

30 September 2021

The Hon Luke Hartsuyker  
Chair  
2021 Regional Telecommunications Independent Review Committee  
CANBERRA, ACT 2600

Dear Mr Hartsuyker,

**RE: Submission 2021 Regional Telecommunications Review**

The National Farmers' Federation (NFF) welcomes the opportunity to provide a submission to the 2021 Regional Telecommunications Review (the Review).

Should you require any further information in relation to this submission, please contact Mike Darby, General Manager Rural Affairs at the National Farmers' Federation, on 02 6269 5666 or [mdarby@nff.org.au](mailto:mdarby@nff.org.au).

Yours sincerely,

**TONY MAHAR**

Chief Executive Officer



**National Farmers' Federation**

## **Regional Telecommunications Review**

30 September 2021

## NFF Member Organisations





The National Farmers' Federation (NFF) is the voice of Australian farmers.

The NFF was established in 1979 as the national peak body representing farmers and more broadly, agriculture across Australia. The NFF's membership comprises all of Australia's major agricultural commodities across the supply chain.

Operating under a federated structure, individual farmers join their respective state farm organisation and/or national commodity council. These organisations form the NFF.

The NFF represents Australian agriculture on national and foreign policy issues including workplace relations, trade and natural resource management. Our members complement this work through the delivery of direct 'grass roots' member services as well as state-based policy and commodity-specific interests.

# Statistics on Australian Agriculture

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Australian agriculture makes an important contribution to Australia's social, economic and environmental fabric.

## Social >

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There are approximately 85,000 farm businesses in Australia, 99 per cent of which are wholly Australian owned and operated.

## Economic >

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In 2019-20, the agricultural sector, at farm-gate, contributed 1.9 per cent to Australia's total Gross Domestic Product (GDP). The gross value of agricultural production is estimated by the Australian Bureau of Agriculture, Resource Economics & Sciences (ABARES) to reach a record of over \$66 billion in 2020-21 and forecast at \$73 billion for 2021-2022.

## Workplace >

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The agriculture, forestry and fishing sector employs approximately 318,600 people, including full time (239,100) and part time employees (79,500).

Seasonal conditions affect the sector's capacity to employ. Permanent employment is the main form of employment in the sector, but more than 26 per cent of the employed workforce is casual.

## Environmental >

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Australian farmers are environmental stewards, owning, managing and caring for 51 per cent of Australia's land mass. Farmers are at the frontline of delivering environmental outcomes on behalf of the Australian community, with 7.4 million hectares of agricultural land set aside by Australian farmers purely for conservation/protection purposes.

In 1989, the National Farmers' Federation together with the Australian Conservation Foundation was pivotal in ensuring that the emerging Landcare movement became a national programme with bipartisan support.

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## Regional Telecommunications Review Terms of Reference

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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 Australian 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 or earlier and give it to the Minister for Regional Communications.

## Executive Summary

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### Key findings:

#### General

- Telecommunication is an essential service. The essential nature of telecommunications does not change with location.
- If Australia is going to continue the transformation to a digital economy in regional, rural and remote areas, the networks need to be greatly improved and continue to improve.
- Overall satisfaction with certain services is currently low with around half of all respondents dissatisfied with property internet, main residence mobile service and property mobile service.

#### Agriculture

- Achieving a \$100 billion agriculture industry requires continued increases in the use of digital technology on farm and in communities.
- Farming is already a high-tech business. The rollout of 5G technologies potentially allows farmers to connect to new IoT technologies to improve their business productivity. However, the 5G rollout is unlikely to resolve the connectivity and service issues for the majority of regional, rural and remote Australians, many of whom continue to use 3G services.
- Farmers and their communities require a diverse range of telecommunications services. Both farmers and their rural, regional and remote communities have already commenced implementing their own solutions by way of investing in new technologies on farm.

#### Services and connectivity

- To better support the roll out of and investment in new telecommunications solutions the government needs to address the growing digital literacy issue in rural, regional and remote Australia. According to our survey, around half of respondents had not done any form of training or self-education in the past 12 months. This is severely limiting the development of solutions in the location of the connectivity issue.
- Digital connectivity needs to be fit for purpose, ranging from intermittent narrowband to 'always on' narrowband to broadband, to support a diversity of needs and circumstances.
- High levels of efficiency require the constant adoption of the latest state-of-the-art- technology as well as continued reliable and affordable everyday low-tech services.
- The main barrier to accessing new services will likely continue to be connectivity. Additionally, service reliability continues to be a barrier and challenge that needs to be addressed. A diversity of services is required to provide system redundancy.
- Innovation is growing and needs backing to be a viable option.



### Survey findings

- According to the recent NFF survey, less than half of survey respondents rely on copper wire for fixed phone line and over 30 percent have no fixed phone line at all.
- NBN Sky Muster satellite provides connectivity for nearly 40 percent of survey respondents. NBN wireless and NBN fixed line together provided another 20 percent of connectivity for main residences, bringing the total use of NBN connectivity to over half of all respondents.
- Around half of the survey respondents rely on mobile data for connectivity and less than five percent use satellite technology to connect - around one quarter have no connectivity outside of the main residence.
- A primary cause of difficulty is "salt and pepper connectivity" which describes the localised connectivity gaps on, across and between farms, effecting homestead online admin, digital functionality of equipment, and ability to adopt new technology - the largest group of respondents only have constant or reliable mobile network coverage on 1-24% of their property - Over 10% have no connectivity at all.
- The use of digital services for regional consumers and businesses during the COVID-19 pandemic has created more scope for regional, rural and remote communities to host more workers and businesses.
- The Covid 19 pandemic has seen a sharp increase in the number of people working, running a business and educating from home - this has sharply increased the demands placed on our telecommunications system.
- A significant number of survey respondents believe the quality of their service at the main residence had declined for mobile network coverage (45%), internet connectivity (36%) and landline service (20%) in the past 12 months. Over one third indicated that the quality of internet connectivity at the main residence had also declined.
- A significant number of respondents reported the reliability of mobile network coverage (50%), internet coverage (40%) and landline service (20%) has declined.
- Over 80% of survey respondents had experienced ongoing reliability issues with their landline.
- Around 45% of respondents believed the quality of the mobile network coverage at the main residence had declined in the past 12 months.
- Around half of the survey respondents believed the reliability of the mobile network had declined, while 40% of respondents reported declined reliability of internet connectivity.
- Just over three quarters of survey respondents had spoken to a service provider in the past year with nearly 40 percent indicated that they were unsatisfied with the response.
- According to our survey, almost 15 percent of respondents are still using 3G compatible technology and a further 45 percent are unsure.
- According to our survey, over 70 percent of respondents believe that the reliability of their connectivity limits their ability to adopt technologies or practices and about 30 percent, felt that the major barrier was expense.

## Recommendations:

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The National Farmers' Federation recommend that the 2021 Regional Telecommunications Review:

1. recognises that current connectivity services in regional, rural and remote Australia are not adequate to meet current and future needs.
2. recommends including 'measurement of program outcomes' as a requirement in all current and future government programs.
3. recommends the Australian Communications and Media Authority (ACMA) investigate and monitor widespread mobile outages in regional/remote Australia, and reliability of mobile infrastructure.
4. recommends the Federal Government commit to fully resource upgrade plans and pathways for regional Australians using ADSL services with higher quality/equivalent fixed broadband services.
5. recommends further enhancements of nbn Sky Muster that reflect consumer and small business needs, including more affordable plans, and a mobility product.
6. recommends fibre back-haul be provided into every town.
7. recommends the use of off licence spectrum in rural areas.
8. supports all recommendations from the 2021 Australian Broadband Advisory Council Agri-tech Working Group Report.
9. recommends that telecommunications is legislated as an essential service in all states and territories, and that providers are recognised as 'essential users' in natural disaster areas.
10. supports appropriate timeframes for new connections and repairs as detailed in the ACCAN submission into the Telecommunications (Statutory Infrastructure Providers – Standards, Rules and Benchmarks) Determination 2021 Consultation.
11. recognises the use of multiple forms of connectivity for improving quality and reliability of telecommunications services in rural, regional, and remote areas.
12. recognises the impact of the growing number of people working remotely, and living in regional Australia, will have on the already struggling services.
13. recommends the creation of a targeted concessional NBN broadband service to support low-income residents of regional, rural and remote areas.
14. recommends a reconfiguration of the existing telecommunications allowance to meet the needs of low-income mobile only consumers.
15. recommends support be provided for Aboriginal and Torres Strait communities, to have access to affordable equipment options to allow them to maximise the benefits of the services on offer to them, such as medical services.
16. recommends the rapid design and implementation of a commonwealth assistance program that provides funding to improve reliable access and affordability to farmers and communities who wish to invest in their own technological solutions.
17. recommends incentives for telecommunications companies to assist with rolling out private solutions to connectivity issues in rural, regional and remote areas.

18. recommends measures to support local government in their capability to develop applications and case studies to gain access to funding under programs such as the Regional Connectivity Program.
19. recommends the creation of a Regional, Rural and Remote Telecommunications Fund to resource ongoing mobile network expansion – a request supported by the Rural, Regional and Remote Communications Coalition.
20. recommends the implementation of the Alternative Voice Trials findings be implemented to support investment in telecommunication in regional areas.
21. acknowledge that the success of the regionalisation agenda is reliant on the ongoing commitment of all levels of government to improve access to digital technology.
22. recommend telecommunications carriers use on ground testing as their priority information input into coverage maps.
23. acknowledges the Regional Tech Hub contribution to connectivity and recommend that the Regional Tech Hub be funded for a further 5 years
24. recommends that the Regional Tech Hub be greatly expanded to assist with improving digital literacy in Rural, Regional and Remote Areas
25. recommends resourcing the Regional Tech Hub to provide industry specific advice about the internet of things and other digital applications that will drive productivity gains in the sector.
26. acknowledges the significant government program investment in Australia's mobile tower network and the significant proportion of towers located in regional Australia.
27. recommends a separate public consultation process for this sale and consideration of a program to assist farmers and their communities purchase, lease and/or maintain these towers themselves.
28. recommend the Federal Government work with the RRRCC, and local and state governments to identify and deliver digital capacity building needs beyond the remit of the Regional Tech Hub project.
29. recommend nbn Co and the telecommunications industry work with the RRRCC to identify areas where industry can support digital capacity building and simple, effective information for regional, rural and remote consumers.
30. recommends that no user is to be disadvantaged by 3G network switch-off, with on the ground testing to guarantee a smooth transition to 4G and no loss of service.
31. recommends funding be made available for a study of regional mobile telecommunications performance leading up to and after the 3G switch-off.
32. recommends that assistance be made available for those impacted by the 3G switch-off and/or those who also require equipment upgrades.

## Introduction

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The National Farmers' Federation (NFF) welcomes the opportunity to make a submission to the 2021 Regional Telecommunications Review. Access to reliable, affordable, quality telecommunications underpin the viability of regional communities and farming businesses across Australia. Allowing farming and regional families access to the digital economy through business development, education services and social connectivity is essential for a region is to grow and prosper.

The NFF considers this review to be a critical mechanism to ensuring that regional communications remain a priority of both government and service providers. Holding the review every three years (as legislated) is critical and to date, has been vital to enacting change for our regions. It is vital that this continues. Access to quality communications is considered a top priority of our members.

Our shared vision of a \$100 billion-dollar agricultural industry by 2030 requires innovation and ambition. Connectivity is essential to achieving this target. Australian farmers need access to the latest technology available now, as well as the capability to implement technology in the future, much of which is yet to be developed. The ability to deliver reliable, affordable, quality telecommunications could boost the value of agriculture by around 25% (\$20.3 billion) and lift the Australian economy by an estimated 1.5% (\$24.6 Billion) by 2030.

Telecommunications are essential services and reliance on telecommunications services and connectivity is critical. Lockdowns, movement restrictions and work from home orders across the COVID-19 pandemic have reinforced this need. As reliance grows, the gap between metropolitan and regional consumers widens. Telecommunications is an essential service in all states and territories.

The NFF believes it is not just the business of farming which requires reliable, affordable, quality telecommunications. Regional, rural and remote communities require the same level of connectivity that exists in cities, in order to ensure that the digital economy can function in rural areas as well as in cities. However, by solving the connectivity issue for farming, the tide will be lifted for all other sectors.

The NFF is one of the founding organisations of the Rural, Regional and Remote Communications Coalition (RRRCC). This coalition represents the broad cross section of the of Rural, Regional and Remote organisations which are advocating on similar access and service quality issues for rural and regional telecommunications users.

The National Broadband Network (NBN) and the Mobile Blackspot Programme have improved telecommunications in rural and regional Australia. The NFF asserts that there is still much work to be done relating to limited coverage, poor data speeds and limited competition between different telecommunication carriers.

However, NFF also asserts that the policy settings that have been required to improve mobile telecommunications will not be enough to provide the increasingly sophisticated connectivity that is needed to support our rapidly emerging digital economy. Salt and pepper connectivity is inconvenient when making phone calls,

but it is disastrous for any sort of technology that needs ubiquitous connectivity and is an impediment to the adoption of digital agriculture.

In support of this submission, the NFF has undertaken the NFF National Telecommunications Survey 2021 (our survey). This is the second time this survey has been undertaken and a total of 530 responses have been received with a completion rate of 82%. The results, which have been used throughout this submission supports what is already understood to be a widespread frustration with the challenges of accessing reliable, affordable, quality telecommunications in rural, regional and remote Australia. The NFF survey data also provides us an opportunity to assess how experiences have changed by assessing the change in responses from our 2018 survey.

There is still much work to be done to ensure access to reliable, affordable and quality telecommunications, and we encourage the Regional Telecommunications Independent Review Committee (the Committee) to consider all recommendations made in this submission.

## Adequacy

### 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?

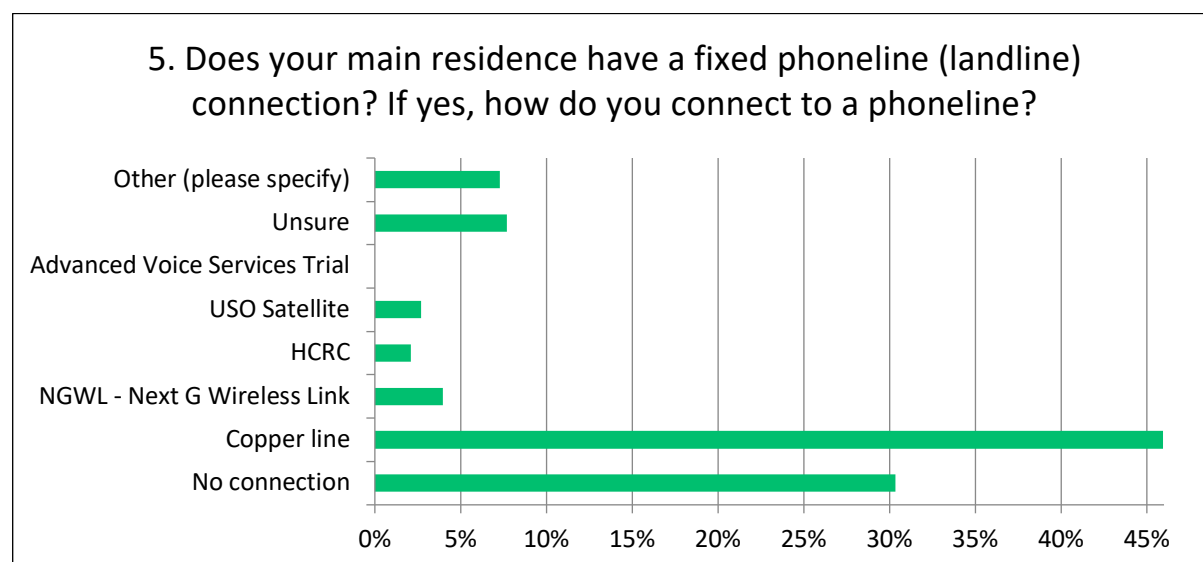
Australian farmers and their communities require a diverse range of telecommunications services in order to reach our shared goal of \$100 billion by 2030. The continued and improved diversity of services is required to allow growth of geographically, economically and technologically diverse industry that occupies 51% percent of the Australian continent.

Australia is home to some of the most efficient farmers in the world, exporting around two thirds of our production. Such levels of efficiency require the constant adoption of the latest state-of-the art- technology as well as reliable and affordable everyday low-tech services. Going forward, developments in digital agriculture will likely drive the bulk of agricultural productivity increases, while continuing to rely of more traditional and affordable services.

*Wherever Australians work and live, they should have guaranteed minimum access to data and voice services. This includes services that meet the specific needs of all consumers in regional areas. Regional, rural and remote consumers and businesses need guaranteed access to voice and data services at all times, including during natural disasters.*

#### RRRCC GOAL 1: Guaranteed access to voice and data services

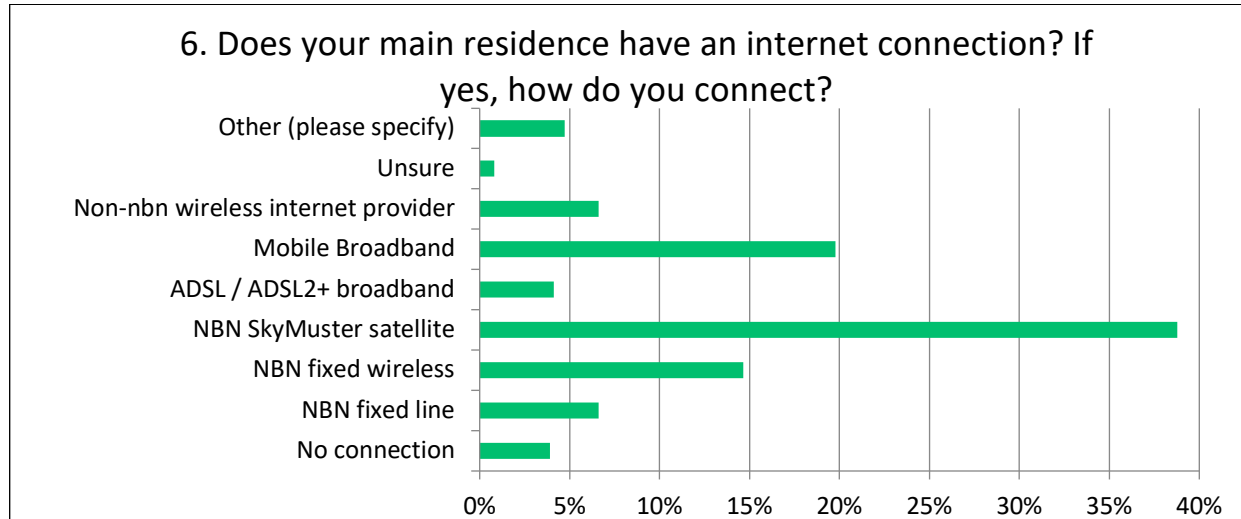
Further, due to the poor reliability of telecommunications services in certain parts of Australia or at certain times of year, a diversity of service options is required to provide system redundancy. It is not uncommon for our members who have two or three telecommunications services to have one or even two of those services not working at any given time.



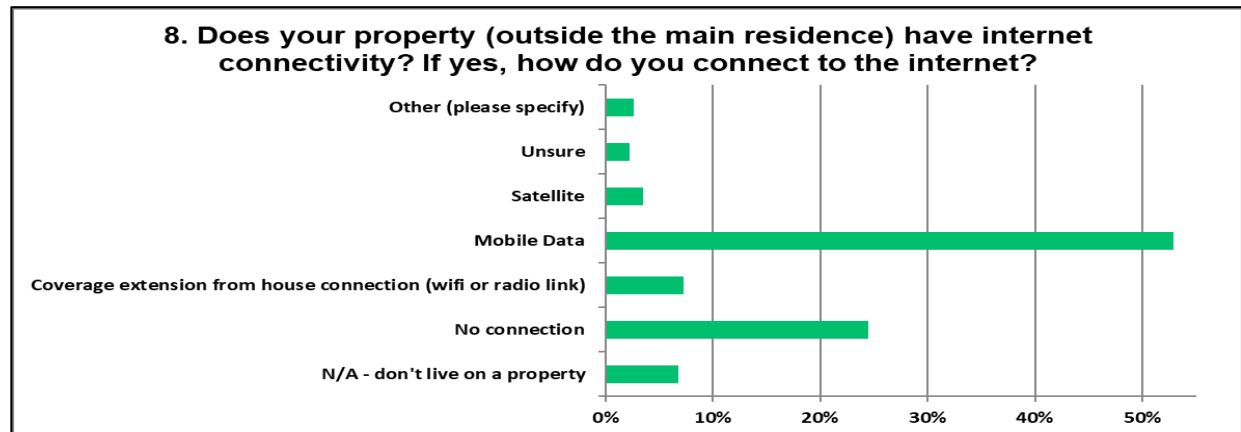
According to our recent survey, copper wire phone lines are the most common form of phone line for the main residence, representing over 45 percent of residences. Just over 30 percent, or close to one third, of main residences have no phone

connection at all. A large range of options for phone line populate the remaining main residences.

In regard to internet connectivity for main residences, NBN Sky Muster satellite provides connectivity for nearly 40 percent of survey respondents. NBN fixed wireless and NBN fixed line together provided another 20 percent of connectivity for main residences, bringing the total use of NBN connectivity to over half of all respondents.

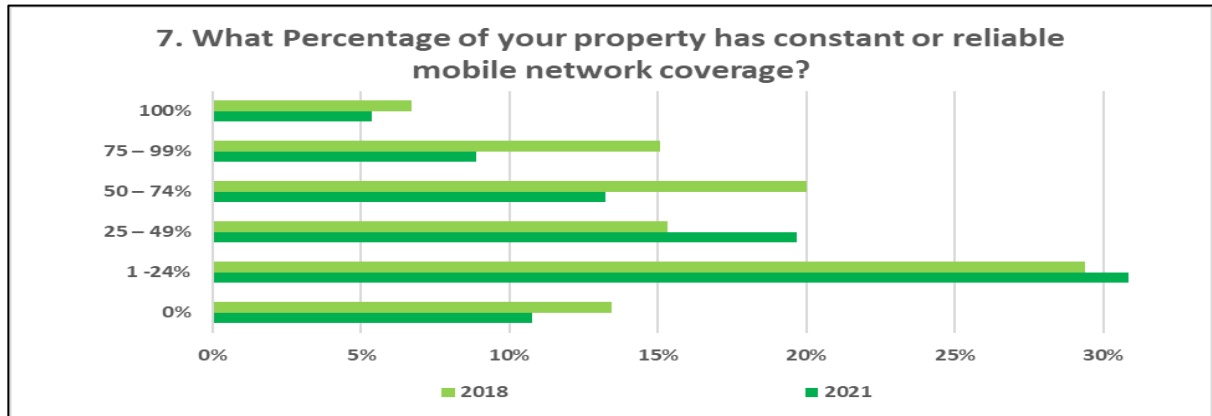


In regard to internet connectivity outside the main residence, around one quarter have no connectivity outside of the main residence. Around half of the survey responders rely on mobile data for connectivity and less than five percent use satellite technology to connect.



## 2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?

Service reliability continues, at times caused by congestion, to be a barrier and challenge that needs to be addressed in rural, regional and remote Australia. The largest group of survey respondents, around one third, indicated that only 1-24 percent of their property had constant or reliable mobile network coverage.

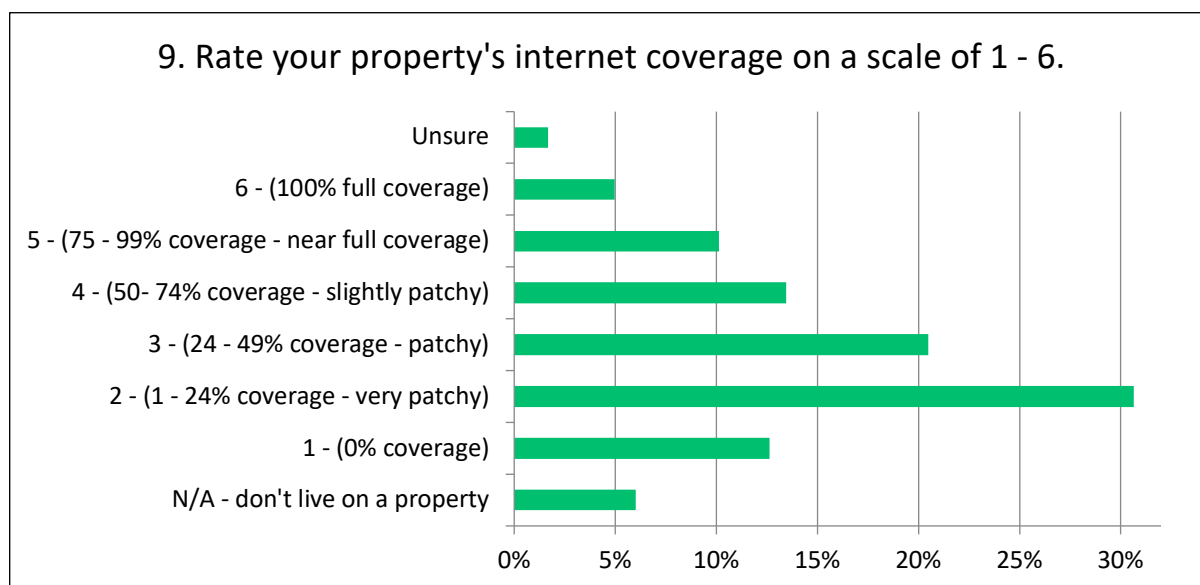


Farming is already a high-tech business for farmers with tractors and harvesting equipment using; satellite guidance; remotely operated pumps and water reticulation systems or; electronic livestock traceability systems. There is an escalating need for the latest weather and emergency information.

*That the Regional Telecommunications Review note the anticipated increase in demand for broadband internet services resulting from uptake of digitally enabled precision agriculture.*  
**NFF Submission to the Regional Telecommunications Review 2015 – Recommendation 1**

However, while some farming communities continue to use low-tech services others require the latest high-tech solutions. However, there is a threshold of connectivity that is impeding the adoption of many digital agriculture applications. The largest group of survey respondents, nearly one third, reported very patchy internet coverage on their property.





Connectivity to support the full adoption of digital agriculture over time, looks very different to connectivity to support phone calls. Digital connectivity needs to be fit for purpose, ranging from intermittent narrowband to support applications that only need to send data periodically (e.g. tank level, soil moisture probe), to 'always on' narrowband that support applications that need to transfer data continually (e.g. sensors for in-silo grain condition monitoring, or livestock tags and collars), to broadband (e.g. weed recognition on the move, blockchain data).

*The main finding of our discussions is that across the country, beneath the broad brush strokes of mobile coverage and National Broadband Network (NBN) fixed and wireless networks, there are localised connectivity gaps on, across and between farms. We have called this patchiness 'salt and pepper connectivity'.*  
**Agri-Tech Expert Working Group - June 2021**

The 2021 Australian Broadband Advisory Council Agri-tech Working Group Report identified a primary cause of difficulty, being "salt and pepper connectivity". The issue of "salt and pepper connectivity" describes the localised connectivity gaps on, across and between farms, effecting homestead online admin, digital functionality of equipment, and ability to adopt new technology. This was reflected by the NFF survey with the largest group of respondents, around 30 percent, having constant or reliable mobile network coverage on only 1-24 percent of their property - Over 10 percent have no connectivity at all. More concerning is that 2021 survey respondents have a lower percentage of their property covered by constant or reliable network than respondents in 2018.

The roll out of 5G technologies potentially allows some farmers to connect to new IoT technologies to improve their business productivity. While recognising the difficulties of the Australian rural landscape, it's important to note the disadvantage suffered due to unreliable and expensive services. Many farmers and communities will continue to use the existing 3G network while it remains available.

While some farmers may be able to get access to new technologies with access to 5G services, access to 5G is unlikely to make significant progress to broader industry and community experiences. For those lucky enough to get access to the technology, it will be useful, but for others, it will only grow the digital divide.

5G will make up one part of a diverse mix of connectivity platforms needed to support the rural digital economy. Regional, rural and remote communities require policy levers that support a vibrant and innovative market. Innovation is growing, now it needs backing to be a viable option. To support this innovation the underpinning requirements are fibre back-haul into every town and use of off licence spectrum in rural areas.

### Recommendations

- The 2021 Regional Telecommunications Review recognises that current connectivity services in regional, rural and remote Australia are not adequate to meet current and future needs.

**3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural, and remote Australia? How can these be improved?**

The continued increase in agricultural productivity requires continued increases in the use of digital technology on farm and/or improved reliability of existing technology, throughout the supply chain and in the regional, rural and remote towns that support agriculture. This requires improved connectivity and greatly improved internet speeds.

The government has implemented a broad range of programs to improve telecommunications in rural, regional and remote areas – many of these programs have the widespread support of these communities but require measurement of program outcomes to ensure that the programs continue to be effective. There is currently no measurement of pre-program and post-program levels of digital inclusion, and it is vital that the appropriate data is collected to allow for program evaluation. This will ensure learnings can be incorporated to reiterations of programs and would be able to demonstrate which programs are more effective at meeting their aims.

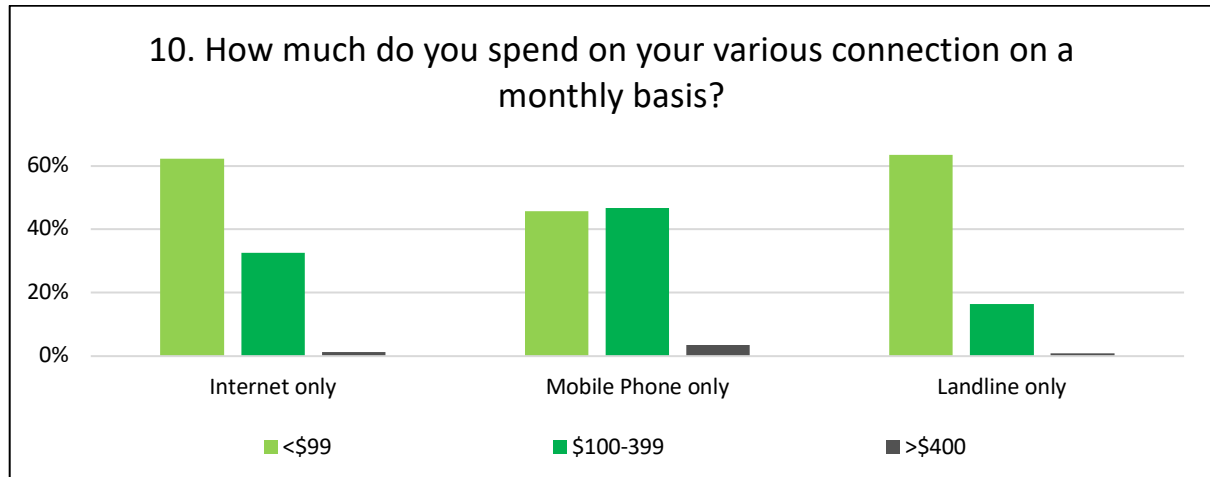
- **The Mobile Black Spot Program (MBSP)** has seen the Commonwealth invest \$380 million over 1,220 new mobile base stations across Australia. Mobile network providers are now at a point where there is minimal return on investment for them in rural, regional and remote locations, and there is little incentive for them to build infrastructure in these areas. However, increased incentives for Mobile Network Operators who grant full network access to Mobile Virtual Network Operators (MNVOs) in remote areas as well as increase the incentives to co-locate equipment on new towers funded by the program would greatly assist service outcomes. Further, towers available on an open-access basis would remove the duplicative cost of multiple providers installing equipment. New Zealand has used this approach to improve connectivity, allowing all mobile providers to share one piece of infrastructure, increasing competition and connectivity.
- **The Regional Connectivity Program** can provide a range of location specific connectivity solutions where a community has identified connectivity being an issue. However, there needs to be increased educational resources, and designated facilitators who can assist local communities in addressing local place-based solutions.
- **Round 1 of the RCP** has funded 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.
- **Round 5A funding** has funded a trial for neutral host radio access network and develop a 'fourth' mobile network in regional Australia has been funded – as the Mobile Black Spot Program matures more funding should be given to innovate solutions such as this to increase coverage and competition.
- **Strengthening Telecommunications Against Natural Disasters (STAND)** program has been rolled out as following the 2019-20 bushfire season at a cost of \$18

million. Principally to upgrade backup power supply at telecommunications facilities in disaster-prone areas. These upgrades increase battery backup operation to at least 12 hours and are expected to be completed by the end of 2021.

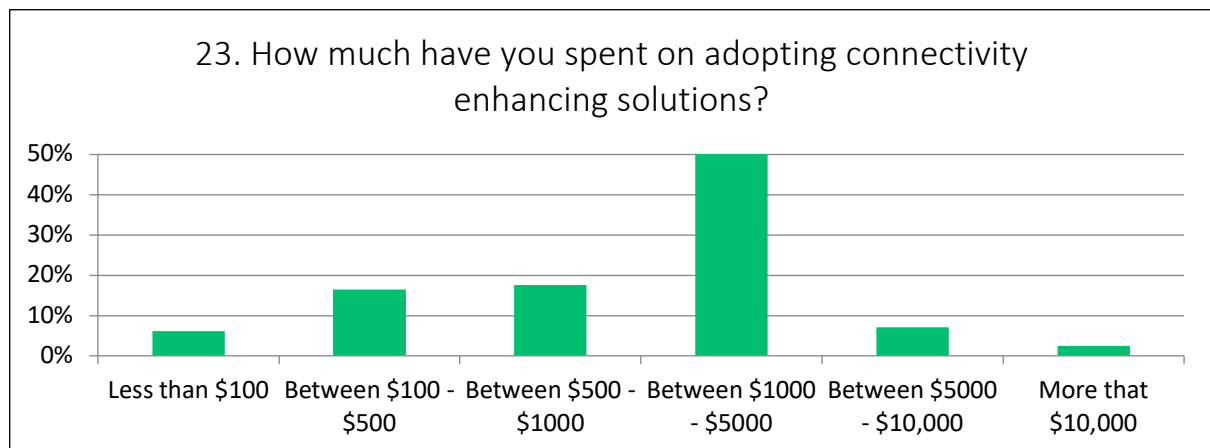
- **Peri-Urban Mobile Program (PUMP)** is a \$16.4 million of funding was announced to supplement the MBSP on the fringe of major cities, bushfire and natural disaster-prone areas that need improved mobile connectivity.
- **Universal Service Obligation (USO)** ensures everyone has access to landline phones and payphones. Telstra is required to provide access to every premise in Australia within reasonable timeframes under the Telstra USO Performance Agreement.
- **Universal Service Guarantee (USG)** provides all Australian homes and businesses with access to both broadband and voice services.
- **Customer Service Guarantee (CSG)** protects residential and small business with Telcos having to meet the timeframes to connect and repair standard phone services and attend appointments with customers.
- **Statutory Infrastructure Provider (SIP) Regime** applies to NBN as the default SIP, with legal obligations to connect premises and supply wholesale broadband services on reasonable request. Under the SIP regime, broadband services provided on fixed line and fixed wireless networks also have to support voice services for consumers.
- **Regional Broadband Scheme (RBS)** provides funding support for NBN's SIP obligations by establishing a long-term funding mechanism for NBN's fixed wireless and satellite networks to level the playing field between NBN and its fixed line competitors by requiring all high-speed fixed line carriers to contribute to the cost of providing high speed broadband access to regional Australia.

Despite a focus on productivity and competitiveness, the [Australian Broadband Advisory Council](#) has identified "rural", "low income" and "elderly" as vulnerable cohorts in relation to access to quality internet - these cohorts represent many of our farmers and their supporting communities.

Regarding the importance of internet connectivity, over three quarters of respondents stated internet connectivity as "extremely important" and required connectivity for business compliance reporting, machinery, weather stations, security, tag readers and sensors of any kind (gate, water, troughs, geofencing sensors).



To date, farmers and their communities have relied upon telecommunication service guarantees for adequate service performance. Connection and repair timeframes, reliability, adequate performance levels and safeguards are used to ensure rapid rectification of services, particularly during times of natural disasters. However, over 80 percent of survey respondents continue to experience ongoing issues with their landline, representing an increase on the 2018 survey.



*Expansion of mobile coverage is critical in regional and rural areas. Current and previous programs have resulted in further coverage. However, there remain premises, vital community hubs and high traffic areas that are at risk from having no mobile coverage. In addition, mobile network upgrades must allow regional, rural and remote Australians to harness the opportunities they offer*

**RRRCC GOAL 3 Continued program to expand mobile coverage**

Business compliance reporting is a significant feature of our connectivity requirements. The transformation of government business to online, increased business compliance standards and the sophistication of activities such as livestock traceability, has drastically increased connectivity needs.

Regarding future needs, 42 percent of respondents were not aware of the Telstra 3G switch-off in 2024 and around 13 percent of respondents have only 3G tech on their property (while 43 percent of respondents were unsure if their connectivity is 3G only).

## Recommendations

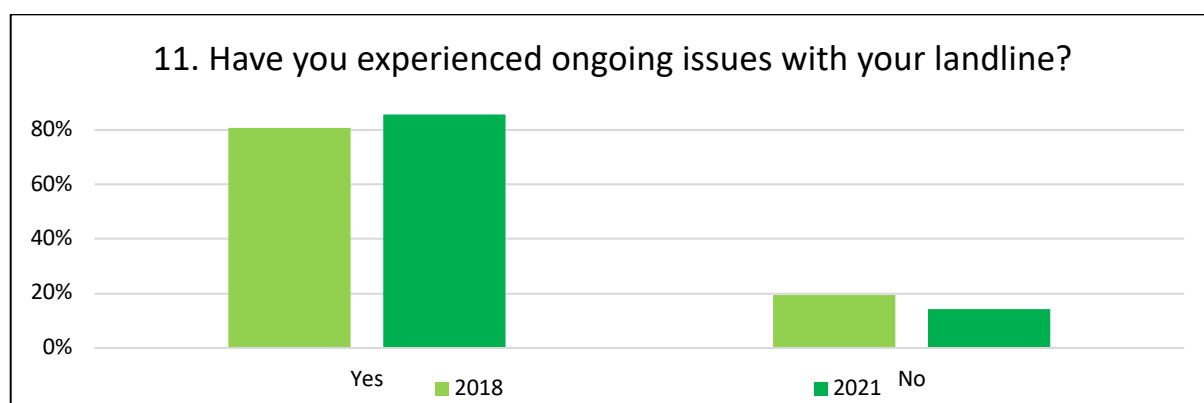
- The 2021 Regional Telecommunications Review recommends including 'measurement of program outcomes' as a requirement in all current and future government programs.
- The 2021 Regional Telecommunications Review recommends the Australian Communications and Media Authority (ACMA) investigate and monitor widespread mobile outages in regional and remote Australia, and reliability of mobile infrastructure.
- The 2021 Regional Telecommunications Review recommends the Federal Government commit to fully resource upgrade plans and pathways for regional Australians using ADSL services with higher quality or equivalent fixed broadband services.
- The 2021 Regional Telecommunications Review recommends further enhancements of nbn Sky Muster that reflect consumer and small business needs, including more affordable plans, and a mobility product.
- The 2021 Regional Telecommunications Review recommends fibre back-haul be provided into every town.
- The 2021 Regional Telecommunications Review recommends the use of off licence spectrum in rural areas.
- The 2021 Regional Telecommunications Review supports all recommendations from the 2021 Australian Broadband Advisory Council Agri-tech Working Group Report.

## Service Reliability

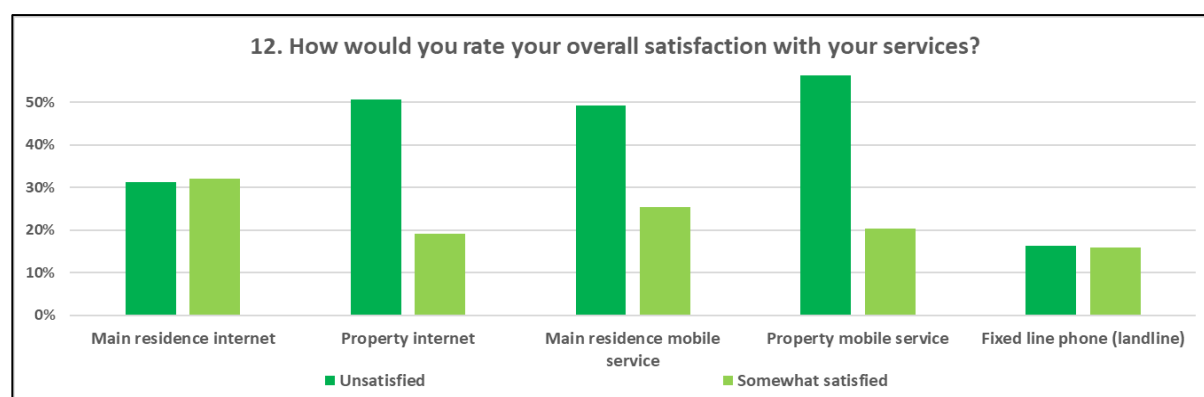
### 4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

The essential nature of telecommunications does not change with your location. Regional, rural and remote individuals are reliant on connecting for education, health and social connection. Priority should be given to connecting premises in a timely manner and maintaining a reliable connection.

Over 80 percent of survey respondents indicated that they had experienced ongoing reliability issues with their landline. This represented a slight increase from our survey in 2018.

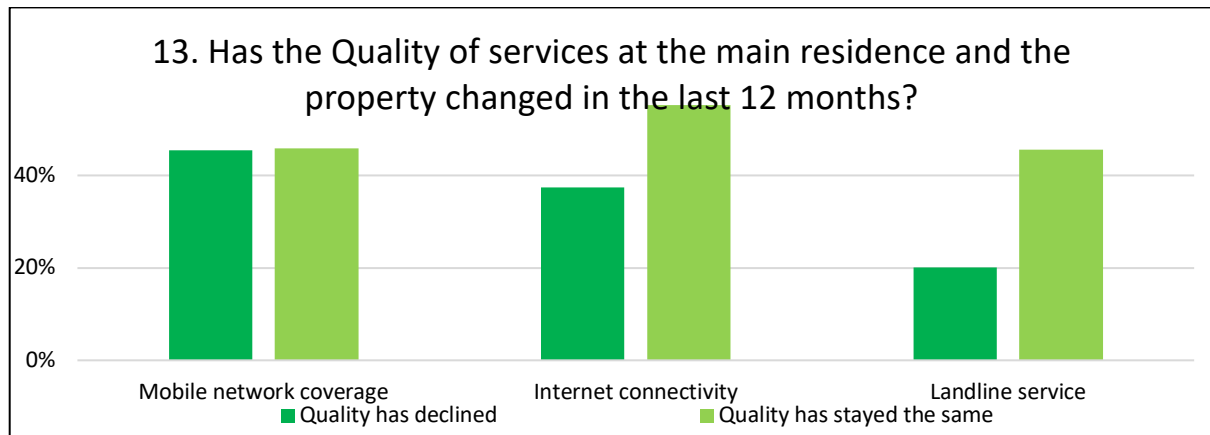


Overall satisfaction with certain services is currently low. According to our survey around half of all respondents were dissatisfied with their; property internet; main residents mobile service and property mobile service – with a further 20 percent somewhat satisfied. The survey results indicated that only around 30 percent were dissatisfied with main residence internet while a further 30 percent were somewhat satisfied. Only around 10 percent of fixed line users were dissatisfied while a further 10 percent were somewhat satisfied.

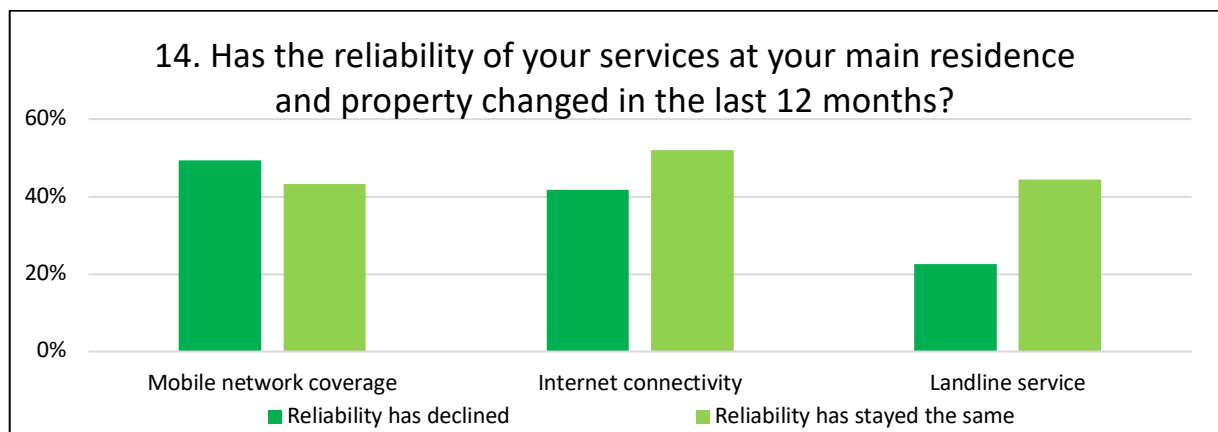


According to our 2021 survey, around 45 percent of respondents believed the quality of the mobile network coverage at the main residence had declined in the past 12 months - roughly equal to the number that felt that it had stayed the same.

However, with both internet connectivity and landline service, more respondents believed the internet had stayed the same than had declined.



Around half of the survey respondents believed the reliability of the mobile network had declined in the past 12 months, while 40 percent of respondents reported declined reliability of internet connectivity and 20 percent reported declined reliability of landline service.



### Recommendations

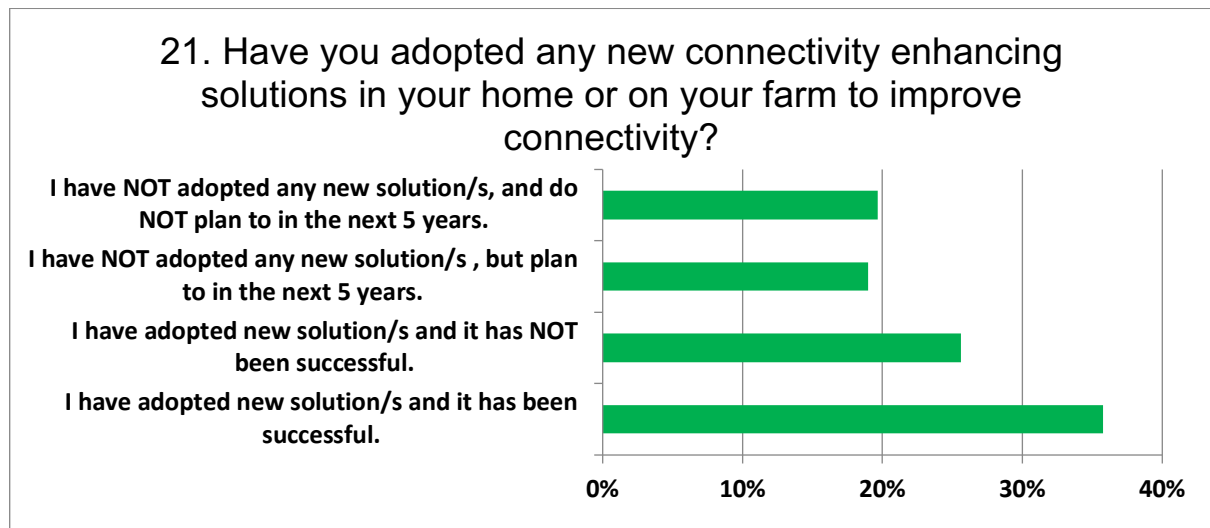
- The 2021 Regional Telecommunications Review recommends that telecommunications are legislated as an essential service in all states and territories, and that telecommunications providers are recognised as ‘essential users’ in natural disaster areas.
- The 2021 Regional Telecommunications Review supports appropriate timeframes for new connections and repairs – **benchmarks submission.**



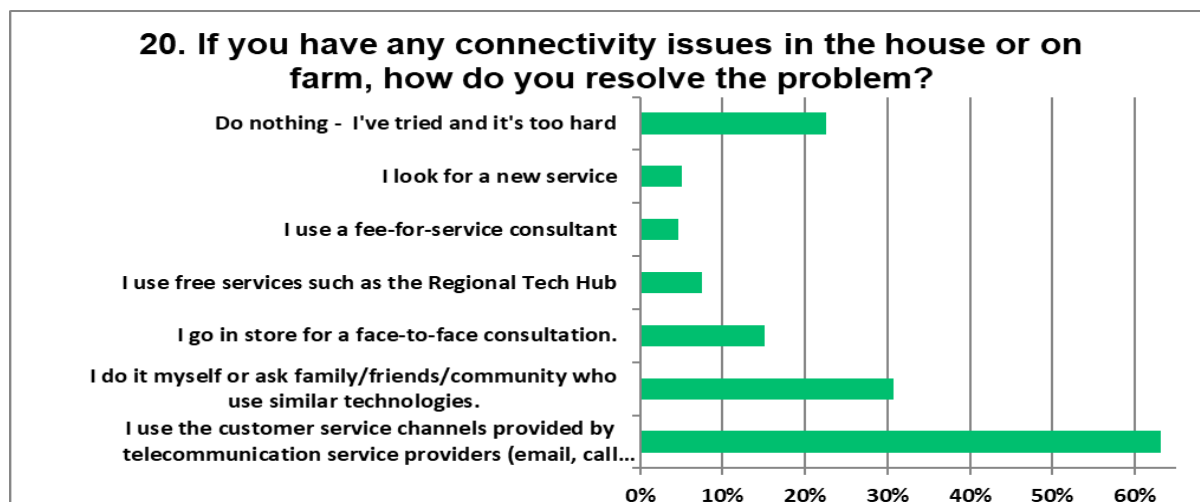
**5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?**

One approach to improving the reliability or quality of telecommunications in rural, regional or remote areas is by maintaining more than one form of connectivity as a form of system redundancy. Farmers and their community may maintain multiple forms of connectivity in the knowledge that they can expect at least one form of connectivity to provide poor reliability at any given time.

Another method of improving reliability or quality of telecommunications in rural, regional or remote areas is to invest in connectivity enhancing solutions in the home or on the farm. The largest group of survey respondents, over one third, had successfully adopted new solutions. However, the second largest group of survey respondents have had adopted news solutions and it had not been successful. This places a high-level importance on successful investing in private connectivity enhancing solutions.



According to our survey, nearly two thirds continue to use their telecommunications service providers to resolve connectivity issues in the house or one the farm. The second largest group of respondents use family/friend/community while less than ten percent are using the Regional Tech Hub.



### Recommendations

- The 2021 Regional Telecommunications Review recognises the use of multiple forms of connectivity for improving quality and reliability of telecommunications services in rural, regional, and remote areas.

## COVID-19

### 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?

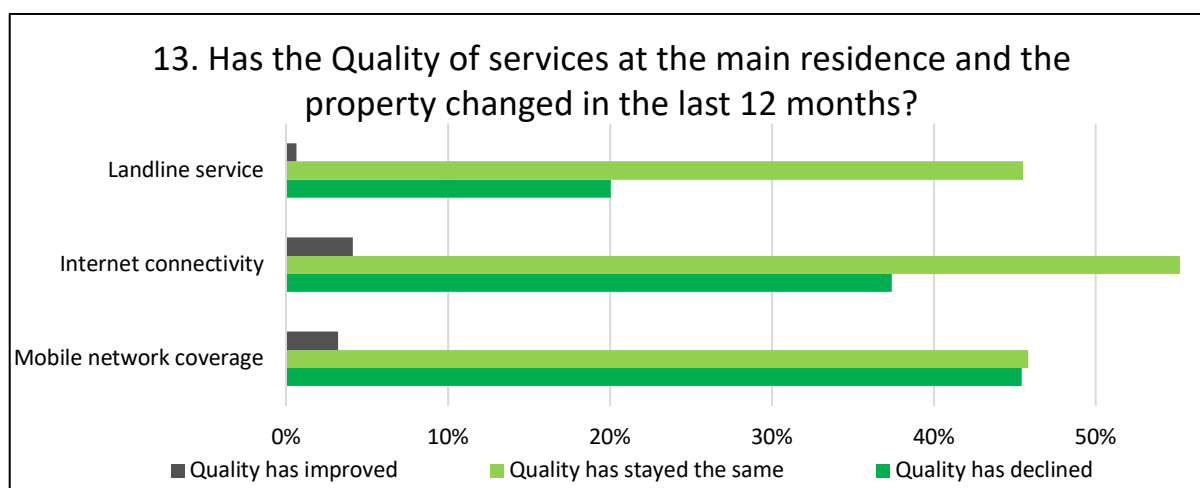
For many Australians, the advent of Covid 19, was the first time they had experienced the challenge of working, running a business or educating children from home. For many farmers as well as residents of regional, rural and remote communities, these struggles are considered "business as usual". For many years, they have struggled with the limitations of telecommunications at home or on farm.

However, the advent of Covid 19 has awoken many Australians to the benefits of working, running a business and educating from home in rural, regional and remote locations. This has potentially created more scope for regional, rural and remote communities to host more workers and businesses. To this end, remote work has the potential to reinvigorate rural communities. Fast and reliable internet services will be integral to support this change. This, combined with NFF's regionalisation agenda is aiming to make our communities accessible to those who previously needed to live in metropolitan areas.

*COVID-19 has provided a powerful test of the potential of online learning, with over 1 billion students worldwide shifting from the classroom. It has also revealed key limitations, such as the prerequisite of digital skills, computer equipment and internet connection to undertake training online, the difficulty of delivering traditional work-based learning online, and the struggle of teachers used to classroom instruction.*

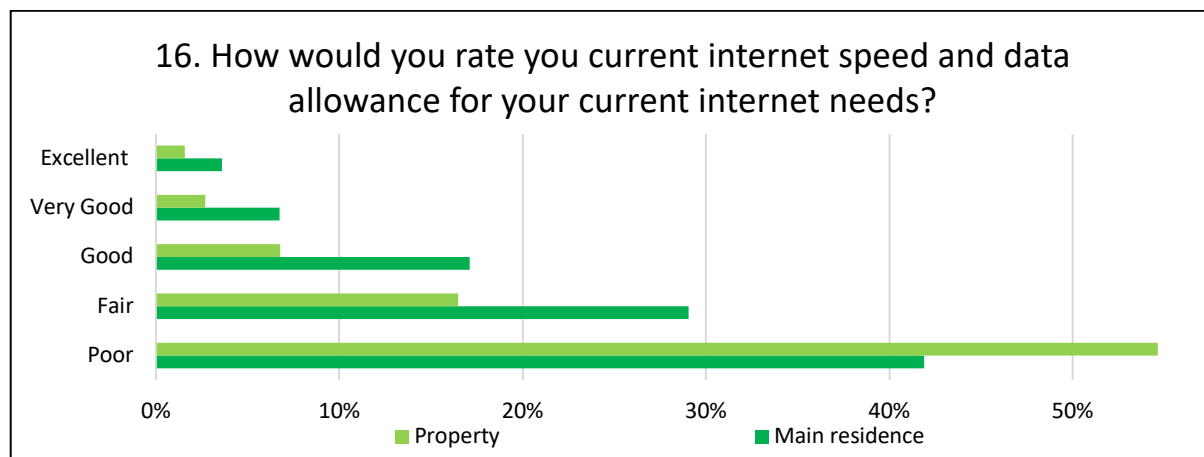
ABAC Report ....

According to the ABAC report, in the wake of COVID-19, many companies announced a permanent transition to remote working, with many more delaying return times. However, the increased number of people working, running businesses and educating from home has greatly increased the demands placed on Australia's telecommunications system.

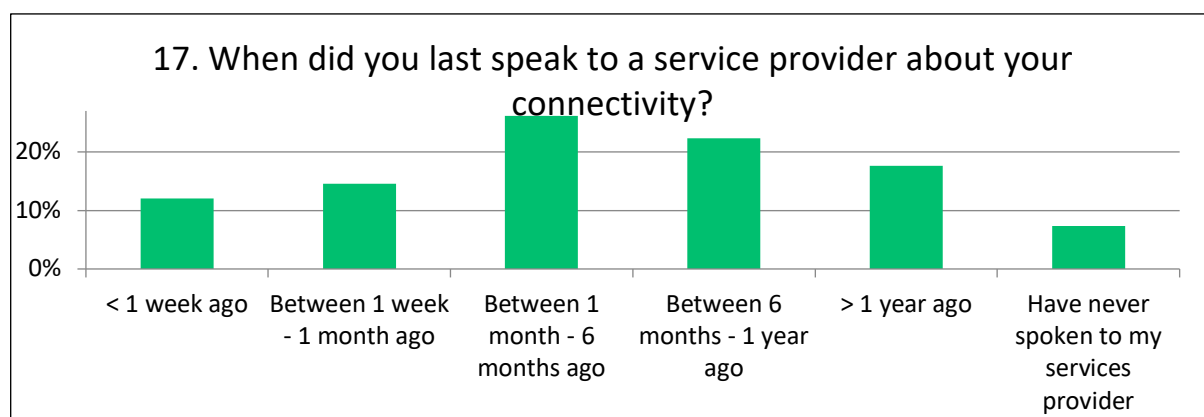


According to our survey, nearly half of respondents indicated that the quality of service from their mobile network coverage at the main residence had declined in the past 12 months. Over one third indicated that the quality of internet connectivity at the main residence had also declined. Very few indicated that the quality of a service at the main residence had improved.

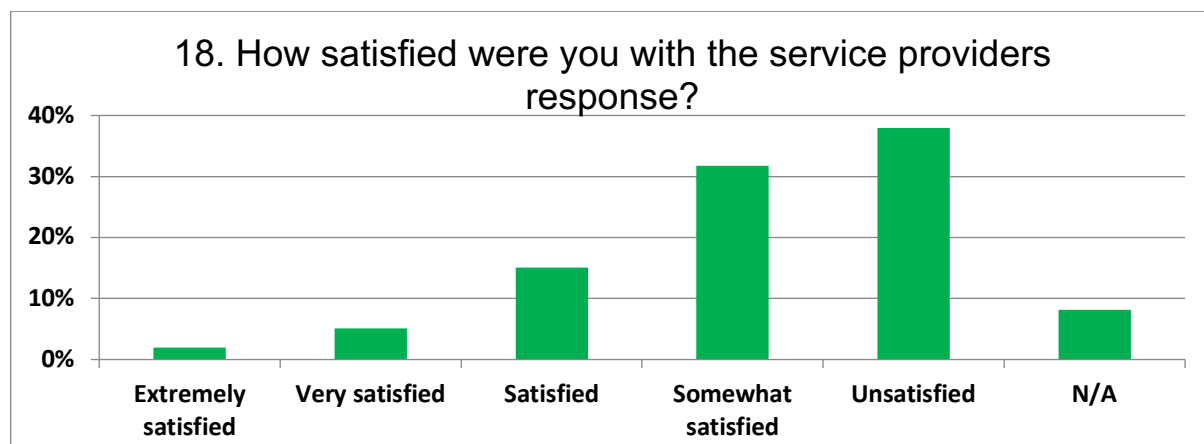
The largest group of survey respondents, around half, indicated they had poor internet speeds and data allowance for their property and main residence. The second largest group of respondents indicated their current internet speeds and data allowance was fair while less than 10 percent indicated a rating of very good or excellent.



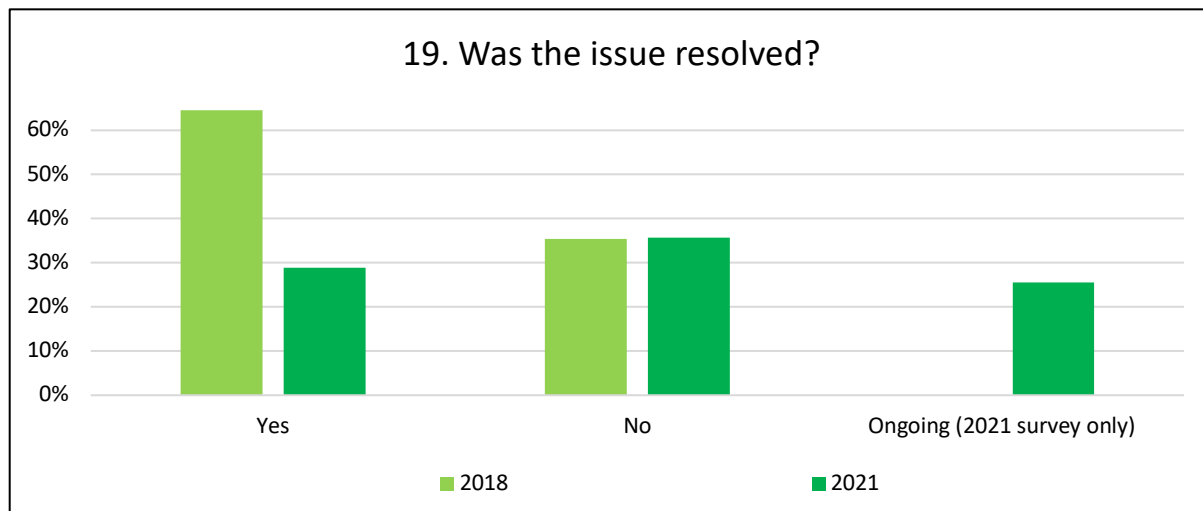
Just over three quarters of survey respondents had spoken to a service provider in the past year. Less than 10 percent had never spoken with their service provider.



The largest group of survey respondents, nearly 40 percent, indicated that they were unsatisfied with their service providers response while around one third said they were somewhat satisfied with the service providers response.



Around one third of survey respondents indicated that their issue was not resolved, unchanged from our survey in 2018.



### Recommendations

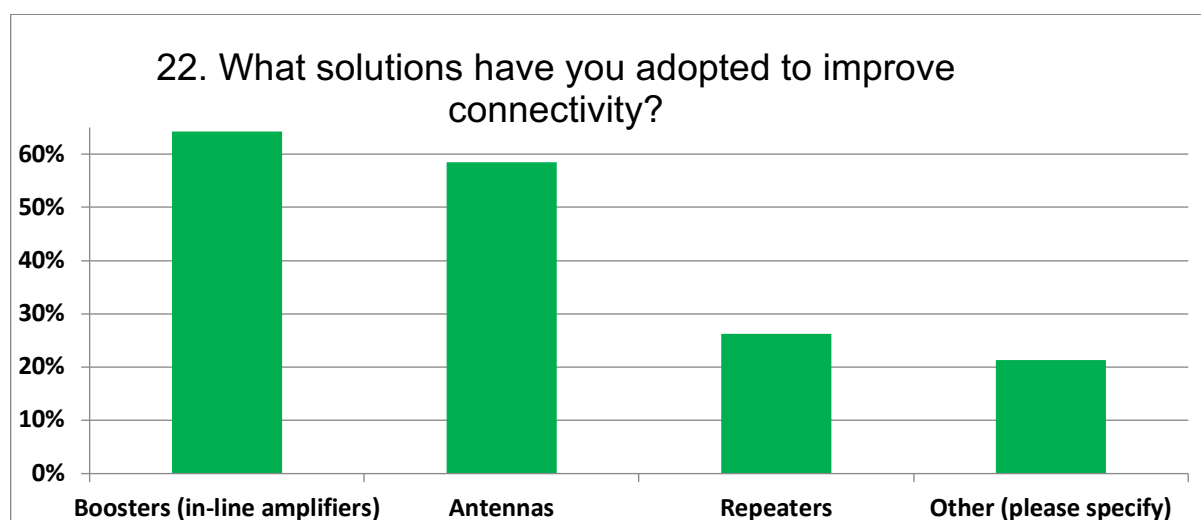
- The 2021 Regional Telecommunications Review recognises the impact the growing number of workers taking the opportunity to work remotely and live-in regional Australia will have on the already struggling services.

## Indigenous Australia

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

Approximately two-thirds of the Indigenous population lives outside major cities compared with less than one-third non-Indigenous population. As a result of their co-locational advantage to agriculture, Indigenous Australians have played an important role in the development of the mainstream agricultural industry, particularly pastoral enterprises in central and northern Australia.

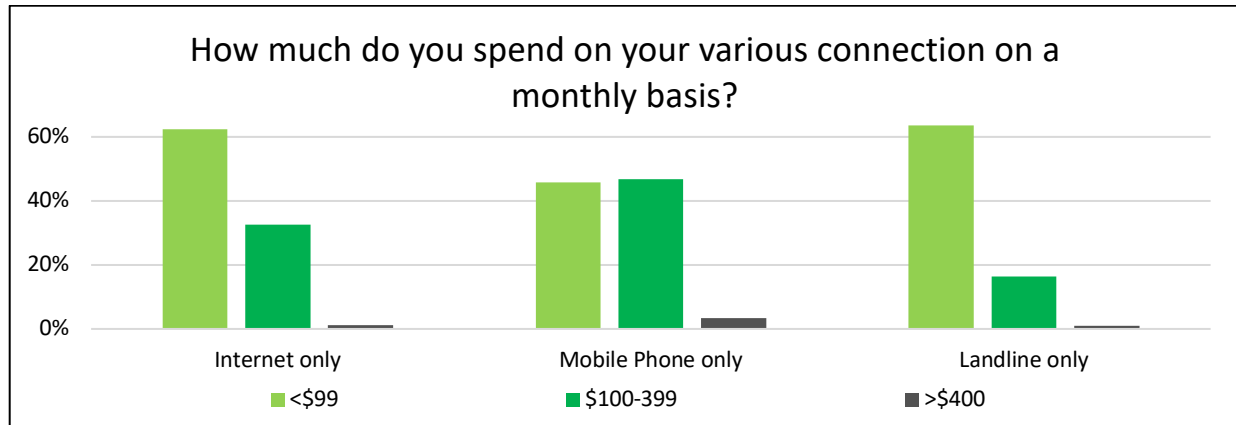
Indigenous communities, like many rural, regional and remote communities, need better network maintenance. The capacity on many mobile towers in the communities does not keep up with demand, given more users in these communities use portable and sometimes disposable options to access telephone and internet services.



Indigenous Australians can play a stronger role in growing the agricultural sector and contributing to regional development. According to the Australian Government, Indigenous rights and interests currently cover much of Australia's land mass. Programs such as the Indigenous Ranger Program that supports 80 organisations and 1,900 jobs.

*For Australia, the absence of affordable broadband means our aspirations of better economic and social outcomes won't be attained, as the digital divide further entrenches existing disadvantage and stifles our productive potential for decades to come.*

**ACCAN policy – affordable broadband.**



Indigenous communities provided with appropriate concessions to support access to telecommunications services, have much to offer our regions. Mutual benefit would be gained through access to more affordable broadband services to support low-income, vulnerable and disadvantaged families. Moreover, Indigenous programs such as the ranger program will inevitably require access to digital technology.

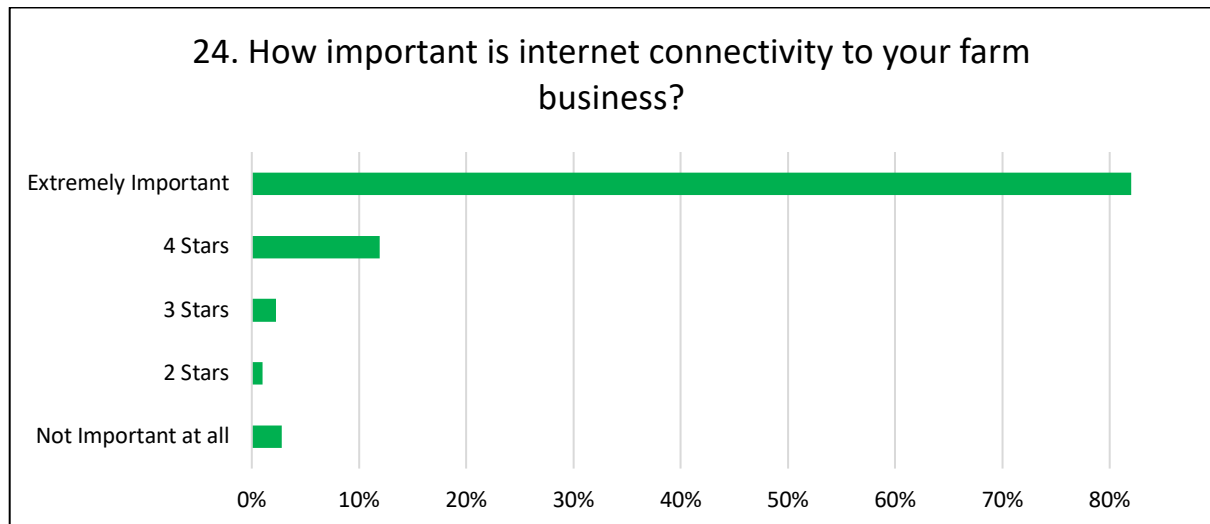
### Recommendations

- The 2021 Regional Telecommunications Review recommends the creation of a targeted concessional NBN broadband service to support low-income residents of regional, rural and remote areas.
- The 2021 Regional Telecommunications Review recommends a reconfiguration of the existing telecommunications allowance to meet the needs of low-income mobile only consumers.
- The 2021 Regional Telecommunications Review recommends support be provided for Aboriginal and Torres Strait communities, to have access to affordable equipment options to allow them to maximise the benefits of the services on offer to them, such as medical services.

## Opportunity

### 8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

As identified earlier in this submission, the advent of Covid 19, subsequent lockdowns and the associated challenges of running a business, working and educating from home has brought Australia's telecommunications system under greatly increased pressure. The advent of bushfires and drought has also no doubt increased this pressure.



The largest group of respondents, over 80 percent, indicated that internet connectivity was important to their farm business. This, combined with the high level of respondents unsatisfied with their internet service, supports the earlier responses indicating that farm businesses are willing to invest in their own solutions.

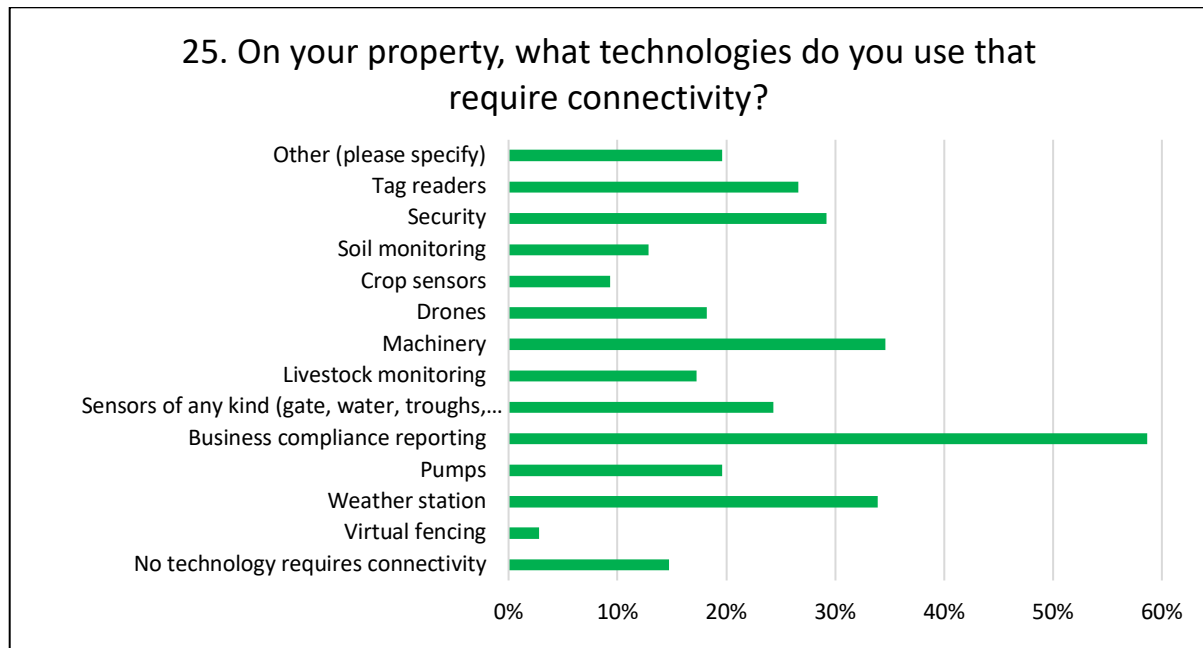
Given the high importance of internet connectivity, dissatisfaction and indications that farmers and their communities are prepared to invest in their own solutions, there remains serious scope for government support in third party (or private) place-based solutions. This covers investment beyond the standard mobile coverage extension equipment.

### Recommendations

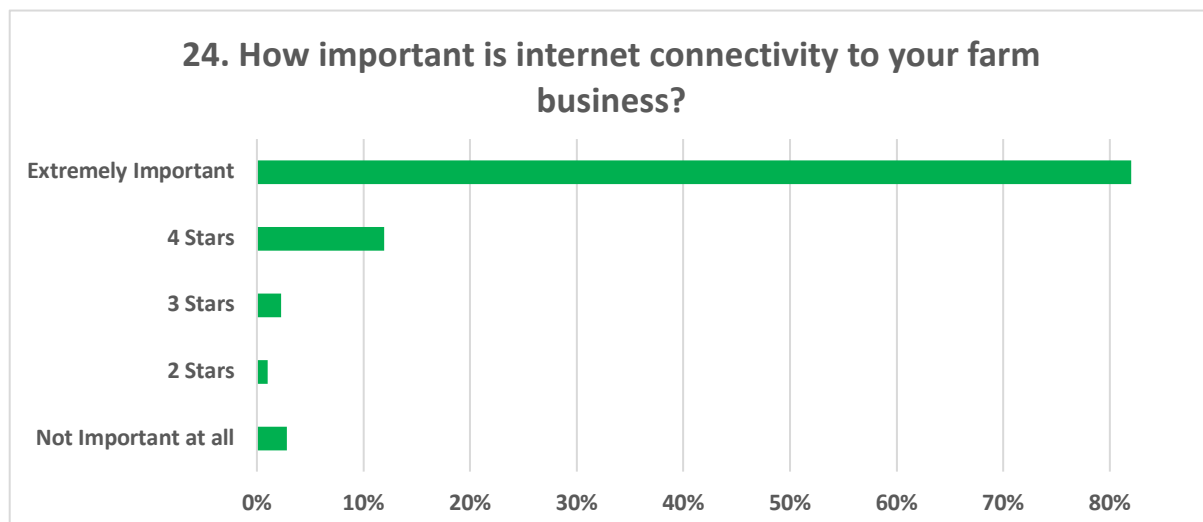
- The 2021 Regional Telecommunications Review recommends the rapid design and implementation of a commonwealth assistance program that provides funding to improve reliable access and affordability to farmers and communities who wish to invest in their own technological solutions.
- The 2021 Regional Telecommunications Review recommends incentives for telecommunications companies to assist with rolling out private solutions to connectivity issues in rural, regional and remote areas.



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?

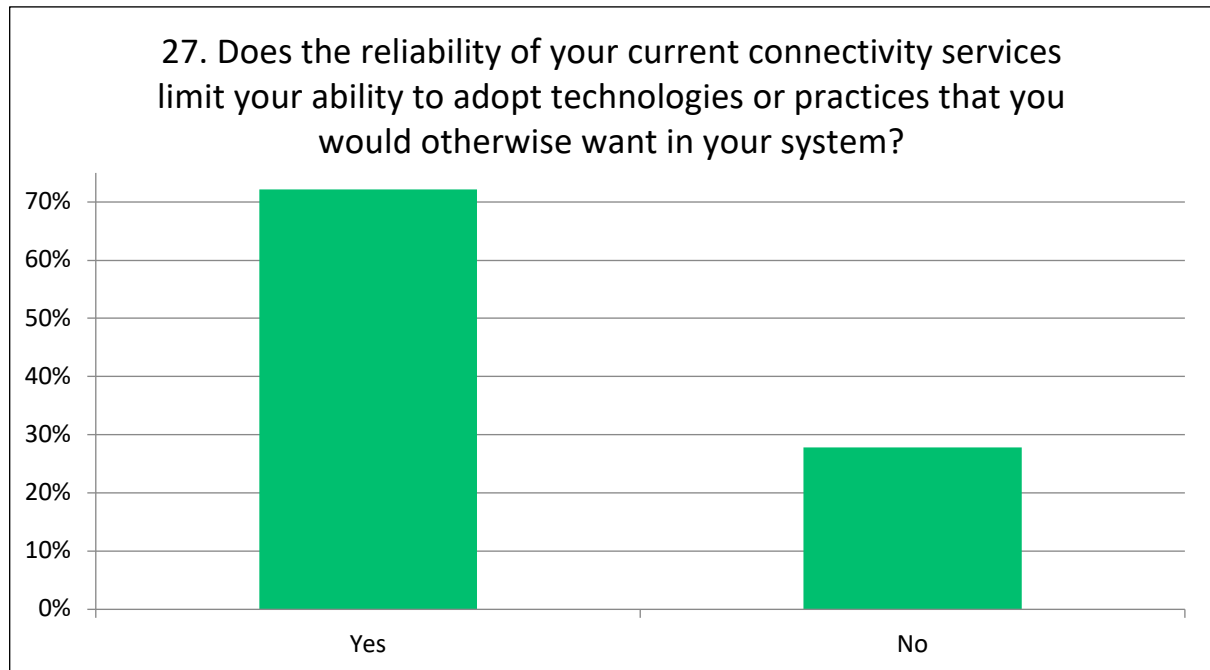


Pillar 3 of the NFF 2030 roadmap, unlocking innovation, outlines the opportunities of a digitally connected agricultural value chain. Innovation is a driver of investment in telecommunications in that it creates more use cases and demand for infrastructure. Finding new roles for innovation, alternate investors, and new ways of doing business is perhaps the best way forward for rural communities who are unhappy with their current services and service providers. Over 80 percent of survey respondents rated internet connectivity to their farm business as extremely important.



Poorer connectivity in rural, regional and remote areas means that farm businesses will likely be trailing behind businesses in the metropolitan centres. Investment in regional telecommunications infrastructure requires scale. Larger farmers and

businesses may be able to invest in telecommunications infrastructure themselves where the benefit outweighs the cost.



Place-based connectivity solutions are needed, and therefore more support needs to be given at a local government level to identify the needs of their communities and co-ordinate efforts to improve connectivity. Support could be given in the form of assistance provided to local governments applying for project grants under Regional Connectivity Program (RCP). Part of this involves having dedicated facilitators for the RCP and MBSP to assist in communities seeking to improve connectivity in their area.

The Internet of Things (IoT) which sees everyday items and processes having internet connectivity added to them is likely to create greater demand for telecommunications infrastructure. IoT devices require a range of different networks. In some instances, connectivity is provided through broader consumer networks, and in others dedicated network infrastructure is required.

Low Earth Orbit (LEO) satellite systems can provide connectivity with low latency and improved speeds. It's likely that many consumers being service by NBN Sky Muster satellite will be drawn to purchasing a LEO service in the future, already some consumers are doing so now. Having an alternative service to Sky Muster will be beneficial to regional and remote consumers, as it increases competition and could take capacity off SkyMuster, reducing congestion. Currently services such as StarLink are expensive and requires the customer to install the equipment themselves.

## Recommendations

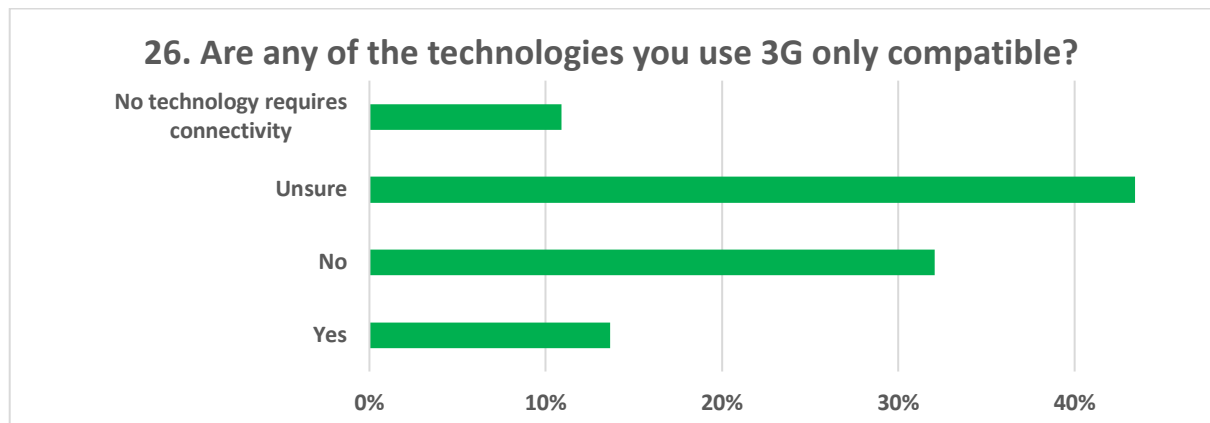
- The 2021 Regional Telecommunications Review recommends measures to support local government in their capability to develop applications and case studies to gain access to funding under programs such as the Regional Connectivity Program.
- The 2021 Regional Telecommunications Review recommends the creation of a Regional, Rural and Remote Telecommunications Fund to resource ongoing mobile network expansion – a request supported by the Rural, Regional and Remote Communications Coalition.
- The 2021 Regional Telecommunications Review recommends the implementation of the Alternative Voice Trials findings be implemented to support investment in telecommunication in regional areas.

## Emerging Technologies

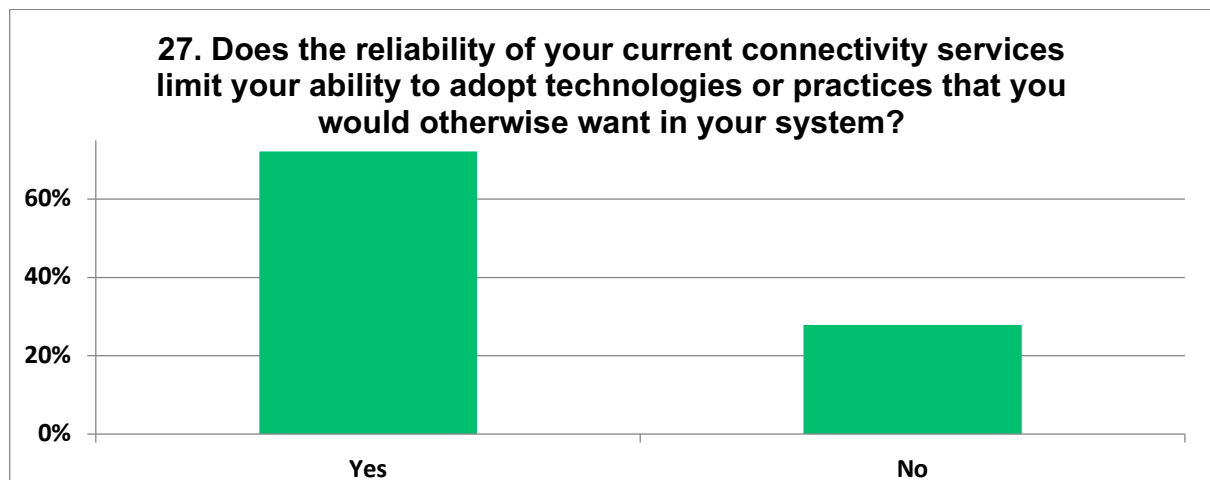
### 10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?

New technologies will certainly enable significant change to the delivery of telecommunications services over the next 5-10 years, but only for those who can access the system. The main barrier to accessing new services will likely continue to be connectivity.

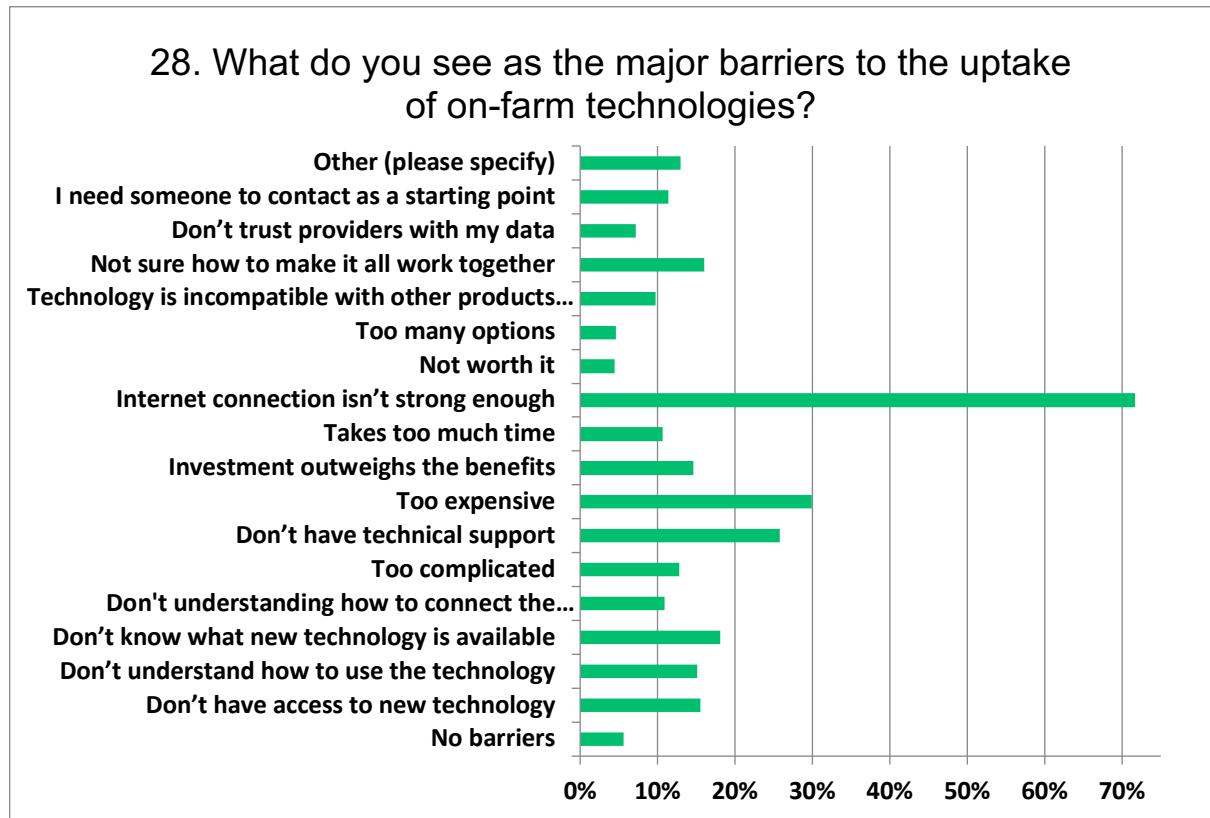
The pending switch-off of the 3G system will likely affect the connectivity of some farmers and their communities. According to our survey, almost 15 percent of respondents are still using 3G compatible technology and a further 45 percent are unsure.



Another barrier to accessing new technologies will likely continue to be the reliability of connectivity, not just quality of connectivity. According to our survey, over 70 percent of respondents believe that the reliability of their connectivity limits their ability to adopt technologies or practices. System connectivity need to be addressed if new technologies or practices are to be adopted.



To further support the idea that connectivity is king, the largest group of survey respondents, over 70 percent, believe the biggest barrier to the uptake of on-farm technologies is that the internet connection is not strong enough. The second largest group, about 30 percent, felt that the major barrier was expense.



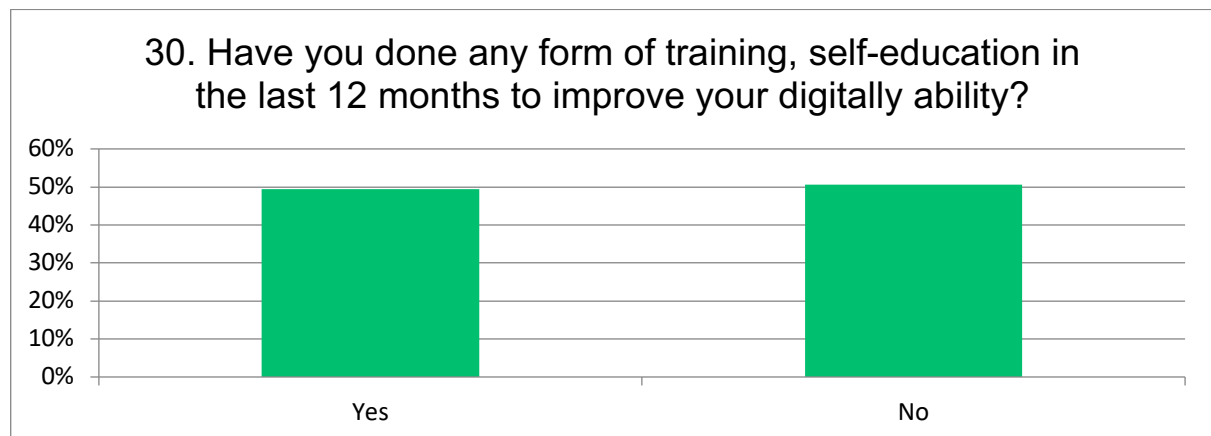
## 11. How can Government better support the rapid roll out of and investment in new telecommunications solutions in regional areas?

Both farmers and their rural, regional and remote communities have already commenced implementing their own solutions by way of investing in new solutions on farm. This includes boosters, antennas, repeaters as well as other solutions.

Boosters remain the most popular solution adopted to improve connectivity with over 60 percent of respondents indicating they had invested in this connectivity solution - over 50 percent had invested in antennas. This reinforces the fact that connectivity is still the greatest challenge at present.

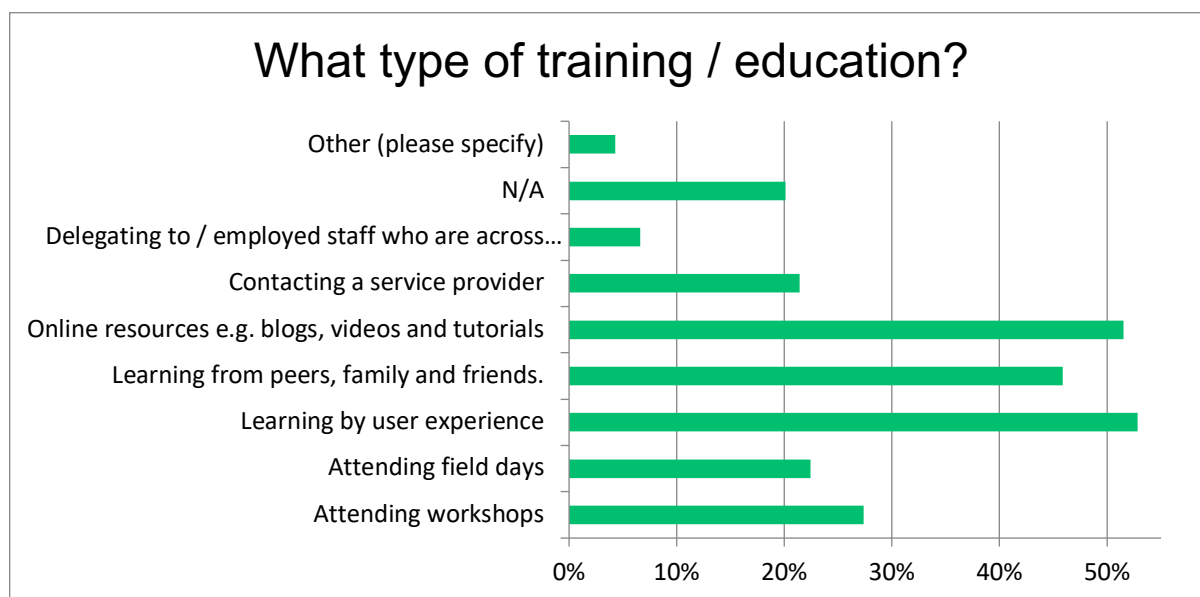
*Accelerating Precision Agriculture to Decision Agriculture—Enabling Digital Agriculture in Australia found that “If decision agriculture was fully implemented it would deliver an estimated boost to the value of agriculture of 25% (\$20.3 billion) and lift the Australian economy by an estimated 1.5% (\$24.6 Billion).” Agricultural businesses are increasingly relying on access to new and emerging technologies to remain competitive in a growing global market.*  
**Precision to Decision**

To better support the roll out of and investment in new telecommunications solutions the government also needs to address the growing digital literacy issue in rural, regional and remote Australia. Improved digital literacy will greatly assist in developing place-based solutions to the current quality and reliability issues related to connectivity.

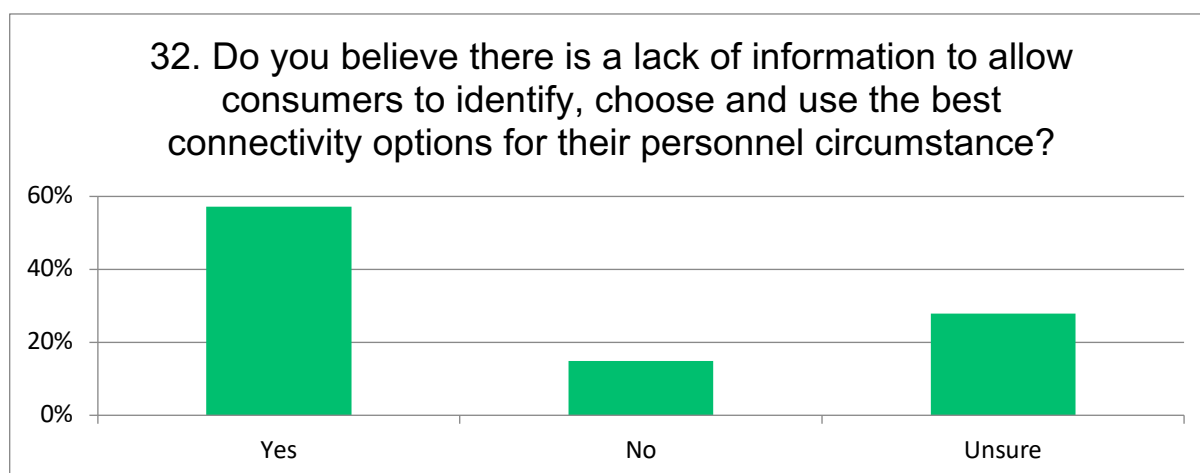


According to our survey, around half of respondents had not done any form of training or self-education in the past 12 months. This severely limits the development of solutions in the location of the connectivity issue. Of those that had undertaken some form of training, the largest group indicated they were learning via; experience; online resources or; learning from peers, family or friends.

*The gap in digital ability between capital cities and RRR areas has fluctuated since 2014, between 2016 – 2019 the gap widened, however in the past year it has narrowed. That said, the rural index for digital ability, which covers attitudes, basic skills and activities is currently 8.2 points behind capital cities. This indicates that there is certainly room to enhance the digital ability of people residing outside the capital cities.*  
**ACCAN 2021**



The largest group of survey respondents, nearly 60 percent, believed that there is a lack of information to allow consumers to identify, choose and use the best connectivity options for their personal circumstance. The next largest group were unsure.

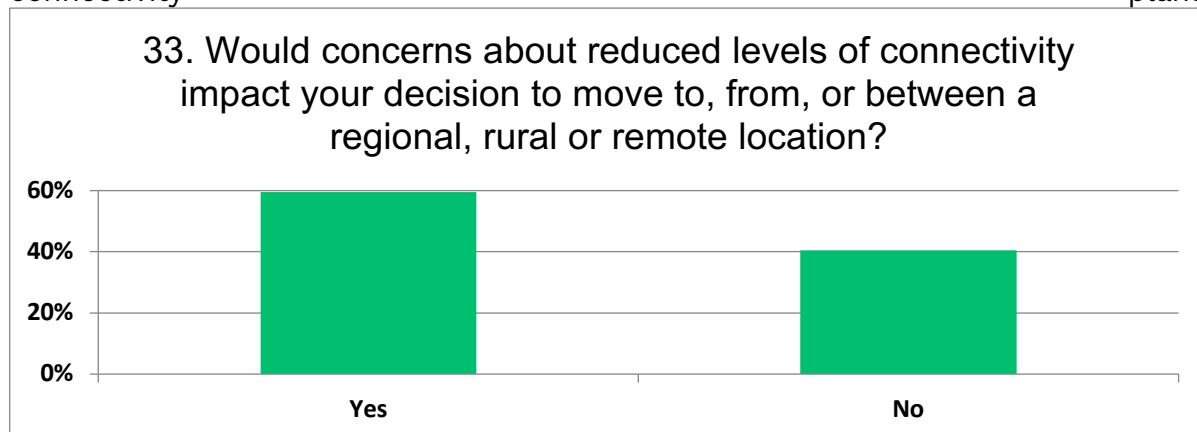


Consumers in regional, rural and remote parts of Australia must have the digital skills required to make the most of telecommunication products and services. The extent to which digital literacy and capacity building is required in the regions is growing, and the current limitations in knowledge and technical skills within the regions must be acknowledged. Consequently, more funding is required to increase ability for all regional, rural and remote Australians.

## Maximising Outcomes

### 12. How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?

Place-based connectivity solutions are needed, and therefore more support needs to be given at a local government level to identify the needs of their communities and co-ordinate efforts to improve connectivity, for example in developing regional connectivity plans.



Telecommunications and digital connectivity are becoming enablers in NFF's regionalisation agenda. Through rollout of the nbn network, and deployment of next generation mobile and IoT networks, more businesses can begin to remove digital connectivity from the list of barriers to regionalisation. Agriculture is at the centre of the NFF's regionalisation agenda and requires the continued success of our traditional industries as well as the successful establishment of non-traditional industries. However, successful regionalisation requires our communities to attract new workers and skilled professionals (and their families) through improved opportunity and liveability, which relies heavily upon reliable connectivity.

There are significant discrepancies between coverage maps and the on-ground experience of consumers. Many consumers are unaware of the causes of connectivity problems and ground testing is required to solve their connectivity issues. To facilitate performance-based competition amongst mobile network operators, there needs to be more widely available data on location specific performance of mobile services. Data on performance metrics such as upload and download speeds will allow for the current state of regional mobile telecommunications to be ascertained.

### Recommendations

- The 2021 Regional Telecommunications Review acknowledge that the success of the regionalisation agenda is reliant on the ongoing commitment of all levels of government to improve access to digital technology.
- The 2021 Regional Telecommunications Review recommend telecommunications carriers use on ground testing as their priority information input into coverage maps.



## Awareness

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### 13. 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?

In 2018, the last RTIRC published its findings in the report “2018 Regional Telecommunications Review - Getting it right out there”. This report handed down a total of 10 recommendations. Recommendation 10 led to the funding of the NFF’s Regional Tech Hub, launched in December 2020 with a small team of just three people.

*The Government commit to improving digital literacy in regional, rural and remote Australia by:*

- a) Developing an online technology hub to provide Independent and factual information to help support people to build up the skills to solve telecommunications issues.*
- b) Deploying technical advisers on a short term basis across regional, rural and remote Australia to provide on-the-ground support to help people get connected and stay connected, using technologies that are suitable to their individual needs.*
- c) Encourage the agriculture sector to provide industry specific advice about the internet of things and other digital applications that will drive productivity gains in the sector*

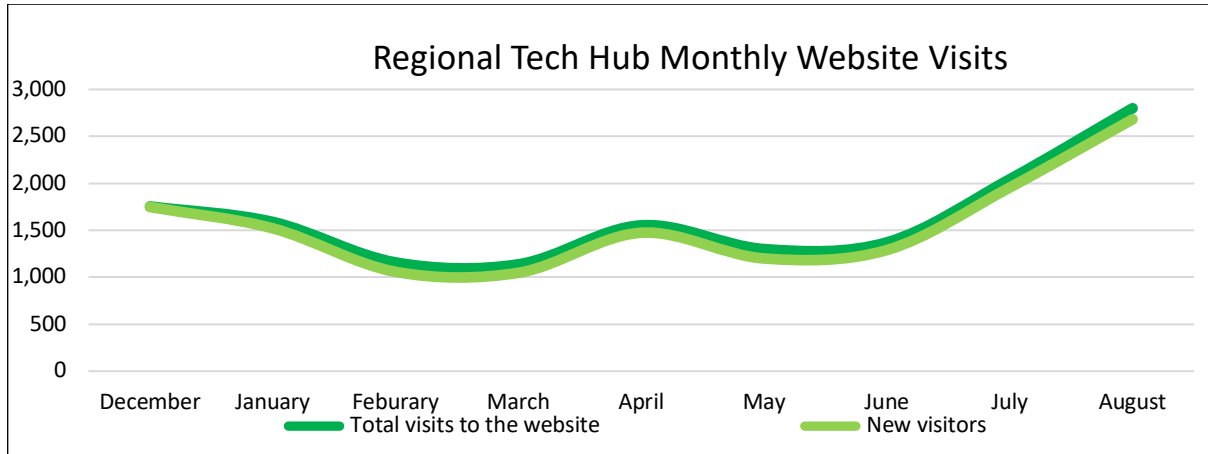
#### 2018 Regional Telecommunications Review Recommendation 10

#### Regional Tech Hub timeline

- December 2018 – RTIRC publishes recommendations from the 2018 Regional Telecommunications Review. Recommendation 10a calls for “Developing an online technology hub”
- September 2020 - The NFF contracted by the Department of Infrastructure, Transport, Regional Development and Communications for the delivery of the Regional Tech Hub.
- November 2020 - Migration of BIRRR content commenced
- December 2020 – Regional Tech Hub is launched at Parliament House and funded to 30 September 2021 – the Tech Hub commences operations with a total of three full time staff
- March 2021 – Contingency funding enacted to expand Tech Hub staff due to high workload
- July 2021 - Last of the BIRRR material is migrated to the Tech Hub Website.
- September 2021 – Funding of the Regional Tech hub is extended to 30 September 2022. Regional Tech hub staffing is expanded from 4 full time positions to 5.

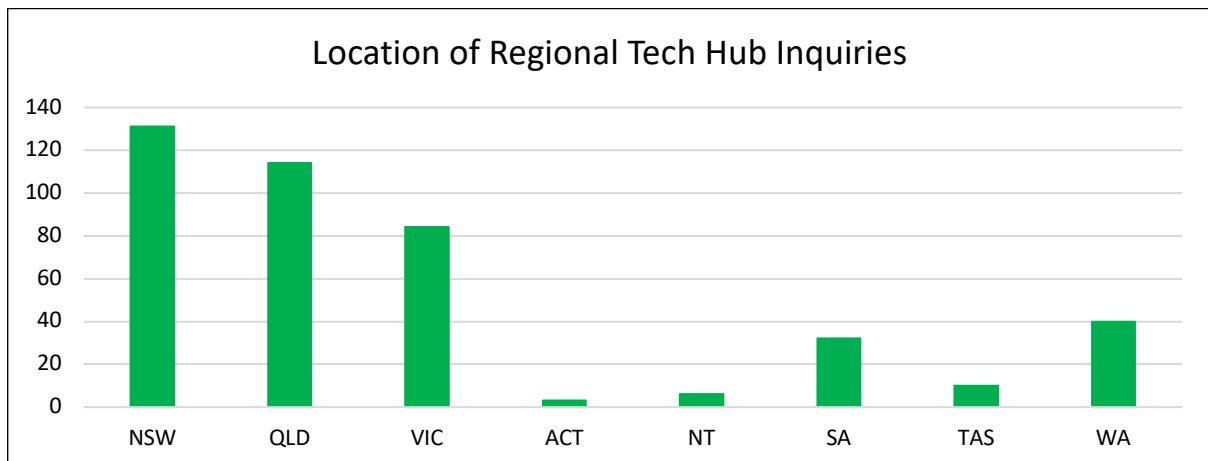
#### Regional Tech Hub media promotion

- Newspaper advertising in Regional ACM publications nationwide.
- Promotion in stakeholder newsletters.
- Presentations about what we do to stakeholder groups, local government, and educational organisations.
- Radio interviews with both commercial stations and the ABC.
- Advertising digitally on Facebook and Google



#### Regional Tech Hub engaging the community

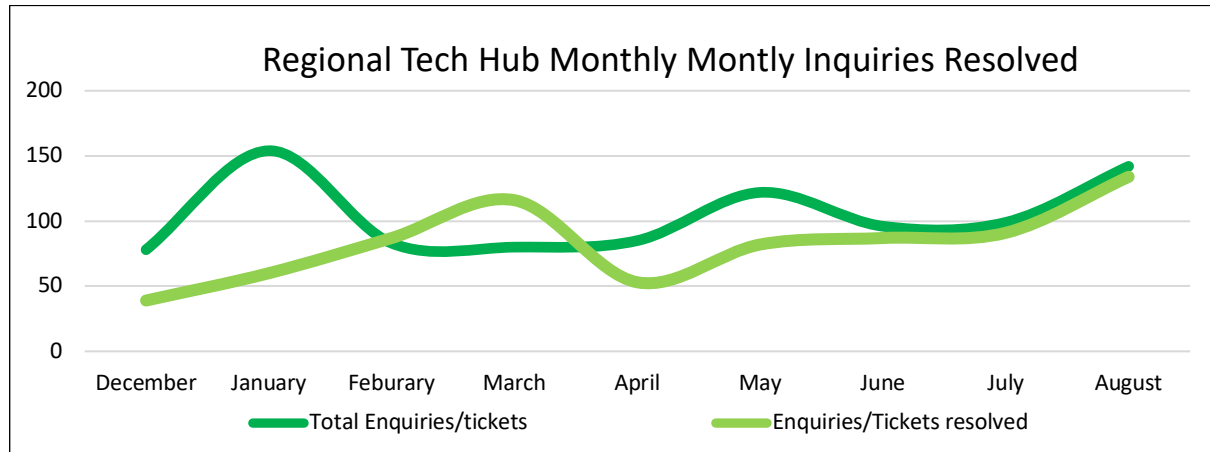
- Meeting with various government ministers
- Communications forums in Blayney and Cowra
- NFF Diversity in Ag and Towards 2030 Forums
- Beef 2021 in Rockhampton
- National Recovery and Resilience Agency Comms Forum
- Tech hub workload and success story



#### Regional Tech Hub content

- nbn Fixed Wireless
- Mobile Blackspot Program Information
- Mobile base stations
- Finding Sky Muster and its spot beams
- Sky Muster education ports and plans
- Education/Using the education port
- About NextG Wireless Link – NGWL
- Telstra Air
- Usage control tips for Android/iPad and iPhone/Apple Mac and Windows
- Contact nbn, Telstra, TIO

- VoIP – software
- How to find your latitude and longitude
- nbn Fair Use Policy
- PlayOn Cloud and Desktop
- Unmetered content
- Setting up a Gargoyle router
- Cloud Computing : Dropbox , iCloud, OneDrive, Google Drives



#### Regional Tech Hub workload

Created tickets	Unsolved tickets	Solved tickets	Satisfaction score	Good satisfaction tickets	Bad satisfaction tickets
507	56	514	92.5%	124	10

#### Recommendations

- The 2021 Regional Telecommunications Review acknowledges the Regional Tech Hub contribution to connectivity and recommend that the be funded for a further 5 years.
- The 2021 Regional Telecommunications Review recommends that the Regional Tech Hub be greatly expanded to assist with improving digital literacy in Rural, Regional and Remote Areas.
- The 2021 Regional Telecommunications Review recommends the resource the tech hub to provide industry specific advice about the internet of things and other digital applications that will drive productivity gains in the sector.

#### 14. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

To ensure that the programs continue to be effective, it's vital that the appropriate data is collected to allow for program evaluation. This will ensure learnings can be incorporated to reiterations of programs and would be able to demonstrate which programs are more effective at meeting their aims. Government investment programs aimed at delivering improved telecommunications require appropriate measurement of program outcomes. There is currently no measurement of pre-program and post-program levels of digital inclusion.

The NFF has recently been briefed by Telstra on the proposed restructure and partial sale of their mobile phone towers. Despite continue briefings, many of NFF's members remain seriously concerned regarding this sale of assets. This sale needs to be adequately publicly evaluated.

The mobile tower network in Australian currently accounts for well over 10,000 towers. A significant proportion of these towers are located in regional Australia, and many have been constructed with the assistance of government program funding. Public funds have been invested over decades to ensure that people living in rural, regional and remote areas have similar access to telecommunications services as their counterparts in metropolitan areas.

NFF understands that the sale requires legislative amendment, although we have not been advised what consultation process, if any, will be undertaken. There is significant concern around the limited public consultation on this issue - the only consultation NFF has been engaged in thus far is by Telstra itself.

Given the issues identified by our survey, particularly regarding the importance of service quality and reliability and the significant government program investment, the sale of key telecommunications infrastructure in rural, regional and remote Australia requires further consultation. Further, if such a sale is to go ahead, program funding should be made available to communities who are potentially impacted by this, such as the design and implementation of a program to assist farmers and their communities purchase, lease and/or maintain these towers themselves - perhaps as "place-based" third party solution (proposed in other sections of this submission?

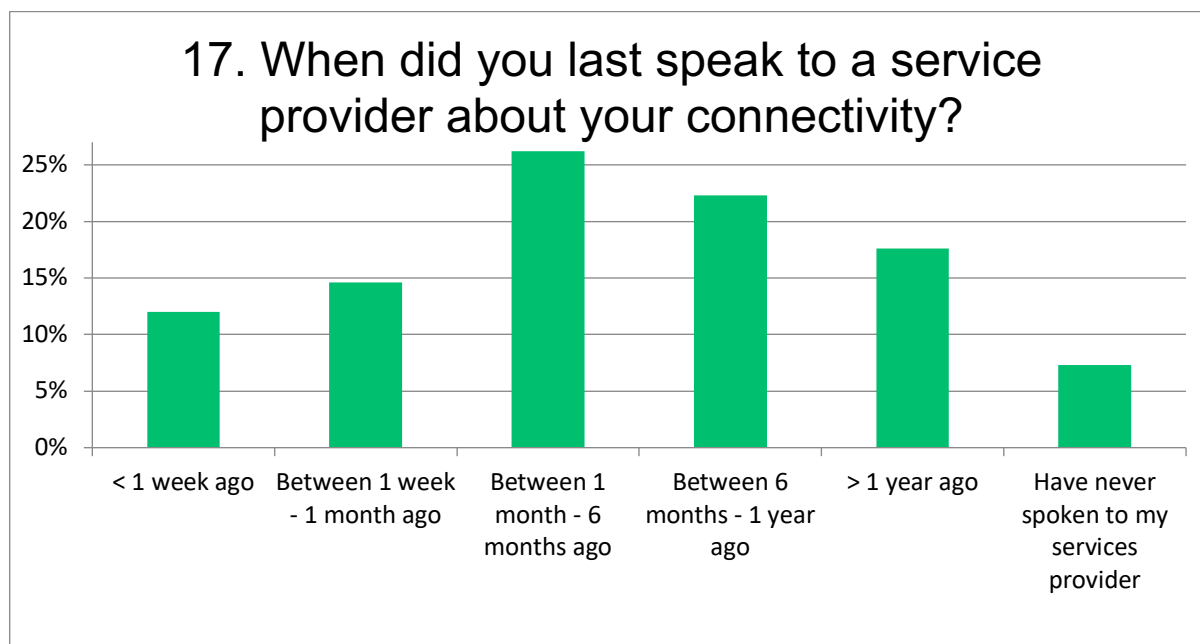
#### Recommendations

- The 2021 Regional Telecommunications Review acknowledges the significant government program investment in Australia's mobile tower network and the significant proportion of towers located in regional Australia.
- The 2021 Regional Telecommunications Review recommends a separate public consultation process for this sale and consideration of a program to assist farmers and their communities purchase, lease and/or maintain these towers themselves.

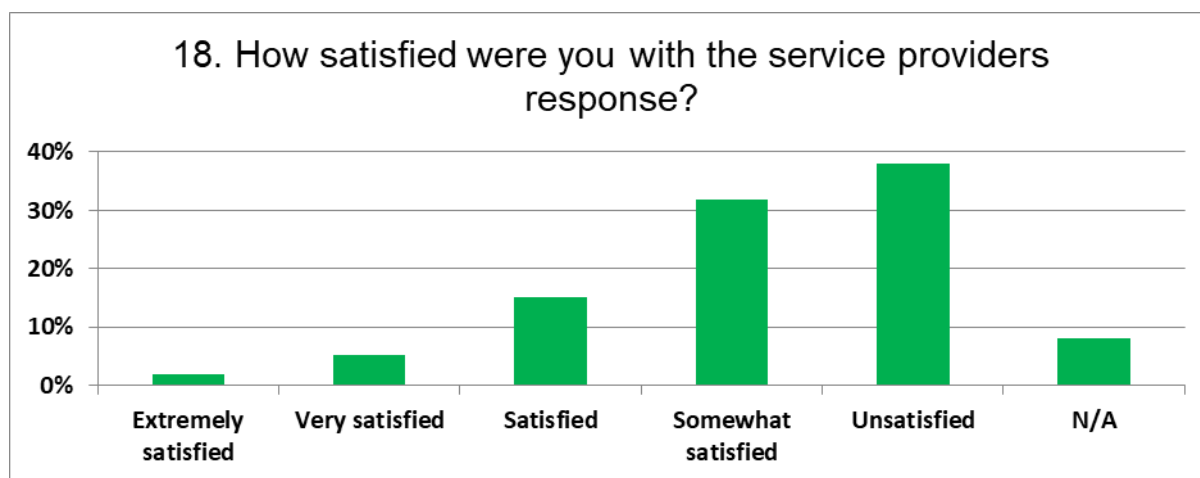
## Public Information

### 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?

Digital literacy is a significant issue for rural, remote and regional Australia. There are currently two types of people living in these areas - those that can effectively use digital technology to increase productivity and improve their lives, and those that can't.



In December 2020, the NFF launched the regional Tech Hub - a commonwealth funded information and advice service which has, to date, connected (or improved connectivity for) hundreds of people families and businesses rural, regional and remote areas. The Regional Tech Hub's focus has been on how rural, regional and remote Australians can get connected and stay connected.

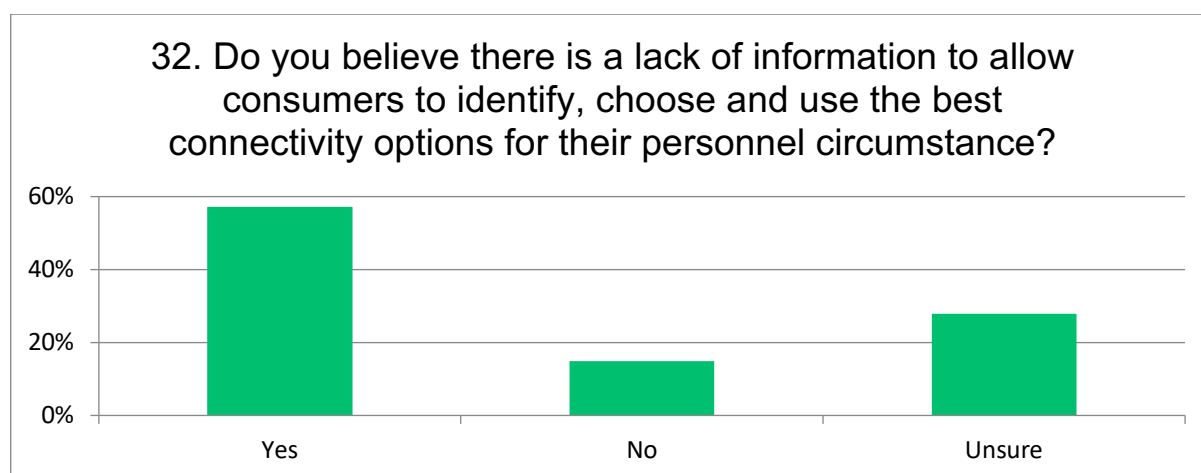


The tech hub is covered in further detail later in this submission. However, what remains clear is that respondents are unhappy with the response of their service

providers when they speak with them. At the time of writing this report, the Region Tech hub has not yet been operating for a full year, but its role in assisting those that cannot get satisfactory response from their service providers will be a primary focus.

*Australian society and the economy stand to gain from the benefits of having regional, rural and remote areas digitally connected. To realise these benefits, consumers and businesses need independent, trustworthy technical support to get connected and stay connected. The RRRCC has previously called for the Federal Government to commit seed funding for a pilot project that aims to grow digital literacy and foster technology applications in regional, rural and remote Australia. In the 2019-20 Budget, the RRRCC welcomed the government's announced funding over two years for a Digital Tech Hub*  
**RRRCC GOAL 4 Digital capacity building for regional, rural and remote Australia**

The Regional Tech Hub primarily addresses connectivity issues only and is limited in its ability to educate the greater population in their understanding of digital technology. A much larger challenge exists in bringing rural, regional and remote communities up to the digital literacy standards of those in Australia's metropolitan centres. The tech hub will play an important role in this but is not the only solution.



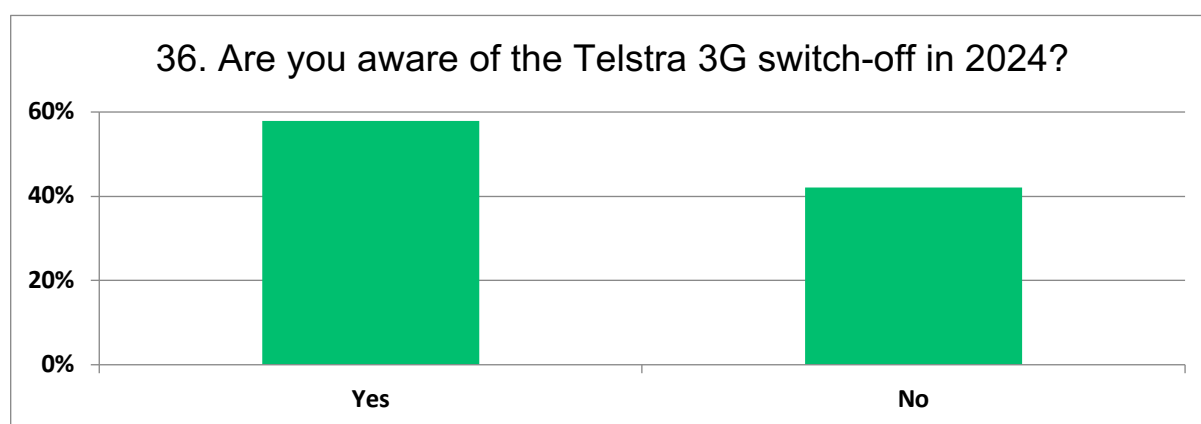
### Recommendations

- The 2021 Regional Telecommunications Review recommend the Federal Government work with the RRRCC, and local and state governments to identify and deliver digital capacity building needs beyond the remit of the Regional Tech Hub project.
- The 2021 Regional Telecommunications Review recommend nbn Co and the telecommunications industry work with the RRRCC to identify areas where industry can support digital capacity building and simple, effective information for regional, rural and remote consumers.

## 16. What other matters should the Committee consider in its review and why are they important

Changes in demand for mobile and the progression to 4G and 5G has created concern regarding the 3G mobile network switch off, as well as the implications of 5G on 4G coverage. While Telstra's 3G switch off won't be until mid-2024, regional, rural and remote consumers are concerned about the potential impacts this will have on their service. This is particularly the case due to experience with previous switch offs, which have resulted in a deterioration of service and coverage.

Consumers want assurances that 4G coverage will match that currently provided by 3G, and that the 5G rollout won't impact existing mobile connectivity. We're aware of other anecdotal reports regarding upgrades to 5G that have resulted in changes to coverage due to changing the position of the infrastructure.



According to our survey, over 40 percent of respondents (or nearly half) were not aware of the pending Telstra 3G switch off, scheduled for 2024. Greater efforts need to be made to make more people aware of the pending switch-off as well as trying to better understand and communication the ramifications of this. Further, respondents are unlikely aware of the subsequent financial impacts of equipment upgrades for 3G equipment.

### Recommendations

- The 2021 Regional Telecommunications Review recommends that no user is to be disadvantaged by 3G network switch-off, with on the ground testing to guarantee a smooth transition to 4G and no loss of service.
- The 2021 Regional Telecommunications Review recommends funding be made available for a study of regional mobile telecommunications performance leading up to and after the 3G switch-off.
- The 2021 Regional Telecommunications Review recommends that assistance be made available for those impacted by the 3G switch-off and/or also require equipment upgrades.