



TELSTRA GROUP LIMITED

Submission to ACMA Consultation: Approach to Expiring Spectrum Licences

Public Submission

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EXECUTIVE SUMMARY

We welcome the opportunity to make this submission to the Australian Communications and Media Authority's (ACMA) consultation on the Approach to Expiring Spectrum Licences (ESLs).

Mobile communications are indispensable to the Australian community. Whether it's the ability to make an emergency call in a crisis, conduct business or connect with family and friends, mobile connectivity is essential to our way of life. Spectrum is the lifeblood of mobile networks so it's critical that mobile network operators have ongoing access to sufficient and reliable spectrum resources, including early certainty about the renewal of spectrum licences.

Incumbent licensees must be given the option to renew all existing holdings subject to them meeting the public interest criteria. We consider that licensees *must* be given the option to renew *all* existing spectrum holdings at a price that represents a fair market price. The ability for licensees to have the option to renew all their existing holdings is essential not only to maintain existing customer service, but also to provide investment certainty to support expansion plans for new coverage and service.

Early certainty of renewal is required. Spectrum Licensees must have the ability to request renewal at the start of the Renewal Application Period, noting that adequate time will be required prior to this for licensees to consider the terms and conditions accompanying the renewed licence and make an informed decision about their future investment in the spectrum. As such, we strongly recommend the renewal price, and all key terms and conditions are presented to incumbent licensees at least one year before the commencement of the Renewal Application Period. To achieve this outcome, we are asking the ACMA to reduce the timeframe for completing the prior stages in the ESL process.

Absence of early certainty is likely to slow or delay our investment plans. This would initially affect our investment plans in the spectrum bands that are closest to expiry, namely the 700 MHz, 1800 MHz, and 2600 MHz bands¹. Any major network-wide investment, for example, in reformatting these bands to newer technologies such as 5G or 6G, is assessed through the prism of return on investment which is directly impacted by the remaining licence term and the certainty of renewal. The risks are also higher in regional and remote areas where the business case is often marginal and could **exacerbate the digital divide** for regional and remote Australians.

The process for licence renewal must be transparent, robust and equitable. This applies to both the renewal terms and the determination of the renewal price. We agree with and support the ACMA's proposed four-stage approach for ESLs. We also have some suggestions including adopting a project management methodology and ensuring a high degree of engagement and transparency to further improve the ESL process so that it is robust, equitable and timely.

Renewal prices should be set conservatively, but at the same time, represent fair value. While the Government and the community should receive a fair return for the use of a scarce resource, there are strong arguments for renewal prices to be set conservatively, given a) spectrum values, on a per MHz basis, are falling, b) the asymmetric risks of setting the renewal price too high (compared to too low), c) current

¹ While our upper 850 MHz band licence expires in June 2028, our investments in this band are supported by the lower 850 MHz band licence that will commence on 1 July 2024 and run for 20 years. This is because the new equipment we need to deploy to use the lower 850 MHz band also natively supports the upper 850 MHz band, and hence low incremental cost penalty.



levels of industry profitability, and d) the public interest benefits in facilitating ongoing mobile network investment (e.g. to close the digital divide).

International benchmarking against peers is the best determinant of Market Price. We consider international benchmarking, where the benchmarking process excludes outliers, and is properly calibrated to compare like with like, is superior to other methodologies to estimate market value. The alternative method of valuation modelling is intensive and requires large quantities of confidential input data from licensees. It is also highly sensitive to the input and modelling assumptions. They are more likely to lead to prolonged disagreements as to whether the input assumptions are correct, and the modelling is accurate, fair and has been conducted properly. The final renewal price should be set at a discount to the estimated market price (ideally found using benchmarking) in order to be conservative (for the reasons discussed above).

Previous approaches to setting renewal fees were unacceptable and should not be repeated. The ACMA has highlighted two prior approaches, based on “auction avoidance” and “public interest”. Neither are appropriate because the first approach is too uncertain and could lead to excessive prices, and the second approach may result in prices that are too low or arbitrary. Prices that are too high or too low do not offer good incentives for efficient use of spectrum, and introduce concerns about excessive financial burdens on operators or windfall gains. Setting prices based on a conservative estimate of market price derived from international benchmarks is a superior approach, because it transparently leads to a fair price and is consistent with the ACMA’s mandate to promote long-term efficient use of spectrum.

Refine the public interest criteria for renewal. All licensees require certainty as early as possible regarding their tenure of the spectrum licences needed to support their significant long-term investment plans for their mobile networks. The proposed public interest criteria do not yet provide incumbent licensees with sufficient certainty to incentivise investment. We are asking the ACMA to clarify and narrow the scope of the criteria including rationalising the first two criteria into a single one that encourages both investment and efficiency. In order to provide greater clarity to licence holders on how the public interest criteria will be measured, ACMA should consider developing weighted measurements, and a more formalised structure to assessing the public interest criteria, as this would deliver a more robust mechanism for licence holders to decide how they meet the criteria.

Renewal statements must be included in the renewed licences to improve certainty for licensees and reduce administrative burden. While we support the ACMA’s proposed four-stage process for this initial round of ESLs, we also note this is the beginning of a perpetual pipeline of expiring spectrum licences. To avoid an unreasonable ongoing future burden for both licensees and the ACMA, an administratively simple and predictable renewal regime is required going forward. We suggest that higher certainty of subsequent renewals at pre-determined administrative prices could be one way to lessen the ongoing burden of licence renewal work.

In conclusion, a robust, transparent and successful process for the renewal of spectrum licences for mobile networks is paramount for the Australian economy. It will fuel innovation, drive productivity, and enhance competitiveness across industries. By facilitating the deployment of advanced technologies, addressing coverage and technology gaps, and fostering digital inclusion, spectrum licence renewal has far-reaching benefits for businesses, individuals, and communities. As Australia moves towards a digitally connected future, ensuring the ongoing availability of spectrum resources will unlock the full potential of mobile communications and supporting the nation's economic growth and prosperity.



1 Introduction

We welcome the opportunity to make this submission to the Australian Communications and Media Authority's (ACMA) consultation on the Approach to **Expiring Spectrum Licences** (ESLs).

Mobile networks are an indispensable part of the digital economy and our social fabric. We use mobile networks to conduct business, process monetary transactions, to stay in touch with friends and loved ones, and in times of emergency. It is our considered view that where spectrum is actively being used for the provision of telecommunications services, it is essential the government offer licensees the opportunity to renew all their spectrum. Not offering licensees the opportunity to renew all spectrum that is being used will impact end user customer service and experience, to the detriment of society and the economy.

Our submission is structured as follows:

- Section 2 provides a brief outline of the importance of mobile services to Australians to set the context for renewal of spectrum licences.
- Section 3 explains our view that licensees must have the choice and ability to renew their existing spectrum licences at a fair market price, and that renewed licences must carry renewal statements affording licensees greater certainty of future renewal.
- Section 4 then goes on to discuss the ACMA's proposed public interest criteria. Given the importance of mobile services to all Australians (as discussed in section 2), section 4 recommends rationalising and tightening of the criteria along with providing a high level of transparency, to improve certainty for existing licensees and expedite the ESL renewal process.
- Section 5 outlines our preferred approach to determining the market value for renewing expiring spectrum licences and explains why we consider both the ACMA's proposed approaches to be inappropriate.
- Section 6 explains why the ACMA needs to reduce the timeframe to complete the four-stage process in order to provide licensees with all relevant renewal information at least one year prior to the commencement of a Renewal Application Period. We support AMTA's proposal for an expedited timeline to complete the ESL process.
- Section 7 contains our comments on several other aspects we consider pertinent to the ACMA's ESL process, such as our comments on the ACMA's proposed data gathering approach, and the need for high levels of engagement and transparency through the ESL process.
- Appendix 1 contains our answers to the ACMA's consultation questions.

2 Why renewing mobile network spectrum licences is important

In advanced nations like Australia, the economy is increasingly becoming the digital economy, and the growth of the digital economy is highly dependent on having access to adequate mobile and wireless connectivity. The AMTA / Deloitte Access Economics report **5G Unleashed: Realising the potential of the**



next generation of mobile technology² projects that between 2022 and 2030 (9 years), \$67bn of total benefit would be added to the Australian economy based on 5G adoption remaining static at the 2021 rate. However, the report shows that if the pace of 5G adoption is increased to a level that would retain Australia's ranking at third place in terms of 5G devices per capita (as measured by GSMA Intelligence), the productivity benefit from 5G would be 40% higher, equating to an incremental \$27bn added to the Australian economy over the next nine years to 2030 to deliver a total benefit of \$94bn to the Australian economy by the end of the decade.

The size of this uplift is corroborated by other modelling of the benefits of 5G to the Australian economy. For example, PwC estimated 5G will be worth \$70bn (in 2022 dollars) to the Australian economy over the next 8 years.³

Mobile technology achieves this uplift in GDP by boosting labour productivity. Today, every sector of our economy (office-based, construction, hospitality, health, agriculture, etc) operate and rely on data and information, and none of these sectors can function fully or efficiently without reliable and timely access to it. Mobile technology allows workers to realise genuine productive gains through real-time access to this information no matter where they are. Health workers can access patient information while caring for a patient in their own home, construction workers are able to obtain updated plans on site, agricultural workers are able to obtain up to date weather information and professional office-based workers are able to access information at a client's premises allowing them to spend more time with their customers. This is in addition to benefits such as remote working, which became essential for office workers during COVID, and is now commonplace.

Current statistics on smartphone adoption, data consumption, and our 5G rollout illustrate the reliance on, and commitment to, 5G in Australia.

- **Smartphone adoption:** The 2019 Mobile Nation report notes that 9 out of 10 Australians own a smartphone,⁴ and the ACCC's 2021-22 Communications Market Report shows there are over 28 million mobile services in operation,⁵ reflecting the widespread use of these devices for communication, internet access, and other applications.
- **Mobile data consumption:** The ACCC's Internet Activity Report for the year ending Dec 2022 shows that average monthly data consumption on a post-paid plan increased to over 14GB per user per month, with the average consumption across all plan types (including prepaid, data-only plans and IoT) sat just below 12GB per plan per month.⁶

² AMTA / Deloitte Access Economics. **5G Unleashed: Realising the potential of the next generation of mobile technology**, March 2022. See infographic on p.5, and Chart 1.1 on p.14 for explanation. The full report is available at: <https://amta.org.au/5g-unleashed-deloitte-access-economics/>

³ PwC. The global economic impact of 5G, 2021. Report available at: <https://www.pwc.com/gx/en/industries/technology/publications/economic-impact5g.html>

⁴ AMTA / Deloitte Access Economics. Mobile Nation 2019: The 5G Future. Available at: <https://amta.org.au/wp-content/uploads/2019/05/mobile-nation-2019-the-5g-future.pdf>

⁵ ACCC Communications market report – 2021–22. Section 3.4.1, p.12. The ABS reports the Australian population at the end of 2022 to be ~26.3m people, resulting in an overall market penetration of 106%. The ACCC report is available at: https://www.accc.gov.au/system/files/22-71RPT_Communications%20Market%20Report_FA.pdf

⁶ ACCC Internet Activity Report, June 2023. Figure 9, p.10. Available at: <https://www.accc.gov.au/system/files/Internet%20Activity%20Report%20-%20December%202022.pdf>



- **5G Rollout:** We continue our investment in rolling out 5G across Australia. Our 5G network currently covers 80 percent of the Australian population,⁷ and we have plans to expand this to approximately 95 percent population coverage by the end of FY25.⁸

Mobile networks also perform a pivotal role in times of crisis, whether by enabling emergency services organisations to perform their job during a large-scale natural disaster or enabling individuals to call for assistance at a road accident or other type of emergency.

Underpinning all this, spectrum licences play a crucial role by providing mobile network operators (MNOs) with the certainty they need to make the multi-billion-dollar investments required to build their mobile networks over many years. Telstra alone invested \$11 billion in its mobile network nationally in the 7 years to end FY22, with \$4 billion of this invested in its regional mobile network.⁹ Of the \$11 billion, \$1.3 billion was spent acquiring spectrum and the remainder on capital investment in the mobile network.

Certainty about the renewal of spectrum licences supports the ongoing expansion and improvement of mobile network infrastructure across the country. This, in turn, paves the way for enhanced connectivity, faster data speeds, and improved quality of service, empowering businesses to leverage innovative applications and digital solutions. The resulting boost in productivity and efficiency can have a profound impact on the overall competitiveness of Australian industries, driving economic growth and attracting investment, creating new employment opportunities, stimulating the economy, and positioning Australia as a global leader in the digital economy.

In summary, where spectrum is being actively used for the provision of public mobile and wireless telecommunications services, it is essential the government offer licensees the opportunity to renew all their spectrum. Not offering the opportunity to renew all spectrum that is being used will impact end customer service and experience. As such, current licensees who meet the public interest criteria should have the option to renew **all** existing holdings in this category at a market price determined by the ACMA in consultation with industry and using a transparent and robust process. We explore this point further in section 3.

3 Renew all existing holdings at a fair market price

Our investments are long-term and have, and continue to, rely upon having sufficient tenure of spectrum to generate value from those investments. Failure to renew ESLs will create a climate of uncertainty that would make current and future licensees (the latter based on a precedent that non-renewal would establish) less willing to make similar investments in the future. Total welfare will also be negatively impacted, as any reduction in our spectrum holdings will cause consumer detriment and inconvenience.

This section of our submission outlines and explains our view that licensees must have the option to renew *all* their existing spectrum holdings (subject to them also meeting the public interest criteria), and that it needs to be at a fair market price. Failure to offer licensees the opportunity to renew all their existing

⁷ Telstra 5G coverage, accessed 17 July 2023. <https://www.telstra.com.au/5g>

⁸ Telstra's T25 work plan, as outlined at our 2021 Investor Day.
See: <https://www.telstra.com.au/exchange/introducing-t25-growth-enhanced-customer-experiences>

⁹ Telstra Annual Report, 2022. 10 Aug 2022. p.11. <https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-g/TEL-AR-2022-Pages-FINAL.pdf>



holdings risks forcibly reducing a network operator's spectrum holdings, and if the reduction occurs on actively used spectrum, the result will be an impact to end customer service and experience.

A licensee could elect to renew only a subset of their licence, either by electing not to renew the entire frequency range, or electing not to renew some geographies where the licences were originally sold in a geographically divided fashion, or some combination of both. However, that should be the decision of the licensee. Where a licensee wishes to renew all their existing licenced spectrum in its entirety, they should have the opportunity to do so at a fair market price (subject to them also meeting the public interest criteria).

This does not mean we believe licensees should have complete freedom to “carve up” their existing licences on a geographic basis if the licences were not originally sold that way. As we set out in section 3.3, subdividing geographies potentially creates “dead zones” along those boundaries where different network operators on each side of the boundaries are forced to use interference mitigation techniques to avoid interfering with each other's services. Any such “carving up” needs to be minimised and subject to industry consultation.

3.1. The ACMA's renewal approach must offer certainty, to ensure future investment

Not offering existing licensees the opportunity to renew all their existing spectrum holdings will undermine investment plans. Mobile network operators develop detailed business cases to balance the cost of spectrum acquired and the cost of network equipment to utilise the spectrum during its remaining licence term. As the remaining term of the licence reduces, it becomes progressively more difficult to justify further investment that meets internal investment hurdles. Further, any uncertainty over renewal inevitably dampens investment incentives, and impacts secondary trading opportunities and third-party leasing opportunities. Even if the ACMA ultimately decides to renew all of an operator's spectrum, if the operators don't know that outcome sufficiently in advance of the licence expiry date – or there is uncertainty regarding it – there is much less incentive to invest which will have consequential effects in network performance and customer experience.

While incremental investment in an existing technology is less of a problem (e.g., adding sites to expand coverage of an existing widely deployed service) it is a major problem for wide-scale investment required to make a technology shift using that same spectrum, e.g., to replace 4G radios with 5G capable radios network-wide. Significant network investment decisions of that magnitude cannot be made if there isn't certainty of tenure for the underlying spectrum asset over a sufficient length of time.

Should the ACMA decide to reduce network operators' spectrum holdings by deliberately withholding (not renewing) some of the licensees' spectrum, this creates a risk of a “capacity crunch” where existing traffic would be unable to be carried on the remaining spectrum at the same quality of service as previously, resulting in severe degradation of the customer experience, with significantly lower average speeds and large increases in network congestion on a network-wide scale. The impact on the national economy and business and personal productivity could be significant.

As such, any approach that could result in an unwanted reduction in a licensee's existing spectrum holdings at renewal undermines investment confidence for future network deployment.



3.2. Spectrum should be returned to the market via an auction if an offer is not taken up

If a licensee, for whatever reason, chooses not to take up the offer to renew part of their spectrum (in frequency or geographic terms), the spectrum should be subsequently offered to the market via an auction. In this situation, it is important to place the soon to be “unused” spectrum back to the market to enable the market to find the highest value use for it and to avoid creating market distortions. It is also important that the auction of the spectrum is held as quickly as possible to ensure it finds its highest value use and is put to productive use as soon as possible.

3.3. No new subdivision or alteration of existing geographies without industry consultation

The licence geographic boundaries of ESLs should be maintained. Creating new geographic boundaries or altering existing boundaries risks fragmentation, which can result in the creation of new “dead zone” corridors, which in turn can reduce spectrum utility. This is because neighbouring operators on each side of the boundary line need to comply with boundary conditions¹⁰ and build away from the line to avoid the risk of causing interference to each other.

Similarly, any proposed changes intended to simplify spectrum management across different bands, or to reduce geographic fragmentation within a band, should also only be done in careful consultation with industry to arrive at an outcome that is better overall for the industry and end users, as even noble intentions to improve the utility of a band can have unintended consequences, if not managed carefully.

Telstra recognises that in some bands such as 3400-3800 MHz, the renewal process could be used to facilitate a band defragmentation, so that all parties have access to the same quantity of spectrum they held previously, but in contiguous blocks – provided the reconfigured spectrum will work with equipment already deployed in their networks. No operator seeking to renew existing spectrum should be allowed to frustrate a defragmentation if it is low cost and clearly in the broader national interest.

Any proposal to alter spectrum licensed boundaries or create new ones through non-renewal of parts of a licence must involve consultation with all impacted licensees.

3.4. Renewed licences to include a renewal statement with a presumption of renewal to reduce administrative burden

We recommend that renewal statements with a presumption of renewal at a pre-determined administrative price should be included in the renewed licences. As well as providing greater certainty to licensees, such renewal statements will assist to reduce the burden, both on industry and the ACMA, associated with the future ongoing ESL process.

For example, Canada has a regulatory framework with a strong licence renewal expectation, but with provisions to deny renewals in case of a fundamental reallocation or an overriding policy need. This is set out in Industry Canada’s (now ISED’s) Framework for Spectrum Auctions in Canada.¹¹ Similarly, in the UK,

¹⁰ Referred to as a “Device Boundary” or “Device Boundary Criterion” in section 145 licence conditions determinations.

¹¹ Industry Canada, “Framework for Spectrum Auctions in Canada”, 2011, section 3.5, p.3. “As a condition of licence, licences will have a high expectation of renewal...”. Available at: <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/sites/default/files/attachments/2022/dqso-001-11-framework-e.pdf>



in 2004 Ofcom published a **Spectrum Framework Review**¹², in which it set out its vision for managing spectrum. In 2005, Ofcom then published its **Spectrum Framework Review: Implementation Plan**¹³, in which it proposed that new licences would generally have an indefinite term together with an initial term. During the initial term the grounds for revocation would not include a general right to revoke for spectrum management reasons. After the end of the initial term, the grounds for revocation would include such a right, subject to a minimum notice period of five years. The aim of proposing an indefinite duration was to give the licensee the opportunity to continue operating its business beyond the initial term.

In this first major ESL round, the ACMA is working on eight bands with licences expiring between 2028 and 2032.¹⁴ With the possibility of new bands being added this decade, along with other bands such as 900 MHz and 26 GHz already issued but not part of this ESL round, we could end up with a perpetual pipeline of expiring spectrum licences, where on average, a spectrum band will come up for renewal almost every year into the foreseeable future. To avoid a significant burden on both licensees and the ACMA to manage the ongoing treadmill of licence renewals, an administratively simple and predictable renewal regime is required.

4 Public interest criteria for renewal of spectrum licences

Along with the renewal price, the public interest criteria dictate the level of certainty operators have in the licences being renewed. We consider the public interest criteria need to be: 1) specific, 2) objective; 3) measurable; and 4) not unduly broad. If they are too broad in scope, or are vague or subjective, a licensee can never have confidence in renewal and hence, will have reduced incentives to invest, as discussed in section 3.

Ideally, well ahead of the point of renewal, a licensee should have a high degree of confidence that it will pass the public interest criteria test. In such circumstances, they are incentivised to continue to invest in the spectrum.

The ACMA sets out five criteria comprising its approach to assessing the public interest test for renewing spectrum licences: 1) Facilitates efficiency; 2) Promotes investment and innovation; 3) Enhances competition; 4) Balances public benefits and impacts; and 5) Supports relevant policy objectives. In this section of our submission, we explore these five proposed public interest criteria and provide our thoughts on where the criteria are less than optimal and can be improved.

Importantly, optimisation and consolidation of the public interest criteria will reduce the time and effort required to conduct the four-stage ESL process. This is vital, considering we need the ACMA to complete these activities 12 months in advance of the first expiring spectrum licences reaching the start of their renewal application period. We further explore the need to compress the ESL process in section 6 of our submission, and Appendix 2 contains our initial thoughts on how the mobile industry already satisfies the five criteria as proposed by the ACMA.

¹² Ofcom "Spectrum Framework Review", 28 June 2005. <https://www.ofcom.org.uk/consultations-and-statements/category-1/sfr>

¹³ Ofcom, "Spectrum Framework Review: Implementation Plan – Interim Statement", 28 July 2005. https://www.ofcom.org.uk/data/assets/pdf_file/0020/38162/statement.pdf

¹⁴ Consultation paper, Table 1, p.4.



4.1. The proposed public interest criteria do not yet provide sufficient certainty to incentivise investment

To begin stage 1 of the ESL process, the ACMA has identified five broad public interest criteria, aligned to the Object of the Act, which it seeks comment on in the current consultation. We appreciate the ACMA intends to "...confirm the assessment framework, including the public interest criteria" in Stage 2,¹⁵ and therefore, there is more work that will be done to both refine the criteria and develop an assessment framework for the criteria. It is with this knowledge there is further work to be done on the public interest criteria that we make the following recommendations:

- The broad remit and description of the public interest criteria does not provide current licensees the certainty required to incentivise investment. We consider there is sufficient justification for the number of criteria to be reduced and for the scope for the criteria to be tightened (more narrowly defined).
- We consider the assessment framework, against which incumbent licensees will be assessed, must have clear, unambiguous metrics. This, along with the previous point, would provide incumbent licensees greater certainty of the likelihood of being able to retain licences for all their existing holdings, underpinning ongoing investment.
- There should be close industry engagement for the refinement of the criteria and the development of the assessment framework. In this regard, we consider a single public consultation on a preliminary set of views from the ACMA would not be sufficient industry engagement. We consider the ACMA should conduct a tune-up session, where all stakeholders in the ESL process can put forward views and debate those positions in a public forum. Following a tune-up session, a format more aligned with the Technical Liaison Group (TLG) format should be used to develop and refine the public interest criteria and the assessment framework, concluding with a public consultation.
- Finally, any proposal to not renew an ESL or parts thereof must demonstrate why the alternative to renewal would deliver a better outcome when measured against these public interest criteria.

4.2. The ACMA's proposed public interest criteria can be optimised

Following on from our recommendations above, in this section we provide two suggestions on how the public interest criteria could be optimised.

As the ACMA observes, there is no definition of 'public interest' in the Act. This provides the ACMA flexibility in its approach to public interest as it relates to spectrum licences, expiry and spectrum management more generally. Under this mandate, the ACMA has set out the criteria upon which it is seeking stakeholder input. The ACMA's proposed criteria are informed by the object of the Act, criteria used in previous ESL processes, and considerations applied in other countries when deciding whether to renew their equivalents to ESLs. We support the ACMA's approach in this regard and consider it important to include the object of the Act and domestic and international precedents to inform the setting of public interest criteria.

At the same time, we consider there is room for consolidation and streamlining of the criteria. Specifically, we think there is substantial overlap between the first two criteria in a market where competition is working

¹⁵ Consultation paper, p.23.



effectively and efficiently. The ACMA should consider combining public interest criteria one and two into a single criterion that encourages efficiency and investment. We also think the fifth criteria is too vague, even when constrained to “relevant” public policy objectives. We discuss each of these points in the subsections that follow.

Licensees also require clear information about the ACMA’s approach to assessing each spectrum holding against the public interest criteria, so licensees can also measure how they can and will meet the criteria. We strongly recommend the ACMA publish guidance (as part of its Stage 1 activities) on how it will go about formally structuring its assessment of compliance with the criteria along with the relative weighting of the criteria in that assessment.

4.2.1. Combine the first two public interest criteria

Our first recommendation is the ACMA should combine the first two public interest criteria into a single item titled “Efficient and effective use of spectrum”.

As stated in the consultation paper, part of the object under the act is ‘*to promote the public interest derived from the use of the spectrum by managing the spectrum in a manner that facilitates the efficient planning, allocation and use of the spectrum*’.¹⁶ The three different types of efficiency cited under Criteria 1 (i.e., productive, allocative and dynamic) will inform ACMA’s decision making process in relation to the efficiency of its process as well as efficiency of the use of the spectrum by the licensees, and we consider this to be a valid and appropriate assessment for the ACMA to make.

Efficient allocation and efficient use of the spectrum (i.e., Criteria 1) necessarily promotes investment and innovation (i.e., Criteria 2). Indeed, productive and dynamic efficiency, two of the three elements in Criteria 1, are duplicated as elements in Criteria 2, as an unnecessary overlap. The other two elements of Criteria 2, namely “improved service quality and coverage” and “availability of new services and technologies for consumers” overlap with Criteria 1, as these elements are in large part driven by the efficient allocation and use of spectrum (i.e., Criteria 1).

The clear overlap between the first two criteria, and the fact that criteria 1 necessarily drives criteria 2 is evidence the first two criteria can be consolidated. In short, measuring economic efficiency as a standalone criterion would provide industry and regulators with an accepted standard for ensuring that the public interest has been met with regards to investment and innovation.

4.2.2. The fifth criteria is too broad

The ACMA proposes a fifth public interest criteria, which is that the approach to ESL must “support relevant policy objectives”. While we appreciate that under the Radiocommunications Act, the ACMA must have regard to items such as Ministerial Policy Statements and the Minister’s Statement of Expectations,¹⁷ allowing the remit of this fifth criteria to be “*any policy*” of relevance is too broad.

Clearly, the word “relevant” at least partly constrains the scope of this criteria to the extent that policy objectives must be “on topic”. However, there will always be overlapping and conflicting government policies

¹⁶ ACMA, 2023, https://www.acma.gov.au/sites/default/files/2023-05/expiring_spectrum_licences_consultation_paper.pdf

¹⁷ Minister’s Statement of Expectations of the ACMA. <https://www.infrastructure.gov.au/department/media/publications/australian-communications-and-media-authority-statement-expectations>



on any given topic and we recommend the ACMA identify examples of public policy objectives relevant to the outcome of this criteria to provide stakeholders with greater certainty about the objectives being considered.

4.3. Non-renewal and reallocating spectrum is not in the public interest in a competitive market

Finally in this section, we provide our thoughts on why reallocating parts of the spectrum currently held by incumbent spectrum licensees to other uses such as new operators, public safety or private interests as part of the ESL process is not in the public interest in a competitive market.

4.3.1. Reclaiming spectrum to enable new operators reduces efficient utilisation of the spectrum and harms the public interest

The GSMA observes “*There will be a strong case for presumption of renewal where spectrum is already likely to be in its best use, the market is effectively competitive and nonrenewal carries risks to investment and service continuity.*”¹⁸ This is the case in Australia with regard to the spectrum currently held by spectrum licensees. The spectrum is in its best possible use, as mobile networks deliver high value economic and social benefits, including the benefit of emergency calls.

They also state: “*Reassigning spectrum or changing licence conditions to boost competition will only make sense where the market is not already effectively competitive and there is a real prospect of better consumer outcomes.*”¹⁹ They go on to observe: “*Competition authorities such as the European Commission in a number of merger decisions have found that effective competition in mobile markets is consistent with 3 to 4 network operators together with a number of service providers. Reassigning spectrum to additional players in such markets may lead to operators being unable to fully realise scale economies and consequent higher prices for consumers.*”²⁰ For a country the size of Australia and with our low population density, effective competition is more likely to be achieved with 3 MNOs rather than 4, given the limited realisable revenue and high infrastructure costs. The 2020 merger of TPG Telecom and Vodafone Hutchinson Australia’s networks is evidence indicating that a fourth operator is not a viable proposition in Australia.

Reclaiming spectrum currently used for existing public networks for allocation to new entrants in an existing competitive market undermines investment by existing network operators, and damages future investment by eroding certainty. Such moves are therefore highly unlikely to be in the public interest. The infrastructure cost involved in establishing a new network is substantial, and if the ACMA was minded to reclaim parts of the spectrum to enable new operators, the ACMA must first satisfy itself that a new operator is able to deploy its new network and improve consumer welfare more economically efficiently than existing MNOs.

4.3.2. Reclaiming spectrum for a Public Safety Network is not in the public interest

Similarly, we consider that re-allocating some of the spectrum currently used for public mobile or fixed networks to a public safety network would not be in the public interest. In making this claim, we are not stating that public safety networks are not in the public interest; to the contrary, we consider public safety

¹⁸ GSMA. Best Practice in Spectrum Renewals, January 2015, p.2.

¹⁹ Ibid. p.3.

²⁰ Ibid, p.26.



networks are clearly in the public interest. However, we consider there are better ways of delivering public safety networks that utilise spectrum more efficiently and avoid the cost of deploying bespoke infrastructure for the sole purpose of a public network.

While public safety networks are in the public interest, re-claiming some of the spectrum currently used for public mobile or fixed networks harms the interests of those who currently use the public networks, therefore damaging the overall public interest.

Given there are methods for deploying public safety networks that deliver public safety organisations the same quality of service (priority, data speeds, reliability, etc) as public safety networks delivered using dedicated separate spectrum,²¹ reclaiming part of the spectrum currently used by public networks will necessarily harm the public interest, as it will diminish the service levels and experience of the existing end users of the public networks (to their detriment) without a corresponding uplift in public safety benefits. This is because all the public safety benefits can be realised without the dedicated allocation of spectrum for the public safety network.

4.3.3. Reclaiming spectrum for private networks is not in the public interest

Finally, we consider that re-allocating some of the spectrum currently used for public mobile or fixed networks to use for private networks would not be in the public interest. Amongst other things, the GSMA's 2023 report concludes that "[Spectrum] *set-asides offer no strong advantages to operator-supplied private networks and can create large costs.*"²² The report demonstrates, using five international case studies, that reserving (setting aside) a quantity of spectrum for private network deployment and use has historically resulted in inefficient use of the set-aside spectrum, and that where that spectrum could have been used by public networks, the public interest is ultimately harmed.

While the ACMA's stage 1 ESL consultation paper doesn't specifically contemplate use of spectrum for private networks, we consider that re-claiming some of the spectrum currently used for public mobile or fixed networks for localised or private network deployment would not be in the overall public interest, as the overall harm caused to those who currently use the public networks would not be offset by the increased benefits of the minority of the public who would benefit from the private network. As such, the overall public interest would be harmed.

²¹ **Public Safety Mobile Broadband Strategic Review – Final Report:** Rebooting the PSMB. October 2022. Available at: <https://nema.gov.au/sites/default/files/inline-files/Public%20Safety%20Mobile%20Broadband%20%28PSMB%29%20Review%20-%20Final%20Report.pdf>

See Part 3, The Preferred Solution, p.35. "*The preferred PSMB network solution (see Figure 3) would see a PSMB capability delivered over all three MNOs, acting in the aggregate, with each network configured to provide mission critical public safety feature sets, improved coverage and resilience, and operational visibility and connected to a dedicated PSMB core.*"

²² GSMA. Impact of Spectrum Set Asides on 5G. June 2023. p.31.
Available at: <https://www.gsma.com/spectrum/resources/the-impact-of-spectrum-set-asides-on-5g>



5 Pricing

The ESL process should produce renewal prices that represent fair market value, equating to a fair return to Government and the community for the use of a scarce resource. At the same time, there are strong arguments for the renewal price to be set conservatively.

In this section of our submission, we firstly discuss why it is important that renewal prices are set conservatively (section 5.1). We then appraise the two most common approaches to estimating the market value of spectrum – valuation modelling and international benchmarking – and explain why we consider benchmarking to be the better option (section 5.2). The final renewal price should then be set at a discount to the estimate of market value. Finally, we consider previous approaches to setting renewal fees and explain why they were unacceptable and should not be repeated (section 5.3).

5.1. Rationale for setting renewal prices conservatively

As previously discussed, we believe the Government and the community should receive a fair price for the renewal of spectrum. Therefore, the starting point of any exercise to set a renewal price should be to estimate the true market price of the spectrum. However, when doing this and when determining the final renewal fee from the estimated market price, there are strong reasons to be conservative. Four of these are discussed below:

- spectrum prices, on a per MHz basis, are falling
- the asymmetric risks of setting the renewal price too high
- current levels of industry profitability
- the public interest benefits in facilitating ongoing mobile network investment.

5.1.1. Spectrum prices are falling

There is a clear trend globally that, on a per MHz basis, spectrum prices are falling.²³ This is unsurprising given that the quantity of spectrum available for mobile use has increased markedly in recent years, directly driven by the ongoing demands of exponential growth in mobile traffic. Spectrum supply has increased dramatically; therefore, prices per MHz have fallen.

This fall in price is somewhat inevitable – if the per MHz price of spectrum were to remain unchanged, operators' total spend on spectrum would be increasing dramatically. Given that levels of industry profitability are not increasing, such a situation would be clearly unsustainable.

While we advocate the use of benchmarking to estimate the market value of spectrum, it inherently considers spectrum prices in the 'rear view mirror'. This is problematic when spectrum prices are falling, as it risks setting the price too high. Therefore, as we discuss later, it is appropriate to set the final renewal price at a significant discount to a benchmark of historic prices.

²³ For example, see GSA's Spectrum Pricing Update, July 2023, Figure 5, p.6. Prices paid for spectrum at 700 MHz in recent auctions and assignments, \$/MHz/pop, in date order. Available at: <https://gsacom.com/paper/spectrum-pricing-july-2023/>



5.1.2. Asymmetric risks of setting the renewal price too high

The risk of setting a renewal price too high is inherently greater than setting it too low. This is because a too high price risks the spectrum remaining unused – due to the existing licensees declining the renewal option and all other potential users being unable to create a viable business case at that price. Or high prices could result in a reduction in investment in other parts of an operator's business in order to maintain viability.

Given that spectrum is scarce and very valuable resource, both in terms of the economic and public interest benefits that can be generated through its use, such a scenario should be avoided. We consider the ACMA is obligated to encourage the efficient use of spectrum, and to ensure spectrum is made available for its optimal use, which clearly would not be the case if it was left fallow or underutilised.

5.1.3. Declining levels of industry profitability

Since around 2010, widespread smart phone adoption, the advent of ubiquitous over-the-top digital services, upgrades to new generations of mobile technology and associated infrastructure investment, and rapid consumer uptake of highly data-intensive services have transformed the relationship between customers and spectrum. In essence, Australian operators must provision vastly more spectrum per customer than 10 or 15 years ago, while at the same time, revenue per customer has been relatively steady .

Mobile networks are expensive to operate and are upgraded around every 10 years as a new 'G' of technology is introduced, and while network utilisation by end users has been soaring, industry profitability has been declining for many years.²⁴ As Venture Insights observe, the industry has been experiencing a decline in Return on Invested Capital (ROIC). Venture Insights observe, "*One consequence of this trend has been significant decline in ROIC in the telecommunications industry over the last five years. In telecommunications, ROIC is a major driver of long-term profitability. The decline in ROIC is therefore an indicator of reduced capacity to invest in the infrastructure that delivers services.*"²⁵ It is important that the ESL process does not place increased pressure on industry costs, especially in the form of renewal prices that are too high and above what market conditions can support. Such outcomes are likely to result in price pressures or reduced investment, to the detriment of end users.

It is broadly recognised that in industries such as telecommunications, where the number of viable operators is limited, high input costs depress incentives for investment and price competition. While licence fees are generally paid upfront, the 'cost' is with the holder for many years, weighing on business decisions and shaping views towards future spectrum awards. To encourage spectrum usage and avoid the downsides of constrained investment and less innovation spectrum renewal prices should be informed but conservative — a good benchmarking process, as outlined above, can support this outcome.

²⁴ Accenture. Pathways to Profitability for CSPs. 26 Sept, 2022. Middle figure on Slide 5.

<https://www.accenture.com/content/dam/accenture/final/accenture-com/document/Accenture-Comms-Narrative-POV-final.pdf>

²⁵ Venture Insights. State of the Australian Telco Industry. 14 June, 2023. See Figures 7 and 8, p.15 for data on FY17-FY22. While Figure 7 shows EBITDA decline has levelled out in the last two financial years (FY21 and FY22), this is driven solely by NBN; the other three major network operators (thin green line) are still in EBITDA decline. However, ROIC (Figure 8) has levelled out for some operators in the last two financial years. Available at:

<https://www.ventureinsights.com.au/product/report-state-of-the-australian-telecommunications-industry/>



5.1.4. Public interest benefits in facilitating ongoing mobile network investment.

Spectrum allocation offers both economic and social welfare benefits, and while these are factors for consideration in the proposed public interest assessment, the pricing of spectrum allocations themselves, including renewals, is also a determinant of overall benefits realised. As all spectrum costs are eventually passed on to end users as part of the total cost of providing network capacity, it follows that higher costs will put upward pressure on consumer prices (or decrease investments in other areas). This is an important consideration underlying the suggestion for a conservative approach to the pricing of spectrum renewals, as this will ultimately be in the public interest.

We also note that because of the relationship between spectrum prices as an input cost and envelopes for network investment, spectrum pricing (including renewal pricing) is a factor relevant to closing Australia's digital divide and the promotion of greater digital inclusion, especially among First Nations people. Maintaining or reducing the costs of spectrum could help unlock significant economic and social benefits, especially in more regional and remote areas of the country where telecommunication affordability and accessibility can be issues. Increased digital inclusion is critical to realising economic and social opportunities, including access to health, education, financial and government services, which we think the ACMA should be mindful of in the context of setting spectrum renewal prices.

5.2. Approaches for determining market value

When directly renewing spectrum, it is typically appropriate to set prices based on consideration of the spectrum's estimated market value. Two common approaches for doing this are:

- Development of a spectrum valuation model; or
- International benchmarking of spectrum auction prices.

In the valuation modelling approach, the aim is to estimate the value that the marginal user (i.e., the user with the highest value that is denied spectrum) places on the spectrum. While this approach can theoretically account for the specificities of the market in question (e.g., geographic conditions, market size and structure), it is typically a complex, lengthy and resource-intensive process, with the results often subject to significant uncertainty and/or certain assumptions. Standard modelling considerations include:

- The overall modelling approach, such as— should the model only consider the cost avoidance value of the spectrum, or also commercial / strategic sources of value?
- Accessibility to a wide variety of input data and assumptions to populate the model, such as traffic forecasts, subscriber share data, technical performance assumptions for future scenarios, deployment cost data, and assumptions on financial parameters such as the cost of capital. These factors can be subjective and/or be very different between licensees yet can have substantial impacts on the results. Confidentiality and commercial sensitivity around input data and the input assumptions inherently limit the practicality of regulators using valuation models in spectrum renewal processes. Further, no regulator is in a position to assess commercial value of spectrum as different operators will likely have different technology and service aspirations for their spectrum. Transparency can be limited as the inputs cannot be made visible to all stakeholders, which also makes it difficult to achieve consensus.

While international benchmarking also has its own nuances, it is generally less complicated and less subjective than valuation modelling. If care is taken to the approach and benchmarks selected, it can also



reflect the specificities of the market in question.²⁶ Indeed, we note Ofcom used benchmarking to determine administrative incentive prices (AIP) applicable for renewal of UK mobile licences in the 2100 MHz band upon expiry of their initial term.²⁷ We therefore consider international benchmarking to be more suitable for spectrum valuation in an ESL process than valuation modelling.

In the following subsections, we discuss the issues that should be considered when setting spectrum prices based on benchmarks. Notably, when conducting such an exercise, we recommend that the ACMA lays out its approach to these issues clearly such that the process is both transparent and defensible.

5.2.1. Which benchmarks should be included?

There are two conflicting considerations when selecting which spectrum benchmarks to include. On the one hand it is preferable to maximise the number of benchmarks used to improve the robustness of the exercise, but on the other hand only benchmarks that are closely comparable to the conditions in the country and spectrum band in question should be included in any analysis undertaken. Key considerations include:

- **Country:** It is best to restrict benchmarks to countries which share similar characteristics (e.g., in terms of population, geography and wealth) to the target country. This approach can help to reduce the need for normalisations or adjustments to capture different economic or licence considerations between spectrum licence allocations in the target country and those occurring in other countries.
- **Spectrum band:** Different spectrum bands play similar roles in mobile networks, so it can be appropriate to include similar, substitutable bands to maximise the number data points considered, rather than restrict the benchmarking to only the band in question.
- **Award timing:** As discussed above, the value of spectrum has declined over recent years as the quantity of available spectrum for mobile has increased and industry profitability has fallen. Thus, limiting the scope of the benchmarking to recent years is typically appropriate (e.g. last 5-10 years, or only after a change in spectrum use).
- **Outliers:** Low and/or high price outliers which are a direct result of market-specific effects which are not applicable in Australia should typically be excluded. For example, the inclusion of spectrum reservations (e.g. 800MHz band in the Netherlands) or where spectrum supply has been unduly restricted (e.g. C-Band in Italy) have artificially inflated spectrum prices.
- **Price data:** When using price data from other countries this may need to be normalised or adjusted to account for factors such as different licence terms, any restrictions on usage, renewal outlook and movements in exchange rates over time. Similarly, all components of the spectrum price should be captured including auction spend, annual licence fees and any build obligations or other licence conditions. A suitable WACC may also need to be adopted for discounting purposes.

²⁶ In some cases it may be possible for both valuation and modelling and benchmarking to be used in tandem to support the estimation of a value range for given spectrum assets, but this requires extra resources and time, and modelling challenges will likely still persist.

²⁷ Ofcom. Statement: Annual licence fees for 2100 MHz spectrum. 14 July 2021. See <https://www.ofcom.org.uk/consultations-and-statements/category-2/annual-licence-fees-2100-mhz-spectrum>
Also, Ofcom. Statement: Annual licence fees for 900 MHz and 1800 MHz. 17 Dec, 2018. See <https://www.ofcom.org.uk/consultations-and-statements/category-2/annual-licence-fees-900-1800-mhz>.
Both processes had regard to international benchmarks.



5.2.2. How should the benchmarks be adjusted?

Ideally, the need for significant adjustments can be avoided by restricting the benchmarks to only directly comparable awards. In particular, given the unclear relationship between wealth (for which there are several competing metrics, e.g., GDP, GDP based on Purchasing Power Parity) and spectrum value, it is typically preferable to exclude countries of substantially different wealth rather than adjust the benchmarks for wealth, providing that sufficient data points are available in countries of comparable wealth.

Nevertheless, certain adjustments will still be necessary, in addition to factoring in the different characteristics outlined in Section 5.2.1:

- **Licence duration:** Differences in licence duration should be accounted for, ideally using an approach that considers the time-value of money using a suitable WACC.
- **Payment terms:** Where spectrum fees are payable in instalments, the individual payments should be discounted to a present value using a suitable WACC.

5.2.3. Setting the final renewal prices based on benchmarks

A well-conducted benchmarking exercise should provide an estimate to the “full market value of the spectrum” (i.e., the price that might be realised in a hypothetical auction in which prices are set by the highest losing bids). Having reached this point, it is then necessary to choose the final renewal price. As discussed, it is appropriate to set the final price conservatively relative to the final benchmark value. This is for several reasons:

- As spectrum prices, on a per MHz basis, are currently falling, benchmarking of historic auction prices inherently risks setting renewal prices too high:
 - Setting prices too high risks spectrum remaining unsold, denying consumers its benefits, or the network operators purchase the spectrum at the higher price, but then have less capital for infrastructure deployment, resulting in reduced coverage or capacity (as we discuss in section 5.1.2).
 - High spectrum prices can ‘cannibalise’ investment elsewhere, e.g., in the expansion of coverage or delaying the timing of technology upgrade investments.
- Benchmarking processes often involve a degree of subjectivity being applied to raw benchmarking data. Even where outliers are controlled for and data normalised as outlined above, care is needed to ensure spectrum assets are not overpriced as this can result in spectrum remaining unsold which denies clear use benefits, or acquisition at a high price but with less capacity for infrastructure deployment as a result.
- Current levels of industry profitability and the public interest benefits in facilitating ongoing mobile network investment (as discussed in section 5.1.3).
- Market dynamics, such as the challenging economics and high competitiveness of the telecommunications sector, should be considered.



We suggest that a conservative price would be no more than two-thirds of a full market value estimate to avoid the risk of inadvertently setting prices too high, thereby either choking off efficient demand or burdening operators with excessive fees at a time when they are under financial pressure.

Finally, if fees are set in the form of annual fees, there should be a process for periodically reviewing them to ensure they remain conservative. Otherwise, there is a risk that fee burdens become too high and that fees become a barrier to efficient trades.

5.3. Previous pricing methodologies used in Australia

The ACMA briefly cites²⁸ two spectrum pricing methods used previously in Australia — the Auction Avoidance approach and the Public Interest Approach. We do not consider either of these approaches, in the forms that they have previously been implemented, to be acceptable, and therefore we request that they are not repeated. We consider determining renewal prices (without need for auction) based on discounted international benchmarking to be a superior approach.

5.3.1. Methodology 1: Auction avoidance pricing

We note the ACMA cites two recent examples in its consultation paper — the Minister’s 2012 spectrum access charge direction from the previous ESL process and the pricing of set-aside lots in the 2022 850/900 MHz auction.

We consider the process leading to the Minister’s 2012 direction to be a reference point only in the sense of what not to do.²⁹ The process was a variation of a ‘sealed bid auction’ in which existing licensees were invited to confidentially propose a renewal price to the ACMA for each spectrum band being reissued. The Minister then selected the highest bid price for some bands and relied on valuation advice from Plum Consulting (using a cost reduction methodology) to set the price for other bands.

This process was very unsatisfactory. The sealed bid approach is inefficient in nature because, contrary to good auction design, the price was set by the highest winning bid. Moreover, it does not create good incentives for participants to reveal their true valuations (other than the threat of going to auction if it was thought that the submitted prices were too low), so the revealed bid data cannot be considered reliable. Further, the process was completely opaque and there was no opportunity to properly review and test the valuation modelling from Plum Consulting.

For the reasons we have discussed, renewal prices should be set conservatively relative to an estimate of fair market value derived from international benchmarking.

²⁸ Consultation paper, p.26.

²⁹ Consultation paper, p.26.



5.3.2. Methodology 2: Public interest pricing

The ACMA also references instances where it has been directed to use “public interest pricing”, including the re-issuing of spectrum licences authorised for rail safety purposes³⁰ and the conversion of NBN’s apparatus licences to spectrum licences in the 3.5 GHz band.³¹

Superficially, “public interest pricing” may appear attractive to spectrum licensees as it suggests spectrum licences prices could be either offered at heavily discounted prices or even no charge at all in order to support future public benefits but in reality, the approach is likely to be inappropriate for renewing spectrum licences used for public mobile networks. Were this approach to be used it could result in spectrum hoarding and/or windfall gains through resale activity (and low spectrum prices which may not be an appropriate return on the assets). Accordingly, we believe public interest pricing should only be applied in spectrum bands where there is a use case not operating on commercial terms and delivering high positive externalities (i.e., social value).

Further, public interest pricing suffers from being too subjective, as the relevant price-setting decision-maker may be influenced by a wide range of arbitrary factors. This is exactly what should be avoided in the renewal process. Commercial licensees want and need transparency and predictability.

6 Reduce the timeframe to complete the ESL process

We support the ACMA’s proposed four-stage approach. We consider the approach of conducting stages 1 – 3 once across all ESL bands will ensure principles are developed and applied consistently and efficiently (least burden on ACMA and industry), while still enabling the nuances associated with each band to be taken into consideration in each instance of stage 4.

We think the ACMA should group some of the Stage 4 iterations, especially where the bands are substitutable, and the expiry dates are in close proximity. For example, the 700 MHz and upper 850 MHz bands could be combined into a single Stage 4 accommodating both bands. This would deliver further process efficiency and as well as consistency across similar bands and will allow licensees to take a holistic view in planning approach to renewal of their holdings.

However, while we agree with the ACMA’s four-stage approach, we consider the ACMA **needs to reduce the timeframe for the process for stages 1-3 significantly** to ensure licensees are provided with necessary renewal information in sufficient time to make investment planning decisions. Importantly, in the event a licensee decides not to take up a renewal offer from the ACMA, the ACMA will need the greatest possible notice of this so it can auction or otherwise allocate the spectrum to quickly return the spectrum to productive use.³²

³⁰ ACMA Annual Report for 2013-14, p.46. <https://www.acma.gov.au/sites/default/files/2019-08/Annual-report%202013-14.docx>

³¹ Ministerial Direction, 20 October 2014, directing the ACMA to convert NBN’s 3.5 GHz apparatus licences into spectrum licences. <https://www.legislation.gov.au/Details/F2014L01399>

³² If spectrum licences are allowed to expire without an owner being found, there is no option other than to switch off all transmitters operating on that spectrum (as they would be unlicensed). While mobile networks operate across multiple bands, it will nonetheless cause massive disruption to the end users of that mobile network. If a licensee decides not to accept a renewal offer, the spectrum must go to auction to allow the existing licensee and other interested parties the opportunity to bid for the spectrum. Doing so at least creates some prospect of continuity of service. Unless the ACMA puts spectrum that is not being renewed to auction well ahead of licence expiry, it will be the end users who will wear most of the consequences.



Stakeholders need to be engaged as ACMA refines the public interest criteria and develops the assessment framework to measure how licence holders will meet the criteria. Initial engagement could be achieved through a tune-up forum once the ACMA has developed its preliminary views, so industry can provide feedback to the ACMA in a timely manner. While a single tune-up forum will not be sufficient to conclude industry engagement on public interest criteria, we consider it a very helpful starting point.

We note the ACMA has planned for this engagement to commence during Stage 2 of the ESL process,³³ however we are concerned that doing this in Stage 2 is too late. Telstra would encourage the ACMA to engage with stakeholders on the assessment framework and the public interest criteria during Stage 1. This will provide all stakeholders the opportunity to participate in the development of the criteria and assessment framework to ensure they are reflective of market conditions and the capacity of licence holders to maximise both consumer and producer welfare.

To this end, AMTA has developed a list of the items it considers should be delivered within each stage of the ACMA's four-stage process, along with timelines for the delivery of those items. The list is contained in AMTA's submission, and we support AMTA's proposed list of deliverables.

6.1. Renewal Information Package must be available 12 months before the opening of the RAP

We are asking the ACMA to provide existing licensees all relevant renewal information (i.e., the "Renewal Information Package" - RIP) at least 12 months prior to the commencement of the Renewal Application Period (RAP). The RIP must include:

- Whether the existing licensee will be offered the opportunity to renew all of their existing holdings;
- The Spectrum Access Charge³⁴ (i.e., the "renewal price") for the spectrum (ideally expressed as AUD/MHz/pop); and
- Any licence conditions that will be applied when the licence is renewed.

The RIP is required to give existing licensees the necessary information to make investment planning decisions and must be provided with sufficient time to assess the content and make informed and considered planning decisions. Changes to the quantity of spectrum a licensee holds, the introduction of new licence conditions, the removal of existing conditions and the renewal price for the spectrum (the Spectrum Access Charge) all have the potential to affect the value of the spectrum to the licensee and their decision to renew.

To illustrate our point with an example, Telstra is switching off its 3G network in the upper 850 MHz band in June 2024, and intends to fully "re-farm" the spectrum for 5G use. While some deployment of new 5G capable equipment has occurred in the full 850 MHz band (lower and upper) due to immediate capacity pressures in parts of our network, we have only been able to partially reclaim the spectrum in some areas without diluting the 3G customer experience, which must remain in place at every site until 30 June 2024. Large scale deployment of 5G equipment in the 850 MHz band across all parts of our network can only commence in earnest once we've exited 3G after June 2024. The best scenario would be to have the RIP by

³³ Consultation paper, p.23.

³⁴ Radiocommunications Act, s.294(1).



that date, to provide us with certainty that our upper 850 MHz spectrum will be renewed, and at what price so that all future 850 MHz site builds and upgrades can be designed accordingly.

As can be seen from this example, certainty of renewal, and the price of renewal is essential for investment planning, and licensees require certainty as early as possible and well in advance of licence expiry. For this reason, licensees have very strong incentives to lodge Renewal Application(s)³⁵ at the very start of the RAP. It will take incumbent licensees some time to consider the quantity of spectrum being renewed (especially if less than 100% of a licensee's current holding is renewed), the renewal price and any new licence conditions, to make the necessary long-term investment planning and Board decisions. Thus, for existing licensees to be able to make a considered decision and lodge a Renewal Application at the start of the RAP, existing licensees must be given the RIP **no later than 12 months in advance** of the opening of the RAP.

We note that section 77A of the Radiocommunications Act places no restrictions on the ACMA that would prevent it from providing the RIP 12 months in advance of the commencement of the RAP. We also note the description of Stage 4 in the consultation paper³⁶ states that Stage 4 will commence in 2025 for some bands. Stage 4 is where consultation occurs on draft allocation instruments (if any) and changes to the technical framework (if any) occur. The ACMA explains it aims to have Stage 4 (i.e., the contents of the RIP) completed in time for licensees to be "...able to apply for the renewal of their licence from the **first day of the relevant renewal application period**..."^{37 38} As we have explained above, we consider this is too late.

6.2. Timeframe for Stage 2 needs to be reduced

We outlined in section 6.1 why it is important licensees receive the RIP no later than 12 months prior to the commencement of the RAP, using the 850 MHz band as an example. The upper 850 MHz and 1800 MHz bands both have licence expiry dates of 17 June 2028, meaning the RAP commences on 17 June 2026. Thus, 12 months prior to the commencement of the RAP for these bands is **17 June 2025**. This is the last day by which licensees should receive the RIPs for the upper 850 MHz and 1800 MHz bands, and that date is now less than 2 years away. The ACMA needs to complete stages 1-3 within 18 months (by the end of 2024) if it is to provide RIPs to meet this timeline. Achieving this accelerated timeline would allow the ACMA

³⁵ Radiocommunications Act, s.77A(4).

³⁶ Consultation paper, p.25.

³⁷ Consultation paper, p.25.

³⁸ We note there is a discrepancy in the language the ACMA uses in the consultation paper. In the executive summary, the ACMA notes that "...some views formed in Stage 3 may need to be revisited **closer to the expiry** of licences within a band, as required", (see consultation paper, p.2 underneath Figure 1) and then goes on to say "...aspects of Stage 4 will be more band-specific and licensee-specific, [and will be] conducted **closer to the date of expiry of licences** in the particular band ..." [emphasis added]. We are concerned this language seems to suggest the ACMA may be considering that finalisation of some aspects of the RIP may occur *during* the RAP (i.e., "closer to licence expiry"). This is also reflected again in the last paragraph on p.24 of the consultation paper.

Fortunately, the description of Stage 4 clarifies that all the relevant information related to each band, including sample licences, spectrum access charge determinations, draft allocation instruments, changes to the technical framework and the application documents, will be available prior to the opening of the RAP for any given band. The ACMA says this timing will "...facilitate a licensee being able to apply for the renewal of their licence from the **first day of the relevant renewal application period**, ..." (see consultation paper, p.25) [emphasis added].

We are pleased the description of Stage 4 in the consultation paper clarifies the loose terminology in the Executive Summary, but nevertheless re-emphasise that even targeting the start of the RAP is too late, and the content of the RIP must be provided at least 12 months prior to the commencement of the RAP.



to commence Stage 4 for these two bands in January 2025 and then complete both RIPs within less than six months, to have them ready by 17 June 2025.

The block diagram of the process in Figures 1 and 3 both show Stage 2 of the ESL process running between Q1 and Q4 2024, but then goes on to show Stage 3 occurring in a single quarter (Q4 2024) and therefore concurrently with Stage 2. We are concerned that overlapping Stage 3 with the end of Stage 2 risks pushing Stage 3 into 2025, which is when Stage 4 needs to be conducted for the upper 850 MHz and 1800 MHz bands. As such, we strongly recommend the ACMA condense the timeline for Stage 2 into the first six months of 2024 (i.e., Q1 and Q2), to allow adequate time for Stage 3. Stage 3 appears to be the most complex of the stages, where the ACMA will use the information from Stages 1 and 2 to form its overarching policy positions. As the ACMA notes in the description of Stage 3, “*Views around appropriate future arrangements may vary, and we expect to consult on options if any substantive change is contemplated for how the spectrum is planned, licensed or allocated.*” Consultation on policy options is likely to be time consuming so it seems unrealistic to expect this to be achieved in a single quarter (Q4 2024, as per the schedule in Figures 1 and 3).

One approach that could help reduce timeframes in the ESL process is the grouping of substitutable bands (for example, all the low-bands below 1 GHz), especially where those bands have expiry dates in close proximity. The ACMA already identifies the grouping of bands in the ESL process,³⁹ and we welcome this. Our point here is that there may need to be some further “subgrouping” to enable efficiencies to be realised across bands with common attributes. Of course, time-efficiency is only one possible benefit from grouping similar bands; the other benefit is that attributes of similar bands can be aligned through the renewal process (for example, common licence expiry dates, or updates to technical framework aspects). We explore the alignment benefits in section 7.5.

7 Further considerations

In this final section of our submission, we comment on several remaining aspects of the consultation.

7.1. Data gathering

The ACMA’s data gathering should be limited to data that is absolutely necessary to assess the public interest and to the extent possible, should draw on existing publicly available data. While some additional data may be needed to augment this publicly available data, MNOs should not be required to re-report data already in the public domain and the ACMA should not impose arbitrary constraints in order to ‘standardise’ reporting.

The ACMA says it is considering requesting the following information in Stage 2:

- service coverage mapping
- current and planned spectrum utilisation, including both spectral and geographic considerations
- levels of investment in use of the spectrum, as well as planned investment and deployments
- how the spectrum is used for different use-cases

³⁹ Consultation paper, description of Stage 3, p.24. “*We are proposing to conduct Stage 3 across all expiring spectrum-licensed bands at the same time, ...*”



- details of subscribers and end-users.⁴⁰

We address these points in the subsections below.

7.1.1. Coverage mapping and spectrum utilisation

There are several publicly available and/or existing regulatory reporting resources that can be used to assess coverage and spectrum utilisation. All MNOs publish publicly available coverage maps. The ACMA's Register of Radiocommunications Licences (RRL) and the Radio Frequency National Site Archive (RFNSA) operated by AMTA are both publicly identifiable databases that provide information about geographic spectrum use. The ACCC collects mobile network coverage information by frequency band and technology type under a record keeping rule (RKR).⁴¹ Mobile network data collected under the RKR is also published by the ACCC.⁴² These existing resources provide sufficient data to allow the ACMA to assess current spectrum utilisation and coverage. However, current coverage and utilisation should not be confused with intent for future use. The ACMA will need to obtain additional information to assess future use and coverage.

With respect to coverage maps, we consider there is no need to specify a standard set of set of assumptions for the development of bespoke coverage maps. This issue has been considered at length in many ACCC processes. Most recently, the ACCC concluded it was '*not considering at this stage mandating a standardised set of assumptions for coverage reports*'.⁴³ We consider the coverage maps, as published by each of the mobile network operators and NBN Co provide a sufficiently accurate view of the availability of coverage for the purpose of assessing the renewal of ESLs.

7.1.2. Investment in spectrum use

The ACMA says it is considering collecting information on the "... *historic levels of investment and innovation, as well as planned and anticipated investment and innovation to occur in the future.*"⁴⁴ Regarding historic investment by MNOs, we consider this is a reasonably straightforward request, as investment in both acquiring spectrum and deploying mobile network infrastructure should be readily available from sources such as annual reports. We would be happy to compile this information in summary form from Telstra's annual reports for the ACMA if this would be of use to the ACMA.

Planned and anticipated investment, however, is more challenging. Mobile networks and the populations they serve are dynamic. In addition, changes in technology, such as the emerging capability of Low-Earth Orbit (LEO) satellites, and government policy changes or the identification of new spectrum bands at ITU can have significant influence on investment plans. While these, and many more aspects, make accurate forecasting of spectrum investment difficult, what can be said with certainty is the demand for mobile communication capabilities will not reduce (it will only increase), and while that demand is present, businesses will invest in delivering services to customers. Whether that investment manifests in upgrading

⁴⁰ Consultation paper, pp.28-31.

⁴¹ ACCC, [Audit of telecommunications infrastructure assets record keeping rules](#), 11 August 2022.

⁴² ACCC, [ACCC Mobile Infrastructure Report – data release](#).

⁴³ ACCC, [Audit of Telecommunications Infrastructure Assets – Record Keeping Rules Explanatory Statement](#), August 2022.

⁴⁴ Consultation paper, p.30.



from 5G to 6G in coming years or developing capabilities to increase capacity through LEO satellites using terrestrial mobile bands, the investment will continue.

So, while past performance is not always an *accurate* indicator of future performance, it is certain that demand for mobile services will continue to grow, and so long as the industry is able to make a reasonable return on its invested capital, it will continue to invest. As such, we consider the ACMA should use the broad details of past investment (for example, through annual reports) as a good predictor of the likely future investment in mobile networks.

7.1.3. Spectrum use cases and end-users

The other broad area the ACMA says it may seek information about, is use cases and end users. The use cases for public mobile networks are reasonably well understood, although if the ACMA would like further information about the way we use spectrum, we would be more than happy to provide further information.

Regarding the number of end users, the ACCC tracks a number of useful industry use metrics, including the number of mobile devices (based on the number of plans) in the Record Keeping Rule (RKR) data.⁴⁵ This information is available on the ACMA's website, and at a high level, should provide the ACMA with the broad information it seeks.

7.1.4. Issue s.78 expressions of interest early in 2024

The ACMA explains that it "... **may** also publish a notice under section 78 of the Act, inviting persons to express interest in the relevant expiring ESLs."⁴⁶ [emphasis added]. We understand the word "may" in this context to refer to whether the ACMA does this during Stage 2, because we observe that section 78 of the Act *requires* the ACMA to publish a notice of spectrum licences that are about to expire, that invites expression of interest from persons who wish to have issued to them spectrum licences relating to those parts of the spectrum.⁴⁷ We strongly encourage the ACMA to complete this compulsory step in the ESL process early in Stage 2. This will help the ACMA understand the likely interest in the spectrum, and the types of entities who are interested. This in turn, could help refine the public interest criteria and the type of data that should be collected to inform the assessment of their ability to meet the public interest criteria (through the assessment framework).

We note our suggestion here is also aligned with AMTA's list of items it considers should be delivered within each stage of the ACMA's four-stage process, as discussed in AMTA's submission to this consultation.

⁴⁵ ACCC Record Keeping Rules (RKR). Overall website, see <https://www.accc.gov.au/by-industry/telecommunications-and-internet/telecommunications-industry-record-keeping-and-reporting-rules>
For RKR data on the number of mobile users, see the Internet Activity Report for December 2022, Figure 8, p.9.
<https://www.accc.gov.au/system/files/Internet%20Activity%20Report%20-%20December%202022.pdf>

⁴⁶ Consultation paper, p.23.

⁴⁷ Radiocommunications Act, s.78.



7.2. Adopt a project management approach to reduce risk and achieve timely delivery

We recommend the ACMA adopt a project management approach for the ESL process. A project management approach will allow target delivery dates to be identified, milestones set, and risks managed. Ensuring the ESL process is managed to a timely schedule will improve the certainty and confidence for incumbent licensees by providing the information they need to make business investment decisions in the timeliest manner possible.

Adopting a project management approach will also assist to reduce risk of rework and delay in the ESL process. The modernised legislative framework affords the ACMA significant discretion in its approach to expiring spectrum licences, and this is the first time the industry has been through the process of dealing with expiring licences since the Modernisation Act. While some layers of bureaucracy have been removed in the streamlining of the Radiocommunications Act, we are in slightly “uncharted territory” in that the ACMA now has greater responsibility and decision-making powers. For example, the ACMA now needs to manage input from other agencies (e.g., the ACCC on competition matters) and from the Minister on policy matters. We suggest the ACMA needs to plan how it will feed input from a range of stakeholders into its decision making, noting it is only required to have regard to some of the input, while other input, for example a Ministerial direction, must be complied with.

We consider a project management approach that identifies and manages all the necessary steps within, and across the four stages of the ESL process, and that identifies and manages all deliverables to schedule will reduce risk of prolonging uncertainty for incumbent licensees by delivering a timely and well-managed outcome.

7.3. High levels of engagement and transparency will benefit the ESL process and outcomes

Commensurate with our recommendation of a project management approach to the ESL process, high levels of engagement and transparency will also benefit the ESL process and outcomes. Under the updated Radiocommunications Act, the ACMA has discretion in how it will ultimately deal with expiring spectrum licences, and undoubtedly, will receive a wide range of opinions on how it should proceed. There are many matters to deal with including public interest aspects, the method for determining renewal price (assuming some bands are renewed at a renewal price rather than cleared and auctioned), and the determination of the renewal price itself. These aspects will require data and information from industry and other stakeholders. The government and other agencies such as the ACCC will also have opinions ranging from matters such as optimal use of the spectrum through to competition aspects.

Throughout all this, it is essential the ACMA engages extensively, and maintains a high level of transparency to afford the incumbent licensees the opportunity to participate constructively in decision making that will directly affect their business plans and investment. To improve efficiency of engagement, we suggest spectrum “tune-up” sessions or a Technical Liaison Group (TLG) are good vehicles to involve interested stakeholders, to supplement the more traditional consultation/submission method. The tune-ups and TLGs are both efficient and beneficial, as they facilitate real-time dialogue between stakeholders who potentially have differing views, enabling points of contention to be discussed and positions explored. Of course, after engagement through tune-up sessions and/or a TLG, it is still necessary to conduct formal public consultation.



Consistent with the project management approach, it is important that the ACMA identify all the opportunities for engagement (e.g., via tune-up sessions or TLG) and for further consultation early in the overall ESL process.

Finally, the engagement must also be pragmatic and efficient. We envisage there will be considerable engagement with industry and other stakeholders if the ESL process is to be transparent, and we are advocating for high levels of engagement. At the same time, there will be substantial work required to fully consider all aspects related to ESLs, and we request the engagement is kept as efficient and as pragmatic as possible to minimise the burden and expedite the process.

7.4. “IMT” bands must continue to accommodate 3GPP standards

Spectrum licences are generally characterised as enabling “technology-flexible frameworks”,⁴⁸ affording the licensee wide discretion on technology choice when using the spectrum. We fully support the technology-flexible nature of spectrum licences.

At the same time, through the ESL process, there is the possibility of new licensees acquiring spectrum if one or more existing licensees elect to not renew all of their existing licences. In the event new licensees appear, depending on who they are, they may have a desire to use the spectrum for new or different purposes for what it is used for today.

Noting that one of the expiring bands is currently not used for IMT or fixed wireless,⁴⁹ we consider it imperative that the other seven bands (which are today used for IMT and fixed wireless purposes), ensure that 3GPP technologies are always accommodated in the technical frameworks as the most likely use of mobile-related spectrum bands. If new licensees do appear in the band, and technology is introduced that is not aligned to 3GPP standards, those licensees will need to comply with the relevant technical framework so as to not have negative impacts for the mobile industry and/or for NBN Co.⁵⁰

7.5. Holistic approach should be taken across substitutable bands

Due to the substitutable nature of spectrum within certain subsets of bands (e.g., low-, mid-, and high-band), we agree with the ACMA⁵¹ that the process for ESLs should develop an approach that seeks to treat substitutable bands holistically. By this, we mean aspects such as aligning future expiry dates, setting consistent renewal statements in renewed licences, determining market value, alignment of technical framework aspects, and/or other aspects such as incentives to defragment across substitutable bands.

For example, upper 850 MHz licences expire on 17 June 2028 and 700 MHz licences expire on 31 Dec 2029. Spectrum in these bands is highly substitutable with the recently auctioned 850 MHz Expansion Band

⁴⁸ ACMA. Our approach to radiocommunications licensing and allocation. March 2021. p.7. Available at: https://www.acma.gov.au/sites/default/files/2021-06/Our_approach_to_radcomms_licensing_and_allocation_information_paper.pdf

⁴⁹ The 2.5 GHz “mid-band gap” spectrum (2570–2620 MHz) is used by the national broadcasters to provide electronic news gathering (ENG) services.

⁵⁰ Of course, abiding by 3GPP-compliant technologies is no guarantee of avoiding interference management problems, however, straying from 3GPP-compliant technologies substantially increases the risk there will be problems.

⁵¹ Consultation paper, middle of p.24 where the ACMA notes it will “...conduct Stage 3 across all expiring spectrum-licensed bands at the same time...”, as it sees “...greater utility in concurrent evaluation of certain issues...”



(lower 850 MHz) and 900 MHz band, whose 20-year licences expire on 30 June 2044. We consider it would be appropriate to align the expiry of the subsequent licences in the upper 850 MHz band and 700 MHz band with the lower 850 MHz and 900 MHz band expiry (i.e., 30 June 2044), and for the licence renewal statements in these bands to align with the statement in the lower 850 MHz Expansion Band and 900 MHz band licences. Similarly, in the 3400-3800 MHz band, there are licences that will expire in 2030 (the original licences and new 3.4 GHz licences being auctioned this year) along with the new 3.7 GHz spectrum being auctioned this year that will expire in 2044. Consideration should be given to renewing the existing (2030 expiry) licences for only 14 years to align their new expiry date with the expiry date of the adjacent spectrum being auctioned this year.

The ESL process also affords the opportunity to align and update technical framework characteristics. Given the timeframe of the ESLs, this could include updates for 6G technology, if the standards from 3GPP are mature enough.

A holistic approach across band subsets would also promote the greatest opportunity for licensees to work to defragment spectrum holdings to achieve greater efficiency and utilisation of spectrum. It also avoids the risk of piecemeal decisions that could limit the ability of existing licensees to assess/reconsider their spectrum portfolio options, for example, through misaligned expiry dates, renewal prices, or terms and conditions.

7.6. Renewal conditions must be clear, unambiguous and tangible

The final outcome of the ESL process is the issuance of new spectrum licences for the ESL bands. Commensurate with this, is the potential for there to be conditions imposed upon those licences, which may, for example, arise because of a need to satisfy public interest criteria, or as an obligation on a licensee in return for consideration from the ACMA in relation to the price for the licence.

We consider it important that any conditions the ACMA imposes on either renewed licences or on new licences must be sufficiently clear, unambiguous and tangible so that licensees can make an upfront assessment on the likelihood of renewal and whether to renew, and so the ACMA can unambiguously assess whether the licensees have met their conditions.



Appendix 1: Response to consultation questions

This appendix contains our responses to the questions contained in the consultation paper.

1. What are your views on the proposed public interest criteria? Are there other criteria we should consider?

We appreciate this consultation is the first step of the first stage of the ESL process, and the high-level public interest criteria the ACMA have provided are a starting point for further conversation and refinement (nominally throughout stage 2 of the process, according to the consultation paper). We consider there is more work that will be done to both refine the criteria and develop an assessment framework for the criteria, and our views are contained in section 4 of our submission.

2. What are your views on the proposed 4-stage approach to undertaking the ESL process?

We support the ACMA's proposed 4-stage approach.

At the same time, we consider there are improvements that could be made such as adopting a project management approach (see section 7.2) and ensuring there is a high level of engagement and transparency (see section 7.3). We consider there are efficiencies that could be gained through grouping similar bands (see section 7.5), and we believe that the overall timeframe to complete the ESL process needs to be reduced (see section 6) to ensure the Renewal Information Package (RIP) is available sufficiently prior to the Renewal Application Period (RAP) to afford incumbent spectrum licensees sufficient opportunity to assess options and make business planning decisions ahead of the opening of the RAP.

AMTA has developed a list of the items it considers should be delivered within each stage of the ACMA's four-stage process, along with timelines for the delivery of those items. We support AMTA's proposed list of deliverables.

3. Are there any band-specific issues that we should consider as part of this ESL process?

At this point in the ACMA's ESL process, we don't have any band-specific issues to highlight to the ACMA.

4. Are there any other matters that we should consider in connection with the ESL process?

Not at this stage, however, given the dynamic nature of our industry we consider it is appropriate to enable stakeholders to provide new information on an ongoing basis while the ACMA works through the four stages.



5. What are your views on the proposed approaches to valuing the spectrum and payment arrangements?

Section 5 of our submission sets out our views on determining market value and setting pricing. In short, we consider it is reasonable that the ESL process should produce renewal prices that represent fair market value, equating to a fair return to Government and the community for the use of a scarce resource. At the same time, there are strong arguments for the renewal price to be set conservatively.

We consider international benchmarking to be the better approach for estimating the market value of spectrum, and we explain our reasoning in section 5.2. The final renewal price should then be set at a discount to the estimate of market value.

In section 5.3, we look back on previous approaches to setting renewal fees (as discussed in the ACMA's consultation paper) and explain why they were unacceptable and should not be repeated.

6. What are your views on the proposed approach to examining use under existing spectrum licences?

The ACMA's data gathering should be limited to data that is absolutely necessary to assess the public interest and to the extent possible, should draw on existing publicly available data. While some additional data may be needed to augment this publicly available data, MNOs should not be required to re-report data already in the public domain and the ACMA should not impose arbitrary constraints in order to 'standardise' reporting. We explain our view more fully in section 7.1 of our submission.



Appendix 2: The mobile industry likely satisfies the public interest criteria

This appendix contains some preliminary thoughts we have to demonstrate why we consider renewal of expiring spectrum licences is very likely satisfy the public interest criteria. We recognise the public interest criteria are still being refined, and in part, the purpose of this consultation is to solicit views from stakeholders relevant to the ACMA's consideration and further refinement of the public interest criteria. It is in this vein that we provide the following thoughts.

A2.1 Criteria 1: The mobile industry satisfies the efficiency criteria

Consumers are benefitting from larger data allowances, however ARPU for mobile plans has been declining for mobile network operators until recently. For many telecommunications companies monetising usage-based voice and SMS does not form part of their business models as these features are offered with unlimited allowances, often at a flat rate charge.⁵² Mobile operators now rely on data volume to generate revenue, however competition in the market has seen increasing data volumes offered to consumers at lower prices, with high data allowances, including data free streaming on certain apps on the top tier mobile plans.⁵³ Recent analysis has shown that for consumers, the price of a gigabyte of data has never been lower, leading to an increase in data usage by consumers. For the telecommunications companies this has resulted in higher consumption, but lower revenue per gigabyte; a trend that is being observed worldwide. It is estimated that total mobile service revenue per gigabyte consumed declined by 27% in Australia over the last two years, amongst the largest revenue declines in the world.⁵⁴ While many aspects such as improvement in technology capabilities factor into a “revenue per gigabyte” metric, what this data does show is MNO's are productively efficient and consumers are benefitting from economies of scale and scope that operators have been able to realise, however it is important that policy makers recognise that although consumer welfare has increased declining revenues could impact operators moving forward potentially impacting investment.

Mobile operators have demonstrated dynamic efficiency with the shift from 2G through to the rollout of 5G in response to changes in the mobile telecommunications ecosystem and broader market dynamics. Australia has been a world leader in the rollout (spectrum and infrastructure deployment) and adoption (device connectivity per capita) of 5G. Australia is also a world leader in spectrum allocation for 5G, ranking 12th for telecommunications capital expenditure per capita (from a 30 country ranking).⁵⁵ The industry has the highest investment rate of all industries in the Australian economy, investing significantly in improvements to existing infrastructure, research and development and the deployment of new technology. In 2019-20, the telecommunications industry invested 65.8% of total industry value added (approximately \$19.5 billion).⁵⁶

⁵² GSMA, 2023, <https://www.gsma.com/publicpolicy/wp-content/uploads/2022/11/Competition-Dynamics-in-Mobile-Markets.pdf>

⁵³ Canstar Blue, 2023, <https://www.canstarblue.com.au/phone/unlimited-data-phone-plans/>

⁵⁴ Jungermann, Fredrik, 2023 ARPU Growth Almost Always Slower Than Inflation, Figure 13, p.18. Available at: <https://tefficient.com/arp-growth-almost-always-slower-than-inflation/#more-6516>

⁵⁵ AMTA / Deloitte Access Economics report, 5G Unleashed, March 2022. https://amta.org.au/wp-content/uploads/2022/03/5G-Unleashed-Final-Report_combined-v2.pdf

⁵⁶ Ibid.



Over the 7 years to end FY22 Telstra invested \$11bn in the national mobile network, of which \$4bn was invested in the regional mobile network.⁵⁷

The GVA of the mobile technology to the Australian economy is estimated to be \$23bn (direct) and \$67b (indirect), or \$2,500 per capita and supports employment of 117,000. The productivity benefits of mobile technology and 5G are significant, estimated to be \$31bn for healthcare, \$15bn for agriculture, \$14bn for smart cities and \$7bn for the manufacturing sector. It is estimated that 5G could increase the size of the economy by \$70bn by 2030, if it is adopted to its full potential by Australian businesses.

5G is expected to generate benefits to all industry sectors, although some will benefit to a greater extent than others based on their ability to incorporate 5G into their business models. It has been estimated that over the coming decade 46% of benefits from 5G will be realised by the services sector, which in Australia employs almost 90% of Australian workers and accounts for approximately 80% of GDP. In addition to this, 5G is expected to provide benefit in the manufacturing sector, driven by applications such as smart factories, smart cities and smart grids⁵⁸.

5G, and then 6G in the years ahead, will provide a range of enabling use cases serving a range of needs for business such as managing remote workforces, industrial manufacturing, and automated agriculture. The telecommunications sector through organisations such as Telstra will be able to play a role in supporting companies to shape how their work environments look in the future. This will help companies determine what connectivity platforms and technology infrastructure are required to make working in the office and working from home productive and enabling a seamless switch to hybrid working environments.

Although economic, technical, and social factors will impact the extent and rate of technology adoption facilitating the diffusion of digital technology will increase the competitiveness and productivity of the economy. McKinsey estimates that automation (which is reliant on mobile telecommunications) as an example could increase global productivity growth by between 0.8 and 1.4 percent p.a. In addition to this, in the most digitised sectors, productivity has increased by up to four times compared to the economy wide average.⁵⁹

A2.2 Criteria 2: Promotes investment and innovation

Telecom infrastructure acts as an enabler for economic activity and is the foundation of the digital economy. Telecommunications infrastructure is essential for governments locally, nationally and internationally in driving economic growth, delivering social and environmental objectives (such as digital inclusion and emissions reductions). Mobile technology will play a key role in digital connectivity as the demand for data grows exponentially, networks are continually evolving to meet demand (e.g., the move from 4G to 5G to 5G). Telecommunications companies however are facing challenges to deliver the infrastructure with declining revenue, smaller investment pools and a tougher external economic environment. This situation is being recognised in Europe with the GSMA noting that eroding market conditions are making it more difficult for operators to meet digital policy targets, with many telecom operators experiencing low returns to capital.

⁵⁷ Telstra, 2022, <https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-g/TEL-AR-2022-Spreads-FINAL.pdf>

⁵⁸ GSMA, 2023, The mobile economy, <https://www.gsma.com/mobileeconomy/wp-content/uploads/2023/03/270223-The-Mobile-Economy-2023.pdf>

⁵⁹ McKinsey, 2017, <https://tinyurl.com/yu9fs73h>



It is important that policymakers and regulators recognise and address any imbalances in the digital ecosystem and ensure that mobile operators are provided with a level playing field. Addressing imbalances will enable mobile operators to continue their investment in the network to supply the new technologies that will deliver the benefits of the digital economy.

The cost associated with obtaining spectrum will have a significant impact on the capacity of operators to undertake investment in the network that meets the public interest criteria. It is important that spectrum policies for telecommunications supports the digital connectivity goals of government rather than just maximising revenue.

To maximise consumer welfare from mobile phone spectrum, the ACMA needs to ensure that industry has clear guidelines on what measurements will be used to determine how operators will meet the public interest criteria. We consider the ACMA should, wherever possible, rely on market forces to ensure economically efficient use of spectrum. In a perfectly competitive market, firms will produce the combination of goods and services most desired by consumers in the most efficient manner and will offer these goods and services at competitive prices. In this way, the market achieves technological and allocative efficiency. If reasonably competitive conditions exist and there is no market failure, then markets tend to achieve economically efficient use of resources more effectively than in a market that is heavily regulated.

The public interest criteria, therefore, should both permit and promote the operation of competitive market forces. ACMA can largely help operators meet the public interest criteria simply by not interfering where it concludes that the judgment of the marketplace is sufficiently reliable.

ACMA needs to ensure that mobile operators have flexibility in meeting their obligations under the criteria while providing clear guidance as to what will be considered satisfactory performance to meet the public interest criteria.

Further, by the end of this decade when current spectrum licences are expiring, 6G standards will be complete, and network operators will be looking to invest in upgrading their networks to the latest innovative technology generation. Each mobile generation harnesses the power and imagination of the smartest minds on the planet to develop new, innovative radiocommunications and core network solutions. What better way to access and harness new innovative developments from around the world (including Australia's considerable input to this innovation), than to use the scarce and extremely valuable spectrum resources for the next mobile generation.

A2.3 Criteria 3: Enhances competition

Mobile markets in Australia, including the consumer mobile market, business mobile market and fixed wireless broadband market and the market for IoT connectivity are already competitive, both at an infrastructure level and at a retail level. Deloitte found that competitive pressures amongst MNOs in Australia saw benefits to consumers through falling prices between 2017 and 2019 and increasing coverage.⁶⁰ Research conducted by GSMA found that competition policy that favours a higher number of market players can cause efficiency losses related to costs, network quality and deployment by failing to give the appropriate weight to the long-term effects of investment and innovation on consumer welfare. Based on

⁶⁰ AMTA / Deloitte Access Economics. Mobile Nation 2019: The 5G Future. p.14, "the price of data has fallen 75% in phone plans over from 2017 to 2019." Available at:

<https://amta.org.au/wp-content/uploads/2019/05/mobile-nation-2019-the-5g-future.pdf>



their research findings, GSMA recommended that policy makers take a balanced approach when considering the effects of mergers on dynamic competition incentives and investments. Their research found that in three key areas additional competition did not result in increased consumer welfare.⁶¹

- **Investment:** The GSMA report found that countries in Europe with a higher number of players did not generate the optimal conditions for investment. From 2015 onwards, operators in European three-player markets invested more per connection than those in four-player markets, delivering faster download and upload speeds.
- **Price effects:** In the same report, there was no robust evidence found to suggest that Europe's four-player markets have produced lower prices than three-player markets in the past decade.
- **Innovation:** Market consolidation can accelerate the transition between technology cycles in the mobile industry, leading to improvements in the quality and innovation of services.

The evidence from the European and the North American markets indicates that increasing the number of MNOs in the marketplace does not necessarily result in better outcomes for consumers. Price levels, investment in infrastructure and innovation do not necessarily improve as incumbent MNOs have economies of scale and scope that are difficult for new entrants to replicate in a cost-effective way and may in fact be detrimental to consumer welfare. Based on the evidence, we consider there is unlikely to be any enhancement to competition (at either the infrastructure level, or at the retail level) arising from the ACMA setting aside spectrum for potential new entrants to increase competition, as existing licensees are facilitating efficient outcomes in the market.

A2.4 Criteria 4: Balancing public benefits and impacts

In developing this criterion, ACMA will need to ensure consumer welfare is maximised through the renewal of spectrum licences. Spectrum used for telecommunications has provided benefits to Australia and all Australians. In our response we have highlighted several reports that demonstrate the economic benefits and productivity gains of spectrum used for the provision telecommunications services. There are also community benefits by the amount paid upfront to the government for each spectrum licence with revenue that is used to deliver other government services.

Spectrum that is used for telecommunications services provides not only economic benefits, it also provides social benefits to the broader community. These include emergency warnings in times of natural disaster, access to the Triple Zero emergency service and social inclusion through access to social networking sites and other services.

Telstra believes that in developing the indicators for meeting this criterion, the ACMA should consider the consumer welfare loss that would result from the non-renewal of ESLs. This would likely lead to an increase in industry concentration and market power, even if a new entrant was able to enter the market. The potential impacts are that:

- Cost would be duplicated.

⁶¹ GSMA, 2023, <https://www.gsma.com/publicpolicy/wp-content/uploads/2022/11/Competition-Dynamics-in-Mobile-Markets.pdf>



- Prices for mobile services would increase, with some subscribers potentially dropping out of mobile services.
- The existing operators would consolidate their market power, increasing producer surplus at the expense of consumer surplus because of the non-renewal.

It has been forecast that mid-band 5G spectrum will drive an increase of more than \$610 billion in global GDP in 2030, which would account for approximately 65% of overall socioeconomic value from 5G. Low and high bands will also deliver broader benefits and will be essential in delivering the most innovative services to consumers across all industries and a wider geographical spread. Low bands will account for around \$130 billion of economic value in 2030, and high-band spectrum will add another \$220 billion, for a total of close to a \$1 trillion in additional GDP by the end of the decade.⁶²

We would also like the ACMA to consider whether the costs of spectrum set asides for Public Safety Mobile Broadband (PSMB), are outweighed by the benefits of delivering this service over the public mobile networks. We consider the most efficient, effective and least cost approach to delivering PSMB is to use commercial networks and spectrum. The Productivity Commission in 2015 found that using the public networks would cost governments three times less compared to building a dedicated network for Public Safety Authorities (PSAs).⁶³ The cost savings would be a direct result of being able to leverage and share existing network infrastructure, using the economies of scale that the public mobile licence holders benefit from.

A2.5 Criteria 5: Supports relevant policy objectives

As stated in section 4.2.2 of our submission, we consider this criteria is too broad and requires a more focussed approach. To achieve this, we believe the Government policy objectives should assign 5G spectrum to support its digital connectivity goals and not just as a means of maximising revenues. Effective, targeted spectrum policies are vital to support better quality and more affordable 5G services. In turn, that will help address issues such as the usage gap. High reserve prices, artificially limited spectrum supply (including set-asides) and poor auction design can negatively impact consumers resulting in outcomes such as slower mobile broadband and reduced network investment.

We support the five policy objectives for the proposed allocation of bands that are essential to mobile service delivery in Australia namely:⁶⁴

1. supporting the deployment of 4G and 5G technologies
2. promoting competitive market outcomes for the long-term benefit of consumers
3. encouraging investment in telecommunications infrastructure, including in regional Australia
4. supporting continuity of services, and
5. supporting a national Public Safety Mobile Broadband (PSMB) capability.

⁶² GSMA, 2022, <https://www.gsma.com/spectrum/wp-content/uploads/2022/02/mid-band-5G-spectrum-benefits.pdf>

⁶³ Productivity Commission, 2015, Public Safety Mobile Broadband, <https://www.pc.gov.au/inquiries/completed/public-safety-mobile-broadband/report/public-safety-mobile-broadband.pdf>

⁶⁴ Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 2023, 850 and 900 MHz spectrum bands policy objectives, <https://www.infrastructure.gov.au/media-centre/850-and-900-mhz-spectrum-bands-policy-objectives>



However, to maximise the public interest benefits of end users of public networks, public policy makers should also:

- ensure spectrum is allocated in an economically efficient manner.
- balance flexibility, with certainty in the licencing and policy framework to give mobile operators the confidence to invest in their networks.
- ensure that mobile operators have clear direction on evidence needed by ACMA during the decision-making process. Assign weightings to the public interest criteria to provide MNOs with direction on how spectrum assignment will be evaluated.
- provide sufficient 5G spectrum and avoid limiting the supply via set-asides.
- set modest reserve prices and annual fees to let the market determine spectrum prices.
- consult with stakeholders on the award rules and licence terms and conditions when setting prices (onerous obligations reduce the value of spectrum).).^{65 66}

⁶⁵ GSMA, 2023, <https://www.gsma.com/spectrum/wp-content/uploads/2023/06/Impact-of-Spectrum-Set-Asides-on-5G.pdf>

⁶⁶ AMTA, 2021, <https://amta.org.au/wp-content/uploads/2021/12/AMTA-Policy-Position-Paper-Spectrum-for-5G-and-Beyond-Nov-2021.pdf>