Australian Government

Productivity Commission

Telecommunications Universal Service Obligation

Productivity Commission Issues Paper

June 2016

The Commission has released this issues paper to assist individuals and organisations to prepare submissions. It contains and outlines:

- the scope of the inquiry
- the Commission's procedures
- matters about which the Commission is seeking comment and information
- how to make a submission.

The Issues Paper

The Commission has released this issues paper to assist individuals and organisations to prepare submissions to the inquiry. It contains and outlines:

- the scope of the inquiry
- the Commission's procedures
- matters about which the Commission is seeking comment and information
- how to make a submission.

Participants should not feel that they are restricted to comment only on matters raised in the issues paper. The Commission wishes to receive information and comment on issues that participants consider relevant to the inquiry's terms of reference.

Key inquiry dates

Receipt of terms of reference	28 April 2016
Due date for submissions	21 July 2016
Release of draft report	Early December
Draft report public hearings	Mid-to-end January 2017
Final report to Government	28 April 2017

Submissions can be lodged

Online:	www.pc.gov.au/inquiries/current/telecommunications
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The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au).

Terms of reference

TELECOMMUNICATIONS UNIVERSAL SERVICE OBLIGATION

Productivity Commission Act 1998

I, Scott Morrison, Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby request that the Productivity Commission undertake an inquiry into the future direction of a universal service obligation in an evolving telecommunications market.

Background

Historically the standard voice telephone service has provided the basis of a ubiquitous telecommunications service which has been a fundamental part of Australian society. To ensure the benefits of this basic service are as widely available as possible, the regulated standard telephone service and payphones Universal Service Obligation (USO) provides for access to a standard telephone service and payphone services to consumers, where provision of those services might otherwise not be commercially viable. The USO is supported by a combination of ongoing funding from the Australian Government and an annual levy on carriers.

The Australian telecommunications sector has undergone significant changes over the last two decades, in market structure and technology, and will continue to evolve. There has been rapid and continuing technological development and innovation across the industry, with significant expansion in the availability, use and sophistication of mobile services, and ever increasing demand for broadband data services (including Voice Over Internet Protocol services). Demand for standard (fixed line) voice services and payphones has reduced and continues to decline.

The Australian Government is rolling out the National Broadband Network (NBN) which will use a range of technologies to provide a capped price wholesale-only broadband platform to all premises. NBN Co will deliver broadband to Australian premises as the infrastructure 'provider of last resort'. The availability of universal broadband will provide a platform for increased competition in the development of retail products and services for consumers.

In the context of these and other changes, the current USO arrangements may not be effective.

Scope of the inquiry

The primary policy question to be addressed in this inquiry is to what extent, in the evolving Australian telecommunications market, Government policies may be required to support universal access to a minimum level of retail telecommunications services.

This will involve a consideration of the nature, scope and objectives of a universal service obligation, whether the retail market for relevant services will deliver appropriate outcomes for consumers without Government intervention and, if not, what options should be considered by Government to deliver universal services and the costs and benefits of these interventions.

In undertaking this inquiry, should the Commission recommend the retention of Government interventions in the market, it should make recommendations on:

- what objectives are appropriate for a universal service obligation arrangement or its equivalent;

- what would be the scope of the services needed to be provided to achieve those objectives;

- whether particular sections of the Australian community have differing needs to which additional Government intervention should be directed e.g. low income, rural and regional;

- who should bear cost or regulatory burdens from those interventions, if any;

- the optimal funding model(s); and

- transitional arrangements from the current USO model.

The Commission should also have regard to:

- the need for a durable framework that is flexible enough to accommodate technological changes;

- the role of, and impact on competition in relevant markets;

- contractual commitments that the Government has for the provision of the existing USO;

- the significant investments already made by Government, including in the NBN rollout;

- the current telecommunications regulatory framework and the Government's response to the 2014 Vertigan NBN Market and Regulation Report;

- additional policy reviews being undertaken by Government on a broader range of telecommunications consumer protections;

- relevant approaches adopted in other countries, particularly those with similar characteristics to Australia; and

- the report of the *2015 Regional Telecommunications Review* and the Government's response to that report.

Process

The Commission is to undertake an appropriate public consultation process, including holding hearings, inviting public submissions from industry, consumer groups and the broader community and releasing a draft report to the public.

The final Report should be provided to the Government within 12 months of the receipt of these Terms of Reference.

S. MORRISON
Treasurer

[Received 28 April 2016]

1   What is this inquiry about?

Background

The Australian Government has asked the Productivity Commission to undertake an inquiry into the future direction of a universal service obligation (USO) in the telecommunications market.

The current USO (first introduced in the 1990s and evolving from earlier arrangements) provides for access to a 'standard telephone service' and payphones (both involving a basic fixed-line voice service) where provision of these services might otherwise not have been commercially viable — regardless of where people live or where businesses are conducted. In essence, this involves a level of cross-subsidisation from low cost users to high cost users. The USO is currently co-funded by the Australian Government and an industry levy to a total of $300 million per year.

The current USO should be viewed within the context of market, technological and policy developments that have occurred over the last two decades, with the telecommunications market continuing to evolve.

- Reforms to the telecommunications sector have resulted in increased competition, with benefits to users in terms of lower prices and enhanced choice.

- Rapid technological change has led to a substantial fall in the price of telecommunications, with a vastly increased range, usage and demand for new services.

- There has been significant expansion in the availability, use and quality of mobile phone services, and increasing demand for broadband data services (including voice over internet protocol services). In contrast, demand for standard telephone services and payphones has fallen and continues to decline.

- The Australian Government's Mobile Black Spot Programme, funded by all levels of government, businesses and community organisations, is intended to improve mobile phone coverage and competition in regional and remote Australia.

- The Australian Government continues to roll out the National Broadband Network (NBN), which is intended to deliver broadband to all Australian premises using a range of technologies and subject to a wholesale capped price. The NBN effectively provides universal access to fixed broadband services (and, hence, to voice over internet protocol services).

Given these and other changes, the Government is concerned that the current USO is becoming less relevant and may not be effective.

Scope of the inquiry

The primary policy question to be addressed by the Commission in its inquiry is to what extent, if any, in an 'evolving telecommunications market', Australian Government interventions may be required to support universal access to a minimum level of retail telecommunications services.

The Government has asked that, should the Commission recommend the retention of Government interventions in the telecommunications market, it should also make recommendations on:

- 'appropriate' objectives for a USO or equivalent

- the scope of services to be provided to achieve those objectives

- whether particular sections of the Australian community — for example, the homeless, Indigenous communities, people with disability, or people living in regional and remote areas — have differing needs to which additional Government intervention should be directed

- who should bear the cost or regulatory burden from any interventions

- the optimal funding model(s)

- transitional arrangements from the current USO.

The Government has also asked the Commission to have regard to:

- a durable framework that is flexible enough to accommodate technological changes

- the role of, and impact on, competition in relevant markets

- the Government's contractual commitments for the provision of the existing USO

- investments already made by the Government, including in the NBN rollout

- the current telecommunications regulatory framework and the Government's response to the 2014 Vertigan NBN Market and Regulation Report

- Government policy reviews on a broader range of telecommunications consumer protections

- relevant approaches adopted in other countries, particularly those with similar characteristics to Australia

- the 2015 Regional Telecommunications Review report and the Government response to that report.

The Commission's approach to the inquiry

The terms of reference allow the Commission to take a fresh approach to considering the role of government with respect to universal telecommunications services.

The Commission will consider the nature, scope and objectives of a USO, and whether the retail market for relevant services will deliver reasonable outcomes for consumers in the absence of government intervention. Where reasonable market outcomes are unlikely, the Commission will consider options for government to deliver universal services and the costs and benefits of these interventions from a community-wide perspective.

The Commission will conduct its own analysis of data and draw heavily on input from participants through consultations, public hearings and written submissions. Where relevant, the Commission will draw on previous research and initiatives from Australia and internationally, and government reviews (box 1).

Box 1   **Some recent Australian Government reviews and reports relevant to this inquiry**

- NBN Market and Regulation Report (Vertigan Panel 2014)

- The *2015 Regional Telecommunications Review* (RTIRC 2015)

- The Productivity Commission's research report on *Public Safety Mobile Broadband* (PC 2015)

- The Bureau of Communications Research current review of National Broadband Network non-commercial services funding options (BCR 2015).

- The *Australian Infrastructure Plan* (Infrastructure Australia 2016)

- The current consultation on communications accessibility, which covers the National Relay Service (DoCA 2016a)

- The *Spectrum Review* report (DoC 2015) and current consultation on spectrum reform proposals (DoCA 2016b)

How you can contribute

The Australian Government has asked the Commission to release a draft report, and to provide it with a final report within twelve months (28 April 2017).

The Commission is seeking submissions by **21 July 2016** for consideration for its draft report. Participants will have an opportunity to comment on the draft report at public hearings and through further submissions. Details on how to make a submission are provided in attachment A.

This issues paper is intended to assist participants in preparing a submission. It sets out some of the issues the Commission has identified as relevant to the inquiry at this time. The questions raised here are not intended to be exhaustive. In providing submissions, participants are not expected to address all of these issues and are welcome to provide information on other issues they consider to be relevant.

2 Snapshot of the telecommunications market

The Australian telecommunications market is evolving rapidly with new technologies and the rollout of government-owned or funded infrastructure. Competition and changing consumer preferences are also affecting private sector investment in telecommunications infrastructure and technologies.
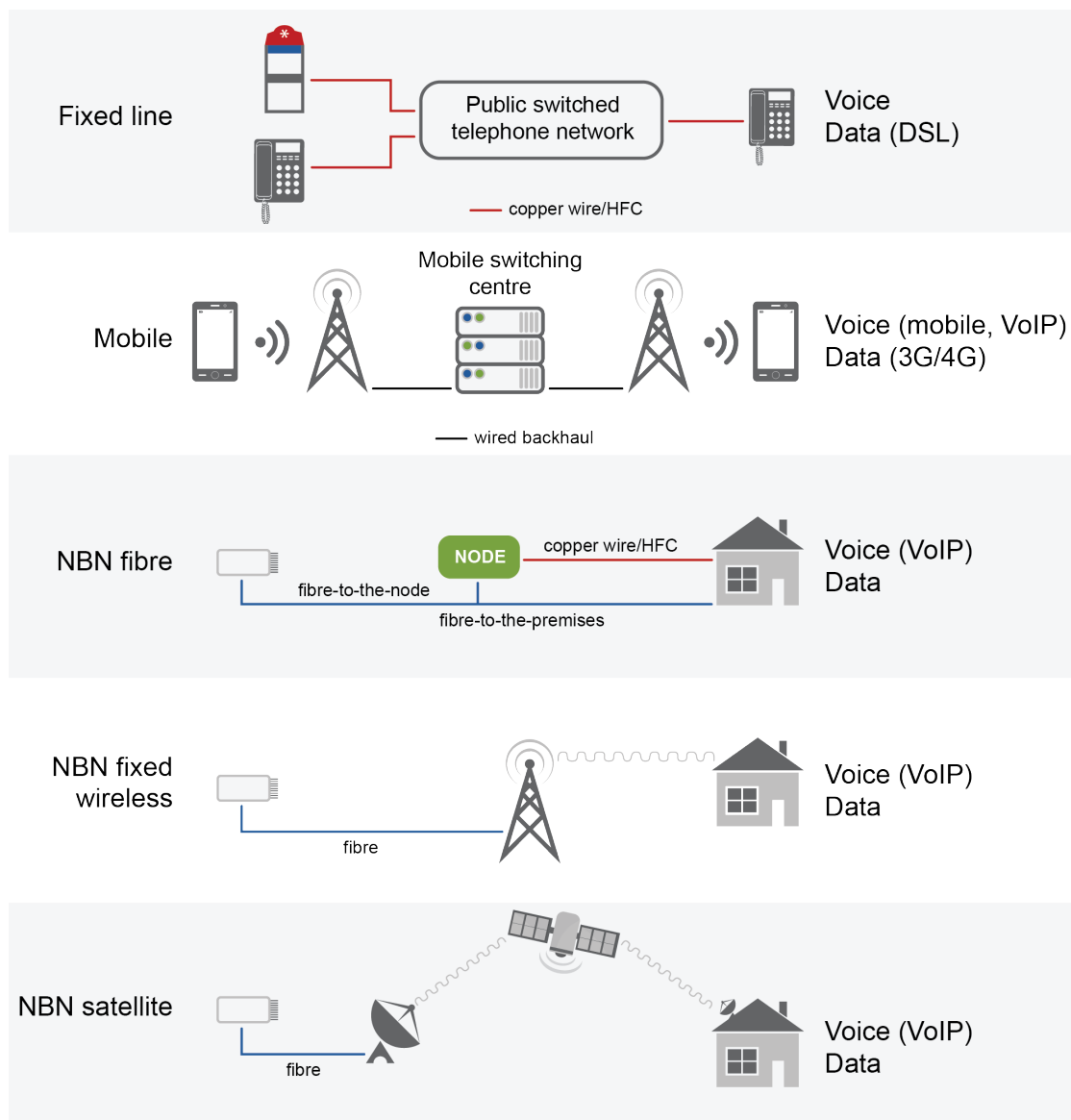
Types of services

The Australian telecommunications market consists of voice and non-voice (data) services. Services are delivered over fixed-line and mobile networks, and by technologies rolled out through the NBN (figure 1).

Fixed-line telecommunications in Australia transmit voice and data services predominantly over copper and hybrid fibre coaxial (HFC) networks. Although these networks were originally designed for voice and cable television services respectively, internet can be accessed over digital subscriber line technology and dial-up (although dial-up services are being phased out). Fixed-line telecommunications also include fibre optic networks.

Mobile services include voice and data services that are carried over radiofrequencies transmitted by mobile phone carriers. Recent technologies include 3G and 4G (long-term evolution) that enable voice services and mobile internet access on smartphones and other devices. Wireless local area networks, such as Wi-Fi, can also deliver internet and voice services to mobile devices, including through public Wi-Fi hotspots.

The NBN is an Australian Government program to deliver broadband to all premises across Australia (box 2). Fixed-line broadband, including fibre to the premises, fibre to the basement and fibre to the node, will supply approximately 92 per cent of the Australian population (NBN Co 2015). NBN fixed-line broadband will not be rolled out in more sparsely-populated areas due to high costs. It will instead deliver fixed wireless broadband to about 5 per cent of the Australian population and satellite technology to the remaining 3 per cent (NBN Co 2015).

Figure 1   Telecommunications services by technology type[a]

Fixed line — copper wire/HFC — Public switched telephone network — Voice / Data (DSL)

Mobile — Mobile switching centre — wired backhaul — Voice (mobile, VoIP) / Data (3G/4G)

NBN fibre — fibre-to-the-node — NODE — copper wire/HFC — fibre-to-the-premises — Voice (VoIP) / Data

NBN fixed wireless — fibre — Voice (VoIP) / Data

NBN satellite — fibre — Voice (VoIP) / Data

a DSL: digital subscriber line, VoIP: Voice over Internet Protocol, HFC: hybrid fibre coaxial

| Box 2 | **The National Broadband Network** |

When completed, the National Broadband Network (NBN) will be Australia's national data network. The NBN is a wholesale-only network — all usage is provided through retail service providers who purchase access to the network.

Following a series of unsuccessful attempts to establish a national network in partnership with the private sector, in April 2009, the Australian Government established NBN Co (a government business enterprise) to build and manage the NBN. The NBN was originally envisaged as a wholly-new fibre to the premises (FTTP) network, but was redesigned after September 2013 to make use of pre-existing telecommunications infrastructure. The NBN will now be a multi-technology mix (MTM) — a fixed-line network using a combination of fibre to the premises, basement (FTTB), node (FTTN) and hybrid fibre coaxial (HFC) cable. While a FTTP-only network could deliver superior connection speeds, the redesigned MTM network aims to achieve an earlier and less expensive installation.

NBN Co released an updated 3 year roll-out plan in October 2015, which promised to have 9.5 million premises either connected or with construction underway by September 2018. The project is scheduled to be completed by 2020. As of March 2016, 2 million premises have been connected with 900 000 using the network.

The NBN will provide for universal broadband infrastructure for all Australians residents and businesses. The Australian Government is developing legislation to introduce a statutory infrastructure provider of last resort regime. Under this statutory regime, NBN Co (or in certain areas, potentially other infrastructure providers) will be required to connect premises to its network. The Australian Government (2016, p. 4) stated that this will mean that consumers will have a 'guarantee' of an infrastructure connection. Retail service providers will be able to offer voice and data services to customers using that infrastructure.

Sources: Australian Government (2016); Keany (2015); Tucker (2016); Vertigan Panel (2014).

Consumer trends

Demand for telecommunications services reflects changes in consumer preferences, as well as developments in enabling infrastructure and technologies. Australia has seen a reduced demand for fixed-line voice services, increased use of mobile phones (particularly smartphones) and increased demand for data across all technologies.

Mobiles are now the most common means of voice service and internet access, with 32 million mobile services currently in operation compared with 9 million fixed-line telephone services (ACMA 2015b). Uptake of smartphones has grown rapidly, with three-quarters of the Australian adult population now owning a smartphone (ACMA 2015b).

The demand for voice calls has undergone major changes over the past decade. The number of fixed-line originating voice call minutes declined almost five-fold in the ten years to June 2015, while the number of mobile originating voice call minutes more than doubled over the same period (figure 2). While the total number of voice call minutes fell

by 35 per cent between June 2005 and June 2010, this decline appears to have plateaued — indicating that demand for voice calling through some means persists.

Figure 2   **Trends in voice services**

Voice call minutes by origin, June 2005 to June 2015
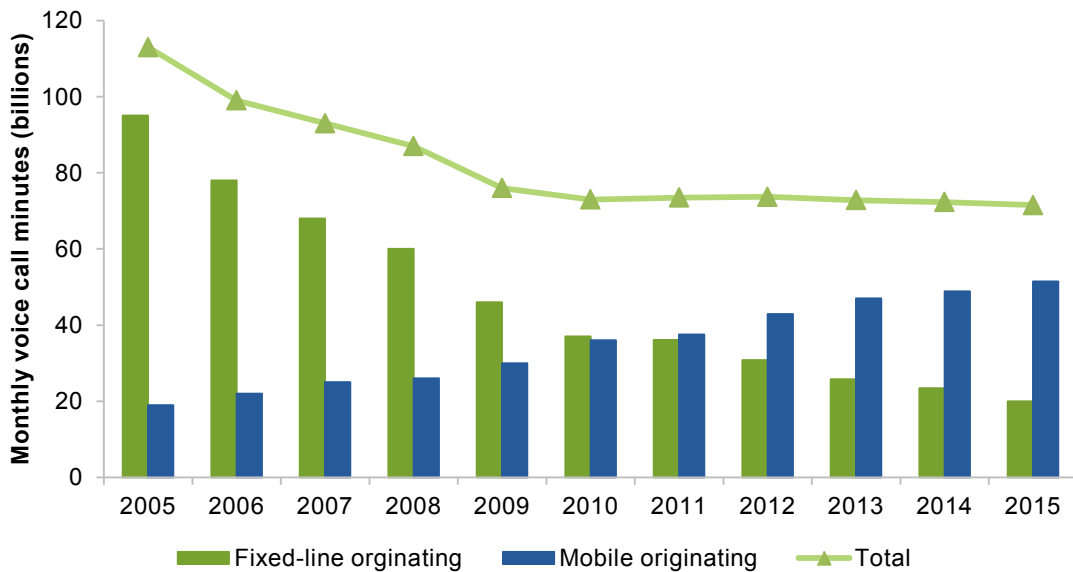
a Data from 2005 to 2010 are sourced from the ACCC Regulatory Accounting Framework Record Keeping Rule and include only Telstra, Optus, Vodafone, AAPT and Primus. Data from 2011 onwards are from the Division 12 Record Keeping Rule which includes a broader set of providers. Most forms of managed voice over internet protocol are not included, and 'over-the-top' services are not included.

Source: ACCC (2012, 2016b).

Increasingly, Australians are disconnecting their fixed-line telephones and going 'mobile only'. In 2015, 29 per cent of adults used only a mobile and had no fixed-line telephone (ACMA 2015b). This trend is expected to continue alongside improving technology, increased data allowances and better coverage of mobile broadband. For most Australians, the use of fixed-line and mobile networks is complementary, particularly for data services. Consumers tend to use mobiles for internet activities that involve light data use, while relying on fixed-line broadband services for heavier data use (ACCC 2016a). This reflects the comparatively cheaper and larger data allowances and reliability of fixed-line services. In December 2015, 98 per cent of total downloaded data was downloaded over fixed-line broadband (ABS 2016b).

The overall demand for data is growing significantly, with data use on fixed networks and mobile devices each growing by more than one-third in the past year (ACCC 2016a). These trends are expected to continue with the increasing use of cloud (internet-based) computing, audio-visual streaming services, location services, and subscription video on demand. 'Over-the-top' communications (applications or services provided over the internet and that bypass traditional distribution, for example, Skype) are also becoming

more popular and provide greater substitutability (and competition) between services. The uptake of social networking and instant messaging services has shown particular growth in recent years (figure 3).

Figure 3   **The use of non-voice communication continues to grow**
Communications services used by adult Australians in the six months to May
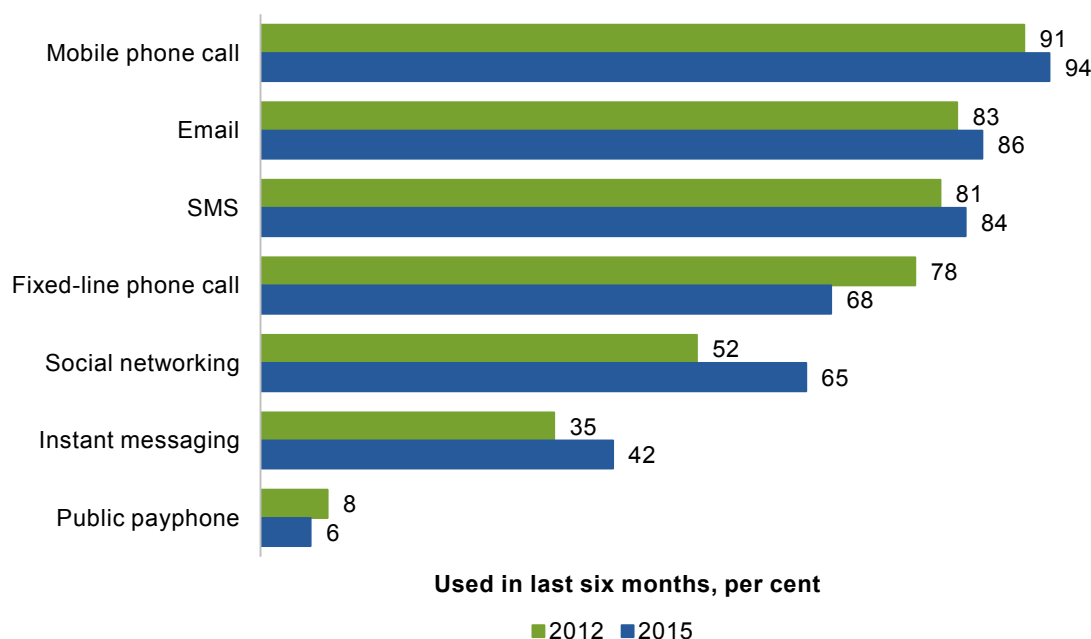
Source: ACMA (2015b) figure 2.8, based on ACMA-commissioned surveys in May 2012 and May 2015.

Many consumers own multiple forms of technology and access different networks depending on their preferences. The average household has access to six internet-capable devices (ABS 2016a) and about one-quarter of internet users accessed the internet through five or more devices in the six months to May 2015 (ACMA 2015b). This trend is likely to continue, with a wide range of devices having direct internet access including automobiles, televisions and fridges.

The increasingly ubiquitous nature of public and home-based Wi-Fi is a further significant development, effectively providing significant support to mobile voice and data services by creating local wireless connection to fixed lines.

Meanwhile, use of payphones continues to decline, with only around 6 per cent of adult Australians having used a payphone in the six months to May 2015. Offline Australians are also becoming fewer in number. About 6 per cent of adult Australians 'had never been online' as of June 2015, compared with 12 per cent in 2010 (ACMA 2015b, p. 44).

Service providers

Government policies, competition and technological innovation are transforming the Australian telecommunications market. The Australian Competition and Consumer Commission (ACCC) stated that since the sector was opened to competition in 1997, services and infrastructure investment have increased and real prices have fallen (figure 4).

Australia's non-government telecommunications infrastructure is largely owned by three companies. Telstra owns the fixed-line copper network, one of the two HFC networks, and the largest and most regionally-extensive mobile network. Optus is the second largest wholesaler. It owns an HFC network and a mobile network and uses the latter to provide wholesale and retail telecommunications services. Vodafone Hutchison Australia owns a mobile network, which it also uses to provide wholesale and retail services.

The wholesale telecommunications market has undergone significant upheaval with the wholesale rollout of the NBN. Most users of Telstra's fixed-line copper and Telstra and Optus' HFC networks will migrate to the NBN, with NBN Co progressively taking ownership of parts of these networks to deliver its MTM fixed-line network (DoCA 2014). As an open-access data network, the NBN should bring further competition to the retail broadband market as it reduces retailers' barriers to entry. Migration off the copper network will be optional for users outside of the fixed-line broadband footprint. Yet it will still likely increase competition as alternative communications technologies (including NBN fixed wireless and satellite as well as mobile networks) become available.

Figure 4 **Prices for telecommunications services have fallen**

The telecommunications services index, 2006-07 to 2014-15
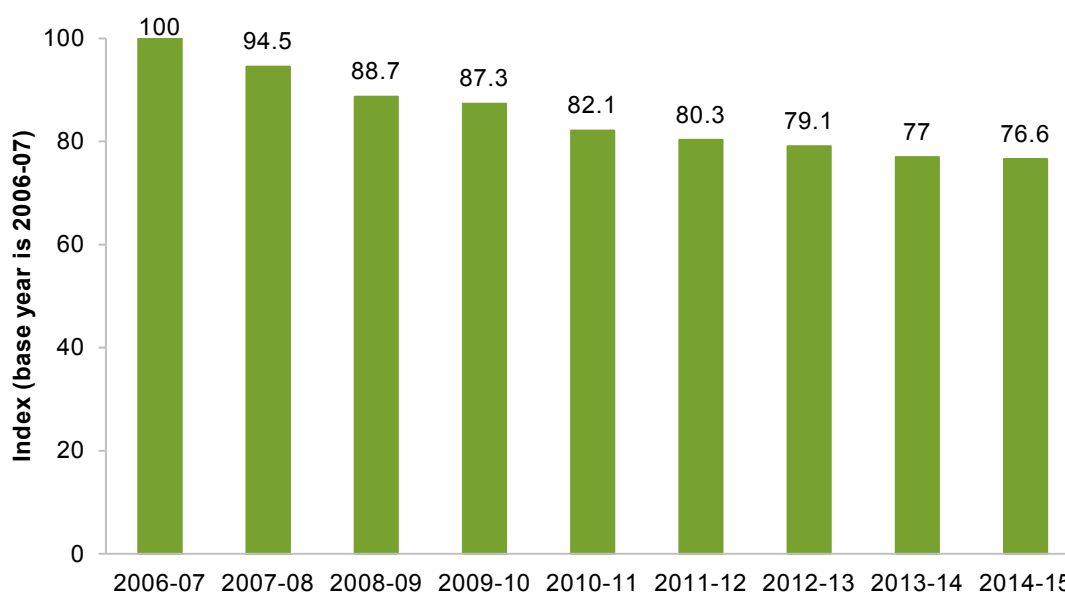
Source: ACCC (2016a), figure 1.1, p. 74.

Over-the-top communications have also influenced the Australian telecommunications landscape. Services include voice over internet protocol (Facetime, Skype, Viber) and other internet-based communications (Facebook, Twitter). Such services provide close substitutes to traditional forms of telephone and messaging services that are available on fixed-line and mobile networks (DoCA 2016d). Facebook and Google are also investing in telecommunications infrastructure that may challenge the established telecommunications infrastructure providers in Australia. Recent projects include high-altitude drones and helium balloons to provide aerial wireless internet access in other remote parts of the world.

The Australian telecommunications sector has faced increased industry consolidation in recent years, particularly in the fixed-line sector. Recent mergers include TPG's acquisition of iiNet and Vocus' acquisition of Amcom and M2. The ACCC (2016a) stated that companies have sought to increase the scale of services to compete nationally as the NBN rolls out.

Retail telecommunications in Australia is catered by many service providers, but only a few hold a large market share. Telstra is by far the biggest retail service provider and is the leading market player in all retail service types (figure 5).

Figure 5   **Telstra holds the greatest market share in all retail services[a]**
Telecommunications retail market share by service type, June 2015
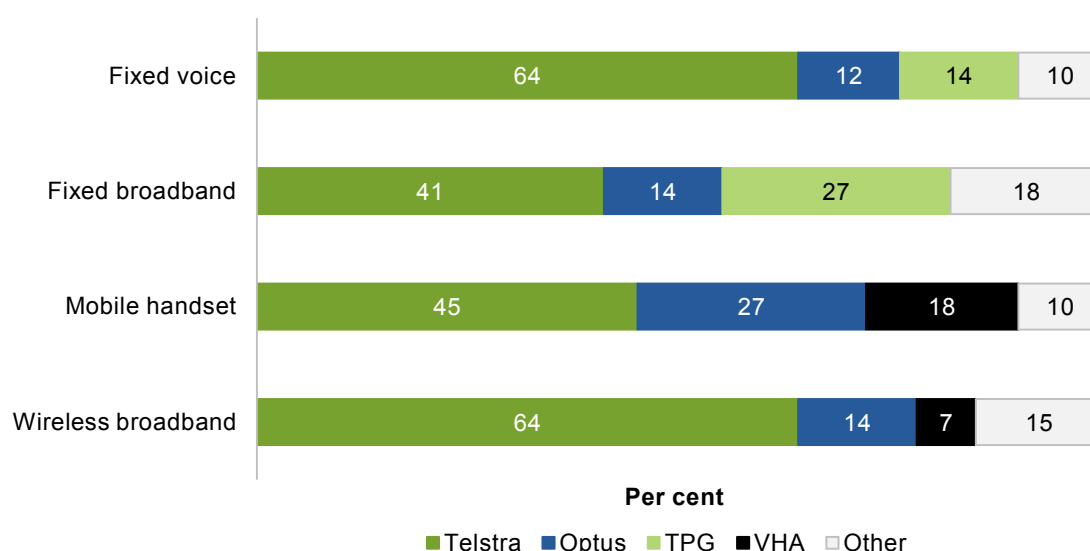
a TPG and iiNet market shares are combined. Mobile handset market shares include TPG in the 'other' category. VHA: Vodafone Hutchison Australia.

Source: Productivity Commission estimates based on ACCC (2016a), figures 2.5–2.8.

Telstra, as the primary USO provider (see next) and a fixed-line infrastructure owner, is particularly dominant in regional and remote Australia. There is often no choice of service

provider in these areas as other businesses do not find it economically viable to supply services that attract only a small number of new customers. In an Australian Government study of broadband availability and quality, regional and remote areas were less likely to have access to fixed-line broadband infrastructure relative to urban areas (DoC 2013).

There is generally strong competition within Australia's retail mobile handset sector, with national pricing a feature of service offerings across carriers. Urban areas in particular have access to high-quality mobile broadband coverage for each of the three mobile networks and by other retailer service providers that use these networks. Mobile infrastructure in regional and remote areas is improving, with network providers also increasing their spectrum allocations (necessary to improve their signal and bandwidth capacities). Mobile coverage is now more than 99 per cent of the population (based on where people live) and the rollout of 4G technology in regional and remote areas continues to grow (RTIRC 2015; table 1). Mobile coverage is also expanding with the rollout of the Mobile Black Spot Programme (box 3) in regional and remote areas.

Table 1	**Mobile coverage by provider**					
	Per cent of population, 2014					
	Telstra		*Optus*		*Vodafone*	
	3G	4G	3G	4G	3G	4G
Metro	100	95	100	89	99	87
Non-metro	98	74	96	60	87	50

Source: RTIRC (2015), table 1, based on Venture Consulting, *Background to the mobile and towers sector in Australia*.

3 The current universal service obligation

The current USO is an obligation under the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cwlth) with respect to standard telephone services (that are available on request) and payphones. Its objective is to ensure that these USO services are 'reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business' (section 9 (1) (a) and (b)). The USO services are basically fixed-line voice services.

As the designated 'primary universal service provider', Telstra is responsible for the provision of USO services throughout Australia. It does this in accordance with legislation and the Telecommunications Universal Service Obligation Performance (TUSOP) Agreement it has with the Australian Government (box 4). The present agreement ceases on 1 July 2032, but is subject to an interim technological review.

| Box 3 | The Mobile Black Spot Programme |

The Mobile Black Spot Programme is an Australian Government initiative aimed at improving mobile phone network coverage and competition in regional and remote Australia.

The program consists of telecommunications companies bidding for funding to provide a base station in 'black spots' — areas with inadequate mobile coverage. Proposed base stations are located according to the new coverage they would provide, the benefit of that coverage, whether it is in a 'priority location', the value of the co-contribution they will attract, the cost of provision, and commitments by other mobile network operators to use the new base station. Under program rules, the company selected to build each station must provide competitors with the opportunity to co-locate and provide input into the station's design to facilitate the potential sharing of the new infrastructure. However, the extent of infrastructure sharing may, in practice, be limited by ownership of backhaul infrastructure.[a]

The first round of the program was finalised in June 2015. It featured $100 million of funding from the Australian Government, $87.35 million from state and territory governments, and $1.7 million from local governments, businesses and community organisations. Telstra was selected to build 429 base stations with a co-contribution of $165 million, and Vodafone was selected to provide the remaining 70 base stations and a co-contribution of $20 million. The rollout will occur over a three-year period and will provide new handheld coverage to 68 600 square kilometres, new external antenna coverage to over 150 000 square kilometres, and new handheld or external antenna coverage to over 5700 kilometres of major transport routes.

The second round of the program, to which a further $60 million of Australian Government funding has been committed, is currently underway with the locations to be announced in the second half of 2016.

[a] According to Wikipedia the **backhaul** portion of a telecommunications network comprises the intermediate links between the core or backbone network and the small sub-networks at the 'edge' of the entire network.

Sources: DoCA (2016c); Long (2015).

Telstra receives gross funding of around $300 million per annum for the provision of USO services — consisting of $253 million per annum for standard telephone services and $44 million per annum for payphones (DoCA 2016e; TUSMA 2015).[1]

Funding for the provision of USO services (as well as other 'public interest' telecommunications services) is met through an Australian Government (non-indexed) contribution of $100 million per year (TUSMA 2015) and through the telecommunications industry levy. The industry levy is collected by the Australian Communications and Media Authority (ACMA) from telecommunications carriers with revenue of $25 million or more. In 2014-15, the industry levy raised around $215 million, with Telstra having contributed around $142 million (ACMA 2015c).

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[1] Including the Goods and Services Tax.

| Box 4 | The Telstra USO Performance Agreement |

The Telstra Universal Service Obligation Performance (TUSOP) Agreement sets out Telstra's contractual obligations in relation to the universal service obligation (USO) and some other 'public interest telecommunications services'. Its duration is 20 years — commencing on 1 July 2012 and ceasing on 1 July 2032.

The Agreement is currently administered by the Department of Communications and the Arts.[a] Telstra's performance under the TUSOP Agreement is assessed annually against performance requirements set out in legislation and the Agreement, which includes the Customer Service Guarantee that relates to standard telephone services.

The Agreement currently provides for a mandatory 10 year independent review of the technologies and systems used by Telstra to provide the current USO services.

The TUSOP Agreement is one of a series of separate, yet inter-related agreements by the Australian Government, Telstra and the NBN Co to enable the construction and operation of the National Broadband Network.

[a] The agreement was administered by the Telecommunications Universal Service Management Agency until 1 July 2015 when the Agency was abolished and its functions transferred to the Department of Communications and the Arts.

Sources: Telstra (2011); TUSMA (2015).

Within the context of the NBN rollout (box 2 above), Telstra is responsible for operating and maintaining its existing copper network in areas outside of NBN Co's fixed-line footprint (known as the 'copper continuity obligation' under the TUSOP Agreement) and providing voice services over that network. Telstra is also required to act as the retailer of last resort to provide standard telephone services on request over the NBN fixed-line network.[2]

Data on the provision (and use) of USO services are limited, particularly with respect to standard telephone services and the interaction of these services with the NBN rollout. Telstra is not required to record the USO status of any phone service it supplies. However, its active retail fixed-line services have declined between 2004-05 and 2014-15 by 25 per cent, from over 8 million to just under 6 million services (figure 6).

More data are available from the ACMA on the number and location of payphones. The number of Telstra payphones has declined by 46 per cent from over 32 000 in 2003-04 to around 17 500 in 2014-15 (figure 6). The fall in the number of non-Telstra payphones is even steeper over this period at around 74 per cent. There are no data on who uses payphones.

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[2] Earlier Australian Government policy (DBCDE 2012) referred to Telstra's responsibility to deliver the standard telephone service USO with respect to NBN Co's 'optic fibre footprint' . However, a subsequent change in policy in 2014 (Turnbull and Cormann 2014) to allow the NBN to use a mix of fixed-line technologies —not just optical fibre to the premises — has meant the appropriate reference is the fixed-line footprint.

Figure 6   Trends in payphones and Telstra's retail fixed-line services
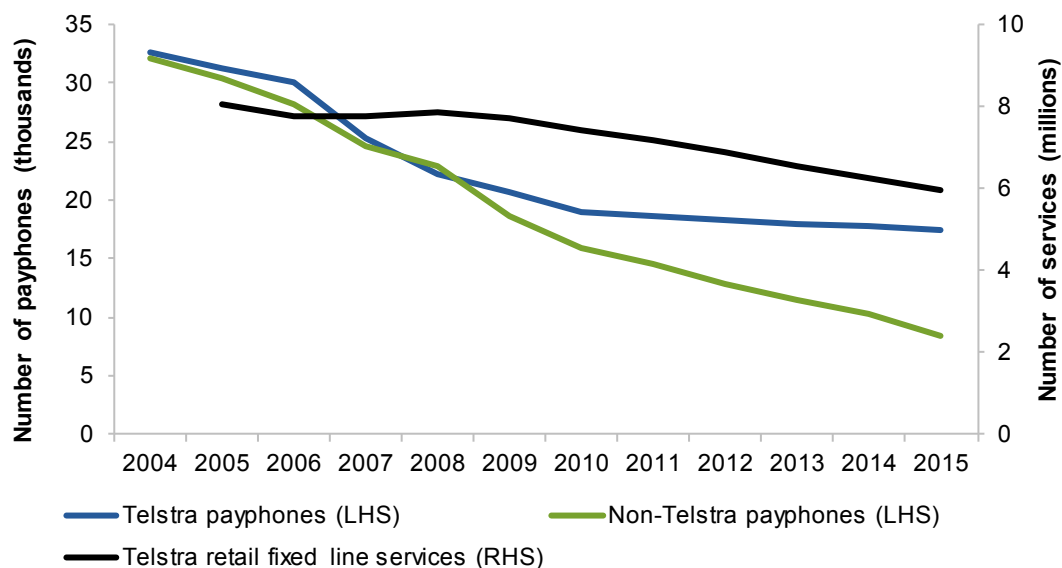
Sources: ACMA (2007, 2009, 2010a, 2012, 2015b).

INFORMATION REQUEST — THE CURRENT USO

How many USO standard telephone services are currently provided and where? Who are the main groups of users of USO standard telephone services and payphones? What are the respective shares of these user groups?

Aside from the rollout of the NBN, what are the major factors affecting the use of USO standard telephone services? What will be the impact of the NBN rollout on the provision of USO standard telephone services, particularly once the NBN rollout is completed? What are the major factors affecting the use of payphones?

What are the main benefits and costs of the current USO? How effective is the current USO in meeting its objective of being 'reasonably accessible' to all people in Australia on an 'equitable basis', wherever they reside or carry on business?

To what extent is the current USO consistent with promoting competition and innovation in the telecommunications sector? Has the current USO affected competition positively or adversely? Has it discouraged innovation or created distortions that have affected the use, quality and reach of telecommunications services in Australia?

Interaction with other current policies and programs

Apart from the NBN, there are a number of other government policies and programs that interact with the current USO, or are relevant to universal services.

Consumer safeguards

A range of consumer safeguards apply with respect to the delivery of telecommunications services regardless of whether they are provided under the current USO. For example, in delivering the current standard telephone service Telstra (and other carriage service providers) is required to meet such consumer safeguards as:

- calling line identification

- operator and directory assistance services

- itemised billing

- the Customer Service Guarantee Standard, which sets out performance requirements (for connections, the rectification of faults and appointment keeping) whereby customers are compensated by the provider for non-compliance

- 24 hour free access to emergency call services

- priority assistance (for those with a life threatening medical condition)

- disability products and services (including the National Relay Service, which supports access for people who are deaf or have a hearing or speech impairment)

- access to untimed local calls (RTIRC 2015; Telstra nd).

Such consumer safeguards largely affect the quality of telecommunications services provided. However, there are some safeguards (for example, relating to emergency call services, untimed local calls and the National Relay Service) that may also be seen as promoting the provision of, or access to, universal services.

Programs expanding mobile phone coverage

Like some consumer safeguards, programs expanding mobile phone coverage may be also seen as promoting universal services provision or access. As noted earlier, the Mobile Black Spot Programme seeks to extend mobile phone coverage and competition in regional and remote Australia. Another program is the Western Australian Government's Regional Mobile Communications Project. This now completed program sought to connect that State's regional and remote communities, providing equitable access to telecommunications and internet, as well as improving safety (Mischin and Redman 2014).

User subsidies

Users of telecommunications services may be entitled to welfare payments, price discounts, tax concessions and other subsidies to help them access services. For example, the Centrelink Telephone Allowance helps people on income support with the costs of maintaining a telephone and a home internet service (DHS 2016). The Telstra Pensioner Discount and Connected Seniors Program offer pension concession card holders discounts on their eligible fixed-line service (Telstra nd). Under income tax legislation, primary producers are able to claim a deduction over 10 years for capital expenditure incurred in installing a telephone line on, or extending to, land on which a primary production business is undertaken and persons who have lived or worked in a remote or isolated area of Australia (zone) may be entitled to a zone tax offset (ATO 2015a, 2015b).

INFORMATION REQUEST — OTHER CURRENT POLICIES AND PROGRAMS

What other current government policies and programs interact with the current USO or may be seen as acting as a substitute for the USO? What are their main benefits and costs? How effective are these policies and programs in achieving their objectives?

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4   Objectives and rationales of universal services policies

As noted, the objective of the current USO is to ensure that basic voice services are 'reasonably accessible' to all people in Australia on an 'equitable basis', wherever they reside or carry on business.

In general, USOs and other universal services policies in Australia and in other countries are often couched in terms of seeking to address broad objectives such as:

- availability — the level, price and quality of service should be equivalent wherever a person lives or conducts business
- affordability — accessing the service should not place an undue burden on users, particularly those with special needs, or who are vulnerable or disadvantaged
- accessibility — a person's disability or age should not exclude them from accessing the service (OECD 2012).

These universal service objectives are underpinned by a number of rationales (for example, OECD 2006, 2012), including perceived 'failures' in the market to deliver universal services. These rationales can be grouped as follows.

Promoting broader economic benefits. Use of telecommunications services can have broader effects throughout the economy such as boosting productivity, enhancing economic growth, promoting regional development and enhancing a country's ability to

compete globally. For example, accessible telecommunications can encourage tele-working and reduce congestion costs from travelling to work.

Capturing network externalities. When an additional person joins a telecommunications network, existing customers of the network benefit because they can contact a new customer and receive calls from a new customer. Prospective customers may not take these externalities into account and, hence, may not join the network even though it would be more efficient for them to do so. This results in a smaller network than would be efficient from a community-wide perspective.

Providing non-commercial services. In regional and remote areas where there are very low population densities, it is said that it would not be commercially viable for providers, or even a single provider, to deliver a telecommunications service because of high installation costs and ongoing maintenance costs.

Addressing social or equity concerns. Some groups in the community may have special needs or may not be able to fully access telecommunications services without government intervention resulting in their social exclusion or isolation. Indeed, these people may be vulnerable to mental health issues. A key group is people living in regional and remote areas who, because of the high costs of providing services to these areas, may face prices commensurately higher than those faced by people in urban areas. Other groups for which there might be social or equity concerns include people with disability, the elderly, Indigenous people and people on low income (box 5).

Accessing government services. There are a number of government services that rely on the availability of, and access to, telecommunications services. These include emergency services (box 6), meteorological services, health services, education services, library services, and taxation and welfare services. Many of these services are increasingly being provided online. For example, the Australia Government's mygov.au is a one stop portal for people to access taxation and welfare services provided by the Australian Taxation Office, Medicare, Centrelink and the National Disability Insurance Agency. If some groups in the community are not able to access these services, including online services, their social inclusion could be affected.

Box 5   The telecommunications needs of particular user groups

Particular sections of the Australian community may have differing telecommunications needs.

Regional users

Users in regional and remote areas are more likely to rely on mobile services for communication and safety as they travel long distances and spend more time outdoors than their urban counterparts (RTIRC 2015). They are also more likely to go mobile-only, and although smartphone ownership is low compared to the national average (60 and 72 per cent respectively), uptake is growing rapidly (ACMA 2016). Levels of home broadband connection have also increased more quickly for non-urban users (ACMA 2014). Despite this, regional users still trail those in capital cities in terms of frequency and intensity of online participation (ACMA 2014).

People with disability

Where people with disabilities cannot communicate using voice telephony, an equivalent means of communication must be provided (ACMA 2010b). Demand for the National Relay Service for people with hearing loss is rising, with users increasingly accessing the service through online and digital platforms (TUSMA 2015). In 2015, Telstra had 153 teletypewriter payphones in operation (ACMA 2015b).

Older users

Fewer older Australians (aged 65 and above) are mobile-phone only users (9 per cent) compared to young adults (56 per cent of 25–34 year olds and 45 per cent of 18–24 year olds) (ACMA 2015a). Older people are also less likely to use the internet, with 68 per cent of those aged 65 and above going online in the six months to May 2014 (compared to 100 per cent of 18–44 year olds). However, although the number of older users accessing the internet via mobile phones is small compared to young adults, it is increasing. Around three-quarters of older Australians who use communications apps prefer Skype when making phone or video calls, or sending messages (ACMA 2015a).

Indigenous users

According to 2011 Census data, fewer Aboriginal and Torres Strait Islander households are connected to the internet when compared to other households (63 per cent and 77 per cent, respectively), with this gap increasing significantly in more geographically remote areas (36 per cent and 73 per cent, respectively) (ABS 2013). A submission to the *2015 Regional Telecommunications Review* noted that for many remote Indigenous people, a home telephone or mobile service is vital to enable unmediated communications with services and social networks (RTIRC 2015). A Swinburne Institute study of the Ali Curung region found that portable devices and prepaid services were preferred over desktop and post billing services, which resulted in substantially higher internet costs paid when compared with equivalent households living in urban areas (RTIRC 2015).

Low income users

The uptake of new technologies is often slower in lower income groups (ACMA 2015a). The Australian Communications and Media Authority found that 30 per cent of those earning under $50 000 per year access the internet via tablet, compared with 51 per cent for mobiles and laptops, and 54 per cent for desktop computers. Individuals earning less than $35 000 were significantly less likely to have accessed the internet than those who earn above $35 000, while 83 per cent of adults who are 'not online' earn less than $30 000 (ACMA 2015a).

| Box 6 | Emergency services and telecommunications |

The provision of telecommunications underpinning emergency services is critical, especially to regional and remote communities most at risk of environmental disasters. During 2014-15, there were 8.4 million calls to Triple Zero, around 1.2 per cent less than the previous year (TUSMA 2015). This may be attributable to educational activities regarding appropriate use of emergency services and the use of alternative numbers such as the state emergency services number for flood and storm response. The majority of these calls originated from mobile phones (67 per cent), and less frequently from fixed line (31 per cent) and public phones (2 per cent).

The provision of emergency services are often time critical, and communications technology is therefore important to enable the rapid and efficient exchange of information (PC 2015). To enable effective two-way interaction with the community, providers require communications services that are widely available, secure and interoperable. They rely on their own radio networks for most of their communications, however there is a trend towards information being increasingly digitised and carried over data services.

INFORMATION REQUEST — RATIONALES AND OBJECTIVES

Are the underlying rationales for the current USO still valid in today's evolving telecommunications market? Can the NBN be treated as an alternative (wholesale) USO service? What is the justification for funding two sets of infrastructure (the NBN and the current USO standard telephone service) in the highest cost areas?

What evidence is there to support the rationales? For example, are changes in technologies reducing the costs of providing telecommunications services in regional and remote areas? To what extent are there market-based alternatives to the delivery of universal services through the current USO? What evidence is there to support social or equity based rationales?

What should be the objectives of any new universal services policy? Are objectives such as universal availability, affordability and accessibility appropriate?

5   Universal services policy options

If universal services objectives have a sound basis, then there may be a case for the Australian Government to intervene through a particular policy or mix of policies. However, whether or not the Government should intervene will depend on the costs of the intervention relative to the benefits. In part, this will depend on evolving technology and the availability and reliability of alternatives to the current USO.

Broad policy options

Many countries such as in the Organisation for Economic Co-operation and Development (OECD) (box 7) and elsewhere have differing approaches with respect to addressing universal services objectives. These range from being reliant on market-based approaches to having a high degree of government intervention and subsidisation.

Box 7 **OECD countries have differing approaches to the delivery of universal voice services**

Approaches to telecommunications universal services provision vary considerably across countries in the Organisation for Economic Co-operation and Development (OECD) according to the degree of government intervention involved.

Germany is one of the few OECD countries that entirely relies on competition to deliver universal services. Although there is provision for universal services, there is no telecommunications universal service obligation (USO) as the Federal Government is satisfied the market is working. There are no designated universal service providers (ITU 2016b).

Finland relies on USOs (which extend to broadband). However, there is very limited government intervention in terms of the selection of service providers and funding. The Finnish Communications Regulatory Authority allocates the USOs on a competitive basis to one or more providers in specific geographic areas. The universal service providers are, generally, not funded by an industry levy or by government subsidies (FICORA 2016).

Canada imposes USOs on multiple service providers. USOs are entirely funded by an industry levy collected from eligible providers.

New Zealand relies on USOs that are currently imposed on the two largest providers in the industry. The USOs are entirely funded through an industry levy collected from all liable telecommunications carriers (Commerce Commission New Zealand 2016).

The Czech Republic heavily relies on government intervention to provide universal services. Although the Government allocates USOs on a competitive basis, it funds the entire (albeit small) costs of universal services from its Budget (ITU 2016a).

Policy options available to the Australian Government for addressing universal services objectives fall within the following broad groups — through:

- public provision of universal services, including the underlying infrastructure, wholesale and retail services

- funding or subsidising the private sector provision of universal services

- funding or subsidising users of telecommunications services — for example, through welfare payments, tax concessions, welfare payments, price discounts or controls, or funding to obtain desired services

- removing regulatory impediments to the private sector provision of universal services.

Policy options could exploit market trends such as the strong consumer preference for, and the ubiquitous use of, mobile phones or leverage off the NBN as the current universal service wholesale provider of broadband services.

To help assess policy options, the Commission will apply a benefit-cost (or, alternatively, a cost-effectiveness) framework, which reflects a community-wide perspective.

There will be different benefits and costs to policy options. For example, providing funding or subsidies through service providers or having public provision may, in general, be appropriate with respect to the delivery of infrastructure services that would not otherwise be provided commercially in particular locations. On the other hand, providing subsidies through users particularly for non-infrastructure services (such as for handsets and new connections to existing infrastructure) may target their needs and preferences better and allow for a choice of providers and, thus, competition.

INFORMATION REQUEST —— BROAD POLICY OPTIONS

What policy options should be considered in addressing universal services objectives? Is there a single policy or combination of policies that should be considered? What are their benefits and costs?

Which countries should be considered in relation to any new universal services policies in Australia? What aspects of their universal services policies should be considered? Which evaluations or reviews shed light on the benefits and costs of different policies?

Could the 'optimal' policy option for Australia be no USO?

Specific policy issues

There are a number of specific issues that need to be considered relating to any new universal services policy, including as to:

- scope — the services that should be provided; to whom services should be provided; and where services should be provided

- quality — the minimum quality of services that should be provided including the role of current consumer safeguards and network (technical) reliability standards

- universal service providers — how providers are chosen to deliver universal services whether through competitive tendering, statutory designation as a provider of last resort, or other means; the inclusion of appropriate incentives for providers to be cost-efficient and productive; and the inclusion of performance monitoring and reporting requirements pertaining to the provision of universal services

- technology — how changes in technology and any related changes in consumer preferences are accommodated and not discouraged by a universal services policy

- evaluation and review — whether policies are meeting their objectives; and whether universal services continue to be relevant given any future changes in consumer preferences and technologies.

INFORMATION REQUEST — SCOPE

What types of services should be included in any universal services policy? Should current USO services — the standard telephone service and payphones — continue? If not, what alternatives to these services should be considered? Given the ubiquitous nature of mobile services, should fixed line services remain the focus of the USO?

Given emerging market, technological and policy developments, what areas of market failure should be targeted by any new universal services policy?

Should there continue to be a voice services safety net for particular user groups and, if so, what would be the best approach to providing this?

Which particular user groups (for example, Indigenous communities) and locations (for example, remote locations) should be targeted by any universal services policy? What are the telecommunications needs of these particular groups?

Should telecommunications users in regional and remote locations reasonably expect exactly the same service quality and price (including usage) as those living in cities irrespective of the cost of provision?

What should be the criteria for the inclusion or exclusion of particular telecommunications services, user groups and locations?

INFORMATION REQUEST — QUALITY

How should the benchmark for minimum standards of quality be set for universal services? Are existing consumer protections applicable to telecommunications services provision reasonable? Is there scope to make these measures more efficient or cost-effective? Should consumer protection requirements be replaced or supplemented by transparent reporting by retail service providers?

INFORMATION REQUEST — UNIVERSAL SERVICE PROVIDERS

How should universal service providers be determined? Should there be competitive tendering for the provision of services? Should a provider of last resort be designated and if so, on what basis? What incentives are required to ensure that a provider of last resort operates at minimum cost? Is imposing reporting requirements on universal service providers as to who uses the services technically feasible? What, if any, requirements should apply to all service providers?

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6   Funding

Funding of the delivery of universal services should ideally reflect the underlying net costs of provision. Funding mechanisms include industry levies, user charges or co-payments, and budget appropriations from consolidated revenue. The optimal approach to funding will depend on the particular policy option.

One issue concerns the assessment of the costs of universal services provision by government in order to determine the subsidy. For example, if the policy is to provide universal services through competitive tendering, there is little need for government to explicitly assess a provider's costs as competitive tendering may, in principle, keep costs to a minimum. (The Commission notes, however, that pilots trialling competitive tendering for universal services in Australia failed to elicit competitive entry and were discontinued (OECD 2006).) The need to assess costs becomes more critical where a single provider is designated to deliver services. This is because there are information asymmetries in favour of the provider and, with that, incentives to overstate costs to secure greater funding.

Another issue is how the costs of delivering universal services are allocated between taxpayers and industry/users. Relevant criteria include: the efficiency 'deadweight losses' associated with a particular funding mechanism; equity; transparency; and sustainability.

A third issue around the funding of universal services delivery concerns the desirability of establishing of a new universal services fund. In the United States, the Federal Communications Commission Universal Services Fund provides for universal services through four mechanisms: a high cost support mechanism that provides support to certain qualifying telephone companies that serve high cost areas; a low income support mechanism that assists low-income customers by helping to pay for monthly telephone charges as well as connection charges to initiate telephone service; a rural health care support mechanisms that allows rural health care providers to pay rates for telecommunications services similar to those of their urban counterparts, making telehealth services affordable; and a schools and libraries support mechanism (known as the E-Rate) that provides a range of telecommunication services to eligible schools and libraries (FCC nd).

7   Implementation and transition

The implementation of, and transition to, any new universal services policy should ideally be undertaken in a way that imposes the least cost on the community. There are several key factors that can affect implementation costs and timeframes.

Agreements relating to the current USO. Relevant terms and conditions under agreements applying to the current USO — particularly the TUSOP Agreement between Telstra and the Australian Government — include:

- the duration of the agreement (20 years in the case of the TUSOP Agreement)

- the extent to which the agreement permits review of, and change to, its terms and conditions — as noted earlier, the TUSOP Agreement currently provides for an interim technological review

- the penalties or compensation required for early cessation of the agreement.

Timing of the NBN rollout. The transition timetable may need to take account of the planned completion date of the NBN rollout (being 2020).

Governance. The main Australian Government agencies with responsibilities relating to the current USO are the Department of Communications and the Arts, the Australian Competition and Consumer Commission and the ACMA. The Department of Human Services administers the current Telephone Allowance. The roles and responsibilities of existing institutions with respect to the current USO may need review with respect to any new universal services policy.

INFORMATION REQUEST — IMPLEMENTATION AND TRANSITION

How will agreements relating to the current USO affect the implementation of, and transition to, any new universal services policy? What impact will the timing of the NBN rollout have? Is there a need to review current governance arrangements? What should be the role of state and territory governments? What other matters should be considered in relation to implementing and transitioning to any new universal services policy?

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Attachment A: How to make a submission

How to prepare a submission

Submissions may range from a short letter outlining your views on a particular topic to a much more substantial document covering a range of issues. Where possible, you should provide evidence, such as relevant data and documentation, to support your views.

Generally

- Each submission, except for any attachment supplied in confidence , will be published on the Commission's website shortly after receipt, and will remain there indefinitely as a public document.

- The Commission reserves the right to not publish material on its website that is offensive, potentially defamatory, or clearly out of scope for the inquiry or study in question.

Copyright

- Copyright in submissions sent to the Commission resides with the author(s), not with the Commission.

- Do not send us material for which you are not the copyright owner — such as newspaper articles — you should just reference or link to this material in your submission.

In confidence material

- This is a public review and all submissions should be provided as public documents that can be placed on the Commission's website for others to read and comment on. However, information which is of a confidential nature or which is submitted in confidence can be treated as such by the Commission, provided the cause for such treatment is shown.

- The Commission may also request a non-confidential summary of the confidential material it is given, or the reasons why a summary cannot be provided.

- Material supplied in confidence should be clearly marked 'IN CONFIDENCE' and be in a separate attachment to non-confidential material.

- You are encouraged to contact the Commission for further information and advice before submitting such material.

Privacy

- For privacy reasons, all **personal** details (e.g. home and email address, signatures, phone, mobile and fax numbers) will be removed before they are published on the website. Please do not provide a these details unless necessary.

- You may wish to remain anonymous or use a pseudonym. Please note that, if you choose to remain anonymous or use a pseudonym, the Commission may place less weight on your submission.

Technical tips

- The Commission prefers to receive submissions as a Microsoft Word (.docx) files. PDF files are acceptable if produced from a Word document or similar text based software. You may wish to research the Internet on how to make your documents more accessible or for the more technical, follow advice from Web Content Accessibility Guidelines (WCAG) 2.0<http://www.w3.org/TR/WCAG20/>.

- Do not send password protected files.

- Track changes, editing marks, hidden text and internal links should be removed from submissions.

- To minimise linking problems, type the full web address (for example, http://www.referred-website.com/folder/file-name.html).

How to lodge a submission

Submissions should be lodged using the online form on the Commission's website. Submissions lodged by post should be accompanied by a submission cover sheet.

Online*   www.pc.gov.au/inquiries/current/telecommunications

Post*   Telecommunications Universal Service Obligation inquiry
            Productivity Commission
            GPO Box 1428
            CANBERRA CITY ACT 2601

* If you do not receive notification of receipt of your submission to the Commission, please contact the Administrative Officer.

Due date for submissions

Please send submissions to the Commission by **21 July 2016**.