

The logo for Optus, consisting of the word "OPTUS" in a bold, teal, sans-serif font.

Submission in response to
ACMA Consultation

**Expiring spectrum
licences – Stage 2
‘Reply to comment’**

PUBLIC VERSION

June 2024

EXECUTIVE SUMMARY

1. Optus welcomes the opportunity to provide a submission to the Australian Communication and Media Authority's (ACMA) 'reply to comment' period for Stage 2 of the Expiring Spectrum Licences (ESL) process.
2. There were 25 submissions made to Stage 2 raising a range of perspectives on the future use of ESL spectrum. Optus does not reply to each submission individually, other than Telstra's which we consider warrants specific mention due to the adverse impact we believe its approach to Use-it-or-lose-it (UIOLI) and preference for re-allocation of "unused" spectrum via auction would have on sustainable market competition. For other submissions, Optus has identified common themes and messages that we consider need to be clarified to ensure that the ACMA's ESL decision-making will promote the long-term public interest to be derived from use of ESL spectrum.¹
3. Apart from submissions from the current ESL spectrum licensees, all submissions advocating re-allocation, or the imposition of alternative licence conditions, favour bespoke private networks. In Optus' view, such use cases for ESL spectrum offer inherently less public benefit compared to the use of ESL spectrum for national public mobile networks, undermining any case for changing existing arrangements to facilitate bespoke entry. We repeat that there are other spectrum bands and licensing types specifically designed to support bespoke private networks. The use of these arrangements will deliver the benefit of private networks without the very significant detrimental impact on national mobile networks.
4. In summary, many submissions demonstrate a short-term and narrowly focused view, with limited regard to how spectrum is used in the supply of public mobile services and national network deployment. If implemented, many of the proposals represent a threat to the long-term sustainability of effective competition in Australia's national mobile market. Optus notes that any consideration of the public interest in determining future arrangements for use of ESL spectrum must carefully weigh the real costs to national operators against any perceived benefits of prospective entry.
5. In this context, we note that some submissions express support for the alleged consumer benefits of alternative licence conditions and regulatory intervention, without any regard to the costs of implementation and the very real threat to the sustainability of a competitive national mobile sector.² Others make claims about the behaviour of MNOs (spectrum squatting or hoarding) without evidence.³ Further submissions also draw inaccurate comparisons with other jurisdictions (e.g., the US) or industries (electricity) that could create the false impression of market failure in Australia's mobile markets.⁴
6. As Optus' submission makes clear – there is no market failure that requires a change to the existing arrangements that govern the use of ESL spectrum. Previous auctions and renewal processes, combined with the existence of a secondary market for spectrum access, mean that the existing ESL spectrum allocation is efficient. Spectrum is not the only barrier to entry and holding it without the means to deploy competitive network risks that spectrum lying fallow. While we recognise that the secondary market for spectrum

¹ As per section 3 of the Radiocommunications Act 1992

² For example, ACCAN submission, p.1, 4 and 5

³ NSW and Victorian Government submissions, p.4 and p.14 and 15 respectively

⁴ Omnitouch and Consunet submissions respectively

trading may be thin, this does not mean that it is inefficient. Further, trades to facilitate defragmentation inherently facilitate efficient spectrum use.

7. Given the disproportionately negative impact that carving up existing spectrum holdings would have on national public mobile networks and services, Optus does not believe there is a case for changing ESL arrangements. Renewal of ESLs on the existing terms of access will continue to promote the long-term public interest. Optus sets out its “reply to comment” in more detail below.

CHANGING EXISTING ESL ARRANGEMENTS IS A DISPROPORTIONATE RESPONSE TO POLICY CONCERNS

8. Optus’ submission explains how the ESL Process can help support a number of Government policy objectives. Renewal of Optus’ ESL spectrum will enable Optus to continue to provide essential services across metro and regional Australia; to innovate and deploy new networks and services and continue to compete in the national mobile market. Meanwhile, existing mechanisms of spectrum access will enable parties to negotiate terms of access that limit the harmful effects of arbitrarily carving up national spectrum.
9. Optus supports the policy sentiment expressed in certain submissions, particularly in reconsidering approaches to bridge the Digital Divide and Close the Gap. However, we disagree that access to spectrum is the only or even the main barrier to addressing these long-term policy issues. It is well established that spectrum is one of many barriers to entry in mobile markets.⁵ However, characterising it as the “most critical barrier”⁶ misrepresents the effects of high network deployment costs, the difficulties of locating and accessing sites and the limited demand for services in remote areas.
10. It is these same factors that mean that carving up ESL spectrum for new local area private networks risks the continuity of essential services, particularly in regional areas, and undermines sustainable competition and investment in national public networks. National mobile network operators benefit from economies of scale, which enables cost-effective deployment of expensive radio networks and equipment over time. Competition between MNOs drives investment in networks and services, delivering long term benefits to Australians in the form of high quality and affordable mobile services. Re-allocating spectrum to prospective licensees will undermine the broader benefits of scale.
11. As a general principle, regulatory intervention should only be contemplated to correct market failures, which should be substantiated with evidence. Optus strongly cautions against accepting characterisations from certain submissions, particularly without clear supporting evidence, to the effect that licence holders are preventing secondary access

⁵ ACCC, Regional Mobile Infrastructure Inquiry – Final Report June 2023 discusses, among other factors, land access issues, the effectiveness of tower access arrangements and Telstra’s enduring competitive advantages; also para 335 of the Australian Competition Tribunal; Applications by Telstra Corporation Limited and TPG Telecom Limited (No.2) [2023] identifies other barriers to entry to the national mobile services market as (i) large-up front sunk capital investment required (ii) economies of scale, (iii) brand perception and (iv) phase in technology cycle (first mover advantage)

⁶ ACCC submission to the Department’s consultation on draft ESL – Ministerial Policy Statement (MPS) 2024; p.1

to spectrum.⁷ We note that existing ACMA rules support trading of “one or more whole standard trading units” of a spectrum licence, which geographically corresponds to an area of 9km x 9km – i.e., sufficiently small areas to support local area use cases, individually or in aggregate.⁸

12. The long-term public interest of ensuring ongoing investment in national critical infrastructure and the supply of high-quality mobile services on a national basis outweighs the far narrower benefits that may arise from changes to ESL arrangements for local area uses. National mobile networks will deliver up to \$94 billion uplift to Australia’s GDP by 2030 and are relied upon to deliver critical services like emergency calling services. They are key to the social and economic well-being of our communities.
13. Regulatory intervention to enable greater local area access to low band spectrum for at best, speculative use cases, risks stranding valuable spectrum and the creation of new boundaries that will cause disproportionate harm and costs to national mobile networks. Intervention risks the very socio-economic benefits that existing ESL arrangements have enabled MNOs to deliver to Australia to date.
14. Optus considers that none of the submissions make a sufficient case for intervention to support new local area entry that would outweigh the resultant adverse effects on the network performance, service quality for end users or the business case for national mobile networks. Where the ACMA may be contemplating changes to existing arrangements to support the realisation of broader policy objectives, including to promote regional connectivity or Close the Gap, Optus recommends that the ACMA compartmentalise these objectives and consider how they can be better dealt with via other policy responses or via non-spectrum licensed spectrum.
15. The lack of certainty as to whether MNOs will be offered the opportunity to renew their ESL spectrum remains the main risk to the delivery of the public benefits to be derived from national mobile networks and services. Ensuring the ESL process supports the ongoing economic and social benefits of mobile services should be the ACMA’s priority in developing its preliminary view. Having considered all the submissions, Optus reiterates our view that ESLs should be offered for renewal on the same terms at a nominal price.
16. Optus also makes the following general comments regarding the ACMA’s consideration of submissions:
 - (a) In light of the ACMA’s stated preference for transparency, and the ultimate purpose of this reply to comment process, “commercial-in-confidence” (CIC) material should be given less weight in the ACMA’s formulation of its preliminary view;

⁷ For example, Vocus’ and Pivotal’s submission to the Departments consultation on the draft MPS 2024 and Pivotal’s (Stage 2) submission.

⁸ See section 9 and section 5 of the Radiocommunications (Trading Rules for Spectrum Licences) Determination 2023; which defines standard trading unit as the “combination of (a) a geographic area corresponding to Level 1 cell; and (b) a part of the spectrum, where the lower and upper limits of the part are integers when described in Hertz”. ACMA permission is only required where a trade would result a spectrum licence that specifies less than the Minimum Contiguous Bandwidth (MCB) for that band, which is 5MHz for all spectrum licensed bands except 3.4-3.8GHz (10MHz) and mmWave (50MHz)

- (b) Where no robust business case for alternative use has been presented, then the ACMA should assume that the claim is less valid and should not form a preliminary view that such a claimed use promotes the public interest more than existing or planned use by an incumbent;
- (c) Where there is no alternative use for the spectrum which provides demonstrably greater public benefit, then the ACMA should form the preliminary view that ESLs should be offered for renewal;
- (d) Telstra's dominance and the potential for it to increase its dominance by acquiring more ESL spectrum is the real competition concern in the ESL Process, not the reduction of barriers to entry for prospective licensees; and
- (e) Economic value does not exclude "community benefit" – "commercial" public mobile services deliver social benefits and connections far beyond bespoke private exclusive use cases that truly "lock up" spectrum from secondary access.

TELSTRA'S APPROACH WILL EMBED ITS MARKET POWER IN REGIONAL AUSTRALIA FOR THE LONG TERM

- 17. Telstra's submission reflects its approach to competition more generally, which is that of a dominant operator. Telstra has been, and continues to be, highly dismissive of the state of competition in the national mobile market, underplaying the importance of national mobile market competition to delivering downstream benefits to consumers and society.
- 18. Optus has invested over \$45 billion into network infrastructure since it entered the market in 1993. It is Optus' network investment that has driven some of the fastest mobile network deployments in the world and across such a vast geographic area. The ACCC and the Competition Tribunal have recognised that Optus' network investment has driven Telstra's network investment.⁹ This is what effective competition does. The resultant infrastructure-based competition has delivered significant public benefit to Australians.
- 19. Telstra's characterisation of our MOCN agreement with TPG as "at the cost of reduced competition in regional Australia"¹⁰ highlights Telstra's lack of understanding of market competition and the distortionary effects of its market power. While the MOCN agreement will enable cost efficiencies in network deployment, these efficiencies will only serve to promote competition by enabling the accelerated deployment of a second 5G network in regional Australia by 2030. This network will be used by both Optus and TPG to better compete with Telstra and to compete with each other, delivering enhanced 5G competition for the long-term benefit of Australians. TPG's incentives to monetise its spectrum outside of the MOCN also remain unaffected.

⁹ E.g ACCC, Regional Mobile Inquiry, Final Report – finding at p.86-87 "Telstra and Optus have made significant investments in regional, rural and remote areas, despite the challenges, to differentiate themselves on geographic coverage" and Australian Competition Tribunal; Applications by Telstra Corporation Limited and TPG Telecom Limited (No.2) [2023]; paras 224 and 672

¹⁰ Telstra's submission, p.51

20. Telstra’s advocacy of re-allocation of ESL spectrum via auction where there are no demonstrable plans to use the spectrum or to impose UIOLI across all renewed spectrum licences is self-serving and anti-competitive. Its approach will permanently foreclose terrestrial infrastructure-based competition outside of Optus’ existing network footprint and jeopardise nascent competition in satellite direct to mobile (DTM) services.

Telstra’s characterisation of its role in the market should be treated with scepticism

21. Once again, Telstra seeks to argue that its anti-competitive conduct is justified on the basis that it occupies a unique role in meeting the connectivity needs of Australians. The following claims demonstrate Telstra’s attempt to rewrite the history of network deployment in Australia and should be treated with healthy scepticism:
- (a) Telstra’s suggestion that its “support” for MVNO retail competition is in its economic interest, reflects the view of a dominant incumbent.¹¹ Telstra fails to mention its long-standing position on only offering MVNOs access to part of their network – a position only recently changed.
 - (b) Telstra’s statement that its spectrum assets have also allowed it to “be an active participant in various Government-supported co-investment programs”¹² is a misrepresentation of the distortionary effect of Telstra’s superior spectrum holdings on the award of funding under the MBSP and RCP – which have seen Telstra granted the vast majority of public funding support.
 - (c) Similarly, Telstra’s statements that “its history of investment and innovation”¹³ has delivered Australia’s largest mobile network with around 1 million km² more than any other operator underplays the competitive advantages afforded by its legacy, publicly funded network infrastructure – and the competitive detriment Telstra’s dominance has through the wider mobile market.
22. Telstra’s market position is the result of legacy network advantages, including with regard to spectrum. Telstra now seeks to use the ESL process to obtain any “unused” spectrum, via auction, either following expiry or as a result of the operation of “Use-it-or-Lose it” (UIOLI) conditions. If implemented, Telstra’s approach will only serve to further entrench Telstra’s market power for the long term, harming competition and providing no real long-term benefit to the delivery of communications policy objectives.
23. It will also have the effect of introducing new geographic boundaries at the edge of Optus’ network that would have a disproportionate effect on our network performance, quality of service and incentives to invest. The ACMA should remain cognisant of the observations of the Competition Tribunal that Telstra only invests where required to by the competitive pressure of Optus and TPG.¹⁴ Without the threat of investment by competitors it is unlikely that Telstra will invest to improve services and will be more able to maintain high prices and margins than might otherwise be the case.

¹¹ Telstra’s submission, p.21

¹² Telstra’s submission, p.25

¹³ Telstra’s submission, p.25

¹⁴ Australian Competition Tribunal; Applications by Telstra Corporation Limited and TPG Telecom Limited (No.2) [2023]; paras 224 and 672

Any auction of “unused” spectrum will benefit Telstra and undermine the ESL Process

24. Telstra’s submission advocates an approach to ESL that will result in Telstra acquiring significantly more spectrum in regional Australia, thereby embedding an anti-competitive market structure, to the long-term detriment of regional Australians.
25. Telstra’s network footprint is geographically more extensive than Optus’, its nearest rival. Figures 1 and 2 provide a high-level depiction of the current extent of Telstra and Optus site deployments (per HCISL2 Block) as reflected in the RFNSA database. These two diagrams are overlaid in Figure 3, to more clearly compare “Telstra-only” and “Optus only” site locations.

Figure 1: Telstra Site Locations per HCISL2 Block and Adjacent HCIS L2 Blocks (RFNSA Existing June 2024)

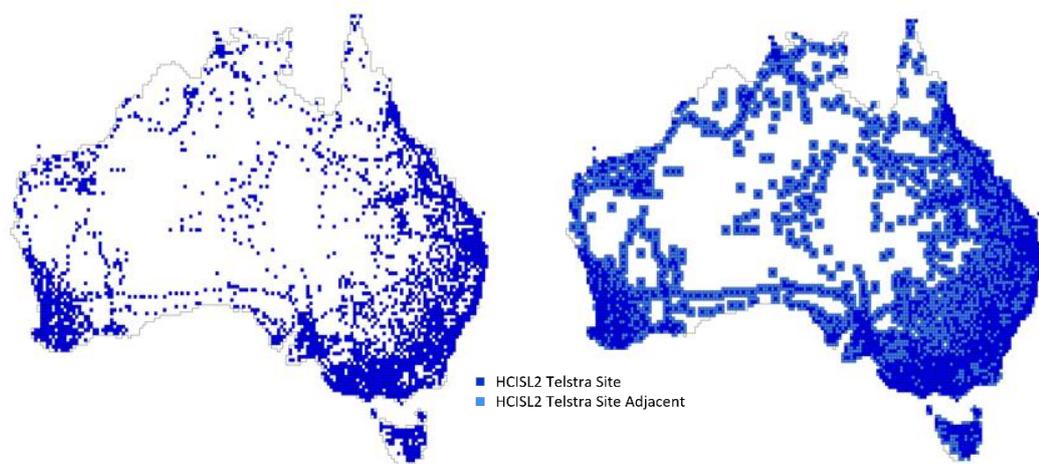
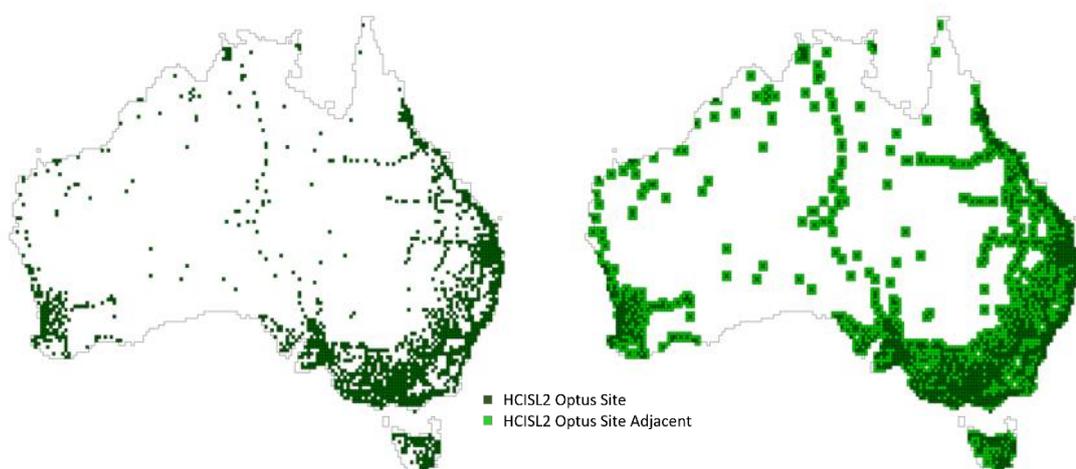


Figure 2: Optus Site Locations per HCISL2 Block and Adjacent HCIS L2 Blocks (RFNSA Existing June 2024)



26. Telstra now claims that as “Australia’s pre-eminent” regionally focussed operator, it should in effect obtain any unused or “under-utilised” spectrum.¹⁵ This is because Telstra

¹⁵ Telstra’s submission, p.19

suggest that ESL spectrum for which there is “no demonstrable plan” to use, should be re-allocated via auction.

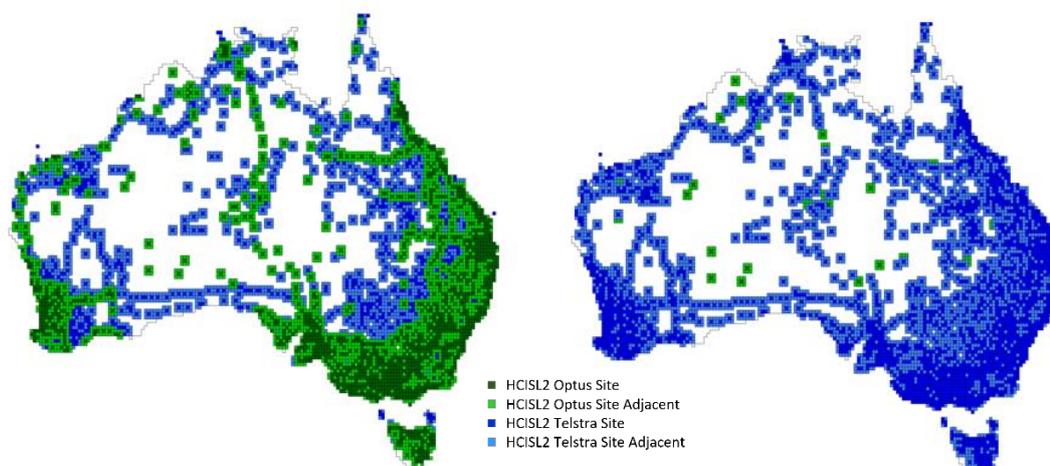
27. An auction in such circumstances will not be competitive as Telstra’s significant financial reserves, relative to the rest of the sector, will enable it to outbid any rivals. It will then be in a position to secure vast quantities of spectrum and effectively become a spectrum monopolist outside of Optus’ network footprint. The adverse impact will extend beyond regional and remote areas to competition in the national mobile market, given the importance of geographic coverage as a point of differentiation in consumer preferences.
28. Optus’ submission makes clear that the existing allocation of spectrum remains efficient because ESL spectrum has been previously auctioned or renewed and there exists a secondary market for spectrum. An auction should only be used to re-allocate ESL spectrum where an incumbent decides not to renew that spectrum. It would be a failure of the ESL process if either ESL spectrum is not renewed and was re-auctioned to be acquired by the existing holders or if Telstra was able to acquire more ESL spectrum via auction, thereby reducing competition in regional areas.
29. Telstra also states that competition limits have denied Telstra sufficient spectrum to efficiently serve its customers while providing “an enduring and inefficient surplus of spectrum to MNOs with far fewer customers in significant parts of their licence area”.¹⁶ This view ignores the fact that Telstra has significantly larger spectrum holdings than either of the other two MNOs which, combined with its legacy network infrastructure, much of it co-funded by public finance, has provided it with enduring market power in regional Australia. This assertion by Telstra was also rejected by the Competition Tribunal and should be similarly rejected by the ACMA.
30. Telstra’s view also downplays the significant and well recognised long-term benefits that Optus’ infrastructure-based competition has delivered for Australian end users. Optus’ investment has been enabled by our access to ESL spectrum. While Optus’ acquisition of 900MHz spectrum has somewhat levelled the playing field in low band spectrum holdings, Telstra continues to hold as much, if not more, regional mid-band spectrum as Optus and TPG combined.¹⁷
31. However, Optus has continued to invest and it is this investment that has put pressure on Telstra to invest – where Optus is unable to deploy commercially, Telstra is under no competitive pressure to invest and upgrade its network.¹⁸ This is highlighted in Figure 3 below.

¹⁶ Telstra’s submission, p.19

¹⁷ See for example Optus’ submission, p.50

¹⁸ ACCC; Reasons for Determination; Application for merger authorisation lodged by Telstra and TPG in respect of the proposed MOCN commercial arrangements and spectrum sharing Authorisation number: MA1000021; 21 December 2022; p.vii

Figure 3: Optus & Telstra comparison Maps based on Site Locations & Adjacent HCISL2 Blocks



32. Optus' submission highlights that a key consideration in examining use is understanding how spectrum is utilised in network deployment decision-making. To re-allocate spectrum via auction, enabling Telstra to expand their current spectrum holdings by securing further ESL spectrum, would only serve to undermine Optus' capacity to respond to changes in demand and lock in Optus' network footprint at the point in time at which use is assessed, foreclosing any opportunity of future investment or competition with Telstra beyond our current network footprint.¹⁹

Telstra's approach to UIOLI conditions is self-serving and will lead to regulatory failure

33. Telstra has stated its support for the imposition of UIOLI conditions on all renewed ESLs. Optus' submission explains that the imposition of alternative licence conditions is likely to have an anti-competitive effect given Telstra's existing competitive advantages mean that it will be less likely to be adversely impacted. The imposition of UIOLI risks undermining sustainable competition as Telstra will be more likely to be found to be "using" its spectrum than other MNOs and therefore less likely to lose it than its MNO competitors.²⁰ In addition, Telstra's greater financial strength means that it can deploy to retain its ESL spectrum which may not be possible for its competitors in the short term.
34. Telstra's support of UIOLI is primarily designed to limit Optus' ability to ever match Telstra on coverage. Optus submits that Telstra is seeking to use the ESL process to encourage a future spectrum licencing regime whereby Optus is not able to compete in all markets in Australia under the guise of supporting competition of new players. This is because there is little to no threat to Telstra from niche entrants particularly where their offerings are for private place-based network use.
35. The left-hand image in Figure 3 above illustrates the area where Telstra seems to suggest that UIOLI should be applied for "unused" spectrum and then auctioned to the highest bidder, with no meaningful allocation limits. For Optus, this is conceivably any

¹⁹ As Optus has noted, a granular approach to use imposes a retrospective condition on spectrum that has a comparable effect to a "renewal" statement (which cannot be imposed on ESLs issued prior to the Modernisation Act 2020); see para 1.19 and section 3 of Optus Stage 2 submission

²⁰ Optus' submission, p.81

area outside our existing network footprint. This is a blatant spectrum grab and will irrevocably harm competition.

36. Similarly, if conditions are imposed that allow smaller players to enter the market in place of Optus in these areas, Optus' capacity to compete in the national mobile market will also be significantly harmed. Existing market mechanisms already facilitate efficient spectrum use. There is an opportunity cost of not using spectrum, through the secondary market, if the secondary market use causes no harm to the MNO network. Optus argues that this should be sufficient to prevent inefficient use of ESL.
37. Telstra's submission also highlights the complexities of implementing alternative licence conditions, such as UIOLI, including the numerous, arguably subjective, threshold tests that the ACMA will need to determine to give them effect. Optus reiterates that such arrangements are highly unlikely to deliver more efficient outcomes than existing market mechanisms of spectrum access provide under the Act, risking regulatory failure.²¹ As recognised by the Competition Tribunal, a reduction in competitive constraint would also be likely to reduce the pressure that Telstra faces to invest in and upgrade its network.²²
38. If competitor national MNOs are prevented from accessing spectrum outside Optus' network footprint, then this will serve to foreclose any infrastructure-based competition in these areas forever. It will also undermine the opportunities of a "single network future" presented by the entry of LEOSat direct to mobile services use cases and future interoperability of terrestrial and non-terrestrial networks.
39. Entrenching Telstra's market dominance via auctions or the imposition of UIOLI will only serve to enrich Telstra's spectrum dominance and condemn regional Australians to poorer service outcomes for the long term, contrary to ESL policy objectives. We repeat that a reduction in competitive constraints would also be likely to reduce the pressure that Telstra faces to invest in and upgrade its network. Accordingly, the ACMA should reject Telstra's proposed approach.

REGULATED ACCESS WILL UNDERMINE SPECTRUM EFFICIENCY AND NETWORK INVESTMENT

40. A number of submissions from prospective licensees support UIOLI and UIOSI, but fail to consider the implementation risks, ignoring the most basic tenets of spectrum and interference management. The public benefits of continuing to use ESL spectrum for national public mobile networks and services, combined with the harm to such networks and services of carving up ESL spectrum, means that supporting prospective licensees access to ESL spectrum via the ESL process is not in the public interest.
41. Optus' submission clearly demonstrates that carving up ESL spectrum will cause disproportionate harm to national mobile networks. In summary:

²¹ See further section 5 of Optus' submission

²² Australian Competition Tribunal; Applications by Telstra Corporation Limited and TPG Telecom Limited (No.2) [2023]; paras 224 and 672

- (a) Introducing new geographic boundaries, particularly via any AWLs in low band, will cause spectrum denial and undermine efficiency objectives;
- (b) To carve up national FDD ESL spectrum now would also undermine the potential of IMT LEOSat DTM services;
- (c) Regulatory intervention to modify licence types or conditions resulting in non-renewal of ESLs or the imposition of UIOLI/UIOSI conditions fail the public interest test as they support private networks over national public networks;
- (d) Apparatus licences are highly contested and spectrally inefficient, as observed in multiple submissions. This is also Optus' experience when attempting to register devices in the 1.8GHz and 2GHz bands in remote areas. Ultimately, it is end-users who are affected due to inconsistencies in spectrum availability.

AWLs for low band will disproportionately harm national mobile network deployments

42. National spectrum licences are not consistent with AWLs – a spectrum licence is not national if it is “carved up” by AWLs. The adverse impact that AWLs would have on low band has been recognised by the ACMA and illustrated by Optus' case studies.²³ Optus strongly endorses the ACCC's view that “sub 1GHz band may be currently allocated for its ideal use case, i.e., wide-area mobile broadband deployment, due to its propagation characteristics”.²⁴ All the submissions from prospective licensees appear to overlook the technical issues of the suggestions they make in seeking access to low band.
43. For example, Pivotal claim that “low band spectrum is effectively lying fallow” in substantial parts of Australia and claim that the solution is “a combination of spectrum licencing, complemented by Area Wide Licences (AWLs) in key bands for place-based connectivity solutions, as opposed to a blanket national spectrum licence approach”.²⁵ Pivotal's solution is uniquely unsuited to the low band spectrum it claims it needs to more cost effectively deploy a regional mobile network. Pivotal offer no suggestions as to how interference between AWLs will be managed or the size of the AWLs needed to overcome co-channel interference between public and private networks. As this is the critical reason why the two licence types are not compatible to co-exist in low band, it is very concerning that it has not been addressed at all. In contrast, Optus has provided ample explanations about why is not feasible and would be spectrally inefficient.
44. We note that Pivotal's reference to the success of the UK's Shared Access Framework fails to acknowledge that none of the approximately 1600 shared access licences issued were for low band spectrum.²⁶ As noted in our submission, place-based connectivity solutions can be better delivered via non-spectrum licensed spectrum (e.g., 3.8GHz).²⁷ Optus also takes the opportunity to highlight Pivotal's acquisition of AWLs in the 3.4GHz band to illustrate the potential risks of extending such an approach to low band. As shown below, Pivotal's holdings effectively cause spectrum denial in all regional towns within their licence area, which is what prospective licensees accuse MNOs of doing.

²³ See section 7 of Optus' submission

²⁴ ACCC's submission, p.2

²⁵ Pivotal's submission, p.4

²⁶ OfCom; [Evolution of the Shared Access Licence Framework \(ofcom.org.uk\)](https://www.ofcom.gov.uk/consult/condocs/2023/2303/23030101/23030101.pdf); Call for Input; March 2023; p.4

²⁷ Optus' submission; p.39

Figure 45: Pivotal 3.4 GHz Band AWL Source ACMA RRL

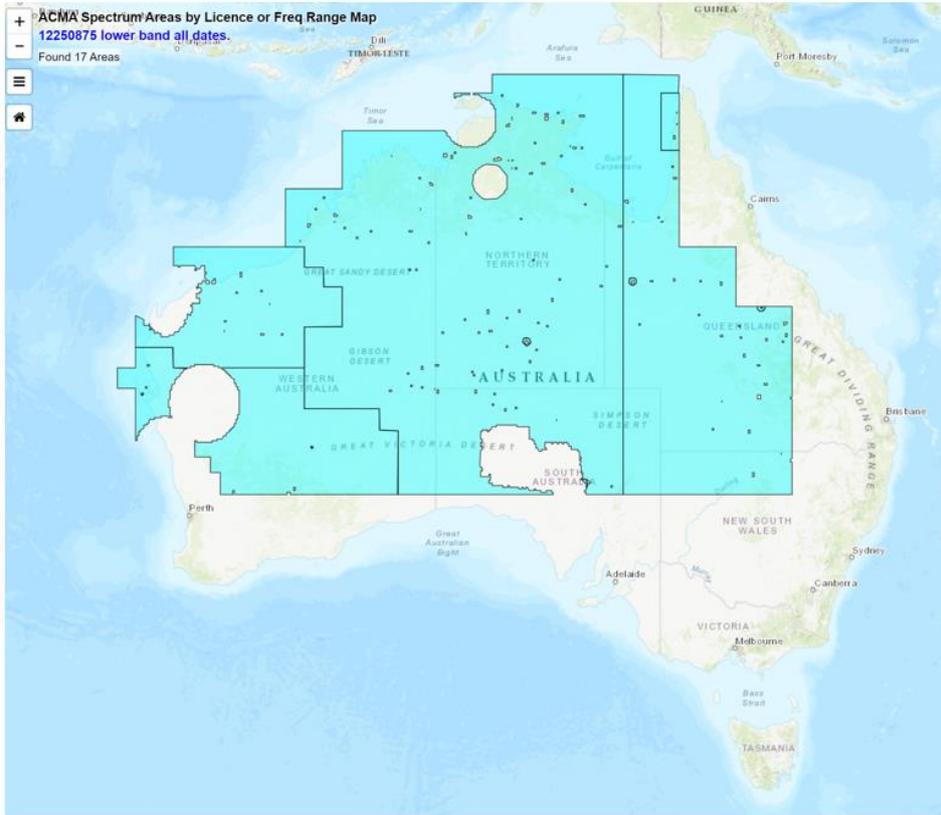
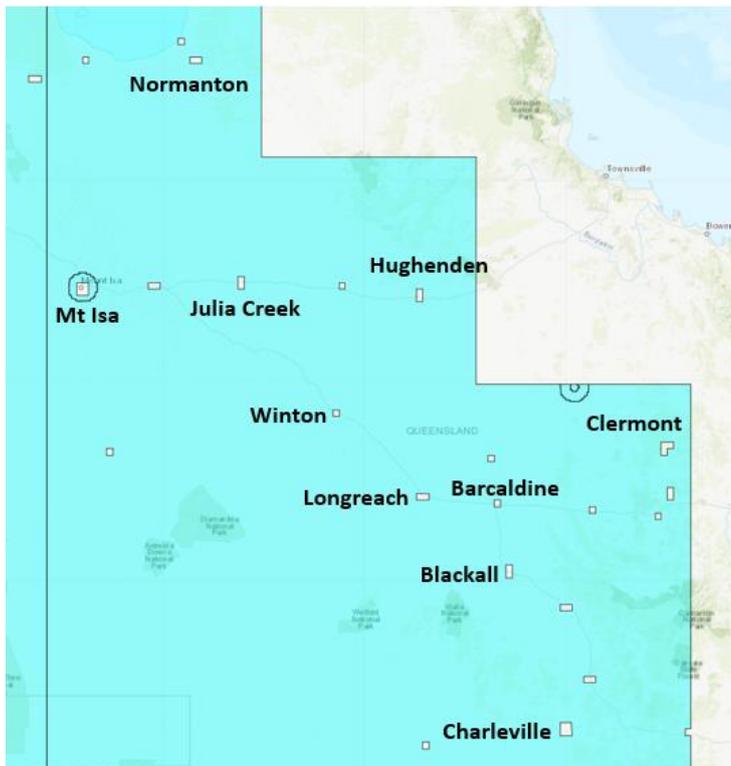


Figure 56: Pivotal 3.4 GHz Band AWL Source ACMA RRL Western QLD Zoom



45. This is a clear illustration of an acquisition of spectrum in a regional area that denies access to up to 80MHz of spectrum in the highest population centres where the need for spectrum is likely to be greatest. The “holes” in the spectrum map are too small to enable effective coordination, meaning that services will be denied to those wishing to operate in those smaller centres.
46. The implementation of an AWL regime in low band spectrum would have an even more devastating effect by preventing access to mobile services altogether in much larger “holes” than those present in Pivotel’s 3.4GHz AWLs. This is because low band spectrum, with its substantially more favourable propagation characteristics and associated interference, will be susceptible to harmful interference over much greater distances than mid-band spectrum. On this evidence alone, the ACMA has sufficient reason to reject the use of AWLs in low band.
47. We also consider that the “northern NSW” example in Connected Farms’ submission is not a valid representation of “locked up” spectrum as the issues they are confronted with are a result of operating next to the apparatus licenced 1800MHz and 2GHz areas, where they are required to coordinate with multiple licensees.²⁸
48. We also note Pivotel’s claims that the design of the 850/900MHz spectrum auction (2021) prevented it from acquiring 2x10MHz of regional spectrum.²⁹ Optus consider that the ACMA correctly rejected the proposal from prospective licensees (Pivotel) of allocating rural and remote low band spectrum as small geographical AWLs or apparatus licences in favour of wide area spectrum licences. Optus strongly encourages the ACMA to take a consistent approach for low band ESLs.

The market remains the most efficient means of facilitating access to ESL spectrum

49. As highlighted in Optus’ submission and the attached expert reports from Dr Chris Doyle and Coleago Consulting, the current allocation of ESL is efficient because (a) all ESL spectrum was initially acquired via auction and/or subsequently renewed and; (b) there is a secondary market for spectrum access supported by the Act. Further, spectrum is traded for commercial and spectrum efficiency enhancing purposes.
50. The ACMA has invited prospective licensees to identify if they have sought access to ESL spectrum via the secondary market. None of the submissions from prospective licensees provide public information confirming that they have sought access to spectrum from incumbents. For example, Pivotel does not confirm or deny whether it has sought access to ESL spectrum via the secondary market. It also redacts text in this section of its submission which means it is impossible for Optus or any other ESL holder to comment on the accuracy of Pivotel’s claims.³⁰ Similarly, Omnitouch claims that it has tried for several years to secure “subletting/leasing” agreements with no success but does not identify the ESL holder(s).³¹ While spectrum holdings differ, in most areas of Australia, including regional and remote areas, there are three MNOs with accessible spectrum holdings. Therefore, a prospective licensee could theoretically engage with all three MNOs to obtain the best terms of access for their desired spectrum.

²⁸ Connected Farm’s submission, p.10

²⁹ Pivotel’s submission to the Department’s consultation on the draft (ESL) Ministerial Policy Statement (MPS) 2024; p.3

³⁰ Pivotel’s submission, p.8

³¹ Omnitouch’s submission, p.4

51. Optus also dispute any suggestion that the geographic area of spectrum licences somehow limit access or are used by incumbents to prevent competitive entry for local area use cases.³² The existing ACMA spectrum licence trading rules enable trades of “one or more whole standard trading units” of a spectrum licence, which geographically corresponds to an area of 9km x 9km – i.e., sufficiently small areas to support local area use cases, individually or in aggregate.³³ Therefore, claims that incumbents are potentially acting anti-competitively to exclude local area rivals should be treated with suspicion, particularly where not backed up with clear evidence.
52. Other claims about the state of the market that Optus considers should be corrected:
- (a) Active neutral host models are not necessarily more efficient than MNOs, and in fact may raise monopoly concerns if a host becomes sole owner of spectrum in a particular area.³⁴ All three MNOs have divested passive infrastructure (i.e., created a passive neutral host market) and are concluding network sharing agreements (e.g., MOCN). These outcomes have been delivered by the market, rather than requiring regulatory intervention.
 - (b) While there are clearly documented processes to implement UIOSI/UIOLI,³⁵ facilitating such arrangements does not require the imposition of new licence conditions – rather the market is able to deliver such outcomes through negotiation between MNOs and access seekers.
 - (c) Omnitouch praises the greater levels of geographic segmentation in the US approach to spectrum licensing as enabling more MNOs in that country,³⁶ but does not acknowledge that geographic boundaries introduce much greater interference potential resulting in poor customer outcomes as described above. We also note the US has over 15 times the population of Australia with a much bigger addressable market able to sustain more networks.
 - (d) The spectrum trading market already functions in accordance with established trading rules and the ACMA’s role in overseeing spectrum trades is mainly to promote transparency, with ACMA “approval” (or permission) required only for assignments resulting in spectrum licences that specify a part of the spectrum that is less than the minimum contiguous bandwidth (MCB) for a spectrum band – the intention being to limit fragmentation of spectrum bands.³⁷
 - (e) There is a high risk of regulatory failure in seeking to “regulate national radio and infrastructure businesses in such a way that replicates incentive properties of a competitive market” – Optus submit that Consunet’s submission seeks to create a market for its DUST micro-licence trading technology rather than address any real market failure.

³² Vocus’ and Pivotal’s submission to the Department’s consultation on draft MPS 2024

³³ See sections 5 and 9 of the Radiocommunications (Trading Rules for Spectrum Licences) Determination 2023; which define standard trading unit as the “combination of (a) a geographic area corresponding to Level 1 cell; and (b) a part of the spectrum, where the lower and upper limits of the part are integers when described in Hertz”.

³⁴ One Wi-fi’s submission, p.1

³⁵ Omnitouch’s submission, p.8

³⁶ Omnitouch’s submission, p.4

³⁷ See section 10 of the Radiocommunications (Spectrum Trading Rules) Determination 2023 the MCB is 5MHz for all spectrum licensed bands except 3.4-3.8GHz (10MHz) and mmWave (50MHz)

Bespoke use cases should be supported via non-spectrum licensed spectrum

53. Optus recognises that there may be use cases that demand dedicated access to spectrum and in this regard, we note the claims from Boeing and the Australian Association for Uncrewed Aircraft Systems (UAS), Gilmour Space Technologies (telemetry links in 2GHz band) as well as the NSW Telco Authority and the Victorian Government (Public Safety Mobile Broadband at band 5 of 850MHz band).
54. In regard to PSMB, we note that other jurisdictions have also considered the economies of scale of MNOs as highly supportive of enabling national access for public safety and emergency services.³⁸ Further, because emergency services do not use spectrum all the time, and require priority treatment only when needed, dedicated spectrum is not required for this use case.
55. For other use cases, we note that if the ACMA considers that demand cannot be fulfilled via existing ESL arrangements and market-based mechanisms of access to ESL spectrum, then the ACMA should consider whether there is non-spectrum licensed spectrum that may be available. For example, there are AWLs in the 3.8GHz band, apparatus licences available in the 2GHz band, or class licensing arrangements that may be considered to complement existing LIPD arrangements.
56. Optus' position reflects the fact that opening up access to existing spectrum licenced spectrum for new use cases must not be done without balancing costs and benefits. The inevitable consequence of the ACMA introducing any UIOLI or UIOSI obligations into a renewed licence, where the outcome results in differential boundaries between MNOs on substitutable ESLs, will be a reduction in spectrum utility, efficiency, competition and public benefit. We point to the well intentioned, though highly inefficient, outcomes of catering to a diverse range of use cases in the 3.4 – 4.0GHz band. As has been highlighted many times, the interference risk of new inefficient boundaries will reduce the utility and efficiency of spectrum on both sides of the border, drive costs into interference management and network deployment and ultimately undermine investment in critical infrastructure and essential services that underpin Australia's digital future.

Regulatory intervention will undermine investment and may be inconsistent with the Act

57. A number of submissions endorse options for regulatory intervention over and above UIOLI/UIOSI, the implementation of which raise legal concerns as well as serious implications for the broader investment environment, including sovereign risk considerations.³⁹ In particular, Optus reiterates its strong opposition to variations to in-force spectrum licences and considers that the imposition of the alternative licence conditions described in the ACMA's consultation paper in such a manner would directly impact the core conditions of said spectrum licence and should therefore be subject to the agreement of the licensee.⁴⁰

³⁸ para 3.172; Optus' submission

³⁹ ACCAN's submission refers to using "mandatory information requests" to monitor spectrum use, establishing "licence conditions that provide the ACMA proportionate tools to respond to non-compliance" and "a review process which allows the ACMA to alter the conditions of an in-force ESL" largely in the name of supporting "spectrum end-users" – Optus submit that "spectrum end-users" or consumers are more likely to be harmed by introducing mechanisms that increase regulatory uncertainty for licensees by providing ACMA too broad a discretion to intervene.

⁴⁰ As per section 72 and 73 of the Act

PRICING FOR A SUSTAINABLE INDUSTRY IS IN THE LONG-TERM PUBLIC INTEREST

58. As has been clearly articulated in Optus' submission and supported by expert reports from Dr Chris Doyle and Coleago Consulting, existing arrangements for ESL spectrum have and will continue to promote the long-term public interest.
59. Existing arrangements that have supported tens of billions of dollars of network investment and incalculable economic and social benefits to the Australian community should not be adjusted without clear and substantiated evidence of market failure. Optus reiterates our view that all MNOs should be offered the opportunity to renew all their ESL spectrum at a price that supports sustainable competition in the national mobile market.
60. All MNOs identified declining returns on invested capital (ROIC) as a threat to industry sustainability and giving rise to the potential for a "digital investment gap".⁴¹ Some MNOs face a much tighter financial situation than others and Optus agrees that "high spectrum costs will amplify the existing structural instability in the industry".⁴² In this context, Telstra's, and to a lesser extent, TPG's, approach to pricing should be treated with some caution. Optus note that both advocate for the need to assess a market value in renewal pricing.⁴³
61. The long-term benefits to the economy and society of a sustainably competitive mobile sector far outweigh any short-term benefits to Government finances of high spectrum prices, therefore negating any need for auctions. Optus reiterates that pricing should be formulated with priority given to sustaining an industry that deploys national critical infrastructure and supplies essential services that are crucial to Australia's future prosperity and security. As set out in our Stage 2 submission, renewal of ESLs at a nominal price will best promote the long-term public interest.⁴⁴

Use of benchmarking will result in pricing that is not suited to Australia

62. Telstra advocate for a "conservative" approach to pricing and suggest the use of international benchmarking, adjusted to reflect current market values. Optus agree with Telstra that "the value to operators from a marginal unit of additional spectrum is much lower now, after the completion of the 5G era awards, than it was at the end of the 4G era".⁴⁵ However, Telstra do not provide any explanation as to why and how to square market value with the other principles cited in its submission, including "sustainability and affordability".⁴⁶ Telstra's professed support for pricing that reflects industry sustainability and affordability is also inconsistent with its strong preference for

⁴¹ TPG's submission, p.8; Telstra's submission, p.50-51

⁴² TPG's submission, p.8

⁴³ Telstra's submission, p.49; TPG submission, p.30 (p.2 of Analysys Mason report attached to submission which highlights the difficulties in accurately estimating the market value of spectrum "given ever-changing market conditions")

⁴⁴ Optus' submission, p.4

⁴⁵ Telstra's submission, p.50

⁴⁶ Telstra's submission, p.5, 49 and 50 stating that "the value to operators from a marginal unit of additional spectrum is much lower now, after the completion of the 5G era awards, than it was at the end of the 4G era"

auctions.⁴⁷ In this context, it is reasonable to conclude that Telstra's version of industry sustainability does not reflect wider industry affordability.

63. Optus also refers the ACMA to its expert report from Coleago Consulting for a detailed examination of why nominal pricing rather than benchmarking is the optimal methodology for pricing renewed ESL spectrum in Australia. Coleago notes that benchmarking is an unsound methodology as it is unlikely to accurately reflect the policy and industry demands of a local market because:
- (a) There are major difficulties in using historical global or domestic price benchmarking to set future renewal prices;
 - (b) Benchmarking requires a large number of subjective assumptions to be made;
 - (c) Prices paid in spectrum auctions are in large part driven by domestic market context.
64. Coleago adds that "prices paid for spectrum licences at auction in other countries say nothing about the value of spectrum to operators in Australia" and concludes that benchmarking is not appropriate to set renewal prices in Australia.⁴⁸

TPG's approach to pricing is not equitable and risks greater spectrum fragmentation

65. Optus does not support TPG's advocacy of differential or "scaled" pricing,⁴⁹ though we do support other aspects of TPG's approach, including the proposal for annual payments. Our view is that differential pricing and licence terms will undermine spectrum trading and therefore efficiency, by creating different spectrum products and entrenching fragmentation. To this end, Optus also support alignment of licence expiry dates across all renewed licences, to the greatest extent practicable.
66. TPG has stated that "pricing certainty is of high importance" and Optus strongly agrees.⁵⁰ We also agree with TPG's proposed principles to guide the ACMA when setting renewal fees:
- (a) renewal fees should be low given ongoing sustainability challenges faced by the industry;
 - (b) fees should be paid on an annual basis rather than in lump sum payments; and
 - (c) there should be identical pricing structures for technically substitutable spectrum bands.⁵¹
67. However, Optus does not support differential scaling of licence fees according to a licensee's relevant service revenue or market share. In Optus' view, this has the potential to reward inefficiency, with lower licence fees for the MNO with the least market share, which taken to the extreme would mean an MNO with no customers would pay nothing. TPG have suggested a minimum and maximum fee to avoid extreme

⁴⁷ Telstra's submission, p.52

⁴⁸ See pages 21-24 and 34 to 35 of the Coleago "ESL Pricing Paper"; 15 March 2024

⁴⁹ TPG's submission, p.1

⁵⁰ TPG's submission, p.1

⁵¹ TPG's submission, p.1

outcomes,⁵² which would translate into TPG paying the least, Telstra paying the most and Optus somewhere in the middle. Differential spectrum pricing for MNOs is unprecedented in Australia and has not been a feature of the last renewal process or any previous spectrum auctions. To introduce differential pricing in this ESL process is not warranted.

68. Optus supports spectrum fees in line with low or nominal pricing which should be affordable for all MNOs. It could therefore be scaled on customers, market share, revenue and ROIC for the MNO with the lowest score and then applied for all. The PMP for a given band should be the same for all MNOs.
69. Optus does not support TPG's proposal of trading alternative licence conditions for lower spectrum fees in mid band (TPG does not support UIOSI for low band).⁵³ This has not been a feature of ESL renewal processes or previous spectrum auctions due to the barriers this would create to spectrum trading and defragmentation. Optus believes that if spectrum fees are set at a low or nominal level there is no need to trade alternative licence conditions for lower prices as competition combined with lower fees will provide sufficient incentives for future deployment.

⁵² TPG's submission, p.21

⁵³ TPG's submission, p.17