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The Manager
Economics Advisory Section
Australian Communications and Media Authority
PO Box 78
Belconnen ACT 2616

Expiring spectrum licences, stage 4 – Updated preliminary views on pricing

Dear Sir/Madam,

The GSMA appreciates the opportunity to respond to this consultation by the Australian Communications and Media Authority (ACMA) on Stage 4 of the expiring spectrum licence (ESL) process on updated preliminary views on pricing.

The GSMA is a global organisation uniting more than 750 operators and almost 400 companies in the broader mobile ecosystem and related industries. Our vision is to unlock the full power of connectivity so that people, industry and society thrive.

Our submission is attached below. Should you have any further query, please do not hesitate to contact me at jeanette.whyte@gsma.com.

Yours sincerely,

A handwritten signature in grey ink that reads "Jeanette Whyte". The signature is fluid and cursive, with a large loop at the end of the last name.

Jeanette Whyte
Head of Public Policy and External Affairs, APAC
GSMA

Expiring spectrum licences (stage 4) – updated preliminary views on pricing

Connectivity is a cornerstone of every nation's digital ambitions and spectrum is the limited resource essential for delivering high-quality mobile services that drive socioeconomic benefits. Today, Australia is among the most advanced countries globally in terms of mobile connectivity, evidenced by the widespread availability and adoption of high-quality mobile services supported by the scale of its 5G rollout.

This is reflected in the GSMA's international connectivity benchmarks:

- Australia ranks 5th globally in the GSMA Mobile Connectivity Index¹, which measures the performance of 173 countries against the key enablers of mobile internet adoption (including infrastructure, affordability, consumer readiness and content and services)
- Australia is a leading 'Tier 1' country in the GSMA 5G Connectivity Index², which measures the performance of almost 50 markets against the key outcomes for 5G infrastructure and services

The ACMA's work in delivering spectrum resources for the mobile industry in a well-planned, timely fashion has been key for the mobile industry. The consultation process on the spectrum licences due to expire from June 2028 and October 2032, which started in 2023, is most welcome and critical towards providing certainty over future rights for mobile spectrum.

In this context, we support the ACMA's [preferred views on the bands licensing arrangements](#) as set out in Stage 4 of the ESL process. Specifically, the full renewal of ESLs for mobile services will best serve long term public interest by facilitating efficient spectrum use, promoting investment and innovation and supporting competitive market outcomes.

As part the Stage 4 process, the ACMA has also updated its [preliminary views on pricing for ESL bands](#) for wide-area wireless broadband and fixed wireless access. The rest of our submission concerns this topic.

Spectrum pricing and impacts on market outcomes

The mobile industry differs from most other industries in that the ongoing right to a critical resource is often not guaranteed but is subject to periodic reviews by authorities. The approach to licence renewals may lead to uncertainty for operators and customers, potentially harming investment, innovation, competition, and efficiency. While a full renewal of ESLs, as indicated in the ACMA's preferred views, goes some way to mitigating such risks, the pricing of ESL bands is another crucial factor in determining future market outcomes in Australia.

Global spectrum pricing trends

Spectrum needs have increased over the last decade, due to rapid growth in demand for mobile data and new use cases. On average, the amount of spectrum assigned to mobile

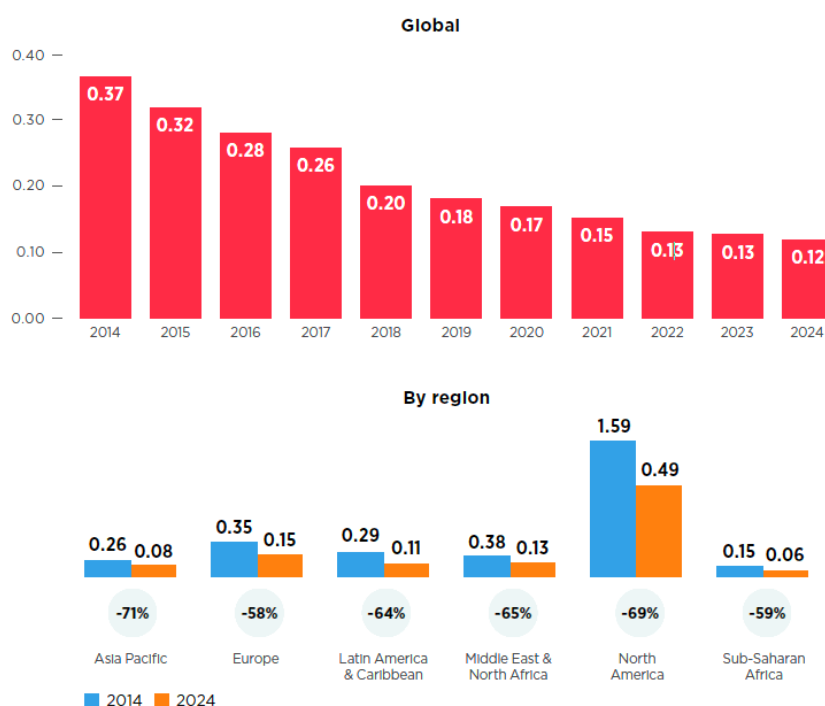
¹ See <https://www.mobileconnectivityindex.com/>

² See <https://www.gsmaintelligence.com/subscriptions-services/data/5g-connectivity-index>

networks has nearly doubled since 2014. Market conditions have also changed over that period. Operators have offered higher value services while prices for consumers have fallen.

The average consumer now pays less for mobile connectivity services than a decade ago. Most of the additional value from new generations of mobile networks has been captured by consumers or other digital ecosystem players, such as content and application providers. In GSMA's recent study on global spectrum pricing, we find that the average revenue that operators generate per MHz of spectrum declined by 67% between 2014 and 2024 as shown in Figure 1.³

Figure 1: Average monthly recurring revenue per MHz per connection (\$, inflation adjusted)



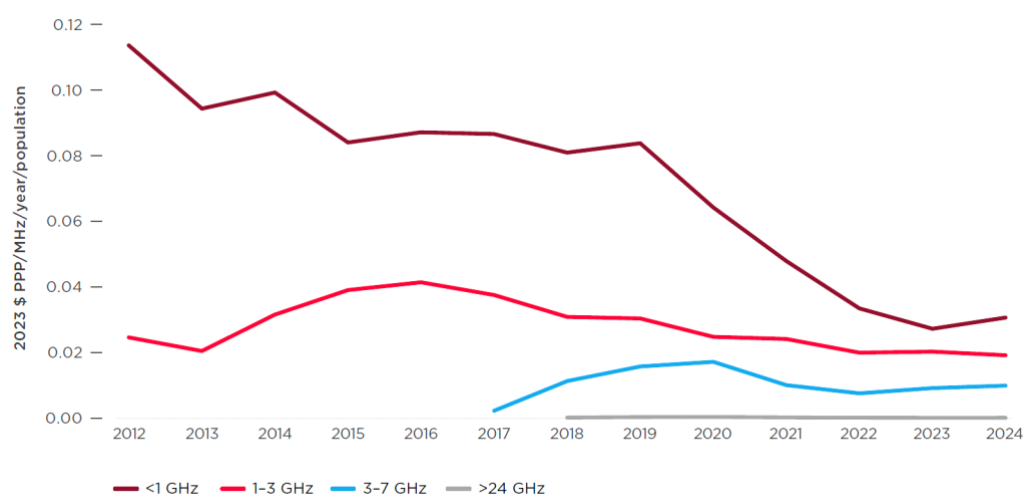
Note: Data shows weighted average revenue per MHz, per connection of countries in the region where data could be collected. 2023 US dollar prices.

Source: GSMA Intelligence

Crucially, our study also finds that the decline in revenue per MHz has not yet been fully reflected in spectrum prices. Though there has been some moderation in recent years, notably in sub-1 GHz range as shown in Figure 2, the declines in unit prices of spectrum (per MHz and population unit) have not been sufficient to offset the build-up in total cost of spectrum, which has risen due to the acquisition of the additional spectrum to deliver greater mobile data traffic and the launches of 4G and 5G networks.

³ GSMA. Global Spectrum Pricing, May 2025. <https://www.gsma.com/connectivity-for-good/spectrum/wp-content/uploads/2025/05/Global-Spectrum-Pricing-v2.pdf>

Figure 2: Global average unit spectrum prices



Note: Benchmark calculated as the upfront cost amortised over the duration of a licence, adjusting for the prevailing cost of capital at the time of assignment.
Source: GSMA Intelligence

Consequently, ongoing spectrum cost as a proportion of operator revenues has increased by 63% globally in the past decade. Spectrum resources and network infrastructure rollouts entail heavy capital investments. High spectrum cost adversely affects the viability of investments in mobile networks and has a negative impact on consumers. Specifically, a 10-percentage-point (pp) higher spectrum cost to revenue ratio is associated with lower network coverage by up to 6 pp and slower download speeds of 8%. This highlights the effects of prices and availability of spectrum to be considered by spectrum managers seeking to maximise its social value.

Methodological changes fail to account for changing market conditions

A number of revisions have been made to the pricing methodology used in the Stage 3 process which has led to substantial changes in the updated preliminary views on pricing. Some of these, such as expanding dataset, including relevant annual fees and simplifying cohort variables and weighting, are reasonable refinements. However, the change in indexation methodology from the mobile service revenue (MSR) index to CPI-based inflation is problematic and appears to be the main factor for the increase in the benchmark prices in 1-3 GHz and 3.4 GHz bands.

In its peer review report, DotEcon cited several reasons to justify the switch from MSR to inflation indexation (Section 5 of DotEcon report).⁴ We find these questionable.

One of the objections raised by DotEcon to the MSR is that

“spectrum prices represent the expected future profitability impact of spectrum over the duration of the licence term, of which contemporaneous mobile revenue is a contributor.... However, spectrum prices need not track contemporaneous mobile revenue proportionately.” (p.17, DotEcon)

⁴ DotEcon. Review of the ACMA expiring spectrum licence pricing. September 2025.

While this might well be true, it is not a sufficient reason to disregard MSR as an indexation approach. It is possible to adjust benchmarks to take account of future revenues, for example market prices in 2018 can take account of future revenues, not just 2018. Furthermore, where real revenues have been relatively stable, the use of current revenues is reasonable approach to ensuring that spectrum prices reflect market conditions and expectations. Analysis by GSMA Intelligence shows that since the launch of 5G in Australia in 2019, average annual growth in real recurring revenues⁵ has been slightly negative at -2%.

Another reason cited by DotEcon is that awards depress MSR in the short term

“After an award, spectrum holdings necessarily increase. However, there is very unlikely to be any immediate positive impact on operators’ revenue from spectrum acquisition, not least as associated network deployment is needed to use the spectrum” (p.17, DotEcon)

For the exact reason that the revenue benefits from renewal is likely to be limited, it is important that this is taken into account in ESL pricing. Otherwise, the resulting spectrum cost burden from renewal prices could heighten the risks of adverse impacts on the ACMA's stated objectives and harming long-term public interest.

It is also argued by DotEcon that benefits of spectrum are necessarily realised not as additional revenue but as cost reductions. In such a scenario, it might be instructive to consider indexation based on profitability where data is available. In the absence of reliable profit data, a revenue index approach would seem reasonable.

The problem with indexation based on CPI

Despite the fact that spectrum is not a service directly purchased by consumers, DotEcon asserts that indexation based on consumer price index (CPI) is appropriate because *“in the long run spectrum prices should reflect general inflation, as the nominal amount that operators can charge for their services and the nominal costs they incur will have all increased proportionately.”* (p.19, DotEcon).

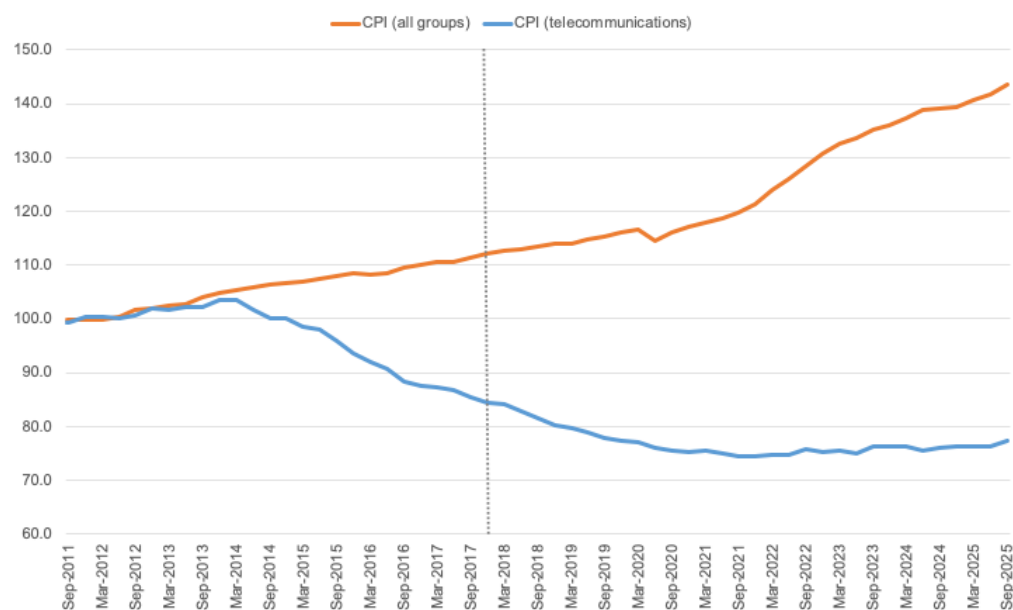
An examination of the Australia CPI over the last 15 years however paints a different picture as illustrated in Figure 3 below. While the general CPI has risen by over 40% over the period from 2011 to 2025, the index for the telecommunication equipment and services sub-group has instead fallen by over 20% over the same period.⁶ For the period from 2018 onwards (i.e. the sample used to inform the updated preliminary views), the overall CPI has continued on an upward trajectory while the communication sub-group has declined slightly and remained relatively stable over the last 5 years. Furthermore, if adjustments for network quality were incorporated, the price reduction would be even greater.⁷

⁵ Recurring (service) revenue includes revenue generated from the use of the network (voice, messaging, data, VAS), but excluding non-recurring revenue such as handset or equipment sales.

⁶ Australian Bureau of Statistics. Consumer Price Index, Australia. <https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/dec-2025>

⁷ See for example <https://www.ons.gov.uk/economy/inflationandpriceindices/methodologies/deflatorsandhowweusetheamineconomicestimates>. Since the launch of 5G in Australia, average download speeds have increased by around 150% (based on analysis of Ookla Speedtest Intelligence data)

Figure 3: Australia quarterly CPI changes, 2011-2025



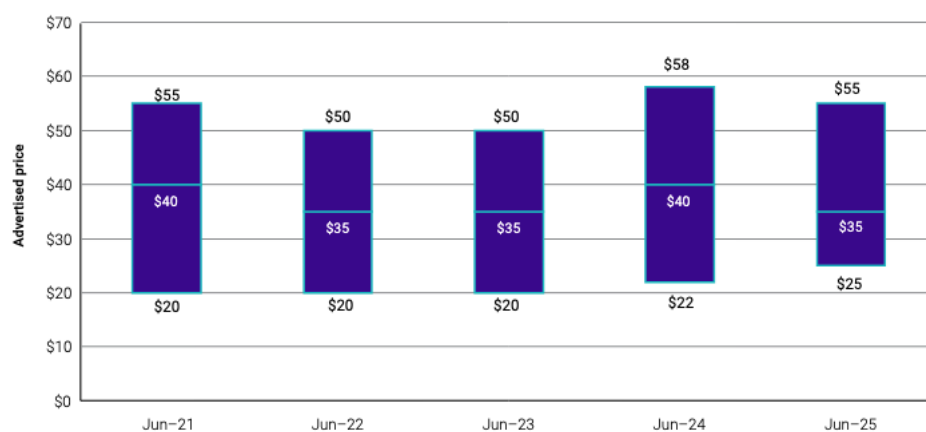
Index reference period: 2011-12 = 100.0

Source: Australian Bureau of Statistics

The ACCC's recent assessment of the mobile broadband prices in Australia also reflects this trend of stabilising consumer prices, along with declining mobile data prices.⁸

Figure 4: Mobile broadband service prices in Australia

Figure 26: Median monthly advertised price and interquartile range for mobile broadband services, 2020-21 to 2024-25



Source: ACCC estimates based on information from service provider websites.

⁸ ACCC. Communications market report 2024-2025, December 2025.

Figure 28: Median monthly advertised cost per gigabyte of data for mobile broadband plans, 2020–21 to 2024–25



Source: ACCC

We are therefore not convinced that inflation is a superior metric to MSR for adjusting spectrum prices, particularly as the latter better reflects local market conditions and potential returns to the spectrum being acquired. Indexation to CPI leads to an excessive inflation of historic benchmark prices and is likely to lead to overestimates of market prices. If inflation indexation is to be used, then the telecommunication equipment and services sub-group would be a better choice than general CPI.

Our recommendations for ESL pricing

Spectrum resources and network infrastructure rollouts entail heavy capital investments. As highlighted in our global pricing study, the speed of rollouts, quality of service and coverage levels will all be compromised by high spectrum prices.

While it is important for regulators to ensure spectrum prices reflect market conditions, in any benchmarking exercise, there is always a risk of setting prices of spectrum set too high, leading to reduced long-term investment on networks to the detriment of long-term public interest. It is welcome that the ACMA has carried out a wide range of price benchmarking scenarios to reflect the future uncertainty in spectrum valuation. Given the evidence available, it is important that annual fees are set conservatively, as the risks of setting fees above market value are significantly greater than of setting them below market value. The recent UK example of revised annual licence fees is illustrative. Thus, caution is needed when referring to historical prices – either those observed in other markets, or the market in question.⁹

The renewals of existing licences present opportunities to address spectrum cost challenges facing the mobile industry. Policymakers are increasingly mindful of this and are adopting innovative pricing and licensing models to ease the financial pressure on operators while encouraging investments in connectivity and coverage. For example, Germany and Spain have recently extended spectrum licences by five and 10 years, respectively, at no additional cost (see appendix below).

⁹ See the recent UK example on the revision of annual licence fees, along with other international examples on spectrum renewals in the appendix below.

In the Australian context, the ESLs represent some 80% of existing mobile licences with renewals stretching into the 2040s. The pricing of ESLs comes at a crucial juncture with potentially significant implications on operators' investments in upgrades to 4G and 5G networks while planning for next generation 6G networks in the 2030 timeframe.

Effective spectrum pricing is critical to encourage the investment required to expand mobile access and improve service quality. To this end, we recommend that ACMA:

- Reconsider the indexation methodology in the benchmarking analysis, given the issues with the use of CPI as highlighted above.
- Adopt a conservative approach by setting prices at the lower end of the benchmark value ranges for each ESL band, instead of relying on central tendency measures of median and geometric mean.

These steps are important to ensure spectrum prices for ESLs are better aligned with local market conditions, and help facilitate sustainable long-term investment by mobile operators, thereby meeting policy objectives and benefiting long-term public interest.

Appendix. International examples of spectrum renewals and pricing

Governments and regulators are adopting innovative pricing and licensing models to ease the financial pressure on operators while encouraging investments in connectivity and coverage. For instance, Germany and Spain have extended spectrum licences by five and 10 years, respectively, at no additional cost, incentivising investments. This is also visible at the regional level, with the latest plans¹⁰ from the European Commission to move towards indefinite durations and automatic renewals across the European Union.

European Commission's proposal for indefinite licences

In January 2026, the European Commission published its proposal for the Digital Networks Act¹¹ (DNA), signalling a shift in European spectrum policy towards more long-term, investment-oriented regulation.

Among the most prominent proposals in the DNA is that rights of use of spectrum across the EU should, by default, be of indefinite duration (or granted for at least 40 years). The objective is to provide operators with regulatory certainty, reduce the frequency of disruptive re-award processes, and support sustained investment in digital infrastructure.

This approach will be accompanied by automatic renewals, with a presumption that the rights of use would be renewed on expiry date for a similar duration and under broadly comparable conditions, subject to continued compliance.

The Commission's DNA proposal also sets out changes in spectrum pricing. Specifically, it notes that spectrum awards and authorisations should place stronger emphasis on 'pro-investment' conditions, with priority given to investment and deployment commitments over fees.

France's 'New Deal' approach

In 2018, the French regulator, ARCEP, renewed licences for 900, 1800 and 2100 MHz that were due to expire between 2021 and 2024. Given the regulator's concerns over low availability of 4G in rural areas, it agreed with operators to trade the licence renewal fee for the acceleration of 4G rollout and provide nationwide, high-quality mobile coverage for everyone in France. The government and local authorities identified areas that needed improved coverage in order to bolster regional development. The commitments included providing mobile coverage in selected 'white zones', accelerating the pace of transport corridor coverage and improving reception quality nationwide, particularly in rural areas.

The regulator tracked operator progress and found that, after five years, the share of the population covered by 4G across all four operators had almost doubled (from 45% to 88%) and the share living outside of a 4G network had declined from 20% to 11%. Meanwhile, almost two thirds of the population now had access to 30 Mbps services or higher (up from 37%). This example shows how reducing or removing spectrum costs as part of the licence renewal process can increase investment in coverage and network quality, driving greater social and economic value.¹²

¹⁰ For further details, see <https://digital-strategy.ec.europa.eu/en/library/proposal-regulation-digital-networks-act-dna>

¹¹ Ibid

¹² For further details, see <https://www.arcep.fr/cartes-et-donnees/suivi-du-new-deal-mobile.html>

Spain's cost-free renewals

The Spanish government, seeking to align domestic regulation with the European Electronic Communications Code (EECC), commissioned a review of licence renewals. Based on the findings, all existing licences were extended by 10 years, up to a maximum of 40 years since the date of the first award. No additional costs, obligations or charges were involved, beyond the continued payment of existing annual fees.

The review found no alternative spectrum uses that could deliver greater or similar socioeconomic benefits. Extension ensured the most efficient use of spectrum while minimising administrative costs. The government expected that cost-free renewal will mean “savings of hundreds of millions of euros for operators, which can be invested directly in deployment and innovation”.¹³

Beyond cost savings, licence extensions provide certainty of access, enabling long-term investment planning. This is particularly important for bands expiring before 2030 that are likely to be refarmed for 5G, which reached 91% population coverage in Spain in 2024.

Germany's licence extension

In 2025, Germany's Federal Network Agency (BNetzA) decided to extend key mobile spectrum licences in 800 MHz, 1800 MHz and 2600 MHz band for five years until 2030 with no additional fees. This direct renewal allowed operators to avoid a costly auction in 2025, with the saved capital expected to be invested in network expansions, including rural coverage and transportation routes.¹⁴

UK revision of annual licence fees

In late 2024 and early 2025, Ofcom launched two consultations on the review of annual licence fees, following a request from BT.¹⁵ Annual licence fees (ALFs) are fees Ofcom charges for the use of spectrum. These typically come into effect after the initial period (15-20 years) of an awarded licence. These aim to reflect forward-looking value of spectrum so there is an incentive for efficient use.

The scope of the review included: 900 MHz (first awarded in 1985); 1800 MHz (awarded in 1991) and paired 2100 MHz (awarded in 2000). Prior to the review, MNOs paid around £320 million per year for these three spectrum bands (900 MHz, 1800 MHz and 2100 MHz). After the consultation phase, Ofcom published its revised ALFs calculation formula in July 2025.¹⁶

Ofcom estimated the new values using the results of recent UK auctions in other spectrum bands alongside the results of auctions in other European countries. As a result, the lump

¹³ The Ministry for Digital Transformation and Public Service (20 June 2024). [The Government extends radio spectrum concessions to operators to encourage investment in new technologies](#)

¹⁴ More information on the BNetzA is available at https://www.bundesnetzagentur.de/DE/Fachthemen/Telekommunikation/Breitband/MobilesBreitband/x_abgeschlossen/start.html

¹⁵ BT requested a review because it considered there was strong evidence to suggest the level of fees charged for the 1800 MHz spectrum was materially misaligned with the current market value of this spectrum.

¹⁶ Ofcom. Statement: Review of Annual Licence Fees, July 2025 <https://www.ofcom.org.uk/spectrum/innovative-use-of-spectrum/consultation-review-of-annual-licence-fees>

sum values were adjusted to reflect a more conservative assessment, accounting for a possible modest reduction in spectrum values since the last two UK auctions (2018 and 2021).

This led to a significant reduction in ALFs in the 900 MHz and 1800 MHz band of over 25%, as shown in the table below¹⁷.

Band	Proposed ALF per MHz	Change compared to previous ALFs
900 MHz	£1.03m	26% reduction
1800 MHz	£760,000	26% reduction
2100 MHz	£772,000	6% increase

This change followed Ofcom's conclusion that several market factors (such as changes in supply of spectrum, changes in rate of growth of demand of mobile data, technological developments) had driven a reduction in spectrum values since the original ALF decisions.

This example highlights the importance of setting annual spectrum fees conservatively. Otherwise there is a risk that operators will overpay, which will impact investment in networks and ultimately consumer outcomes, and it creates significant uncertainty if the ACMA needs to revise annual fees only 3-4 years after the initial decision.

¹⁷ The corresponding ALFs for a 20-year licence derived using an annualisation rate of 6.33%.