



Australian Government
Productivity Commission

Telecommunications Universal Service Obligation

Productivity Commission Draft Report *Overview*

November 2016

This is a draft report prepared for further public consultation and input. The Commission will finalise its report after these processes have taken place.

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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).

Opportunity for further comment

You are invited to examine this draft inquiry report and comment on it by written submission to the Productivity Commission, preferably in electronic format, by **20 January 2017** and/or by attending a public hearing

The final report will be prepared after further submissions have been received and public hearings have been held and will be forwarded to the Australian Government by 28 April 2017.

Public hearings

The Commission will be holding public hearings in Cairns, Sydney, Dubbo, Port Augusta, Launceston and Melbourne in late January and early February 2017. Details regarding dates and venues will be made available on the Commission's website in due course.

Commissioner

For the purposes of this inquiry the Commissioner is:

Paul Lindwall

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OVERVIEW

Key points

- Rapid developments in telecommunications technology are transforming the ways in which people live, work and play. These are also profoundly affecting how telecommunications service providers run their businesses.
- In a digital age, the voice-based telecommunications universal service obligation (TUSO) — costed at \$3 billion in net present value terms over twenty years and introduced when telecommunications consisted of basic telephones and payphones — is anachronistic and needs to change. People's preferences for ubiquitous connectivity, their seemingly insatiable appetite for data and the high value of digital data to businesses and governments generally provide a strong case to revise Australia's universal service policies.
- The sizable public investment in National Broadband Network (NBN) infrastructure is planned to provide universal access to high-speed broadband services to all premises across Australia by 2020 — at a quality that is far superior to what is currently available. By design, the pricing strategy adopted by NBN Co Limited will see wholesale prices capped across all its technology platforms and across all locations, thus significantly narrowing the digital divide across rural, regional and urban Australia.
- The existence of the NBN means that the objective of universal service can be reframed to provide a *baseline* (or minimum) broadband service to all premises in Australia, having regard to its *accessibility* and *affordability*, once NBN infrastructure is fully rolled out. This encapsulates access to both the internet *and* voice services as the internet will increasingly be the medium for voice communication.
 - While NBN infrastructure will deliver a high quality voice service over fixed-line and fixed wireless networks, there is a question about the adequacy of NBN services as a *baseline* service in pockets of the satellite footprint, particularly given the high dependency on the network in areas where there is no mobile coverage (affecting up to 90 000 premises).
- To the extent that there are any remaining *availability*, *accessibility* or *affordability* gaps once the NBN rollout is complete, current trends and existing policy settings suggest that these are likely to be small and concentrated, and amenable to specific social programs rather than large scale government interventions such as the TUSO.
- Any further government intervention should harness markets while closely targeting particular user needs. Government intervention should also reflect the complementary role of mobile services. In this context, the Mobile Black Spot Programme should be recast to enhance its cost-effectiveness.
- To avoid adverse impacts on competition, the costing of government programs to address any gaps should be made transparent and subject to competitive tendering processes where feasible. The narrowly targeted scope and small scale of the programs under the Commission's proposals tips the balance towards funding from general government revenue as opposed to an industry levy.
- Transitioning to a new framework for universal service is likely to be complex. The long-term contract that the Government has with Telstra and the surrounding legislative architecture present key hurdles that will need to be carefully addressed to ensure that the benefits of timely reform outweigh the costs of unravelling existing arrangements.
- As part of this process, the Government should proceed with its planned review of telecommunications consumer safeguards as a matter of priority. It should also address any consequential amendments to the existing regulatory framework relating to universal service provision.

Overview

Telecommunications is essential to any modern economy. It plays an increasingly important role in the delivery of private and public sector services across the economy. Access to telecommunications services is also a key enabler of social inclusion — allowing people to connect with family, friends and communities — and call for assistance in emergency situations.

The telecommunications universal service obligation (TUSO) is one of several policy instruments used in Australia to meet universal service objectives. It was introduced in the 1990s as the sector was being deregulated to ensure ‘reasonable access’ to a *standard telephone service* and payphones to all Australians on an ‘equitable’ basis, regardless of where people reside or work. At that time, telecommunications centred on basic telephones and the TUSO was enacted to benefit consumers by affording them a ‘provider of last resort’ for voice telephony.

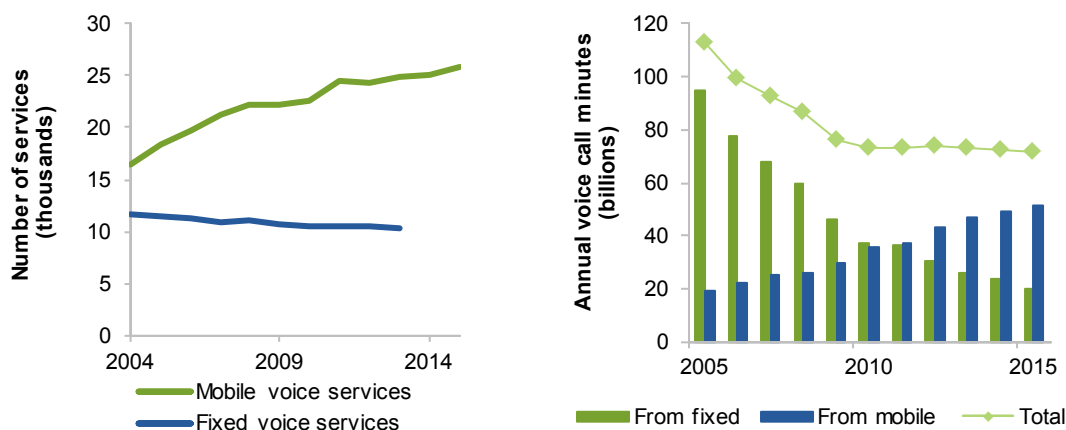
Today, it is nearly impossible for most people to imagine life without smartphones, tablets and messaging. Connectivity has pervaded homes and businesses, allowing almost instant access to information, services and people globally. The proliferation of Internet Protocol-based networks is enabling ‘convergence’ to take place — with different services now integrated over a single network, accessible through all-in-one devices, and increasingly through common appliances such as smart televisions. In view of the economies of scope and scale on offer, service providers are increasingly in the business of providing telecommunications through all media (voice, video or data) simultaneously.

From a users’ perspective, some defining trends are also emerging (figure 1). Australian consumers are revealing a growing preference for mobile devices. With 99.3 per cent of the population covered by at least one mobile network, almost one third of Australian adults now rely solely on mobile phones for voice services. Notwithstanding some variation across regions, income levels and age groups, Australians are also avid internet users. Some 190 million emails are sent through Gmail each day and more than 15 million individuals use Google Search each year in Australia.

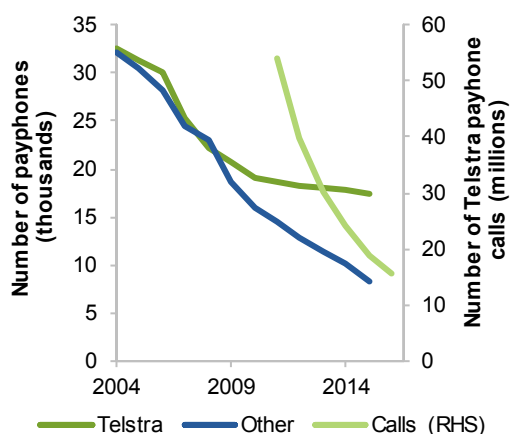
At the same time, telecommunications services are becoming more affordable — thus lowering the cost of economic and social transactions — with benefits to individuals, businesses and government. The price of telecommunications services has fallen substantially over the past decade — both in absolute terms and relative to other essential services. Over that time, quality has also continued to improve. Unlimited voice calling and messaging are now standard inclusions in many mobile phone plans, while data allowances and speeds continue to increase.

Figure 1 **Key trends in the Australian telecommunications sector**

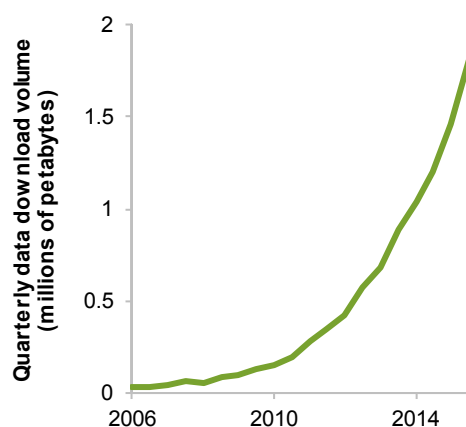
A shift from fixed to mobile services



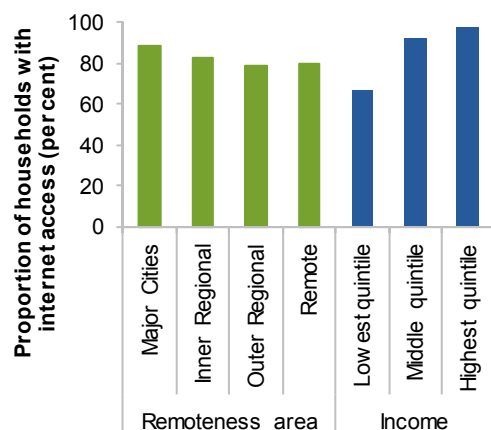
Payphones increasingly redundant



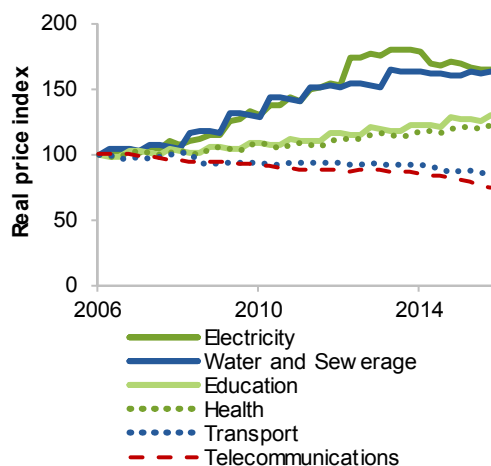
Exponential growth in data usage



Internet access varies by region and income

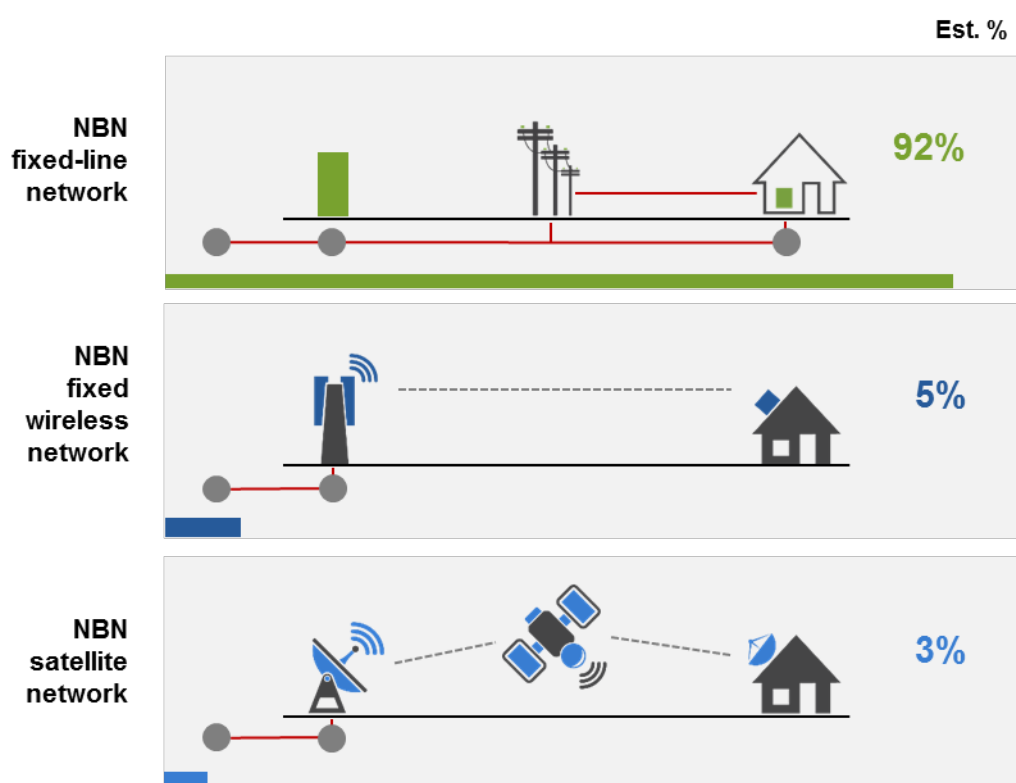


Becoming relatively more affordable



In parallel, the Australian Government is making substantial investments in a nationwide broadband network (NBN) with an expectation that NBN Co Limited (nbn) will provide high-speed broadband (peak download speeds of at least 25 megabits per second) to all households and businesses in Australia as soon as possible (by 2020). Currently, more than three million premises can connect to NBN infrastructure. nbn will have a capped national wholesale price Australia-wide, across its fixed-line (92 per cent of its total footprint),¹ fixed wireless (5 per cent of its total footprint) and *Sky Muster* satellites (3 per cent of its total footprint) networks (figure 2).

Figure 2 **The NBN footprint**



Against this rapidly evolving landscape, this inquiry provides a timely opportunity to review the role of government in supporting universal telecommunications services.

The Commission's approach

In line with international practice, the Commission has defined universal service to encompass the key distinct, but related elements of universality:

¹ Including fibre to the premises, to the basement, to the distribution point, to the node and hybrid fibre-coaxial.

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1. *availability* — the service is available to all people and businesses who wish to connect to that service, and the service is subject to a minimum quality
 2. *accessibility* — the service can be accessed by all people irrespective of their personal (physical, cognitive and cultural) attributes
 3. *affordability* — the purchase of the service does not place undue hardship on people, particularly those in low-income and other disadvantaged groups.

The framework adopted in this inquiry deliberately recognises that market mechanisms and commercial interests have the primary role in enabling universal access to a *baseline* quality of telecommunications services, confining any potential role for government to instances where there are *availability*, *accessibility* or *affordability* gaps in service provision, or where there is some form of market failure. However, these ‘market gaps’ or ‘market failures’ do not in themselves provide a case for government intervention, because such interventions typically generate costs as well as benefits to the community — both directly and indirectly. Governments should only intervene where there are net benefits to the community. The relative merits of policy options should then be assessed against cost-effectiveness criteria including:

- the cost to the community of achieving a minimum universal service
- technological neutrality
- impact on competition and incentive effects on service providers
- administrative costs and regulatory compliance burdens, with regard to flexibility to adjust to future developments.

Consistent with its standard processes, the Commission has drawn on publicly available information in order to provide transparency around the evidence used to inform its draft findings and recommendations. That said, the Commission’s analysis has been somewhat hampered by the commercial-in-confidence nature of some of the information it has received. In such cases, the Commission carefully considered the information and made necessary judgements.

The TUSO is past its use-by date

Australia has a plethora of policies and programs broadly designed to provide better access to telecommunications services. The Commission’s conservative preliminary estimate is that the Australian Government allocates at least \$1 billion per year to such policies (table 1). This does not include the Government’s sizable investment in NBN infrastructure (with a commitment of \$29.5 billion to date),² or the expected ongoing costs of supplying non-commercial services over NBN infrastructure. Fundamentally, these measures are aimed at ensuring that telecommunications services are available, accessible and affordable

² The Australian Government announced in November 2016 that it will loan \$19.5 billion to nbn, with the expectation that this loan will be re-financed on external markets in 2020-21.

to geographical areas or cohorts of users that may be high cost and uneconomic to serve. The TUSO is only one of these policies.

Table 1 Public transfers related to telecommunications universal service objectives

Preliminary estimates, including GST

<i>Program</i>	<i>Indicative annual funding</i>
Telephone Allowance	\$611 m
Standard telephone service USO	\$253 m
Mobile Black Spot Programme	\$48 m
Payphones USO	\$44 m
Programs to support digital inclusion	\$29 m
Emergency Call Service	\$22 m
National Relay Service	\$22 m
Voice only Customer Migration	\$17 m
Remote Indigenous telecommunications programs	\$5 m
Untimed local calls in extended zones	\$2 m
Total	\$ 1 053 m

The TUSO is a legislative requirement to provide a *standard telephone service* (or plain old telephone service) to all premises in Australia, and payphones that are generally accessible. It remains focused on the delivery of fixed-voice handsets and voice calls over fixed-line copper connections. While these services are still valued by some users, the demand for TUSO services is clearly falling, while consumer needs are overwhelmingly being met by a wide range of digital technologies and applications. Based largely on a legacy technology, the TUSO does not harness solutions that could be more cost-effective in meeting genuine community needs and expectations.

Further, as a non-contestable obligation given to one provider and partly funded by other providers, it effectively stymies competition.

As the designated universal service provider, Telstra's obligation is specified in legislation (box 1). However, in placing this obligation on Telstra, the Australian Government did not demand transparency and accountability of Telstra. The basis for funding (a total of around \$3 billion in net present value terms over the twenty-year contract to 2032) is unclear and disputed.

Telstra is not required to report on the number of non-commercial services or on the costs of any telephone service it supplies. Effectively every fixed-line customer of Telstra is treated as a TUSO customer, irrespective of whether the service is commercial or not.

Nonetheless, Telstra's active retail fixed-line services have declined by about one-quarter in the past decade, from over 8 million to just under 6 million services. While slightly less opacity applies to the number of payphones provided by Telstra, there is equally no

requirement to specify which payphones are non-commercial — that is, those that would, in theory, require a subsidy to service. Increasingly, Telstra is using its payphone infrastructure to provide free WiFi (Telstra Air) to its customers in metropolitan areas.

Box 1 The Telstra USO Performance (TUSOP) Agreement

The TUSOP Agreement, formed between the Australian Government and Telstra in 2011 and commencing in 2012, provides the basis upon which Telstra receives payment for performing its regulated obligation as Australia's TUSO provider. The Agreement is one of a series of separate, yet interrelated, agreements signed by the Government, Telstra and NBN Co Limited (nbn) to enable the construction and operation of the National Broadband Network (NBN) infrastructure.

Under the Universal Service Regime set out in the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cth), Telstra has an obligation to ensure that *standard telephone services* and payphones are accessible to all people in Australia on an equitable basis, wherever they reside or carry on business.

The TUSOP Agreement reflects this regulated obligation, but outlines the terms against which Telstra would receive payment from the Government for fulfilling the TUSO until 2032, being \$253 million and \$44 million per year (including GST) for the supply of *standard telephone services* and payphones respectively. Funding is met through an Australian Government (non-indexed) contribution of \$100 million per year and through the Telecommunications Industry Levy paid by eligible carriers.

The Agreement also includes non-TUSO contractual arrangements with Telstra for the provision of the emergency call service, voice-only customer migration activities, and the migration of public interest services to NBN infrastructure. These arrangements are beyond the scope of this inquiry.

In an age where basic phones and payphones are rapidly becoming outdated, the lack of transparency and accountability makes the continuation of current arrangements difficult to justify from the point of view of those who contribute to its funding. It also makes any assessment of the value of the TUSO to the broader community challenging. These issues are compounded by the exceptionally long-term nature of the contract — a feature that sits oddly against the highly dynamic nature of the sector.

Preliminary Commission estimates suggest that the TUSO could imply an annual *standard telephone service* subsidy ranging anywhere between \$250 and \$2800 per 'TUSO' service, and an annual average subsidy of \$2500 to \$50 000 per payphone.

In many ways, these estimates are insignificant relative to the funding being injected into NBN infrastructure (or, indeed, the Telephone Allowance). While not explicitly subject to a universal service 'obligation', nbn has a mandate to deliver high-speed broadband to all households and businesses in Australia by 2020. Even though nbn is focused on providing data services, NBN infrastructure will have an intrinsic capacity to provide a high quality telephone service — Voice Over Internet Protocol (VoIP) — to premises within its fixed-line and fixed wireless footprints (97 per cent of its total footprint). This would

consequently make a *standard telephone service* (as provided for under the TUSO) effectively redundant for premises within these footprints once NBN infrastructure is fully rolled out.

Even though universal access to a minimum level of telecommunications services remains important, the weight of evidence suggests that the TUSO is no longer fit for purpose. While Telstra may have acted with goodwill in fulfilling its contractual obligations, these arrangements no longer serve the best interests of the Australian community. The Commission therefore recommends that the TUSO be phased out as soon as practicable.

A new universal service framework is needed

The ability to access internet content and services is becoming increasingly integral to the everyday life of most Australians. Access to digital data not only affects individuals by making life simpler, but also businesses and government by enabling decision making, transactions and processes to take place effectively and efficiently. It also underpins the current wave of disruptive digital technologies.

For people located in remote areas or with disability, internet access enables a level of engagement with friends, education, information and government that is otherwise not possible. For instance, *myGov* is now one of the biggest digital services in Australia, with 10 million registrations on its website and an average of 160 000 people using the platform each day. The Government's recent expansion of its digital transformation agenda is clearly intended to reinforce this trend by making access to government services more user-friendly and digital by default.

From a broad community perspective, the potential value of digital data is indeed substantial. The Commission's ongoing inquiry into data availability and use (and its June 2016 research report into Digital Disruption) highlight some of the major gains that better data collection, access and use could generate across a wide range of public and private sector functions, with benefits to society generally.

In this context, and with the sizable investment in NBN infrastructure, the Commission considers that the universal service policy objective can be reframed to provide a *baseline* broadband service to all premises in Australia, having regard to its *accessibility* and *affordability*.

This would encapsulate access to the internet *and* to voice services given that the internet will increasingly be the medium through which voice communication is delivered. By taking analogue audio signals and turning them into digital data that can be transmitted over the internet, VoIP technology effectively provides an alternative way of making phone calls (typically at a much lower cost than traditional phone systems and with additional functionality). It is notable that 4G technology for mobile phones (and in a few

years, 5G) provides voice services entirely through dedicated VoIP, also known as VoLTE (Voice over Long Term Evolution).

Consistent with international approaches, the Commission proposes that the universal service policy objective should be defined in terms of a *baseline* (or minimum) quality. This recognises that there are costs to the Australian community in providing universal services, primarily where these services would not ordinarily be provided by the market. Conceptually, a *baseline* level of service refers to a minimum acceptable level of service for broadband and voice that enables basic telecommunications-enabled functions to be undertaken successfully.

Historically, the principle of equity with respect to a basic telecommunications service has been an enduring cornerstone of policy. A wide range of participants argued that there continues to be a strong equity rationale to provide a universal service of the *same quality* to all who reside in Australia, irrespective of where they choose to live or work. They also argued that some people may experience difficulties accessing or affording available services. However, support for equity in pricing (that is, uniform pricing across all locations) was challenged by some participants on the basis that people’s decisions about where to live involve inherent tradeoffs.

The NBN (and markets) have an important role to play

Leveraging off the NBN

This inquiry takes as given that the Australian Government is building the NBN, with its rollout well under way, with an expected completion by 2020.

NBN infrastructure will enable the provision of wholesale broadband (including voice) services to all premises within Australia. The Commission’s assessment is that the service level provided by NBN infrastructure will be more than adequate to meet a *baseline* level of broadband (including voice) service *availability* for the vast majority of premises across Australia — specifically for at least the 97 per cent of premises that fall within the NBN’s fixed-line and fixed wireless footprints.

By design, regulatory settings applying to nbn are conducive to promoting competition among retail service providers to deliver broadband services on NBN infrastructure once premises have been declared ‘ready for service’. All of nbn’s wholesale services have been declared under the *Competition and Consumer Act 2010* (Cth) by way of a Special Access Undertaking and a published Standard Form of Access Agreement. Having thus been declared, nbn’s standard access obligations require it to supply its wholesale broadband services on request to access seekers — wherever it is capable of doing so within the NBN footprint.

Given this regulatory impost and nbn's uniform wholesale capped pricing model, the Commission considers that there is likely to be a retail presence throughout the NBN footprint that would enable all premises to access broadband (and voice) services. Indeed, the evidence to date suggests that there are numerous retailers (around 140) offering services to consumers on the network, and a retail presence throughout the entire network as currently completed. This includes ten retailers offering services over nbn's *Sky Muster* satellites, which targets remote Australia or the 'last three per cent'.

As universal service *availability* is being met by NBN infrastructure, any further government intervention should be closely targeted to meet particular user needs. It should harness a market-driven approach, where possible, rather than the universal service obligation (USO) approach that currently applies. Government intervention should also reflect the complementary role played by mobile services.

That said, there is merit in giving assurance to communities in regional and remote areas that NBN infrastructure is designed and intended to deliver universal access to broadband services.³ Such assurance could be given through Australian Government monitoring of retail presence on the NBN with a non-automatic trigger for it to step in and competitively tender for the delivery of retail services to a particular area where retail presence is absent. Any contracts negotiated should be carefully time-limited to allow for future developments, and not impede the adoption of new technologies or the entry of new retailers.

Given the central universal service role to be played by nbn, the Government's stated intention for nbn to be the statutory infrastructure provider of last resort should be legislated as soon as possible to provide the community with confidence about the ongoing delivery of services, especially if nbn is privatised in the future. This legislation could also provide more formal (and certain) backing to the quality of service to be provided by nbn over its networks. nbn's impact on the economic efficiency of the telecommunications market once the NBN rollout is complete should also be reviewed, and this planned review should not be conditional — as it currently is now — on the timing of any Government consideration of the privatisation of nbn.

... with targeted intervention to address specific market gaps

While the NBN is expected to fully deliver a *baseline* broadband (including voice) service within its fixed-line and fixed wireless footprints, there is a question as to whether further government intervention may be warranted for the retail provision of voice services in pockets of nbn's satellite footprint. Because of the nature of geostationary satellite

³ The Commission's consultations in remote Australia showed a level of distrust and scepticism among these communities partly based on their poor experience with the interim satellite, but also partly based on transitional problems with the rollout of the new *Sky Muster* satellites.

communications, there is a small but noticeable lag or latency,⁴ when communicating via *Sky Muster* to another satellite service, compared to the TUSO *standard telephone service*, although the sound is of a very high clarity. In effect, there is a tradeoff — premises within the NBN satellite footprint benefit from vastly improved internet access with modestly increased latency. Of the 400 000 premises within the NBN satellite footprint, at least 310 000 premises are estimated to be able to use their mobile phones, thus providing a low-latency alternative to the NBN satellite service.

There are thus up to 90 000 premises in the NBN satellite footprint that do not have mobile phone coverage. In the absence of the TUSO, they would receive a higher latency voice service compared to other technology platforms (copper, fixed wireless, fibre and mobile).

Prima facie, this does not necessarily justify further government subsidies. The crux of the matter is whether the quality of voice services over the *Sky Muster* satellites is an acceptable *baseline* for the purpose of a universal voice service or not. Also relevant is the level of reliability offered by these services. Is a 99.7 per cent reliability target (compared to 99.9 per cent for NBN fixed-line and fixed wireless networks) acceptable to the Australian community, particularly for emergency situations where private or public safety may be at risk and there is no back-up service, as rare as these events may be? But as with all such questions, there needs to be a balance between the costs and benefits of providing better and more reliable services. No service can achieve 100 per cent reliability.

Clearly, not all premises within the satellite footprint will be equally affected. The majority of premises within the footprint have an alternative voice service through mobile services and therefore would not require further support. Even for premises outside of mobile coverage, the reliability of NBN infrastructure may vary depending on their location. With an average reliability target of 99.7 per cent for NBN satellites, some premises may benefit from a higher reliability level than they currently experience under the TUSO. Signal attenuation (or rain fade), for example, may be more prevalent in parts of Australia that are more prone to heavy rain. That said, the rollout of NBN infrastructure is still progressing and actual levels of reliability are as yet unknown.

At this stage, the Commission has not made a judgment about the adequacy of nbn's satellite voice services from an acceptable *baseline* perspective, and is seeking further feedback on this issue. The Commission is also interested in information about alternatives to nbn's *Sky Muster* satellites for voice services, and their relative merits and costs.

Mobile services clearly play an important complementary role to NBN infrastructure. Many in the community see mobile services as an effective and preferable alternative to TUSO services, with the Mobile Black Spot Programme garnering much support.⁵

⁴ The latency of an NBN satellite call to a fixed-line, fixed wireless or mobile service (a 'single hop') is around 260 to 300 milliseconds, and around 520 to 600 milliseconds to another satellite service (a 'double hop').

⁵ There is a strong preference for using mobile phones for raising emergency assistance. The majority of calls to Triple Zero in 2014-15 originated from mobile phones (67 per cent), and less frequently from fixed lines (31 per cent) and public payphones (2 per cent).

Nonetheless, the Australian National Audit Office recently questioned the additionality of the program. Before it proceeds with further funding rounds, the Government should amend the program to:

- more closely target locations where significant additional mobile coverage is likely to benefit mobile customers
- revise infrastructure sharing requirements to be consistent with the Australian Competition and Consumer Commission’s findings in the ongoing Domestic Mobile Roaming Declaration Inquiry
- prioritise areas for funding based on community input — rather than on nominations from Members of Parliament.

While NBN infrastructure (combined with mobile service availability) is likely to address universal *availability* for the vast majority of Australians, there are some user groups whose specific needs are not likely to be addressed in the absence of the TUSO.

These groups include members of the community who governments have traditionally chosen to support on social equity grounds — people with disability (including 5000 to 10 000 users of the National Relay Service),⁶ or life-threatening health conditions (up to 187 000 Priority Assistance customers),⁷ people living in remote Indigenous communities (around 142 000), some older people with limited digital literacy capacity and people without a permanent fixed address (just over 100 000 homeless people). Many of the needs of these user groups pertain to the *accessibility* of telecommunications services. Measures to address these needs should be cost-effective, technologically neutral, targeted, flexible and consumer-focused, while supporting efficient competition and innovation where possible.

However, the needs of some user groups — people in regional and remote communities without mobile phone coverage, and people with no permanent fixed address and no access to a mobile phone — may also relate to the *availability* of services. A program of funding for a form of community telecommunications service (such as payphones) is an option to address these needs. The funding program should be flexible as to the form of service to be provided. It should target locations outside of mobile coverage, reflect the specific needs or preferences of a user group, and involve competitive tendering where feasible.

What about *affordability*?

Given current market trends, telecommunications services are likely to continue to be affordable for most people following the full NBN rollout and in the absence of the TUSO.

⁶ The National Relay Service provides a phone solution for people who are deaf or have a hearing or speech impairment.

⁷ Priority Assistance customers get priority for fault repairs on their home phone line.

Real prices of both fixed and mobile services have continued to decline steadily over time — by some 35 per cent for mobile services and 60 per cent for fixed voice services over the decade to 2015, and by 20 per cent for broadband services over the eight years to 2015. This downward trend is in contrast to trends evident across many other key service sectors such as electricity and water (figure 1). From an international viewpoint, Australian consumers now benefit from the eighth lowest tariff levels for mobile services.

Similarly, while overall spending on telecommunications services has increased (because consumers are using more services), household expenditure on telecommunications as a share of disposable income remains relatively small (less than three per cent). As a share of disposable income, household expenditure on telecommunications services has fallen slightly over the past decade (by 0.7 percentage points). Several household surveys suggest that most respondents view telecommunications services as affordable. Furthermore, basic fixed broadband packages are expected to become even more affordable as people migrate to NBN infrastructure.

Under its Special Access Undertaking, nbn has committed to a number of long-term price controls, including that prices of individual nbn wholesale services may increase by no more than the consumer price index increase minus 1.5 percentage points (subject to a lower bound of zero) in any year. In addition, nbn is trialling an offer of volume discounts to retail service providers on their purchase of network capacity. With anticipated competition among retail service providers on NBN infrastructure, these commitments are expected to enhance the affordability of retail telecommunications services, particularly in regional and remote areas.

That said, some people on low incomes may find it difficult to afford these services without government support. A recent survey by the South Australian Council of Social Service involving around 500 low-income Centrelink beneficiaries reported that 62 per cent of the respondents experienced either difficulty in paying for, having to cut back, or having to stop using one or more telecommunications services due to financial hardship. Due to their circumstances, some user groups — especially Indigenous people living in remote areas and people who are homeless — rely on prepaid mobile phones where the unit cost can be well above the contract rates on offer for post-paid mobile phones (a ‘poverty premium’).

There are currently several measures that directly seek to address *affordability*, including measures as part of Telstra’s carrier licence conditions, and the Australian Government’s Telephone Allowance. However, as NBN infrastructure becomes the primary channel for the delivery of universal broadband and voice services, the effectiveness of these measures should be reassessed as part a broad-ranging review of consumer safeguards. In principle, *affordability* is more effectively addressed through transfer payments under the tax-welfare system than through cross-subsidies.

How much funding and who should pay?

The way in which a universal service policy is costed and funded can affect its overall efficiency.

Determining the level of funding to be directed to a universal service program can be fraught. This is because service providers typically have better information about the costs of service provision than governments, but also because future costs are unknown and can only be estimated. Yet, having a discovery process that helps reveal the efficient cost of service provision is essential to ensure that public funds are used judiciously and that any adverse impacts on competition are minimised.

Where service provision can be contested by several providers, carefully designed competitive tendering processes can emulate the outcomes of competitive markets. Well-designed tenders can incentivise providers to keep their prices close to their best estimate of the efficient cost of delivering the service. However, where markets are thin and not contestable, tendering processes are less likely to deliver efficient outcomes. In these circumstances, measures to improve transparency and accountability become even more critical to ensuring that taxpayers and consumers get value for money. This calls for independence in determining the level of funding, as well as the use of benchmarking and transparency in reporting.

Determining who should pay is another difficult matter. The principle that those who benefit should pay does not hold for universal service policies because these policies, by their nature, benefit some people who government has assessed should not or could not fully pay for the service. This presents a challenge in developing a funding model that is optimal from the community's standpoint.

Two broad funding approaches for addressing market gaps and particular needs in universal service delivery have been considered in this inquiry — an industry levy and funding through general government revenue. Both approaches can distort investment and/or consumption behaviour in the telecommunications sector in ways that do not deliver the greatest possible benefit to the community. The issue is to identify and implement the approach that is likely to distort behaviour less.

The quantum of funding is also relevant. The larger the funding envelope, the larger the potential distortions and costs to the community. The Commission's assessment is that the scale of government intervention (and hence funding) required across all dimensions of universal service — *availability, accessibility and affordability* — is likely to be smaller following the completion of the NBN rollout than is the case under the TUSO. As such, the distortionary impacts of either funding approach can also be expected to be smaller irrespective of the funding model adopted.

This takes the assessment of the relative merits of the two funding approaches largely to issues of implementation and administrative costs.

Budget-funded measures have the advantage of clear parliamentary accountability, administrative simplicity and transparency. They are subject to contestability among agencies for scarce taxpayer dollars. Moreover, applied to programs that have a redistributive objective (such as affordability measures), funding from general government revenue means that the same targeted eligibility criteria used for many other distributional policies can be applied to telecommunications services.

In addition, an industry levy, particularly if broad-based, is likely to be difficult to design well and costly to administer in a sector such as telecommunications where the players and, hence, the levy base, are constantly changing. The emergence of Over-the-Top (OTT) services (such as Skype and Netflix) exemplifies the challenge. As a general rule, a levy should treat all providers of substitutable services in the same way. However, the different and often global nature of OTT providers makes it difficult in practice to subject them to the same rules as those imposed on traditional telecommunications service providers.

While there will always be some level of fiscal and political risk associated with budget-funded measures, the Commission's assessment is that the measures recommended in this inquiry should be funded principally through general government revenue. As with an industry levy, the risks of cost-padding and gold-plating should be managed either through competitive tendering, or through independent and transparent costing processes and regular reviews.

Transitional matters

The terms of reference ask the Commission to advise on transitional arrangements from the TUSO, taking into consideration the contractual commitments that the Government has for its provision.

Implementation of a new framework for universal telecommunications service arrangements is complicated by various factors — the most significant being the current contractual arrangements set out in the TUSOP Agreement.

Existing mechanisms for negotiating changes within the agreement are restricted to just a few clauses, which are also limited in scope. They provide few options for review, and mostly centre around finding cost-savings for Telstra. Given this, the Commission considers that, in its current form and with a 20-year term, the TUSOP Agreement presents a fundamental roadblock to the implementation of the Commission's recommendations.

Implementing these recommendations, particularly relating to the removal of the TUSO, will require a major renegotiation of the contract.

The terms of any contract renegotiation is ultimately a matter for the Australian Government and Telstra. While there will be costs to renegotiation (including a possible financial penalty to Government), a sensible transition strategy should aim to balance these costs against the benefits of introducing reforms sooner. Any transition strategy needs to be

carefully staged against key considerations around timing, stakeholder engagement and legislative requirements.

Payphones

With regard to payphones, there is a relatively strong case for immediately winding back Telstra's contractual obligations. Even though Telstra does not report on the profitability of its payphones services, evidence of the demise of payphones is clear. Juxtaposed against the extensive coverage of mobile services across Australia (to over 99 per cent of the population), it is difficult to justify the continuation of the payphones USO.

There would be benefits to both the Government and Telstra from such a move — lower levy liabilities, reduced regulatory impost on Telstra, and an opportunity for Telstra's existing payphone services to be repurposed with a more commercial, innovative focus. Importantly, from a community-wide perspective, this would allow for a better targeted allocation of funding to areas of genuine need for some form of community-based telecommunications service.

Standard telephone services

A transition from the *standard telephone service* USO is relatively more complex, given the legislative framework underpinning, and related to, the TUSOP Agreement. There are nonetheless some options for consideration and the Commission is seeking participants' views on their relative merits.

- **Option 1: Change the legislative scope.** The Government could make changes to the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cth) to change the scope of the current *standard telephone service* USO, thereby forcing the parties to negotiate a payment adjustment under the TUSOP Agreement. While this may be the most direct route to reform, it may also be seen as a disproportionate exercise of legislative power by the Government, particularly if exercised at such an early stage of the contract's twenty-year term.
- **Option 2: Remove the *standard telephone service* USO in all areas once the NBN rollout is complete.** This option would see the *standard telephone service* USO removed (both the contractual and legislative mechanisms) once NBN infrastructure is deployed. This option acknowledges the role that nbn would play as the statutory infrastructure provider, and would neatly tie the timing of reforms to the NBN rollout.
- **Option 3: Commence a staged wind-back of the *standard telephone service* USO in NBN-connected areas as soon as practicable.** While this option would also tie the timing of reforms to the NBN rollout, it would be more complex to execute as it would see the gradual winding back of the *standard telephone service* USO in NBN-served areas. This rollout progress could then be reflected in a gradual reduction of the payments to Telstra under the TUSOP Agreement.

As Telstra's Copper Continuity Obligation (CCO)⁸ is integrated into its contractual obligation for providing the *standard telephone service* USO, the implications of an early cessation of the CCO would also need to be taken into account. This may have implications for nbn's fixed wireless and satellite deployment.

Equally, a range of legislative and policy factors that are closely correlated with the TUSOP Agreement (such as Telstra's carrier licence conditions) will need to be reassessed — not only to complement any changes to the TUSOP Agreement, but also to ensure that consumer safeguards are adequately considered.

The Department of Communications and the Arts indicated in its submission to this inquiry that a review into consumer safeguards will be conducted. This review — which would include a comprehensive appraisal of the Customer Service Guarantee — should be expedited to feed into any contract renegotiation between the Government and Telstra.

⁸ The Copper Continuity Obligation refers to Telstra's obligation under the TUSOP Agreement to continue to maintain and operate its existing copper network in nbn's fixed wireless and satellite footprint for the provision of voice services until 2032.

Draft recommendations, findings and information requests

An evolving telecommunications landscape

DRAFT FINDING 2.1

Technological progress is transforming the way in which people access and use telecommunications services. Individuals, businesses, governments and the community at large are benefiting from these developments. Prices of telecommunications services are falling, while service quality is improving across both fixed and mobile platforms. Moreover, these services are converging, allowing users to readily choose between fixed and mobile access, and generating additional competitive pressure on service providers.

The TUSO lacks transparency and is overdue for reform

DRAFT FINDING 3.1

There is a dearth of data on the number of premises covered by the telecommunications universal service obligation (TUSO). Telstra (the universal service provider) is not required to, and has advised that it does not collect information on the number of non-commercial telephone services, or on the costs of any telephone service it supplies under the TUSO. As such, the evidence base for assessing whether the TUSO is providing value for money is inadequate.

Commission estimates suggest that the TUSO could imply a *standard telephone service* annual subsidy ranging anywhere between \$250 to \$2800 per 'TUSO' service, and an annual average payphone subsidy of between \$2500 to \$50 000.

DRAFT FINDING 3.2

Evidence of the declining relevance of services covered by the telecommunications universal service obligation — the *standard telephone service* and payphones — is unequivocal. Over the past decade, Telstra's active retail fixed-line services have declined by about one quarter (from over 8 million to just under 6 million services), while the number of Telstra payphones has almost halved (from over 31 000 to around 17 500). One third of Australian adults now rely solely on mobile phones for voice services.

DRAFT FINDING 3.3

In addition to its declining relevance, the telecommunications universal service obligation (TUSO) has a number of deficiencies. It is a blunt instrument with a one-size-fits-all approach to universal service provision. Telstra's contractual obligations under the TUSO lack transparency and accountability. The basis for TUSO funding (a total of around \$3 billion in net present value terms over 20 years to 2032) is unclear and disputed.

DRAFT RECOMMENDATION 3.1

The Australian Government should phase out the existing telecommunications universal service obligation as soon as practicable.

A lack of policy coordination

DRAFT FINDING 4.2

In addition to the telecommunications universal service obligation, there is a plethora of policies and programs that subsidise the provision and use of telecommunications services across Australia and across different cohorts of users. Conservatively (and excluding the NBN), at least \$1 billion per year is allocated to telecommunications programs broadly associated with supporting universal service objectives. There would be benefits from removing duplication and moving towards a more integrated approach to meeting universal service objectives.

DRAFT RECOMMENDATION 4.1

The Australian Government, in consultation with state and territory governments, should conduct a stocktake (by the end of 2017) of all telecommunications programs that share universal service objectives to rationalise and improve their efficacy and cost-effectiveness. The Australian Government should also provide a forum for agencies and jurisdictions to promote program evaluation and share best practice.

An updated universal service framework

DRAFT FINDING 5.1

There are several possible rationales for the provision of universal telecommunications services. These revolve around: enabling markets to function well; providing access to emergency services; facilitating greater social inclusion; and enabling access to online government services.

Some of these benefits involve a public good and are likely to be underprovided by the market. Further, Australia's extended areas of low population density mean that a market presence may not exist because of high costs of service provision and limited revenue opportunities.

DRAFT RECOMMENDATION 5.1

The Australian Government should reframe the objective for universal telecommunications services to provide a *baseline* broadband (including voice) service to all premises in Australia, having regard to its accessibility and affordability, once NBN infrastructure is fully rolled out.

Leveraging off the NBN

DRAFT FINDING 6.1

After the full rollout of NBN infrastructure and in the absence of the telecommunications universal service obligation, retail broadband (including voice) services are likely to be available to all premises across Australia.

DRAFT FINDING 6.2

The quality of the broadband service supplied by NBN infrastructure will be superior to the quality of service previously available across all Australian premises.

However, as is the case under the existing telecommunications universal obligation (TUSO), the quality of voice services will vary across technologies.

- Voice services offered to premises in the NBN fixed-line and fixed wireless footprints will be of a high quality and equivalent to the standard offered under the TUSO.
- Voice services offered to premises in the NBN satellite footprint will be of an adequate quality for most purposes, but will fall short of the quality of those offered under the current TUSO in terms of latency and service repair timeframes. Up to 90 000 premises may be solely dependent on nbn's *Sky Muster* satellites for voice calls.
- Whether further government support for some alternative voice service for these premises is warranted is contingent on whether the quality of nbn's services is below the *baseline* that the broader community would regard as acceptable for a universal service.

INFORMATION REQUEST 6.1

Participants are invited to provide evidence on the adequacy of NBN's satellite voice services in relation to defining an acceptable baseline for a universal service. Information on practical and cost effective alternatives to NBN's satellite voice services in areas that currently have no mobile coverage, and their relative merits and costs is also sought.

DRAFT RECOMMENDATION 7.1

The Australian Government should introduce legislation as soon as possible to make explicit the role of nbn as a universal service provider of wholesale broadband services. The legislation should be in place before any decision by the Australian Government to privatise nbn.

DRAFT RECOMMENDATION 7.2

The Australian Government should ensure that any further intervention with respect to guaranteeing retail service provision over NBN infrastructure is minimal. This should involve monitoring by the Australian Government of retail presence on NBN infrastructure and, if necessary, contracting one or more retail service providers to service geographic areas lacking retail presence.

DRAFT RECOMMENDATION 7.3

The Australian Government should amend the *National Broadband Network Companies Act 2011* (Cth) (the Act) to ensure that the planned Productivity Commission review of nbn following the full rollout of NBN infrastructure occurs regardless of whether or not privatisation is being contemplated. The review should cover the impacts of nbn on the economic efficiency of the telecommunications sector as well as all the matters already specified in section 49 of the Act.

Addressing market gaps and particular user needs

DRAFT FINDING 6.3

In terms of the availability and accessibility of telecommunications services, certain groups of people with particular needs may experience difficulties following the full rollout of NBN infrastructure and in the absence of the telecommunications universal service obligation.

The costs of providing specialised services to these groups are likely to result in providers not offering the services, or providing them at a high price. Notwithstanding that technological advances could reduce these costs, the particular needs of some people in these groups warrant targeted government intervention.

The groups most likely to experience difficulties include: people with disability and life threatening conditions; Indigenous people living in remote settlements; some older people; people with no fixed address; and a small number of users of emergency services within the NBN satellite footprint.

DRAFT FINDING 6.4

Telecommunications services are likely to continue to be affordable for most people. However, government subsidies may be required for a small number of low-income users.

DRAFT FINDING 6.5

In the absence of a telecommunications universal service obligation, and given current policy settings and the full rollout of NBN infrastructure, the extent of market gaps and particular user needs in telecommunications are likely to be small and differ across groups. This gives weight to a targeted approach to government intervention.

DRAFT FINDING 4.1

A number of consumer safeguards apply to the provision of the *standard telephone service*. These safeguards do not apply consistently across all providers and all telecommunications services. The declining reliance on the *standard telephone service* and the increasing proportion of consumers agreeing to waive these safeguards (in particular, the Customer Service Guarantee) make the relevance of these safeguards questionable.

DRAFT RECOMMENDATION 9.3

The Australian Government should proceed with its intended review of the telecommunications consumer safeguards framework as a matter of priority. The review should include an assessment of:

- what, if any, future safeguards are necessary
- what changes should be made to Telstra's carrier licence conditions
- the future role of accessibility and affordability measures, including the Telephone Allowance, the National Relay Service and relevant elements of the National Disability Insurance Scheme
- the consumer protection roles of various bodies including: the Australian Competition and Consumer Commission; the Australian Communications and Media Authority; and the Telecommunications Industry Ombudsman
- the delineation of responsibilities for service quality (including fault repair) on the NBN.

DRAFT RECOMMENDATION 7.4

Before proceeding to the next round of funding under the Mobile Black Spot Programme, the Australian Government should implement the Australian National Audit Office's recommendations relating to that program. It should also: target the program only to areas where funding is highly likely to yield significant additional coverage; revise its infrastructure-sharing requirements to be consistent with the Australian Competition and Consumer Commission's findings in the ongoing Domestic Mobile Roaming Declaration Inquiry; and prioritise areas for funding based on community input — rather than nominations from Members of Parliament.

DRAFT RECOMMENDATION 7.5

The Australian Government should establish a funding program for a form of community telecommunications service (such as payphones) that targets locations where premises do not currently have a satisfactory alternative voice service, such as a mobile service. This program should target particular needs and be flexible for delivery to such communities. This program should involve a competitive tendering process to allocate funding.

INFORMATION REQUEST 7.1

Participants are invited to comment on the advantages and disadvantages of providing Indigenous communities in regional and remote areas with an Indigenous telecommunications program that addresses their particular needs, or whether their needs could be met through service-specific (that is, community-wide) programs.

How much funding and who should pay?

DRAFT FINDING 8.1

The amount of funding required for universal service programs following the full rollout of NBN infrastructure is likely to be smaller than the current funding amount for the telecommunications universal service obligation.

DRAFT FINDING 8.2

Whether funded from general government revenue, an industry levy or a combination of both, all funding models can distort investment and consumption decisions and involve administrative costs. An 'optimal' funding model should seek to minimise these costs, which will vary with the nature and size of the program to be funded, as well as broader market dynamics.

DRAFT FINDING 8.3

Small programs do not justify the design and administrative costs associated with a broad-based industry levy. Funding these through general government revenue is likely to be simpler and less costly to administer.

This would imply the ultimate removal of the Telecommunications Industry Levy.

DRAFT RECOMMENDATION 8.1

The Australian Government should use competitive tendering wherever feasible to deliver telecommunications universal service programs. As a first step, the Government should test the depth of relevant market segments.

Where there is no market depth and a competitive tendering process is not feasible, the Government should, at a minimum, subject all proposed program costings to an independent and transparent validation process. Where relevant performance comparators are available across programs, these should be used as a basis for benchmarking.

DRAFT RECOMMENDATION 8.2

The Australian Government should fund targeted measures to meet telecommunications universal service objectives principally through general government revenue rather than an industry levy. The Australian Government should seek to minimise the risks of cost-padding and gold-plating through contestable and transparent processes.

Transitional matters

DRAFT FINDING 9.1

The Commission's proposed changes to universal service arrangements are incompatible with the current Telstra USO Performance Agreement.

The contract's review and payment mechanisms offer limited capacity for the parties to amend the contract in a way that aligns with an improved policy approach. A significant renegotiation of the terms of the Agreement is likely to provide the most effective transition path to a fully overhauled universal service regime.

DRAFT FINDING 9.2

A transition path away from the current telecommunications universal service obligation will need to be supported by necessary adjustments to the surrounding regulatory framework. Such adjustments include changes to consumer safeguards, Telstra's carrier licence conditions, and other existing policy measures. This will ensure that consumer rights are adequately considered, while removing inefficiencies and outdated mechanisms.

DRAFT RECOMMENDATION 9.1

The Australian Government should immediately commence negotiations with Telstra to amend, and ultimately abolish, module B (Standard Telephone Service USO) and module C (Payphones USO) of the Telstra USO Performance Agreement (in line with draft recommendation 3.1).

DRAFT RECOMMENDATION 9.2

In negotiating changes to the Telstra USO Performance Agreement (draft recommendation 9.1), the Australian Government should seek an early termination of module C (Payphones USO) of the Agreement. These negotiations should be complemented by the required legislative amendments to also remove Telstra's statutory requirements in relation to the payphones universal service obligation.

INFORMATION REQUEST 9.1

Participants are invited to comment on the relative merits of the following (or other feasible) transition options for the standard telephone service USO module of the Telstra USO Performance (TUSOP) Agreement.

- Option 1: Amend the Telecommunications (Consumer Protection and Service Standards) Act 1999 (Cth) to change the scope of the current standard telephone service USO, thereby forcing the parties to negotiate a payment adjustment under the Agreement.*
 - Option 2: Remove the standard telephone service USO in all areas once the NBN rollout is complete.*
 - Option 3: Commence a staged wind-back of the standard telephone service USO in NBN-connected areas as soon as practicable.*
-