcare, through a range of initiatives such as Ag2030 and the *Our North Our Future* strategy to develop Northern Australia. Large-scale infrastructure projects like the Inland Rail corridor between Brisbane and Melbourne will also facilitate increased growth opportunities in regional industries and communities.

Alongside energy and transport infrastructure, access to telecommunications is becoming increasingly critical to attracting and supporting new investment opportunities in regional areas. High-speed business-grade connectivity enables the uptake of new business technologies, facilitates training and development for staff, and increases competitive exposure to national and international markets.

Digital infrastructure is also essential to support the migration of skilled workers and families to regional areas. More people are relocating to regional areas due the financial and lifestyle benefits they offer. To support this growth opportunity, regional communities need to be able to provide access to the essential services and activities, such as specialist health services, education and even recreation, available in larger areas. This is underpinned by access to high-speed, reliable mobile and broadband connectivity.

In order to maximise opportunities for regional development and the growth of regional communities, the Committee is keen to examine how the deployment of telecommunications infrastructure can complement other broader infrastructure and economic investments in regional areas.

Questions

8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?
9. What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

Emerging Technologies

The ongoing development of emerging technologies has the potential to improve the delivery of high-speed, reliable and competitive telecommunications services in regional, rural and remote areas.

A number of companies are investing in emerging satellite technologies, including Low Earth Orbit Satellites (LEOSats), to provide high-speed broadband to regional areas. These satellites orbit much closer to the Earth's surface than geostationary satellites like NBN Co's Sky Muster. The closer proximity reduces latency and enables higher bandwidth and speeds, improving the user experience for data-intensive and real-time applications like videoconferencing and streaming. However, a larger number of satellites is needed to provide consistent connectivity.

One such LEOSat provider is SpaceX, which has recently launched a beta trial of its Starlink internet service in central Victoria and southern New South Wales. Other providers, such as OneWeb, Telesat and Amazon, are planning the deployment of their own LEOSat networks. While this technology is generating a lot of interest, without a solid business case and local presence the commercial viability of LEOSats in the Australian market is not yet clear.

Regional businesses are also adopting networks of smart devices, such as sensors, tags and machinery, connected to the Internet of Things (IoT) to collect, process and analyse data which improves efficiency and productivity. In the agricultural sector, on-farm connectivity is enabling farmers to make real-time, data-based decisions to maximise yields, manage irrigation and the usage of fertilisers and pesticides, and monitor livestock health. These devices can use existing mobile and broadband networks, or specific low-powered wide range and narrowband networks such as LoRaWAN and NB-IoT.

Some regional companies, like Leading Edge DC and Connected Farms, are also investing in cloud computing and edge data centres in regional cities such as Tamworth, Roma and Dubbo to improve access to enterprise-grade data processing for local businesses. These data centres are located close to the places where data from sensors and autonomous devices is generated, improving the speed and reliability with which regional businesses can store, access and analyse this data. The market for edge data centres is expected to grow significantly over the coming years.

The potential of IoT and edge computing applications in regional areas can be supported by the increased deployment of 5G networks. The lower latency, higher bandwidth and increased data speeds offered by 5G technology could allow for more widespread use of sensors in the agricultural sector to collect real-time data, as well as the use of automated machinery in industries like mining and logistics. Additionally, improvements to video quality and file transfer rates over the 5G network could improve experience with telehealth and remote education.

Though these networks and technologies are largely being deployed on a commercial basis by the telecommunications industry, the Committee is seeking views on whether existing Government policy settings could be improved to assist the development of promising new telecommunications technologies and their rollout to regional areas by industry.

Questions

10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?
11. How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?

Maximising Outcomes

In regional areas, issues of high cost of infrastructure deployment and limited consumer demand have reduced commercial incentives for telecommunications providers to invest in new mobile and broadband infrastructure and expanded coverage, including in areas of importance for regional economies and communities.

The Government has sought to maximise both investment and coverage outcomes by providing funding on a competitive basis for the capital cost of deploying telecommunications infrastructure in commercially marginal areas. Through the Mobile Black Spots Program, for instance, Commonwealth investment of $380 million over the first five rounds has generated over $830 million in total investment from state and territory governments and the telecommunications industry, funding over 1,220 new mobile base stations across Australia.

This approach has also delivered investment in broadband and mobile infrastructure projects which improve digital connectivity in regional areas of economic and social importance through the Regional Connectivity Program (RCP). Round 1 of the RCP is funding 132 projects at a total cost of $232 million, including applicant and third-party co-contributions. Successful grantees include local councils, major telecommunications companies, regional businesses, community groups, educational facilities and fixed wireless providers.

The telecommunications industry has responded to this co-investment model through its own funding opportunities. For instance, Telstra has launched a $200 million co-investment fund to enhance and extend mobile coverage in regional areas. Similarly, in its latest Corporate Plan, NBN Co announced a $4.5 billion network investment plan, including upgrades to the existing fixed-line network, measures to increase the affordability of enterprise-grade NBN wholesale offerings in regional areas, and a $300 million Regional Co-Investment Fund.

State and Territory Governments have also committed funding in recent years to a variety of initiatives to improve mobile, broadband and IoT connectivity, including the Western Australian Digital Farm Grants Program, the New South Wales Regional Digital Connectivity Program, and Victoria's Digital Future Now Package. Many of these programs provide co-contributions to projects funded under Commonwealth grants programs like the MBSP and RCP.

Despite the large amount of funding available for regional telecommunications infrastructure, many local governments and communities may not have the resources necessary to identify appropriate solutions to local telecommunications problems and to attract investment from third parties. There are also differences in the application requirements and intended outcomes of Commonwealth, State and Territory and telecommunications industry funding programs, which may restrict opportunities for co-investment using multiple funding streams.

The Committee is therefore interested in recommendations to improve and increase engagement between different levels of government, the telecommunications industry, and regional communities and businesses, in order to make sure that telecommunications investments are equitable, co-ordinated, and responsive to the needs of regional areas.

Additionally, the current design of the MBSP is becoming less sustainable as it moves into less commercial areas and the mobile network operators increasingly focus on upgrades to their existing networks. Although the design of future rounds of the MBSP is a decision for Government, the Committee is interested in views on how to ensure the ongoing effectiveness of this program.

The Government has also committed further funding for additional rounds of the RCP including dedicated funding to improve telecommunications infrastructure in Northern Australia. The first round of the RCP has proved popular with regional communities. However, the Committee welcomes feedback on ways to maximise the outcomes of the program.

Questions

12. How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?
13. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

Awareness

Education

Levels of digital ability in regional Australia continue to lag behind metropolitan areas, although this divide is narrowing. Digital ability can be understood as the level of skill and confidence a user has with digital services, as well as the range of activities a user performs online and their attitude towards digital services.

While access to telecommunications in regional Australia is improving, many businesses and communities experience difficulty in identifying the best local options for getting and staying online, as well as making the most of their connectivity for work, study and recreation.

A number of connectivity options, such as Sky Muster satellite, ADSL and independent fixed wireless, may be available in a particular area. However, these may not be appropriately marketed and regional consumers may not be aware that

they are able to access these services. Additionally, consumers are often not aware of individual factors, such as the physical location of modems and other devices in the home, which can affect quality of service.

There are also protections for consumers experiencing unsatisfactory telecommunications services, including under the Australian Consumer Law, the Customer Service Guarantee and each provider's Service Level Agreement. The Telecommunications Industry Ombudsman also provides support in addressing customer issues. However, again, consumers may not be fully aware of their rights and how to use them to address their issues.

As part of its response to the Edwards Review, the Government recently launched a Regional Tech Hub to help regional and rural Australians get connected and stay connected more easily. Operated by the National Farmers Federation in partnership with ACCAN, the Regional Tech Hub builds on the work of the regional consumer advocacy group Better Internet for Rural, Regional and Remote Australia (BIRRR).

The Regional Tech Hub includes a range of practical resources on selecting the most appropriate telecommunications options in regional areas, troubleshooting common issues, escalating faults with service providers and understanding consumer rights. The Regional Tech Hub also provides an online helpdesk, phone support line and social media channels.

The Regional Tech Hub has received more than 5,400 visits since launch and has close to 1,100 followers on social media. BIRRR also has over 13,000 followers on Facebook, highlighting consumer support for these services. However, navigating the options available for users in regional Australia remains an area where greater improvements can be made.

With this in mind, the Committee is interested in exploring additional and expanded ways to assist regional users to access, maintain and make the most of their telecommunication services. The Committee is also particularly interested in ways to assist and encourage WISPs, satellite providers and other smaller telecommunications providers to improve the level of publicly available information about their service offerings in regional areas.

Questions

14. How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

Public Information

Mobile network operators publish network coverage maps on their websites to assist customers in identifying appropriate services in their area. This coverage data is predictive, meaning it uses a number of technical assumptions to indicate the likely areas to receive coverage from nearby base stations and may not accurately reflect a user's experience on the ground.

However, different mobile network operators may use different assumptions, mapping technologies and standards to generate this information. This can make it difficult for consumers to accurately compare the coverage provided by one mobile network operator over another and to make informed choices about the best mobile service for their individual circumstances.

In 2018, the Australian Competition and Consumer Commission (ACCC) convened a Regional Mobile Issues Forum, which recommended that the mobile network operators improve mobile coverage information for consumers. In response, the major mobile network operators and the Australian Mobile Telecommunications Association (AMTA) committed to improve the comparability of their network coverage data.

While the mobile network operators have adopted consistent terminology around coverage information, the extent to which technical differences in predictive coverage mapping still persist is unclear. The Committee is interested in seeking further clarification on this matter from the telecommunications industry.

There have been improvements in the accuracy and transparency of information on broadband speeds. The ACCC publishes quarterly data on speeds and outages on the NBN fixed-line and fixed wireless networks, and has provided guidance to service providers on how to advertise speeds. Advocates for regional and rural consumers have also expressed support for expanded monitoring and reporting of satellite performance.

Analytics companies like Opensignal provide independent analysis of the performance of global mobile networks, including in Australia. However, the Committee would like to identify how information on mobile performance and

quality of service could be made more widely available to regional consumers to assist them in making decisions on which mobile providers best meet their connectivity needs.

Similar issues arise in relation to the coverage of fibre and fixed wireless networks. The Committee is interested in exploring ways to improve the level of information on local fibre and fixed wireless footprints and backhaul networks that is made readily available to consumers, including through improved mapping on providers' websites.

Questions

15. To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?
16. What other matters should the Committee consider in its review and why are they important?

Appendix A – List of Questions

1. What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?
2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?
3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?
4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?
5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?
6. How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?
7. What can be done to improve the access and affordability of telecommunications services in regional, rural and remote Indigenous communities?
8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?
9. What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?
10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?
11. How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?
12. How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?
13. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?
14. How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?
15. To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?
16. What other matters should the Committee consider in its review and why are they important?

Appendix B – Terms of Reference

1. The Regional Telecommunications Independent Review Committee must conduct a review of the adequacy of telecommunications services in regional, rural, and remote parts of Australia.

2. In determining the adequacy of those services, the committee must have regard to whether people in regional, rural and remote parts of Australia have equitable access to telecommunications services that are significant to people in those parts of Australia, and currently available in one or more parts of urban Australia.

3. In conducting the review, the committee must make provision for public consultation and consultation with people in regional, rural and remote parts of Australia.

4. In conducting the review, the committee is to have regard to:

    a. the impact of the Government's policies and programs for improving connectivity, competition and digital literacy in regional, rural and remote areas, including rollout of the National Broadband Network, the Mobile Black Spot Program, the Regional Connectivity Program and the Regional Tech Hub;
    b. insights from COVID-19 on consumer access to and usage of broadband and mobile technology in regional, rural and remote areas;
    c. emerging technologies that could lead to significant changes in how telecommunications services are delivered in regional, rural and remote parts of Australia in the next 5-10 years;
    d. service reliability and impacts on customers and communities in regional and remote areas;

5. Taking into account Term of Reference 4, the committee is to consider:

    a. whether changes are warranted to existing Government policies and programs to ensure they continue to be effective, fit for purpose and are maximising the social and economic potential from existing and emerging technological advances;
    b. policy settings that might be needed to support more rapid rollout of and investment in new telecommunications technologies in regional areas;
    c. ways in which improvements in digital connectivity could support the Government's broader regional development policies and priorities, such as decentralisation and the development of Northern Australia;
    d. ways in which State, Territory, and Federal programs to support regional connectivity could be further coordinated.

6. The report may set out recommendations to the Australia Government

7. In formulating a recommendation that the Australian Government should take a particular action, the committee must assess the costs and benefits of that action.

8. The committee must prepare a report of the review by 31 December 2021 and give it to the Minister for Regional Communications.