

Explanatory Statement

Radiocommunications Act 1992

Radiocommunications (Spectrum Licence Limits—850/900 MHz Band) Direction 2021

Issued by the authority of the Minister for Communications, Urban Infrastructure,
Cities and the Arts

Purpose

The purpose of the Radiocommunications (Spectrum Licence Limits—850/900 MHz Band) Direction 2021 (the Direction) is to require the Australian Communications and Media Authority (ACMA) to impose limits on the aggregate of the parts of the spectrum that may be used by persons, or groups of persons specified in the Direction, as a result of the reallocation of spectrum in the 850/900 MHz band.

Spectrum-licensed bands in the sub-1 GHz band are closely substitutable for the 850/900 MHz band as these bands share similar propagation characteristics. This spectrum is well suited to providing wide-area and in-building coverage, and is therefore highly sought after by mobile network operators (MNOs). An imbalance in sub-1 GHz spectrum-licensed holdings between MNOs currently exists. If this imbalance is not addressed, or asymmetry in sub-1 GHz band holdings further increases, it could constrain the ability of some MNOs to compete effectively in the downstream consumer mobile market.

The Direction has the effect of requiring ACMA, in determining procedures to be applied for allocating spectrum in the 850/900 MHz band, to ensure that no person or relevant group of persons may use, as a result of the allocation of spectrum licences, more than an aggregate of 82 MHz of spectrum below 1 GHz (the sub-1 GHz band) under spectrum licences in the major population area (that will be defined in ACMA's marketing plan to cover major population centres) and 92 MHz in the regional area (that will also be defined in that plan, to cover the remaining areas in this allocation). The planning arrangements for spectrum reallocated in the 850/900 MHz band will be optimised for use in 4G and 5G mobile networks.

Consistent with the object of the *Radiocommunications Act 1992*, the Direction promotes the long-term public interest that will be derived from the use of the 850/900 MHz band by facilitating the efficient planning, allocation and use of the spectrum and addressing the relevant communications policy objectives of the Commonwealth Government. The communications policy objectives relevant to the 850/900 MHz band allocation were set by the Minister for Communications, Urban Infrastructure, Cities and the Arts (the Minister) in May 2020 and include supporting the deployment of 4G and 5G technologies, promoting competitive market outcomes for the long term benefit of consumers, encouraging investment in infrastructure, including in regional Australia, and supporting continuity of services.

The 82 MHz limit in the major population area applies the limit recommended to the the Minister by the Australian Competition and Consumer Commission (the ACCC) across the largest area (by population) to be allocated. The ACCC recommended limits apply such that no person, or relevant group of persons, could use more than 80 MHz of spectrum in the sub-1 GHz band. 2 MHz has been added to the recommended limit to account for the fact that 2 MHz of 'downshift' spectrum will be allocated to the winner of the lowest lot in the 900 MHz band. The downshift spectrum will facilitate a 1 MHz downshift of spectrum holdings in the adjacent 850 MHz band to align with internationally harmonised frequency ranges. It will also enable full utility of the lowest 900 MHz lot by removing the need for a 1 MHz guard band. An 82 MHz limit will not enable bidders to acquire any more lots at the 850/900 MHz auction than an 80 MHz limit would have. The 92 MHz limit in the smaller regional area to be allocated is intended to support investment in infrastructure and delivery of 4G and 5G services in remote and underserved areas.

As the major population area and the regional area will not align with the areas covered by existing spectrum licences in the 800 MHz band, the Direction sets a threshold of significance for the area where an overlap will exist between the geographic area covered by existing spectrum licences in the 800 MHz band and the spectrum licences to be allocated in the 850/900 MHz band in the major population area. For the purposes of the Direction, a spectrum licence will not count towards the allocation limit in the major population area if it covers less than 25 per cent of the population of the major population area. The 25 per cent threshold will ensure bidders with existing regional spectrum holdings in the 800 MHz band are not prevented from acquiring spectrum required to provide services to the vast majority of the Australian population by virtue of their holdings covering less than a quarter of this population.

The Direction also has the effect of requiring ACMA to set-aside 10 MHz of spectrum each in the upper four lots of the 900 MHz band (from 895 to 915 MHz and 940 to 960 MHz) in the major population area and the regional area for Optus and TPG Telecom and their relevant associates, if they elect to take up the spectrum set-aside. The Direction does this by imposing limits on the amount of spectrum that other participants to the auction can acquire if either, or both of, Optus and TPG Telecom elect to take up the spectrum set-aside.

The upper four lots of the 900 MHz band in each geographic area have been identified for set-asides as these lots provide the opportunity for Optus and TPG Telecom to acquire spectrum currently used by these MNOs under apparatus licences which will be cleared as a result of the *Radiocommunications (Spectrum Re-allocation—850/900 MHz Band) Declaration 2020*. This is in contrast to the lowest 900 MHz band lot in each geographic area which does not cover spectrum currently used by Optus or TPG Telecom. This lot is adjacent to the 850 MHz band and therefore has different spectrum utility due to its proximity to the 850 MHz band. Additionally, the winner of these lower lots will also be allocated 2 MHz of 'downshift' spectrum in the 850 MHz band.

Supporting continuity of services is one of the Government's communications policy objectives underpinning the reallocation of spectrum in the 850/900 MHz band. Optus and TPG Telecom rely heavily on their 900 MHz spectrum holdings to provide their services. Offering Optus and TPG Telecom the opportunity to elect to continue to access some spectrum in the 900 MHz band will provide these operators the ability to continue providing existing services to their customers. Without access to the 900 MHz band, these carriers may be unable to provide some of their existing services due to a lack of access to suitable replacement spectrum. Any reduction in service is likely to have a greater impact on regional areas than metropolitan areas, as the propagation qualities of sub-1 GHz spectrum makes it particularly useful for providing wide area coverage economically in these areas.

Other options to support service continuity, for example, relying on the overall limits or setting a specific limit for the 900 MHz band, present greater risks to achieving this objective as they do not guarantee that each of Optus and TPG can elect to acquire 10 MHz of spectrum in the 900 MHz band, the minimum amount considered necessary to continue the provision of existing services. The ACCC noted in its advice that the absence of set-asides would likely lead to a more efficient allocation of spectrum. However, the proposed set-asides retain scope for market mechanisms to determine the most efficient assignment of lot frequencies while reducing the risk to consumers that services are disrupted as a result of the reallocation of spectrum.

The ACCC advised the Minister that there were no grounds to set-aside spectrum for Telstra in order to support continuity of services. Telstra has the greatest existing spectrum holdings in the sub-1 GHz band of the three national MNOs. These greater existing holdings mean that Telstra does not rely on use of the 900 MHz band to operate in the national mobile services market. In contrast to Optus and TPG Telecom, Telstra has limited deployments in the 900 MHz band. For these reasons the reallocation of the 900 MHz band is unlikely to have a substantial impact on Telstra's ability to continue providing its existing services. Consequently, the Minister has not directed ACMA to set-aside spectrum for Telstra at the auction.

The set-asides are intended to further part of the object of the *Radiocommunications Act 1992*, supporting the Government's communications policy objectives, in this case being to support continuity of services. The implementation of the set-asides, including the price of the spectrum and procedures for determining the assignment of frequencies, are matters to be determined by ACMA in its allocation procedures under section 60 of the Act. It is noted in this context that another part of the object of the Act is to facilitate the efficient planning, allocation and use of the spectrum. Consistent with the principles articulated in the Government's *Spectrum Pricing Review* (released in February 2018), the efficient allocation of spectrum is more likely to be achieved where spectrum allocations are made by spectrum users through market mechanisms, and where spectrum prices reflect the market value of spectrum as a finite resource. Given the set-aside spectrum will largely avoid a market-based allocation process if taken up, the Minister requested ACMA, when considering its approach to pricing the spectrum to be set aside, to consider the value of the set-aside

spectrum, including the value that can be ascribed to the certainty provided to TPG and Optus in being offered a set-aside lot.

Authority

The Direction is made by the Minister under subsection 60(10) of the *Radiocommunications Act 1992* (the Act).

Under section 60 of the Act, ACMA is required to determine procedures to be applied in allocating spectrum licences under Subdivision B of Division 1 of Part 3.2 of the Act. Section 153L requires spectrum licences to be issued under this Subdivision where a spectrum re-allocation declaration under section 153B of the Act has made specified parts of the spectrum subject to re-allocation through the issue of spectrum licences. A spectrum re-allocation declaration initiates the process for re-allocating spectrum in the frequency bands named in the declaration.

Subsection 60(5) of the Act empowers ACMA to determine procedures under subsection 60(1) that impose limits on the aggregate of the parts of the spectrum that may be used by any one person or specified person, or members of a specified group of persons, as a result of the allocation of spectrum licences under Subdivision B of Part 3.2 of the Act.

Subsection 60(10) of the Act allows the Minister to give written directions to ACMA in relation to the exercise of its power to determine procedures imposing a limit mentioned in subsection 60(5) of the Act.

Subsection 60(6) of the Act sets out the manner in which limits imposed under subsection 60(5) of the Act may be expressed to apply, including by reference to a specified part of the spectrum, specified area or specified population reach.

This instrument is a legislative instrument for the purposes of the *Legislation Act 2003*. However, this instrument is not subject to disallowance or sunseting, as it is a direction by a Minister to a person or body (see item 2 of the table in section 9 and item 3 of the table in section 11 of the *Legislation (Exemptions and Other Matters) Regulation 2015* respectively).

The Explanatory Statement to the *Legislation (Exemptions and Other Matters) Regulation 2015* states that, with regard to the Ministerial directions, the exemption from disallowance recognises that executive control is intended in this instance. Directions under subsection 60(10) of the Act relate to the procedures to be determined by ACMA under subsection 60(1) of the Act for allocating spectrum licences, which are themselves exempt from disallowance, in this case to avoid causing commercial uncertainty or commercial delay for participants in allocation processes for spectrum licences. Such delay or uncertainty would be contrary to the promotion of the object of the Act, which includes facilitating the efficient allocation of the spectrum. Avoiding this uncertainty and delay is particularly important in the case of this direction, which relates to the allocation of spectrum in the 850/900 MHz band. The 850/900 MHz band is critical to national mobile telecommunications networks. The 900 MHz band is currently used to provide mobile

broadband services to Australia, and reallocating spectrum in the 850/900 MHz band will support new services such as 5G mobile networks. ACMA is preparing to allocate this spectrum via an auction in late 2021. Exposure of this instrument to potential disallowance could put at risk the ability of ACMA to commence the allocation process in 2021 and subsequently cause disruption to the efficient planning, allocation, and use of the 850/900 MHz band.

Background

The Minister made the *Radiocommunications (Spectrum Re-allocation—850/900 MHz Band) Declaration 2020* (the Declaration) in October 2020. The Declaration specified that parts of the spectrum in the 850/900 MHz band would be subject to reallocation by issuing spectrum licences. ACMA is planning to allocate this spectrum via auction.

Concurrent with making the Declaration, the Minister sought advice from the ACCC on appropriate allocation limits (also known as competition limits) for the 850/900 MHz auction. The ACCC undertook public consultation to assist with the preparation of its advice in November and December 2020. The ACCC provided its final advice to the Minister in March 2021. The Department of Infrastructure, Transport, Regional Development and Communications (the Department) then undertook public consultation on an exposure draft of this Direction in April and May 2021.

Spectrum in the 850/900 MHz band has been identified internationally, and by the ACMA, for the delivery of wireless broadband services, including for 4G and 5G mobile networks. 900 MHz band spectrum is currently used by Optus, Telstra and TPG Telecom under apparatus licensing arrangements.

Consultation

The Minister sought advice in October 2020 from the ACCC on appropriate allocation limits for the auction (if any), and whether there were grounds to set-aside spectrum for Telstra. The ACCC consulted publicly on competition issues associated with the auction in December 2020. Six submissions were received to this consultation, from Connected Farms, NBN Co, Optus, Pivotel, Telstra and TPG Telecom. The ACCC provided its advice to the Minister in March 2021.

In April and May 2021, the Department consulted publicly on an exposure draft of the Direction that proposed an 82 MHz allocation limit and included provisions to set-aside 10 MHz of spectrum in the 900 MHz band for Optus and TPG Telecom. This consultation was conducted concurrently with ACMA's consultation on draft allocation instruments for the 850/900 MHz auction to allow stakeholders to understand how the set-asides, overall limits and ACMA's allocation procedures would interact.

Five stakeholders (Telstra, Optus, TPG Telecom, WA Farmers and the Rural, Regional and Remote Communications Coalition (RRRCC)) provided submissions in response to the

Department's exposure draft and explanatory statement. Telstra provided a supplementary submission on 24 June 2021.

Consultation was also undertaken with ACMA in relation to the terms of the Direction.

Regulation Impact Statement

A Regulation Impact Statement (RIS) has been completed and is at Attachment A. The Office of Best Practice Regulation has certified that the RIS is compliant with Australian Government RIS requirements (OBPR ID 43548).

Attachment 1: Notes on Sections

Section 1—Name

Section 1 provides that the instrument is the *Radiocommunications (Spectrum Licence Limits—850/900 MHz Band) Direction 2021* (the Direction).

Section 2—Commencement

Section 2 provides that the Direction will commence on the day after it is registered on the Federal Register of Legislation, which may be accessed online at www.legislation.gov.au.

Section 3—Authority

Section 3 identifies subsection 60(10) of the *Radiocommunications Act 1992* as the power that authorises the making of the Direction.

Section 4—Interpretation

Section 4 defines expressions used in the Direction.

The note to the section states that a number of expressions used in the instrument are defined in the Act, including ‘spectrum’ and ‘spectrum licence’.

800 MHz band is defined to mean the parts of the spectrum from 825 MHz to 845 MHz and 870 MHz to 890 MHz.

850/900 MHz band is defined to mean the parts of the spectrum that are subject to re-allocation under the re-allocation declaration.

Act is defined to mean the *Radiocommunications Act 1992*.

associate is defined to mean:

- (a) in relation to a person that is a body corporate:
 - (i) a director or secretary of the body; or
 - (ii) a related body corporate; or
 - (iii) a director or secretary of a related body corporate; or
 - (iv) an individual who controls at least 15% of the voting power or holds at least 15% of the issued shares in the body; or
- (b) in relation to a person that is an individual:
 - (i) the individual’s spouse; or
 - (ii) the individual’s de facto partner within the meaning of the *Acts Interpretation Act 1901*; or
 - (iii) a body corporate in which the individual controls at least 15% of the voting power or holds at least 15% of the issued shares; or
 - (iv) a body corporate of which the individual is a director or secretary; or

- (v) a body corporate that is a related body corporate in relation to a body corporate of which the individual is a director or secretary; or
- (c) in relation to any person (the ‘first person’)—any other person (other than the Commonwealth when represented by the ACMA) who is party to a relevant agreement with the first person that either or both:
 - (i) is for the use by one party to the agreement of spectrum licensed to another party to the agreement under a spectrum licence for a part of the spectrum referred to in the re-allocation declaration;
 - (ii) relates to the acquisition of a spectrum licence for a part of the spectrum referred to in the re-allocation declaration.

The term ‘associate’ is used in the definition of ‘relevant group of persons’ and ‘relevant associate’.

In the definition of ‘relevant group of persons’, the primary purpose of the definition is to ensure that a person cannot seek to circumvent the effect of allocation limits by having another person or body they have a close connection to, a high degree of control or influence over, or a commercial agreement dealing with spectrum licensing with, apply for a spectrum licence on their behalf.

In the definition of ‘relevant associate’, which is used in the set aside limits for Optus and TPG, the term is construed more narrowly. A ‘relevant associate’ means a person who is an associate of a body corporate because they are a related body corporate, or because they are party to a commercial agreement dealing with spectrum licensing.

carrier is defined to have the same meaning as in the *Telecommunications Act 1997*.

HCIS Population Data Document is defined to mean the document that sets out population data for areas in Hierarchical Cell Identification Scheme levels 1 to 4 in the set of documents entitled Hierarchical Cell Identification Scheme (HCIS) - List of Population Data published by the ACMA on its website, as that document existed at the time the instrument was made. The note to this definition further provides that this document identifies each Australian Spectrum Map Grid 2012 (ASMG) cell and block by its HCIS identifier and lists the corresponding population based on Census data. The HCIS is a naming convention for areas on the ASMG, which is a system used by the ACMA to define geographic areas for radiocommunications licensing. The document could, at the time the instrument was made, be found on the ACMA’s website (<http://www.acma.gov.au>).

marketing plan is defined to mean the marketing plan made by ACMA for section 39A of the Act in relation to the 850/900 MHz band, as in force on its commencement. The marketing plan will be published on ACMA’s website, www.acma.gov.au, when finalised.

major population area is defined to mean the area that is identified by ACMA as the major population area in the marketing plan. Note 1 to this definition explains that the term **major population area** will be identified by the ACMA in the marketing plan and will include geographic areas generally corresponding to the metropolitan areas of Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney, and some other population centres. Note 2 to the definition provides that the marketing plan will use HCIS cells to identify the areas on the ASMG that constitute the major population area.

Optus is defined to mean Optus Mobile Pty Limited (ACN 054 365 696).

public mobile telecommunications service is defined to have the same meaning as in the *Telecommunications Act 1997*. This term is used in the definitions of relevant agreement and roaming services agreement.

re-allocation declaration is defined to mean the *Radiocommunications (Spectrum Re-allocation—850/900 MHz Band) Declaration 2020*.

regional area is defined to mean the area that is not, and does not overlap with, the major population area, is identified as the regional area in the marketing plan. The note to this definition provides that the marketing plan will use HCIS cells to identify the areas on the ASMG that constitute the regional area. **related body corporate** is defined to have the same meaning as in the *Corporations Act 2001*.

relevant agreement is defined to mean an agreement, arrangement or understanding, whether formal or informal (or a combination of the two), written or oral (or a combination of the two), and whether or not having legal or equitable force or based on legal or equitable rights. However, the definition excludes roaming services agreements or an agreement between carriers provided for by or under the *Telecommunications Act 1997* or Part XIC of the *Competition and Consumer Act 2010*. The term relevant agreement is used in the definition of associate.

relevant area is provided to be defined in subsection 6(1)

relevant associate is defined to mean, in relation to a person that is a body corporate (the **first person**), a person who is an associate of the first person because of subparagraph (a)(ii) or paragraph (c) of the definition of **associate**.

relevant bands is defined to mean the parts of the spectrum from 895 to 915 MHz and 940 to 960 MHz. The term 'relevant bands' is used in section 6 of the Direction.

relevant group of persons is defined to mean either a person and all associates of that person; or – subject to subsection 4(3) – any 2 or more groups referred to in paragraph (a) that have at least one member in common.

roaming services agreement is defined to mean an agreement between two or more carriers for the principal purpose of enabling the supply of public mobile telecommunications services by one of those other carriers, in geographic locations where another of those carriers' public mobile telecommunications services are not available. Roaming services agreements are carved-out from the definition of relevant agreement, as described above.

sub-1 GHz band is defined to mean the part of the spectrum up to 1 GHz.

TPG Telecom is defined to mean TPG Telecom Limited (ACN 096 304 620).

Subsection 4(2) provides that the lower number in a reference to part of the spectrum is not included in that part of the spectrum for the purposes of the Direction, while the higher number is included. This is to prevent frequency band overlap.

Subsection 4(3) provides a limited exclusion from the definition of 'relevant group of persons' by providing that for the purposes of paragraph (b) of that definition, an individual is taken not to be a member in common between two or more groups that are comprised of a person ('relevant person') and the associates of that relevant person where all of the following apply:

- (a) the individual is providing services as a company secretary ('company secretarial services') to one or more related bodies corporate of the relevant person in each of the groups;
- (b) the individual is providing the company secretarial services through a person or entity ('third party service provider') that:
 - (i) is not in any of the groups; and
 - (ii) carries on a business for the provision of professional services, including company secretarial services; and
 - (iii) has, in the ordinary course of carrying on that business, been separately and independently engaged by an entity within each of those groups, under a contract or other legally binding arrangement, to provide the company secretarial services;
- (c) the individual is not, otherwise than by reason of providing the company secretarial services, an associate of any of the relevant persons;
- (d) each of the related bodies corporate to which the individual is providing the company secretarial services is incorporated outside Australia.

The criteria specified are intended to ensure that, for the purposes of paragraph (b) of the definition of ‘relevant group of persons’, individuals are taken not to be members in common between groups of persons referred to in paragraph (a) of that definition in certain circumstances where they are genuinely at arms-length from the related bodies corporate.

In particular, this is intended to address the fact that some related bodies corporate (i.e. associates) of persons who are likely to be interested in acquiring spectrum licences through the allocation process (referred to as ‘relevant persons’ in subsection (3)) may have company secretaries who have been supplied by independent third parties (e.g. law firms or other professional services firms). This is not an uncommon practice in certain offshore jurisdictions. For example, a related body corporate that operates in a different jurisdiction to its parent company may engage a local firm with particular expertise in that jurisdiction to supply an individual (e.g. an employee, contractor or partner) to act as a company secretary. Alternatively, the parent company may engage such a firm to provide company secretary services on behalf of one or more its foreign related bodies corporate. In some instances, the same third party may be engaged by, and may supply the same individual to, entities within two different groups of relevant persons and their associates.

Without this exemption, those two groups of relevant persons and their associates would be taken to be a single specified group of persons for the purposes of the allocation limits. This could unduly restrict the ability of those persons to access spectrum due to a remote connection to another person seeking to be allocated spectrum, and go beyond the primary purpose of the allocation limits.

However, the exclusion is not intended to apply where the third party service provider is itself in one of the groups of relevant persons and their associates, or where the parties may have worked together to set up a ‘third party service provider’, or arranged to engage the same service provider to provide the same individual to act as company secretary, specifically to allow them to rely on the exclusion. Accordingly, paragraph (b) requires that the third party service provider: not be in any of the groups (subparagraph (i)); already be in the established business of providing company secretarial services (subparagraph (ii)); and, have been engaged by an entity in one group of relevant persons and their associates separately and independently of the entities in the other group(s) (subparagraph (iii)). Further, paragraph (c) is intended to clarify that the exclusion does not apply if the individual put forward to act as the company secretary by the third party service provider is otherwise an ‘associate’ of the relevant person (e.g. if they are also director of the relevant person who is a body corporate, one of its related bodies corporate).

Section 5—Direction

Subsection 5(1) of the Direction directs ACMA to determine allocation procedures under subsection 60(1) of the Act that impose limits, in accordance with sections 6 and 7, on the aggregate of the parts of the spectrum that may, as a result of the allocation of spectrum licences under Subdivision B of Division 1 of Part 3.2 of the Act, be used by any one person or by the groups of persons specified in those sections.

Subsection 5(2) provides that limits imposed must apply to the allocation of spectrum licences in the 850/900 MHz band enabled by the re-allocation declaration.

Section 6—Limits applying to groups of persons other than Optus, TPG Telecom and their relevant associates (spectrum set-aside in the relevant bands for Optus and TPG Telecom)

Section 6 imposes limits on the aggregate of the amount of spectrum in the relevant bands a person, or group of persons, may use in the specified circumstances.

Paragraph 6(1)(a) provides that for this section the limits imposed must apply in relation to the relevant bands in the major population area and the regional area.

Paragraph 6(1)(b) provides that the limits imposed apply in relation to each of the major population area and the regional area and must be in accordance with the operation of the table in the section. The table applies separately to each area (a relevant area) as described in the note. The limits imposed must ensure that, with respect to each item in the table, in the circumstance specified in column 2 of the table, the members of the group of persons specified in column 3 may, in total, use no more than an aggregate of the amount of spectrum in the relevant bands in the relevant area that is specified in column 4.

Item 1 of the table will apply if both Optus and TPG Telecom have elected to take up the spectrum set aside in the relevant area. Item 2 will apply if Optus has elected to take up the spectrum set-aside in the relevant area, but TPG Telecom has not. Item 3 will apply if TPG Telecom has elected to take up the spectrum set-aside in the relevant area, but Optus has not.

Item 1 provides that if Optus and TPG Telecom have elected to take up the spectrum set aside in a relevant area:

- (a) every person other than Optus and TPG Telecom and their relevant associates, may in total use no more than an aggregate of 20 MHz of spectrum in the relevant bands in that relevant area;
- (b) every person other than Optus and its relevant associates, may in total use no more than an aggregate of 30 MHz of spectrum in the relevant bands in that relevant area; and,
- (c) every person other than TPG Telecom and its relevant associates, may in total use no more than an aggregate of 30 MHz of spectrum in the relevant bands in that relevant area.

Item 2 provides that if Optus has elected to take up the spectrum set-aside in a relevant area, but TPG Telecom has not, every person other than Optus and its relevant associates may in total use no more than an aggregate of 30 MHz of spectrum in that relevant area.

Item 3 provides that if TPG Telecom has elected to take up the spectrum set-aside in a relevant area, but Optus has not, every person other than TPG Telecom and its relevant associates may in total use no more than an aggregate of 30 MHz of spectrum in that relevant area.

For example, in the event that Optus and TPG Telecom have elected to take up the set-aside spectrum in a relevant area, and there is one other bidder, 'A':

1. 'A' may, in total, use up to 20 MHz of spectrum in the relevant bands in that relevant area (per Item 1 (a))
2. TPG Telecom and its relevant associates, and 'A', may, in total, use up to 30 MHz of spectrum in the relevant bands in that relevant area (per Item (b)); and
3. Optus and its relevant associates, and 'A', may, in total, use up to 30 MHz of spectrum in the relevant bands in that relevant area (per Item 1 (c)).

40 MHz of spectrum will be allocated in the relevant bands in each of the major population area and the regional area. 'A' cannot use more than 20 MHz of spectrum in the relevant bands (per 1, above) in a relevant area. Any combination of Optus or TPG Telecom and 'A' could not use more than an aggregate of 30 MHz of spectrum in a relevant area. This can be represented in the equation below:

$$\begin{aligned}A &\leq 20 \text{ MHz} \\A + \text{Optus} &\leq 30 \text{ MHz} \\A + \text{TPG Telecom} &\leq 30 \text{ MHz}\end{aligned}$$

Assuming 'A' uses the maximum allowed aggregate of 20 MHz of spectrum in the relevant bands in a relevant area:

$$\begin{aligned}20 \text{ MHz} + \text{Optus} &\leq 30 \text{ MHz} \\20 \text{ MHz} + \text{TPG Telecom} &\leq 30 \text{ MHz} \\ \text{Optus} &\leq 10 \text{ MHz} \\ \text{TPG Telecom} &\leq 10 \text{ MHz}\end{aligned}$$

Therefore, Optus and TPG Telecom would be guaranteed the opportunity to use at least 10 MHz (i.e. one lot of 2 x 5 MHz) of spectrum in the relevant bands in a relevant area, if they have each elected to take up the spectrum set-aside.

If, for example, Optus does not elect to take up the spectrum set-aside, but TPG Telecom does, and two other bidders 'A' and 'B' participate in the auction, the total aggregate spectrum in the relevant bands in a relevant area that could be acquired at the auction by A and B is 30 MHz (per item 3 of the table). The remaining 10 MHz of spectrum in the relevant bands in a relevant area would be set-aside for TPG Telecom.

In the event that neither Optus nor TPG Telecom elect to take up the spectrum set-aside in each relevant area, no limit would apply to the aggregate amount of spectrum a person could use in the relevant bands in each relevant area. However, the overall allocation limits set out in section 7 would still apply. The limits in section 7 would also apply if Optus, TPG Telecom or both, elect to take up the set-aside in a relevant area. If Optus or TPG Telecom elect to take up the set-aside, this spectrum would be counted towards the limit provided in section 7. Any set-aside lots that are not taken up will be made available for other bidders in the auction to purchase.

Optus and TPG Telecom currently make extensive use of their apparatus licensed holdings in the 900 MHz band to provide mobile services to their respective customers. Supporting continuity of services is one of the Government's communications policy objectives for the 850/900 MHz auction. Guaranteeing Optus and TPG Telecom the opportunity to access spectrum in the relevant bands as set out in subsection 6(1) promotes this objective, as Optus and TPG Telecom can choose to acquire the spectrum necessary to continue providing services using in the 900 MHz band with minimal interruptions (pending any necessary retuning following the auction).

Subsection 6(2) provides, for the purposes of subsection 6(1), that a person ***has elected to take up the spectrum set-aside*** in the allocation of spectrum licences in the 850/900 MHz band in relation to a relevant area if all of the following apply:

- (a) either the person or a body corporate of which the person is a member (in either case, the ***participant***) has applied to be registered with the ACMA for the allocation in accordance with the allocation procedures;
- (b) if, under the allocation procedures, there is a period of time during which an application for registration may be withdrawn—that period has ended and the participant has not withdrawn their application;
- (c) if the allocation procedures provide for circumstances in which an application for registration is taken to be withdrawn—those circumstances do not apply to the participant;
- (d) if, under the allocation procedures, in order to take up the spectrum set-aside in relation to that relevant area, a person is required to do any of the following:
 - (i) pay to the ACMA an application fee (however described);
 - (ii) give the ACMA notification in writing that the person elects to take up the set-aside in relation to the area;the participant has complied with any such requirements;
- (e) if:
 - (i) the allocation procedures provide for circumstances in which, having complied with any requirements of the kind referred to in paragraph (d), a person may withdraw (however described) their election to take up the spectrum set-aside in relation to that relevant area; and
 - (ii) those circumstances have arisen;the participant has not withdrawn (however described) their election;

- (f) if, under the allocation procedures, in order to take up the spectrum set aside in relation to that relevant area, the person is required to have also taken up the spectrum set aside in relation to the other of those relevant areas — paragraphs (d) and (e) apply in relation to the other of those relevant areas.

Paragraphs 6(2)(a) to (c) ensures that a participant will only be taken to have elected to take up the spectrum set aside in relation to a relevant area if they have applied to be registered with the ACMA for the allocation in accordance with the allocation procedures, and have not withdrawn or be taken to have withdrawn their application for registration.

ACMA may determine in its allocation procedures requirements that must be met in order for a person to elect to take up the spectrum set-aside in relation to a relevant area or both of those areas. Paragraphs 6(2)(d) and (e) provide that, if, in accordance with these procedures a person pays an application fee (however described), gives notification in writing that they elect to take up the set aside, and do not then withdraw their election, if permitted to do so under circumstances provided for under the allocation procedures, they will be taken to have elected to take up the spectrum set-aside.

This gives ACMA flexibility in how it chooses to deal with set-aside spectrum as part of the allocation procedures, and certainty as to whether a person has elected to take up the spectrum set-aside in a relevant area.

Paragraph 6(2)(f) provides for ACMA, if it chooses to do so in its allocation procedures, to require that set-aside participants take up the set-aside in both the major population area and the regional area.

It is intended that in effect, if the usual spectrum auction procedures are prescribed for this auction, subsection 6(2) will require Optus and TPG Telecom to elect to take up the spectrum set-aside in a relevant area by the application deadline set in the allocation procedures. It would be necessary for any spectrum set-asides to be taken up by this point as after the application deadline, and before the eligibility deadline of the allocation, applicants must indicate to the ACMA their provisional start demands for the auction. The start demands cannot be greater than the supply of lots at the auction, therefore ACMA, and potential auction participants, must know what spectrum is to be set-aside to determine how many lots will be available for bidders at the auction.

Section 7—Limit applying to all persons and relevant groups of persons

Section 7 sets out limits applying to all persons and relevant groups of persons as to how much spectrum they may use in the sub-1 GHz band in each relevant area.

Paragraph 7(1)(a) sets out that for this section, the limits imposed must apply in relation to the sub-1 GHz band in the major population area and the regional area. This is intended to make clear that ACMA must impose limits on the aggregate of the parts of the spectrum that any person or specified group of persons may use in the sub-1 GHz band as a result of the allocation of spectrum licences in the 850/900 MHz band. Spectrum bands within the sub-1 GHz band, of which the 850/900 MHz band is one, are close substitutes, particularly in

relation to the deployment of mobile networks in Australia as these bands share similar propagation characteristics. Therefore, it is appropriate to take into account existing holdings in the sub-1 GHz band for the purposes of the allocation of the 850/900 MHz band.

Paragraph 7(1)(b) sets out that the limits imposed must ensure that no person or relevant group of persons may use no more than an aggregate of 82 MHz of the sub-1 GHz band under spectrum licences in the major population area or 92 MHz in the regional area. That is, a person, or relevant group of persons, may use up to 82 MHz of spectrum under spectrum licences in the major population area and up to 92 MHz in the regional area, but cannot use more than 82 MHz or 92 MHz of spectrum under spectrum licences in each area respectively. The intent of the limit is to prevent monopolisation of spectrum-licensed spectrum in the sub-1 GHz band and partially address the disparity in sub-1 GHz band spectrum-licensed holdings between MNOs. These limits will still enable competition between MNOs, and any other bidders, at the auction to efficiently allocate the spectrum available. The limits apply to the major population area and regional area individually to account for existing geographic variation in spectrum holdings.

Paragraph 7(1)(c) sets out where, immediately prior to any allocation of a spectrum licence that is enabled by the re-allocation declaration a person, or relevant group of persons, holds a relevant spectrum licence that authorises the operation of radiocommunications devices in one or more parts of the major population area (but not the entire major population area), and the aggregate population of that part or those parts of the major population area is insignificant, the relevant spectrum licence is to be treated as if it did not apply in the major population area. That is, these particular existing holdings are not to be taken into account for the purposes of applying the allocation limit provided by this section to a person or specified group of persons in relation to the major population area.

Paragraph 7(2)(a) defines, for the purposes of paragraph (1)(c), a **relevant spectrum licence** to mean a spectrum licence in the 800 MHz band that is in force immediately before the deadline for applications for registration under the allocation procedures.

Paragraphs 7(2)(b) and 7(2)(c) provide that the population of one or more parts of the major population area is **insignificant** if, and only if, the population of those parts of the major population area are less than 25% of the total population of the major population area, determined in accordance with the most recent data in the **HCIS Population Data Document**.

The intention of paragraph 7(1)(c) and subsection 7(2) is that a person's existing entitlement to use a part of the spectrum under a relevant spectrum licence, in one or more parts of the major population area, should be considered insignificant and should not impact on that person's ability to acquire additional spectrum in the major population area where they have a reach of less than 25 per cent of the total population of the metropolitan area in that particular part of the spectrum.

The boundaries of the major population area and regional area may not align with the boundaries of existing spectrum licences in the 800 MHz band. The intent of this subsection is to clarify the application of the allocation limits in any areas where these licence boundaries may overlap.

For example, if:

- a person was entitled to use part of the spectrum in the 800 MHz band under a spectrum licence; and
- the licence area overlapped partly with the major population area for the purposes of the Direction; and
- the population of the part of the licence area which overlaps with the major population area has a population that consists of 20% of the total population of the major population area;

then the person's spectrum holdings in that part of the major population area would not be intended to be taken into account for the purposes of applying the limits to the applicant in relation to the major population area.

Regulation Impact Statement: Allocation Limits for the 850/900 MHz Spectrum Auction

Contents

<u>Introduction</u>	19
<u>1 What is the problem we are trying to solve?</u>	20
<u>2 Why is Government action needed?</u>	21
<u>3 What policy options are being considered?</u>	25
<u>4 What is the likely net benefit of each option?</u>	27
<u>Option 1 – a 72 MHz allocation limit applied across all sub-1 GHz band holdings.</u>	29
<u>Option 2 –an 82 MHz allocation limit (with two sub-options)</u>	31
<u>Option 2.1 – an 82 MHz allocation limit applied across all sub-1 GHz band holdings</u>	31
<u>Option 2.2 – an 82 MHz allocation limit applied across all metropolitan sub-1 GHz band holdings and a 92 MHz allocation limit applied across all regional sub-1 GHz band holdings</u>	34
<u>Option 3 – 102 MHz allocation limit applied across all sub-1 GHz band holdings</u>	36
<u>Option 4 – no allocation limits</u>	38
<u>5 Who was consulted and how was their feedback considered?</u>	40
<u>6 What is the best option from those we have considered?</u>	41
<u>7 How will we implement and evaluate the chosen option?</u>	42
<u>Conclusion</u>	42

Introduction

This Regulation Impact Statement (RIS) has been prepared by the Department of Infrastructure, Transport, Regional Development and Communications (the Department). The purpose of this RIS is to assist the Minister for Communications, Urban Infrastructure, Cities and the Arts, The Hon Paul Fletcher MP (the Minister) to decide if allocation limits should be imposed for the auction of 72 megahertz (MHz) of spectrum in the 850 MHz expansion band and 900 MHz band (together, the 850/900 MHz band), and if so, what those limits should be. A decision would be made under subsection 60(10) of the *Radiocommunications Act 1992* (the Act).

The 850/900 MHz band is one of a number of sub-1 GHz frequency bands that are internationally harmonised for the deployment of mobile broadband services. The band has propagation characteristics that make it particularly suitable for providing both wide-area and indoor coverage. The auction of 850/900 MHz spectrum is intended to make additional spectrum in the 850 MHz expansion band available for mobile broadband services, and to reallocate the 900 MHz band to make it more suitable for 3G, 4G and 5G services.

Following a recommendation from the Australian Communications and Media Authority (ACMA), the Minister made a re-allocation declaration for the 850/900 MHz band in October 2020.¹ The declaration requires ACMA to allocate, by issuing spectrum licences, 2 x 11 MHz of Australia-wide spectrum in the 850 MHz expansion band and 2 x 25 MHz of Australia-wide spectrum in the 900 MHz band.

- Some spectrum will be allocated in the 850 MHz band from the 2 x 15 MHz of spectrum in the 850 MHz expansion band that is being progressively cleared by ACMA in preparation for reallocation. The Australian Government has reserved 2 x 5 MHz of spectrum at the lower end of the 850 MHz expansion band for a national Public Safety Mobile Broadband capability. Accordingly, 2 x 10 MHz of spectrum in the 850 MHz expansion band is being made available at auction, along with an additional 2 x 1 MHz which is intended to facilitate a future downshift of spectrum licences in the adjacent 850 MHz band.
- 2 x 25 MHz of spectrum in the 900 MHz band is currently held by the three Mobile Network Operators (MNOs) (Telstra, Optus and TPG) under apparatus licences, in a configuration which was optimised for 2G services. The band cannot be used efficiently for 3G, 4G and 5G services unless it is allocated in a 5 MHz-based configuration. The clearance and reallocation of the 900 MHz band means that the MNOs will lose their 900 MHz holdings and will have to re-acquire them at the auction if they wish to continue to use the band.²

ACMA plans to hold an auction for the spectrum in late 2021. ACMA is proposing to auction 20-year spectrum licences with a licence commencement date of 1 July 2024. Auction settings, including the geographic boundaries of the spectrum licences to be auctioned, the technical framework for the band, and pricing matters are the subject of separate decisions to be made by ACMA. As outlined in this RIS, ACMA's decision on geographic boundaries has implications for the implementation of the different options for allocation limits.

¹ [Radiocommunications \(Spectrum Re-allocation—850/900 MHz Band\) Declaration 2020 \(legislation.gov.au\)](https://www.legislation.gov.au/australian-communications-media-authority-declaration-2020).

² To support continuity of services, the Minister has decided to offer Optus and TPG the opportunity to take up a guarantee, or set aside, of 2 x 5 MHz of spectrum each in the 900 MHz band. This spectrum will count towards the maximum amount of spectrum allowed under any allocation limit.

The analysis in this RIS has been informed by advice to the Minister from the Australian Competition and Consumer Commission (ACCC)³, and by responses to public consultations undertaken by both the ACCC and the Department⁴.

This RIS has been developed in accordance with the Australian Government Guide to Regulation, March 2020, issued by the OBPR in the Department of the Prime Minister and Cabinet, and in consultation with the OBPR. Relevant guidance notes issued by the OBPR have also been taken into account.

1 What is the problem we are trying to solve?

This RIS considers whether the Minister should direct ACMA to impose allocation limits for the auction of 72 MHz in the 850/900 MHz band and if so, what those allocation limits should be.

Spectrum is a finite resource used for a variety of wireless services including Wi-Fi, radio, broadcast television, satellite communications, and maritime and aviation safety. Low-band (sub-1 GHz) spectrum is currently used by MNOs to deliver 3G, 4G and some 5G services, and its propagation characteristics make it important for the provision of mobile services in both metropolitan and regional areas. It is an essential input for the national mobile services market, which the ACCC considers is the most relevant market for this auction, and is particularly important in regional areas given its suitability for wide-area coverage

Sub-1 GHz spectrum has different characteristics to the mid-band (1–6 GHz) and high-band (26 GHz) spectrum that is also being used by MNOs to deliver mobile broadband services. Noting this, the ACCC's advice to the Minister stated that mid-band spectrum is unlikely to provide an effective substitute for sub-1 GHz spectrum (because significantly more site deployments are needed to achieve the same level of coverage with mid-band compared to low-band spectrum). Similarly, high-band or millimetre wave spectrum is not substitutable for either low or mid-band spectrum. The ACCC advised that:

“operators without sufficient sub-1 GHz spectrum would face significantly higher deployment costs, which would undermine the commercial case for wider roll out of networks, particularly in regional Australia. If there is significant disparity in sub-1 GHz band holdings among the operators, it is likely that operators with more sub-1 GHz holdings would hold a competitive advantage compared to others due to their ability to deploy mobile networks more quickly and cost efficiently.”⁵

The ACCC considers Optus's lack of sub-1 GHz spectrum, relative to other MNOs, to be the key competition issue in the 850/900 MHz allocation. The ACCC noted that:

“Optus' ability to compete effectively in the mobile services market will likely be constrained if it does not acquire more sub-1 GHz band spectrum in the 850/900 MHz allocation. In particular, there is a risk that Optus may not be able to roll out 5G technology widely and efficiently in Australia in the absence of more sub-1 GHz spectrum. This would adversely

³ The ACCC's advice to the Minister, and responses to the ACCC's consultation, are available at the following link: [Request for advice - 850/900 MHz spectrum | ACCC](#).

⁴ The Department conducted consultation on an exposure draft of an allocation limits direction in April-May 2021: [850/900 MHz Auction Allocation Limits Exposure Draft | Department of Infrastructure, Transport, Regional Development and Communications](#).

⁵ ACCC advice, pp9-10.

affect competition in the mobile services market, particularly in regional areas by limiting the deployment of competitive 5G networks by all MNOs across Australia, to the detriment of consumers”.⁶

The Department agrees with the ACCC’s assertion that “allocation limits can help promote competition and economic efficiency in markets that rely on spectrum by giving all operators an opportunity to acquire sufficient spectrum to compete effectively in the downstream markets. When the operators can compete effectively, this promotes good outcomes for consumers, in terms of choice, price and quality of services available”.⁷

2 Why is Government action needed?

Government action is needed to mitigate the risk of imbalanced spectrum holdings generating long term constraints on competition in Australia’s national mobile service market. Without appropriate government action, competition in Australia’s national mobile services market could suffer, negatively affecting consumers and failing to promote the long-term public interest derived from the use of the spectrum.

Under subsection 60(10) of the Act, the Minister has the power to direct ACMA to impose allocation limits at an auction. In making such a decision, the Minister should be guided by the object of the Act, which is to promote the long-term public interest derived from the use of the spectrum by providing for the management of the spectrum in a manner that:

- facilitates the efficient planning, allocation and use of the spectrum;
- facilitates the use of the spectrum for commercial and non-commercial purposes; and
- supports the communications policy objectives of the Commonwealth Government.

Relevant communications policy objectives for this auction were set by the Minister in May 2020, and are reproduced in full in the following table.

⁶ ACCC advice, p2-3.

⁷ ACCC advice, p5.

Table 1. Communications Policy Objectives for the 850/900 MHz Allocation⁸

Objective	Description
Supporting the deployment of 4G and 5G technologies	<p>The Government’s 5G—Enabling the future economy directions paper identified that the Government would support the early deployment of 5G in Australia by making spectrum available in a timely manner. The 3.6 GHz band was the first band made available in Australia for the deployment of 5G services, with spectrum licences allocated in December 2018. The 26 GHz band will follow, with an allocation planned in early 2021.⁹ Currently, the 850 and 900 MHz bands are not properly optimised for 4G or 5G services. A reconfiguration will support the deployment of 4G and 5G networks and support more efficient use of the spectrum. Lower-band spectrum, such as the 850 and 900 MHz bands, is important for broader 4G and 5G coverage, including in regional Australia, and will complement holdings of 5G-suitable mid and high-band spectrum.</p>
Promoting competitive market outcomes for the long term benefit of consumers	<p>The Government wants to promote competitive outcomes for the long term benefit of consumers, in order to encourage a range of choice in consumer products and place downward pressure on consumer prices. The Government recognises that spectrum allocations contribute to competitive outcomes in telecommunications markets for the long term benefit of consumers. Allocation settings, such as price and allocation limits, can influence competition in spectrum markets and, subsequently, downstream markets.</p>
Encouraging investment in infrastructure, including in regional Australia	<p>The Government supports continued investment in mobile and fixed broadband infrastructure and networks. It recognises that allocation processes and licensing arrangements can contribute to, or detract from, this objective. The licensing arrangement in the 850 and 900 MHz bands should provide industry with long-term certainty to encourage operators to invest in telecommunications infrastructure across Australia, including in regional areas.</p>
Supporting continuity of services	<p>The Government recognises the existing uses and users of services operating in the 850 and 900 MHz bands. A reconfiguration of the bands can deliver greater capacity for wireless services and support carriers to deploy 4G and 5G wireless broadband services, improving the quality of services for existing customers. The Government will work with industry to promote continuity of services in the band and seek to minimise any potential impact to consumers as a result of changes to spectrum holdings.</p>

⁸ <https://www.communications.gov.au/documents/communications-policy-objectives-allocation-850-and-900-mhz-bands>

⁹ The 26 GHz auction concluded in April 2021: information on auction outcomes is available at [Auction summary – 26 GHz band \(2021\) | ACMA](#).

Supporting a national PSMB capability

The 850 MHz expansion band has been identified as a possible candidate to support a future public safety mobile broadband (PSMB) capability. The Government is prepared to reserve spectrum for PSMB, subject to the outcomes of continued discussions with state and territory governments. In December 2018, the Council of Australian Governments agreed to a Strategic Roadmap for a national PSMB network. All jurisdictions agreed to continue to work together to resolve supporting spectrum arrangements in parallel with proof of concept trials.

When the Minister sought advice from the ACCC, he asked it to have specific regard to these policy objectives when preparing its advice.

The Department considers that the first three policy objectives are most relevant to the decisions considered in this RIS. The final two policy objectives have been addressed through separate decisions, as follows.

- To support the continuity of services, the Minister has decided to offer Optus and TPG a guarantee, or set-aside, of 2 x 5 MHz of spectrum each in the 900 MHz band. Both Optus and TPG use the 900 MHz band to provide 3G services, with Optus also using the band for 4G services in some sites. Telstra has limited deployments in the 900 MHz band, meaning that its existing 3G and 4G services should not be adversely affected if it loses access to its apparatus licenses in the 900 MHz band. The Minister agrees with the ACCC's view that there is no justification to guarantee any spectrum in the 900 MHz band to Telstra in order to support the continuity of services.¹⁰
 - TPG and Optus will both be offered the opportunity to take up a "guarantee" of 2 x 5 MHz of 900 MHz spectrum through ACMA's auction process. The price, and process, for the set-aside spectrum are subject to separate decisions from ACMA. The guaranteed spectrum will count towards the maximum amount of spectrum allowed under any allocation limit.
- The Australian Government has decided to reserve 2 x 5 MHz of spectrum at the lower end of the 850 MHz expansion band for a national Public Safety Mobile Broadband (PSMB) capability. States and Territories are currently progressing a proof-of-concept trial for PSMB utilising scientific licences granted by ACMA.

In framing the options for allocation limits that are considered in this RIS, the Department took a threshold decision that if allocation limits are to be applied, it is appropriate that allocation limits take account of MNOs' other low-band (sub-1 GHz) spectrum holdings. The Minister sought advice from the ACCC on the merits of this approach, and responses to the ACCC's consultation indicated broad agreement that the sub-1 GHz bands are substitutes for each other as they share similar propagation characteristics and cell coverage.¹¹ The ACCC therefore advised that "Taking into account existing sub-1 GHz band holdings would mean that differences in the MNOs' ability to compete is accounted for in determining the amount of additional sub-1 GHz spectrum they should be allowed to acquire in the 850/900 MHz allocation".¹²

¹⁰ ACCC advice, p19.

¹¹ ACCC advice, p9.

¹² ACCC advice, p15.

The MNOs currently hold spectrum licences in the 700 MHz band (held on a national basis) and the 850 MHz band (with licences split between metropolitan and regional areas), as well as apparatus-licensed spectrum in the 900 MHz band (which will be cleared and reallocated at this auction). The 850/900 MHz auction will bring the total quantum of spectrum-licensed sub-1 GHz holdings to 200 MHz in total (split between the three MNOs and any other bidders who may acquire spectrum at the auction). As shown in *Figure 1* below, there is presently significant asymmetry in carriers' sub-1 GHz holdings.

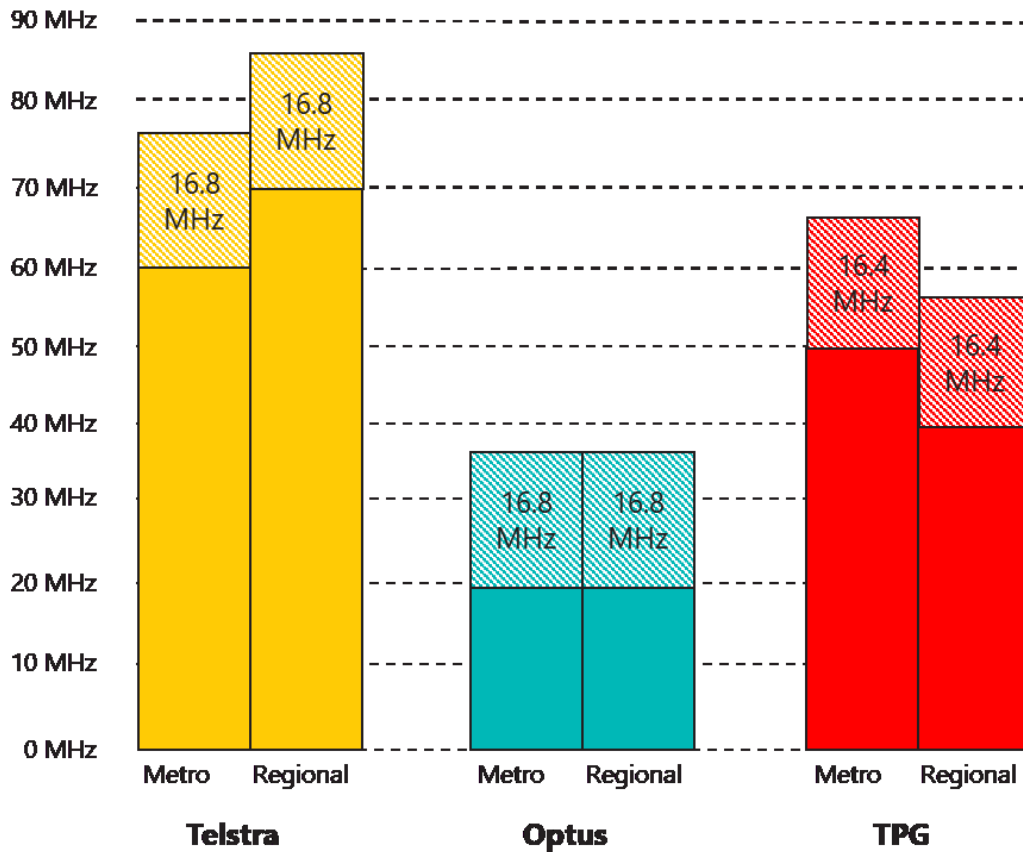


Figure 1: Current sub-1 GHz holdings of MNOs, including apparatus licence holdings

(Dark colours represent existing sub-1 GHz spectrum licence holdings, shaded colours represent existing apparatus licence holdings which will be cleared and reallocated at the upcoming 850/900 MHz auction.)

Accordingly, the ACCC advised the Minister that:

“The ACCC considers that the key competition issue arising from this allocation is Optus’ lack of sub-1 GHz spectrum compared to the other MNOs. Optus’ ability to compete effectively in the mobile services market will likely be constrained if it does not acquire more sub-1 GHz spectrum in the 850/900 MHz allocation. In particular, there is a risk that Optus may not be able to roll out 5G technology widely and efficiently in Australia in the absence of more sub-1 GHz spectrum. This would adversely affect competition in the mobile services market, particularly in regional areas by limiting the deployment of competitive 5G networks by all

MNOs across Australia, to the detriment of consumers. The ACCC has not found that Telstra or TPG face similar spectrum constraints.”¹³

In accordance with the approach recommended by the ACCC, all options discussed below (apart from the option of no allocation limits) are framed as a cap on total spectrum-licensed holdings in the sub-1 GHz frequency range. The impact on the three MNOs’ ability to acquire spectrum under each limit is outlined under each option. However, it should be noted that it is possible there may be additional bidders at the auction, in particular for spectrum in regional areas (for example, NBN Co, Pivotal, Field Solutions Group and Connected Farms have participated in consultations on auction settings), and there is no way to accurately predict aggregate demand in advance of the auction. As the three MNOs are the only licensees who hold spectrum licences in the sub-1 GHz band, they are the only bidders who would be limited by the proposed allocation limits discussed under each option below.

3 What policy options are being considered?

Four options are being considered:¹⁴

1. An allocation limit of 72 MHz applied across all sub-1 GHz holdings;
2. An allocation limit of 82 MHz applied across all sub-1 GHz holdings, with two sub-options relating to the treatment of regional spectrum:
 - Option 2.1:* an 82 MHz limit to apply to both metropolitan and regional licence areas;
 - Option 2.2:* an 82 MHz limit for metropolitan licence areas and a 92 MHz limit for regional licence areas;
3. An allocation limit of 102 MHz applied across all sub-1 GHz holdings;
4. No allocation limits.

These options are summarised in **Table 2** and depicted in **Figure 2** below. Under Options 1-3:

- The limit would have the effect of limiting current licence holders to bidding for the amounts of spectrum set out in **Table 2** in the auction (plus an additional 2 MHz if the lower lot of 900 MHz is purchased).
- The limit would be applied across all sub-1 GHz band holdings (i.e. it would take into account any spectrum licences for sub-1 GHz band holdings already held by the bidding party, not only spectrum available through the 850/900 MHz auction).
- Noting that a total of 72 MHz of spectrum is being auctioned, and that there may be other bidders in addition to the 3 MNOs, not every bidder would be able to bid up to their cap.
- A new entrant who did not have existing sub-1 GHz spectrum licences would be able to bid for all the spectrum on offer.

Each option would limit aggregate demand at the auction to a differing extent (as outlined in the analysis below), and each option would have differing impacts on Telstra, Optus and TPG given their differential existing holdings below 1 GHz.

¹³ ACCC advice, pp2-3.

¹⁴ The spectrum is being auctioned in 10 MHz lots (each of which comprises a paired 2 x 5 MHz frequency). To account for the extra 2 MHz of spectrum being auctioned in the 850 MHz expansion band (which will be bundled with the lower lot of the 900 MHz band), all options are framed as an overall limit ending in 2 MHz.

Table 2: Amount of spectrum MNOs are able to acquire under each option for consideration

Maximum spectrum that could be purchased by each operator if they bid up to their cap				
Option	Allocation limit/s (MHz, Metro/Regional)	Telstra (MHz, Metro/Regional)	Optus (MHz, Metro/Regional)	TPG (MHz, Metro/Regional)
1	72	10/0	50/50	20/30
2.1	82	20/10	60/60	30/40
2.2	82/92	20/20	60/70	30/50
3	102	40/30	70/70	50/60
4	No allocation limit			

Note that there are only 7 lots or 70 MHz available in each licence area at the auction, so not all bidders will be able to acquire spectrum up to the full amount of their cap. If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

Each bidder would be able to bid up to the proposed sub-1 GHz cap, taking into account their existing spectrum-licensed holdings. Existing apparatus licences in the 900 MHz band are being cleared for the auction, so are not considered existing holdings as they are being reallocated. The existing sub-1 GHz holdings for each MNO at the start of the auction and the proposed allocation limits are depicted in Figure 2 below.

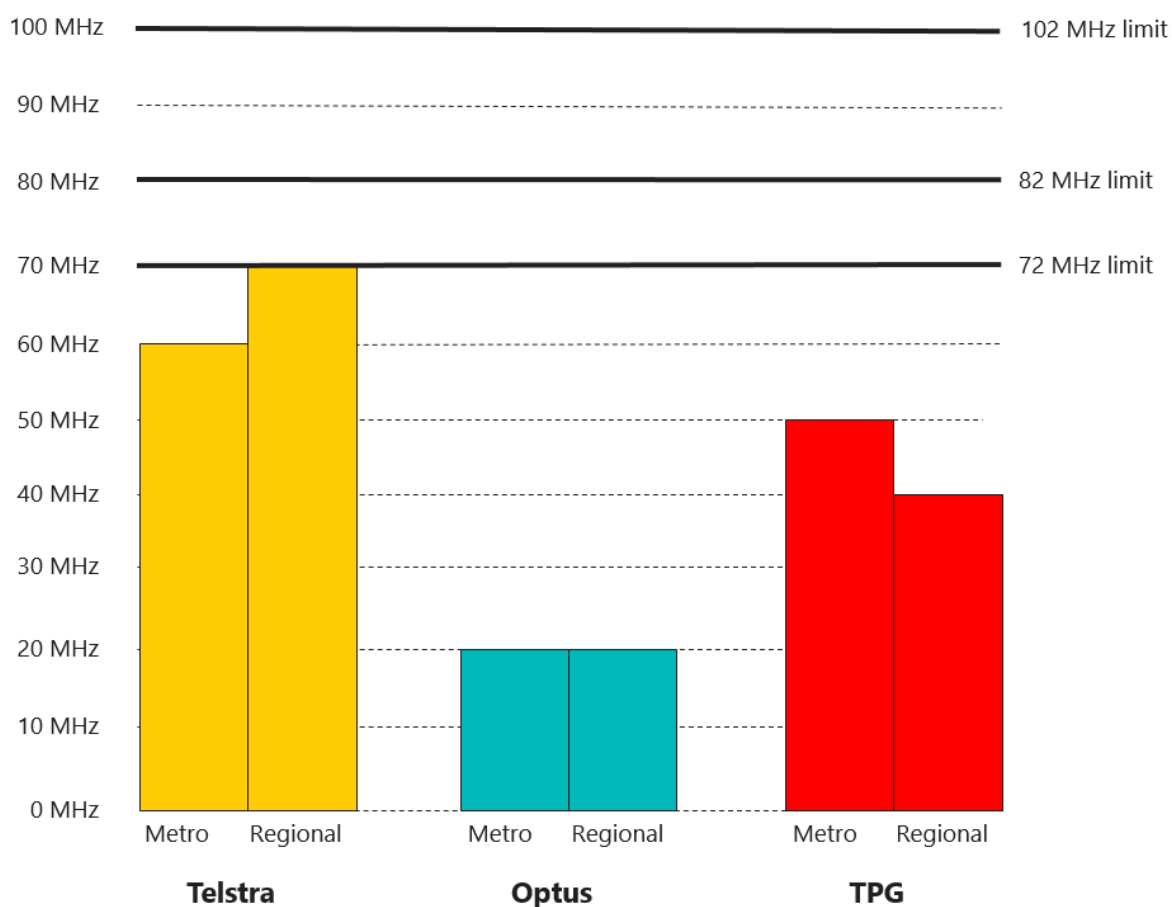


Figure 2: Existing holdings going into the auction and proposed allocation limits

The operation of the proposed limits will also be affected by ACMA's decisions regarding the geographic boundaries of the licences to be auctioned. On 20 July 2021, ACMA announced its in-

principle decision on this matter. Of particular relevance to this RIS, ACMA has decided that there will be a common geographic split across both the 900 MHz band and the 850 MHz expansion band, comprising two geographic products:

- a “major population area” covering metropolitan areas as well as major population centres along the east coast of Australia (this area will cover approximately 92% of the population of Australia); and
- a smaller regional area covering the remainder of Australia, excluding the Mid-West Radio Quiet Zone (this area will cover approximately 8% of the population of Australia).

The major population area will be larger than the existing metropolitan spectrum licensed areas in the 850 MHz band. Given this, and as acknowledged by the ACCC, it will be necessary to clarify the intended operation of the allocation limit “such that existing holdings in the current 850 MHz regional lot do not operate to prevent an MNO from acquiring spectrum in the now bigger metropolitan lot”.¹⁵ In its exposure draft consultation, the Department proposed that existing spectrum licences covering less than 15 per cent of the population of a geographic lot to be auctioned should be taken to be “insignificant” for the purposes of the allocation limits. In light of ACMA’s decision, this threshold will need to be raised (to no higher than 25%) to ensure that the policy intent of the allocation limits is achieved. The effect of ACMA’s geographic lot configuration decision on the operation of the options below is discussed as part of the analysis of the likely net benefits of each option.

4 What is the likely net benefit of each option?

The Department assessed the four options against the following assessment criteria:

1. Supporting the efficient planning, allocation and use of the spectrum;¹⁶
2. Supporting the deployment of 4G and 5G technologies;
3. Promoting competitive market outcomes for the long term benefit of consumers; and
4. Encouraging investment in infrastructure, including in regional Australia.

These criteria reflect the object of the Act and the communication policy objectives relevant to this RIS. In responses to consultations, stakeholders expressed different views about which option achieved the best balance between these criteria, as discussed in the analysis section below.

The Department’s assessment of each option against the four criteria can be summarised as follows.

	Option 1	Option 2.1	Option 2.2	Option 3	Option 4
1. Supporting the efficient planning, allocation and use of the spectrum	Poor	Good	Very Good	Fair	Fair
2. Supporting the deployment of 4G and 5G technologies	Fair	Good	Good	Fair	Fair
3. Promoting competitive market outcomes for the long term benefit of consumers	Very Good	Very Good	Good	Poor	Poor

¹⁵ ACCC advice, p18.

¹⁶ Facilitating “the efficient planning, allocation and use of the spectrum” is separately mentioned in the object of the Act (subsection 3(a)), in addition to “supporting the communications policy objectives of the Commonwealth Government” (subsection 3(c)).

4. Encouraging investment in infrastructure, including in regional Australia	Fair	Good	Very Good	Poor	Poor
--	------	------	-----------	------	------

The different options will have different impacts on individual businesses (in particular the 3 MNOs) which may be positive or negative and are outlined below in the analysis of each option.

Compliance costs

In assessing the costs and benefits of each option, the Department also considered compliance costs and costs to business. Options 1-3 will generate some compliance costs because ACMA requires bidders to check affiliations after applications for the auction have been lodged, to prevent parties from colluding to circumvent the intended operation of the allocation limits. ACMA officers have provided advice that it is not possible to accurately quantify predicted ‘average’ compliance costs associated with affiliation checks. However, the Department has considered a range of potential compliance burdens that bidders may experience depending on their characteristics and other external variables. Several of the factors which contribute to this complexity are outlined below.

Firstly, the number and identities of bidders who will participate in the auction is unknown, and will not be known until the end of the application period (after an allocation limits direction would need to be made). Therefore, it is not possible to calculate an overall compliance cost, or a meaningful average that reflects the circumstance of individual bidders.

Secondly, prospective bidders will have very different corporate structures, which affects the complexity required to identify affiliations with other bidders. For example, MNOs will generally have larger and more complex corporate structures, which may include several layers of subsidiary bodies across several international jurisdictions. The complexity of these structures means that those bidders will likely have to dedicate a larger amount of time to work through relevant individuals connected to their organisation to identify potential links to other bidders. ACMA provides bidders with a 10 day window to identify and resolve any affiliations. Therefore, for an upper threshold of cost, a larger bidder could *theoretically* elect to commit multiple staff to this task for the entire 10 day period. However, this may be more than necessary and the actual number, pay level, and time commitment of those resources would ultimately be a choice for individual businesses.

By contrast, smaller bidders are likely to have smaller and less complex structures. This can simplify the process of cross checking individuals against other bidders, and reduce their compliance time. For example, it would be theoretically possible for a bidder with a small, simple corporate structure to meet their compliance obligations in an hour (if they had the cooperation of other bidders). However, it is also important to consider that larger bidders (such as MNOs) may also have greater capacity to absorb the resourcing requirements of identifying affiliates so the relative impacts of compliance on a business may not neatly align to time required.

Thirdly, there are variables that will impact compliance costs that cannot be known until affiliation checking is already in progress. In the event an affiliation is identified, there will be a time cost associated with how the relevant parties negotiate to resolve the issue. However, the precise level of effort required to resolve an issue will depend heavily on the cooperation, preferences and decisions of the two affected parties. If an affiliation is not identified, a bidder will not incur these costs; however, neither the bidder nor the government would be able to confirm if affiliations exist in advance.

It is particularly important to note that despite the variation in potential compliance burden between bidders, each bidder’s compliance burden would not vary in response to the level which allocation limits that are set, that is to say it would be consistent across options 1-3. Bidders who have participated in previous spectrum auctions will already be familiar with this process and will most likely have a similar compliance cost to the previous auctions they have participated in.

The Department notes that these compliance costs will likely be very small compared to the relative cost of the spectrum and the economic benefits derived from successful bidders utilising that spectrum.

Option 1 – a 72 MHz allocation limit applied across all sub-1 GHz band holdings.

This is the option preferred by Optus. Compared to the other options, Option 1 would maximise the opportunity for Optus to acquire spectrum in the auction relative to other bidders, by creating the strongest constraints on the ability of Telstra and TPG to increase their sub-1 GHz band holdings.

Option 1 would constrain Telstra’s ability to acquire spectrum at the auction, as it would be limited to acquiring one metropolitan lot (10 MHz) and would lose the ability to bid for any of the 16.8 MHz of regional spectrum it currently holds under apparatus licences, as shown in Figure 3 below.

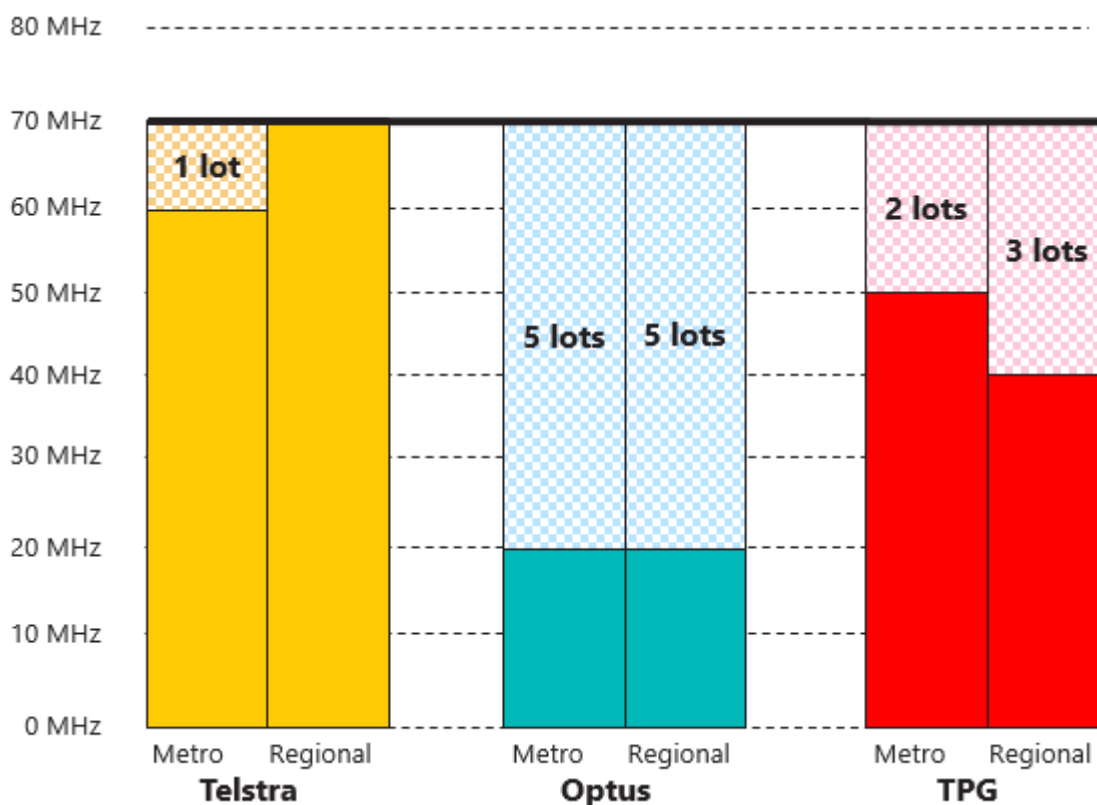


Figure 3: Option 1 – a 72 MHz limit applied across all sub-1 GHz band holdings

(Dark colours represent existing sub-1 GHz spectrum licence holdings, checked colours represent the amount each bidder could acquire if they bid up their allocation limit (noting that there are only 7 lots available in each licence area at the auction, so not all bidders will be able to bid up to the full amount of their cap.) If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

Optus argued that this option would best meet the Government’s policy objectives and provide the best outcomes for regional consumers, because choice and competition-driven investment in

regional Australia would improve if the significant asymmetries in low-band spectrum in regional areas are addressed.

Citing analysis completed by PWC, Optus stated that:

“The efficient allocation of low band spectrum is a key element to ensure that the full \$130 billion of economic growth from national 5G networks can be achieved. Failure to efficiently allocate low-band spectrum, including encouraging deployment of mobile assets, risks \$55 billion in economic growth over the decade to 2030”.¹⁷

On the other hand (as outlined under option 2.1 below), Telstra submitted alternative analysis suggesting that even a less restrictive limit of 82 MHz would risk regional loss in service quality valued at \$488m-\$697m per annum by 2030 because if Telstra cannot acquire additional spectrum licences in regional areas, it will need to rely on more costly site densification to meet its customers’ increasing demand for data, which Telstra argued would lead to more congestion and put at risk benefits of 5G services in outer regional and remote areas.¹⁸ Telstra argued that the proposed limit of 82 MHz (option 2.1 in this RIS) “creates a high risk of poor customer outcomes in areas where Optus and TPG do not make the network investment needed to put this spectrum to use”.¹⁹

The Department considers that the modelling underpinning the analysis provided by both Optus and Telstra is based on very different premises. Optus cites the benefits of a competitive market in which “tit-for-tat investment benefits all Australian consumers whichever mobile operator they subscribe to and drives the competitive dividend further into regional Australia”, and observes that “Telstra is targeting its 5G roll-out in areas where Optus has invested with strong network performance”.²⁰ Telstra argues that “Telstra’s regional investment relies on appropriate Government policy settings that enable us to gain access to sufficient spectrum to keep improving the quality of our network and services through Australia”²¹ and that if Telstra’s network is constrained in regional areas, this would “weaken the competitive constraint on the other operators in these areas, which could lead to worse outcomes for customers and the economy in regional areas more generally”.²² The Department’s view is that a balance needs to be found between supporting a competitive market in which consumers will benefit from 4G and 5G rollout across Australia, and acknowledging that there does not need to be perfect symmetry in spectrum holdings to achieve a competitive market.

The Department agrees with the ACCC’s strong view that if Optus is unable to have a reasonable opportunity to acquire sufficient spectrum to roll out 5G widely and efficiently in Australia, competition in the mobile services market (particularly in regional areas) would be adversely affected to the detriment of consumers. Allocation limits for this auction need to provide Optus with a reasonable opportunity to acquire the spectrum that it needs to compete effectively in the mobile services market.

In the Department’s assessment, option 1 would strongly support competitive outcomes for the benefit of consumers (assessment criterion 3), given it would provide Optus with the best opportunity to address its relatively low sub-1 GHz spectrum holdings compared to other MNOs.

¹⁷ Optus submission to Department, p4.

¹⁸ Telstra supplementary submission to Department, p3.

¹⁹ Telstra submission to department, p4.

²⁰ Optus submission to Department, p4.

²¹ Telstra submission, p4.

²² Telstra supplementary submission, p35

However, this criterion must be balanced against the other criterion reflecting the Government's communications policy objectives.

On balance, the Department considers that option 1 should be assessed as "fair" against assessment criteria 2 and 4. This option would provide Optus the strongest opportunity to acquire more spectrum to deploy 4G and 5G technologies (assessment criterion 2) and to invest in regional Australia (assessment criterion 4), alongside other regional players potentially looking to acquire spectrum in the auction. However, it would constrain Telstra's ability to acquire spectrum to support these objectives and would result in Telstra losing all of its current 900 MHz apparatus-licensed holdings, which may undermine Telstra's ability to deliver improved services to its regional and rural customers over time.

Compared to options 2 and 3, this option is likely to have negative impacts on assessment criterion 1 (supporting the efficient planning, allocation and use of the spectrum). In particular, this option would suppress aggregate demand at the auction to the point where there may not be sufficient competitive tension to support an efficient allocation of spectrum. While there has been interest expressed in the auction by potential bidders apart from the three MNOs, the competitive tension would be lowest under option 1. Given the potential reduction in competitive tension under this option, it also presents the greatest risks of unsold lots and/or to not promoting the opportunity for price discovery, which would not be consistent with an efficient allocation of spectrum. The Government does not seek to maximise revenue through spectrum allocations, and revenue maximisation would not be consistent with the object of the Act. However, an efficient allocation of spectrum is more likely to be achieved where market mechanisms can operate so that an equilibrium is reached between supply and demand.²³

For the above reasons, the Department does not support option 1 over the other options under consideration.

Option 2 –an 82 MHz allocation limit (with two sub-options)

Both sub-options under option 2 propose an 82 MHz allocation limit for sub 1 GHz holding in metropolitan lots, but vary on limits permitted in regional/remote locations. Both sub-options are similar and both support the majority of the four assessment criteria, outlined above. However, the two sub-options vary in the degree to which they support the different assessment criteria over others, with option 2.1 providing more favourable conditions to support competitive markets and option 2.2 providing more favourable conditions to support efficient allocation and regional investment.

Due to their similarities the two sub-options have been grouped together in this analysis. The relative merits and possible drawbacks of each sub-option are discussed below.

Option 2.1 – an 82 MHz allocation limit applied across all sub-1 GHz band holdings

This option reflects the ACCC's recommended approach, and is the option preferred by TPG.

Compared to option 1, option 2.1 provides the opportunity for greater competitive tension at auction (supporting criterion 1 by providing more opportunity for an efficient allocation of spectrum through the reduced risk of spectrum going unsold, thus unused, at the auction), while also

²³ *Spectrum Pricing Review*, p5, [Spectrum Pricing review | Department of Infrastructure, Transport, Regional Development and Communications](#)

supporting criteria 2, 3 and 4 by providing a reasonable opportunity for Optus to acquire additional low-band spectrum in both metropolitan and regional areas, as shown in Figure 4 below.

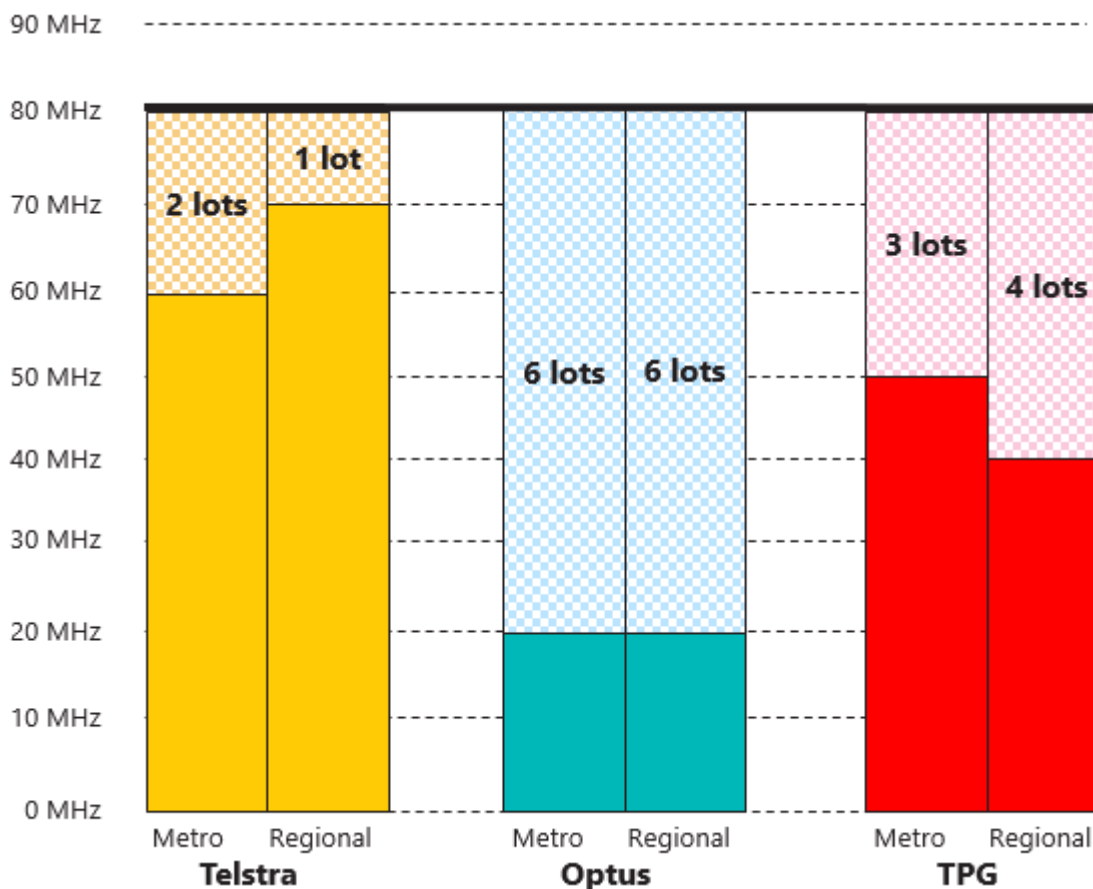


Figure 4: Option 2.1 – an 82 MHz limit applied across all sub-1 GHz band holdings

(Dark colours represent existing sub-1 GHz spectrum licence holdings, checked colours represent the amount each bidder could acquire if they bid up their allocation limit (noting that there are only 7 lots available in each licence area at the auction, so not all bidders will be able to bid up to the full amount of their cap.) If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

The ACCC stated that an allocation limit of 82 MHz will “provide a reasonable opportunity for Optus to acquire the spectrum it needs to compete effectively in the mobile services market in the medium to long term, but does not prevent Telstra and TPG from participating in a potential price-based allocation. In doing so, the recommended allocation limit will promote competition and investment in the mobile services market, including in regional Australia and support the deployment of 4G and 5G technologies to the benefit of consumers”.²⁴

As outlined under option 1 above, Optus argued that the proposed 82 MHz limit should be reduced to 72 MHz to support the competitive rollout of 5G. Conversely, Telstra has argued that a limit of 82 MHz will constrain it because such a limit will decrease the amount of spectrum Telstra can access to deliver or improve services to its existing customer base (because it will not have the ability to bid to maintain access to 6.8 MHz of spectrum it currently holds under apparatus licences

²⁴ ACCC advice, p3.

in the 900 MHz band, although it could acquire 10 MHz of its existing 16.8 MHz of apparatus-licensed holdings). It suggested that efficiency and overall consumer benefits will be promoted by spectrum being allocated to where it can be used most intensively, and suggested that because Telstra has relatively little spectrum in regional areas where it has a greater share of subscribers and traffic, Telstra would need to rely on site densification if it is to meet customers' increasing demand for data (which it argues would be more costly than obtaining additional spectrum), or alternatively to set higher prices for end-users to otherwise seek to manage demand. Telstra has argued that the constraints on its network that could arise from an 82 MHz limit would weaken competition in downstream markets due to reduced competitive pressure on other operators.²⁵ Telstra submitted analysis to the Department suggesting that a limit of 82 MHz could potentially leave 1.4 million people who rely on Telstra's network in outer regional and remote areas worse off by up to \$1,210 per person per year by 2035 (in March 2021 dollars) and would reduce overall consumer welfare.²⁶ Similarly, the Regional Rural and Remote Communication Coalition and WA Farmers both made submissions to the Department expressing concerns that Telstra would lose spectrum under the proposed 82 MHz allocation limit, and that service quality to regional and rural users may suffer as a result.

The ACCC opposes Telstra's position, noting that, "Determining the spectrum requirements of an operator based on its existing customer base at any given point risks entrenching existing market structure, and restricts the ability of operators to improve their services in order to gain market shares over time"²⁷. The Department agrees with Telstra's assessment that operators can choose to invest in site densification as an alternative to obtaining more spectrum, but notes that Telstra's arguments about the relative cost of this would also apply to Optus and any other competing networks (and imply that Telstra has enjoyed a cost advantage to date given its considerable low-band holdings compared to Optus). The Department accepts the ACCC's view that in the long term, facilitating competition in regional and remote areas is the most effective way to support the interests of consumers in these areas.

In addition, as noted above, the allocation limits will need to take account of the overlapping boundaries between the proposed major population area and the existing 850 MHz spectrum licence boundaries. The effect of a larger metropolitan area is that under option 2.1, Telstra would be able to bid for two of the larger metropolitan lots to be auctioned, with the result that Telstra would be able to obtain holdings of 92 MHz in some areas (those that are covered by its existing regional holdings but would be included in the larger major population area to be auctioned). This would ameliorate some of Telstra's concerns about losing access to existing regional spectrum holdings, as in these "overlap areas" Telstra would not need to lose spectrum (and in fact could bid for 3.2 MHz more, or a total of 10 MHz more usable spectrum than it currently holds). In the smaller population area covered by the regional area to be auctioned, option 2.1 would allow Telstra the opportunity to acquire the same amount of *usable* spectrum as it currently holds in some regional areas (given the 6.8 MHz of spectrum it would lose is not usable at present because it is optimised for 2G services).

On the matter of overlapping boundaries, the Department notes that TPG expressed the view that the proposed 15 per cent test for "significance" of existing holdings was too high. However, as noted above the Department considers it appropriate to raise this threshold (to no more than 25 per cent) to take account of ACMA's decision on geographic lot configuration. A lower threshold would

²⁵ Telstra supplementary submission, p3.

²⁶ Telstra supplementary submission, p3.

²⁷ ACCC advice, p15.

undermine the intent of the 82 MHz limit by precluding MNOs from bidding for spectrum in the major population area due to existing holdings covering a relatively small proportion, by population, of the licence area to be auctioned.

On balance, and after considering the views expressed in consultation responses and the advice from the ACCC, the Department has assessed option 2.1 as achieving “good” outcomes against assessment criteria 1, 2 and 4, and very good outcomes against assessment criterion 3, for the reasons outlined above.

Option 2.2 – an 82 MHz allocation limit applied across all metropolitan sub-1 GHz band holdings and a 92 MHz allocation limit applied across all regional sub-1 GHz band holdings
Option 2.2 would apply the ACCC’s recommended 82 MHz limit across the largest area (by population) to be auctioned, and support investment in areas with more dispersed population by applying a higher limit (92 MHz) to those areas.

The Department notes that given ACMA’s decision that the regional lot to be auctioned will be substantially smaller than the existing 850 MHz licence areas (and consequently covers a lower and more geographically dispersed population), the relative difference between options 2.1 and 2.2 is reduced compared to the scenario in which the boundaries of the licences to be auctioned match the boundaries of the existing 850 MHz licences.

Compared with option 2.1, this option would create increased competitive tension for regional lots, and compared with option 1 would create increased competitive tension for both metropolitan and regional lots. This option may improve allocative efficiency by enabling greater demand-shifting between the 850 MHz and 900 MHz bands during the auction, which would reduce the risk of unsold lots and/or some spectrum selling at the starting price, and increase the likelihood of an efficient allocation of spectrum.

On previous occasions (for example, for the 3.6 GHz spectrum auction conducted in 2018) the Government has set a higher allocation limit for regional areas in order to encourage investment in regional infrastructure. Option 2.2, which would allow bidders to acquire up to 92 MHz of regional sub-1 GHz spectrum holdings, may support efficient delivery of 4G and 5G services in remote and underserved areas.

Option 2.2 would allow Telstra the opportunity to bid to effectively retain the same total amount of spectrum in regional Australia that it currently holds through apparatus licences (2 x 8.4 MHz in the 900 MHz band), which Telstra argues is critical to it being able to meet consumers’ increasing demand for data and to keep pace with growing expectations without either increasing prices for consumers or decreasing its service footprint.

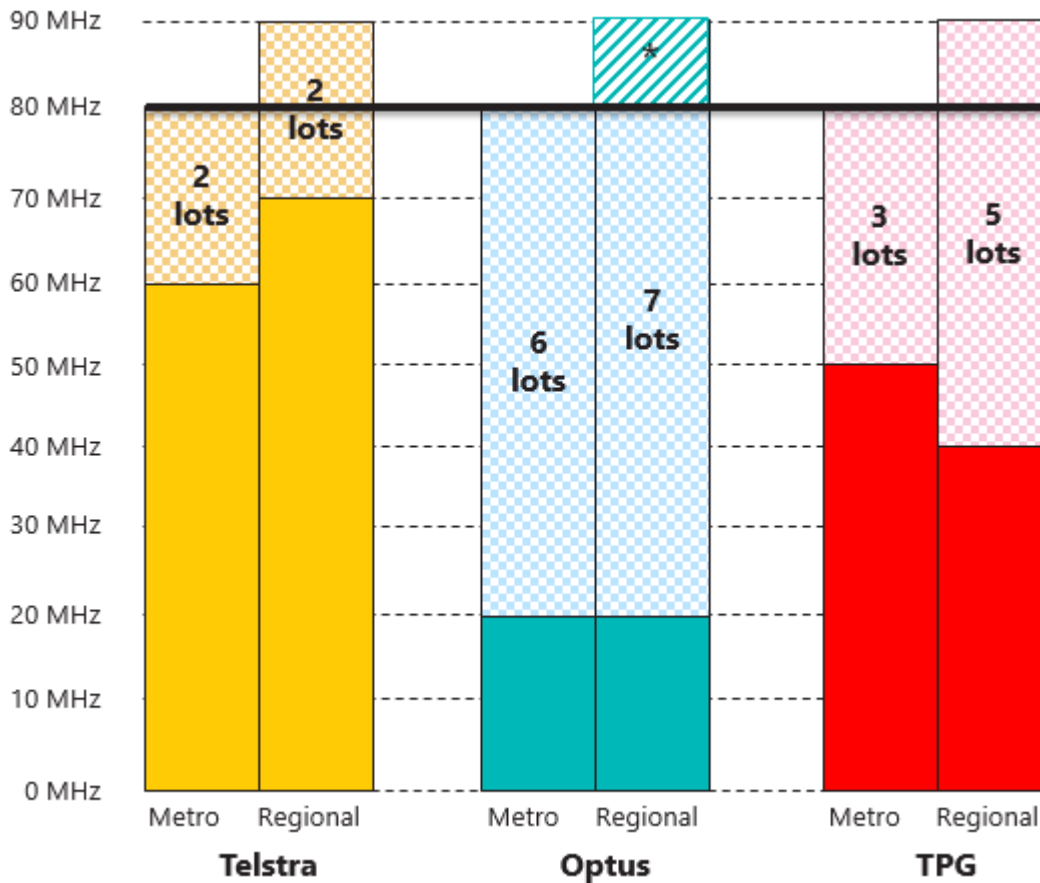


Figure 5: Option 2.2 – an 82 MHz allocation limit applied across all metropolitan sub-1 GHz band holdings and a 92 MHz allocation limit applied across all regional sub-1 GHz band holdings

*Optus could only acquire 7th regional lot if TPG declines set-aside

(Dark colours represent existing sub-1 GHz spectrum licence holdings, checked colours represent the amount each bidder could acquire if they bid up their allocation limit (noting that there are only 7 lots available in each licence area at the auction, so not all bidders will be able to bid up to the full amount of their cap.) If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

This option was opposed by the ACCC, noting that, “Telstra has limited 4G deployment in the 900 MHz band and mainly relies on the 700 MHz band for 4G coverage. As such, the reallocation of the 900 MHz band is unlikely to affect Telstra’s provision of existing services.”²⁸

²⁹ However, the Department notes that given ACMA has decided on a geographic lot configuration that involves a much smaller regional lot than the existing 850 MHz licence areas, the ACCC’s concerns are likely to be ameliorated to a degree because under option 2.2, the 82 MHz cap would apply to a large number of areas currently considered “regional” that would fall within the larger major population area to be auctioned.

²⁸ ACCC advice, p19.

²⁹

The Department notes that under this option, Telstra could bid to retain its existing apparatus-licensed spectrum in the 900 MHz band, but its overall low-band spectrum dominance would be reduced in percentage terms. Telstra currently holds 54% of spectrum-licensed spectrum in regional areas, or 48% of regional spectrum if the 900 MHz apparatus-licensed spectrum is included. Because more low-band spectrum is being made available in this auction, in the event that Telstra bid up to its cap and acquired two lots of in both geographic areas to be auctioned, it would hold 45% of sub-1 GHz spectrum-licensed holdings in regional areas, thereby reducing its overall low-band spectrum dominance.

The Department assessed this option as achieving very good outcomes against criteria 1 and 4, and good outcomes for criteria 2 and 3. On balance, the Department considers that in light of ACMA's geographic lot disaggregation decision, option 2.2 should be preferred over option 2.1.

[Option 3 – 102 MHz allocation limit applied across all sub-1 GHz band holdings](#)

This option was put forward by Telstra.

Compared with options 1 and 2, this option would provide more competitive tension and create the lowest risk of unsold lots at auction. While this option would likely support the deployment of 4G and 5G technologies (criterion 2) by Telstra, it is also likely to constrain the deployment of these technologies by other bidders, which would likely negatively impact on assessment criterion 2.

This option may improve allocative efficiency by only lightly suppressing expressible demand from MNOs with existing spectrum holdings of more than 30 MHz of sub-1 GHz band spectrum. Telstra has argued that a 102 MHz limit would allow it to bid for and secure 43 per cent of the spectrum available at auction, which would enable it to maintain its current spectrum holdings in both regional and metropolitan areas, while securing additional spectrum to allow meet its expected growth in demand for new services over the 20 year period of the licences and still enabling Optus and TPG to secure adequate levels of spectrum to meet the government's communications policy objectives. Effectively, this option would create the most favourable conditions to allow Telstra to maintain its current dominant market share of spectrum. Under this option, the difference between Telstra's and Optus' holdings may increase if Telstra outbids other participants to obtain spectrum up to its cap, as shown in Figure 6 below.

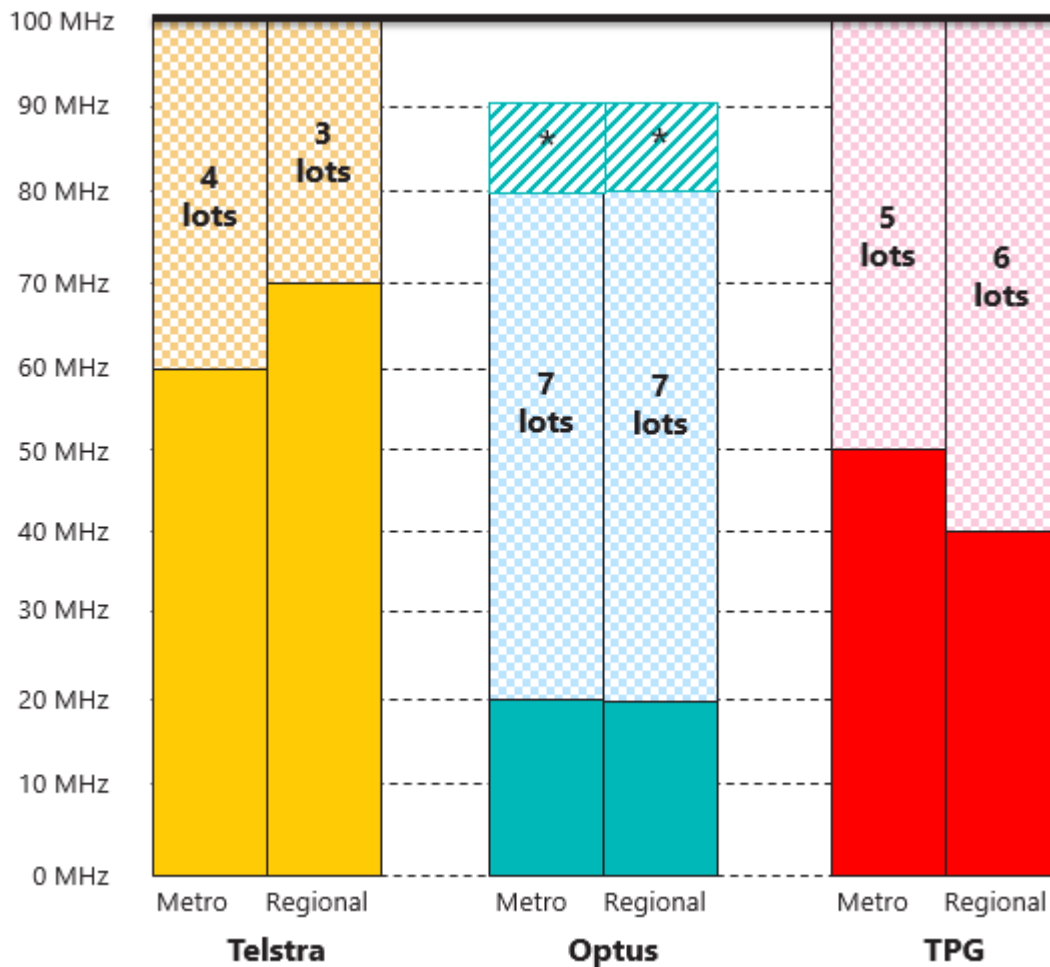


Figure 6: Option 3 – 102 MHz allocation limit applied across all sub-1 GHz band

*Optus could only acquire 7th lots if TPG declines set-aside

(Dark colours represent existing sub-1 GHz spectrum licence holdings, checked colours represent the amount each bidder could acquire if they bid up their allocation limit (noting that there are only 7 lots available in each licence area at the auction, so not all bidders will be able to bid up to the full amount of their cap.) If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

As noted above, Telstra has submitted analysis suggesting that not acquiring additional spectrum will increase its marginal cost of capacity in regional areas, and argued that Optus can reach its rollout targets with far less spectrum than Telstra requires because Optus has a lower number of customers.

However, option 3 would likely have the effect of constraining Optus’ ability to acquire the amount of spectrum it would need to support the competitive deployment of 5G technologies in regional Australia, while maintaining its existing 3G and 4G services. This option may additionally constrain the prospects of new entrants to obtain enough spectrum to competitively enter the market utilising the sub-1 GHz band. With an allocation limit of 102 MHz, Telstra would have the opportunity to obtain 30 MHz of regional spectrum and 40 MHz of metropolitan spectrum in the 850/900 MHz auction, which would leave 40 MHz and 30 MHz respectively available for other bidders, which would constrain Optus’ ability to obtain the sub-1 GHz spectrum it would need to improve its 4G network, deploy 5G networks and continue to maintain its existing 3G networks in either regional or metropolitan Australia.

For these reasons, the ACCC considered this option would be to the detriment of consumers, on the basis that it would significantly increase the risk that Optus would be unable to acquire sufficient spectrum to compete effectively in the mobile services market. While option 3 is the most likely option to create competitive tension and reduce the likelihood and number of unsold lots at auction, it is also highly likely to further increase the disparity in sub-1 GHz spectrum holdings in regional areas, and would likely entrench Telstra's spectrum dominance in regional areas which the ACCC considers would be to the detriment of competition and consumers. As noted in the analysis of option 1, the Government does not seek to maximise revenue through spectrum allocations, and so while this option may be the most likely to promote price discovery and maximise revenue, the associated trade-offs for competition in downstream markets are likely to outweigh the benefits of a more economically efficient auction. Importantly, the ACCC did not find that Telstra requires more spectrum in regional areas to compete or deliver services, while finding the converse to be true for Optus. As noted in the above analysis of option 2.1, the ACCC also rejected Telstra's position that its larger existing customer base should permit it to acquire a higher share of spectrum.

In light of this analysis, the Department does not support option 3.

Option 4 – no allocation limits

This option is likely to generate a net cost rather than a net benefit.

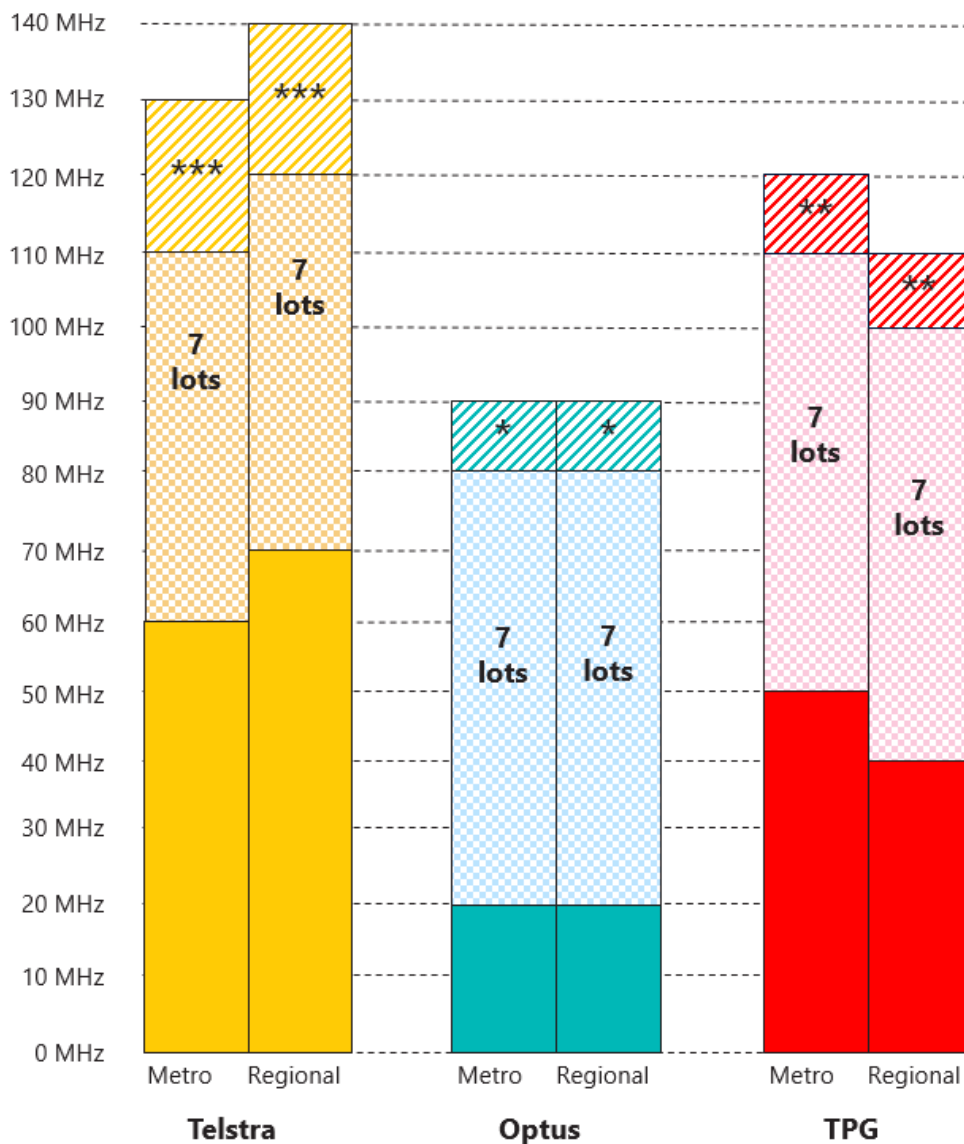
If option 4 was pursued and allocation limits were not imposed, it would be possible to rely on section 50 of the Competition and Consumer Act 2010 (CCA), however this option would generate higher uncertainty for business and would therefore be less effective in fostering strong investment conditions. Under section 50 of the CCA, the ACCC has the discretion to intervene in the issue of spectrum licences if it believes that the acquisition of the licences will have the effect or likely effect of substantially lessening competition in the relevant market. The ACCC's discretionary power remains an important safeguard for preserving competitive conditions, however, there are difficulties relying on it exclusively as there may be some variation in stakeholders' perceptions of when intervention would occur, therefore increasing ambiguity around what market conditions for the auction may be. These risks creating an additional burden for both participants and ACMA which would have to prepare for a greater range of contingencies. By contrast, allocation limits provide transparent parameters for prospective bidders prior to auction, which provides a stronger foundation for informed investment decisions.

There is also a distinction between section 50 – a safeguard against an acquisition that *substantially lessens* competition – and the Government's policy objective of 'promoting competitive market outcomes for the long term benefit of consumers'. While an acquisition of spectrum might not substantially lessen competition, it does not follow that such an acquisition would necessarily promote competition. Allocation limits can promote competition through scenarios in which a bidder acquires more spectrum than they otherwise would have in an unrestricted auction, and is then able to compete more effectively in the downstream market – benefitting consumers through more choice and lower prices.

When compared against all other options that include an allocation limit, this option would maximise competitive tension in the auction and would create the lowest risk of unsold lots. However, while competitive tension is generally an effective mechanism to support efficient allocation under criterion 1, without some constraints there is the risk it can produce perverse outcomes that do not support the efficient use of the spectrum, and undermine the objective of supporting competitive markets for the long-term benefit of consumers.

Any compliance costs associated with identifying affiliations that would be saved by not applying any allocation limit to the auction, would be extremely small relative to the benefits allocation limits provide.

Given that the ACCC has identified that the primary competition issue for this auction is Optus' relative lack of sub- 1 GHz spectrum, the Department considers that option 4 would entail a high risk that Optus would not be able to obtain sufficient spectrum to deploy a competitive 5G network, particularly in regional areas. While Telstra has argued that it would be unlikely to outbid Optus and pay above its intrinsic value for most of the auctioned spectrum,³⁰ past spectrum auctions show that Telstra consistently bids up to its allocation limit. An MNO's valuations can typically take into account the benefits of being able to provide more services to more customers, alongside the opportunity costs associated with having to deploy less infrastructure and the strategic value limiting the services of other providers. In the event that Telstra secured 3, 4 or even more of the 7 available lots, the outcome of the auction would exacerbate existing asymmetric holdings of critical sub-1 GHz spectrum, as shown in Figure 7 below.



³⁰ Telstra supplementary submission, p4.

Figure 7: Option 4 – no allocation limits set

*Optus could only acquire 7th lots if TPG declines set-aside

** TPG could only acquire 7th lots if Optus declines set-aside

*** Telstra could only acquire 7 lots if both TPG and Optus declined their set-asides, otherwise Telstra would be limited to 5 lots

(Dark colours represent existing sub-1 GHz spectrum licence holdings, checked colours represent the amount each bidder could acquire if they obtained the full amount of available spectrum (noting that there are only 7 lots available in each licence area at the auction, so this would be likely to be split between bidders).) If TPG and Optus each choose to take up the offer of a set-aside of spectrum in the 900 MHz band, they would each acquire one lot of spectrum in both a metropolitan and a regional area, counting towards their overall cap.

The Department therefore assesses option 4 as achieving only fair outcomes under criterion 2 (because of the differential impacts on carriers' ability to deploy 4G and 5G technologies) and poor outcomes under criteria 3 and 4, and does not recommend this option. The Department agrees with the ACCC's assessment that allocation limits should be applied, in order to support future competition in the national mobile market.

For the above reasons, the Department does not support option 4 over any other option.

5 Who was consulted and how was their feedback considered?

The Department's analysis of options was informed by responses to two public consultation processes.

ACCC consultation

The ACCC released a consultation paper on 18 November 2020 seeking submissions to help inform its consideration and advice. The consultation period closed on 18 December 2020. In response, the ACCC received six submissions from the stakeholders below.³¹

- Telstra;
- Optus;
- TPG Telecom ;
- NBN Co;
- Pivotel, and
- Connected Farms

The ACCC requested feedback from stakeholders on a range of issues including:

- Intended use of spectrum in the 850 MHz expansion band and 900 MHz band
- Relevant downstream markets for the 850/900 MHz bands
- Potential future markets that may have yet to be identified
- State of competition in the national mobile services market and competition issues relevant to the 850/900 MHz allocation
- Likely impact 850/900 MHz band on investment regional and remote areas
- Whether existing spectrum holdings in sub-1 GHz bands should be taken into consideration when determining competition settings for the 850/900 MHz auction

³¹ <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/spectrum-competition-limits/request-for-advice-850-900-mhz-spectrum>

- Whether allocation limits are required for the 850/900 MHz band and if so what limits are appropriate
- Whether there are grounds to guarantee Telstra 2 x 5 MHz of spectrum in the allocation

A range of views were expressed in responses to the ACCC. All submitters except Telstra and NBN Co expressed support for an allocation limit which took account of sub-1 GHz spectrum holdings (Telstra opposed this and argued that all MNOs should be able to bid for at least 2x15 MHz in the auction, and NBN Co did not express a view on this point). Connected Farms and Pivotel expressed support for regional allocation limits that would limit the MNOs and support potential new entrants to provide services in regional areas. Stakeholders also expressed different views on auction settings such as the geographic boundaries of the spectrum to be auctioned, and the merits of the decision that the band be spectrum-licensed on a national basis (with some stakeholders arguing that apparatus licensing would better meet their needs in regional or remote areas).

The ACCC considered the views expressed in submissions when it developed its advice to the Minister.

Department Consultation

The Department released an Exposure Draft of a proposed allocation limits direction reflecting the ACCC's recommended approach. A four-week consultation process commenced on 27 April 2021. The department received submissions from:

- Telstra (an initial submission followed by a supplementary submission received on 23 June 2021);
- Optus;
- TPG Telecom;
- Regional Rural and Remote Communication Coalition (RRRCC) – with attached supporting statement from Isolated Children's Parents Association of Australia (ICPA); and
- WAFarmers.

As noted above, Optus expressed support for an allocation limit of 72 MHz, arguing that the 82 MHz proposed limit places too much emphasis on price discovery which will have negative impacts on competitive downstream markets and the Government's policy objectives, and suggesting that a 72 MHz limit would still allow demand to exceed supply and all MNOs to acquire some spectrum in the auction. TPG Telecom expressed support for the proposed 82 MHz limit but disagreed with the draft direction's approach to managing overlap between the proposed geographic boundaries for the auction and those of existing holdings. As outlined above, Telstra argued for an overall limit of 102 MHz, and submitted modelling on the expected impact on regional and rural consumers and the 5G rollout.

As noted in the analysis of options in section 4 of this RIS, the Department gave careful consideration to the views expressed in submissions, which informed its conclusion that option 2.2 strikes the best balance between the assessment criteria identified.

6 What is the best option from those we have considered?

Taking into account the feedback received from stakeholders, the advice from the ACCC, and a consideration of the implications of ACMA's decision on geographic lot disaggregation for the auction, the Department considers that option 2.2 achieves the best balance between supporting an efficient allocation of spectrum and meeting the Government's communications policy objectives.

As noted above, stakeholders have different views about the extent to which particular options best strike a balance between the identified policy objectives. However, the Department is persuaded by

the ACCC's finding that the primary competition issue for this auction is Optus' relatively low sub-1 GHz holdings. While Telstra has claimed that 5G rollout will suffer if it is unable to acquire more regional spectrum, the alternative view is that 5G rollout is best served by a competitive market in which Optus has sufficient low-band spectrum to effectively compete with Telstra.

Option 2.2 will support competitive tension and encourage investment in infrastructure in the regional/remote areas covered by the smaller lot, while also applying the ACCC's intended limit to the largest portion (by population coverage) of the spectrum to be auctioned and thereby affording Optus the opportunity to acquire sufficient additional spectrum to roll out competitive 4G and 5G services across Australia.

7 How will we implement and evaluate the chosen option?

The Minister's decision regarding allocation limits will be implemented through a direction to the ACMA under section 60 of the Act, and then incorporated into the allocation procedures ACMA is developing for the upcoming 850/900 MHz spectrum auction.

The Department and ACMA are in regular contact with the stakeholders who are likely to be affected by the allocation limits, and will take up opportunities to seek feedback and incorporate lessons learned into future spectrum allocation decisions.

The ACCC monitors the competition of the telecommunications sector through its annual telecommunications report.³² The report examines the market power of the industry and the prices paid by consumers, two aspects of the sector that allocation limits seek to improve. Although it is difficult to assess the effects of allocation limits alone, the ACCC is well placed to monitor the overall competition of the industry.

In addition, under section 50 of the *Competition and Consumer Act 2010* (CCA), the ACCC has the power to intervene to prevent the issue of spectrum licences if it believes that issuing the licences will have the effect or likely effect of substantially lessening competition in the relevant market.

Conclusion

The Department supports option 2.2 as the best option to balance outcomes across the identified criteria for this allocation.

³² Australian Competition and Consumer Commission (ACCC), [ACCC telecommunications market report](#)