



nbn's submission on ACMA's Implementation of the Spectrum Pricing Review

30 June 2020



Executive Summary

Thank you for the opportunity to comment on the issues set out in the Australian Communications and Media Authority's (ACMA) 'Implementation of the Spectrum Pricing Review, Proposed guidelines and focus areas for change', March 2020 (Paper).¹ We set out our response below and would be happy to provide further information.

nbn's spectrum requirements are developed to ensure that it meets the Federal Government's expectation that all Australians have access to very fast broadband as soon as possible, at affordable prices, and at least cost to taxpayers, and that upgrade paths are available as required.² The flexibility of the multi-technology mix approach enables **nbn** to build the network using the technology best matched to each area of Australia, and spectrum requirements are determined in this context.³ However, it is important to note that **nbn's** obligations, including its role as Statutory Infrastructure Provider in most parts of Australia, mean that the company will need to provide services in numerous locations where these services are loss making. **nbn** submits that it is appropriate that spectrum pricing take into account the public interest good of providing broadband in locations where other providers would not.

The critical role that **nbn** services play in the community and the value of connectedness has been highlighted in **nbn's** recent bushfire recovery activities and during the COVID-19 crisis.⁴

- In just three months (March – May) during the COVID-19 crisis, approximately 3,300 Sky Muster satellite and 11,000 Fixed Wireless services were activated. This is in comparison to activation numbers for the preceding nine months of approximately 1,300 Sky Muster satellite and 19,000 fixed wireless services were activated.⁵
- **nbn's** network continues to experience higher levels of peak download and upload throughput when compared to the pre-COVID-19 baseline with data demand settling into a new normal in recent weeks as more Australians head back to work and school.⁶

¹ See the final recommendations of the Spectrum Pricing Review accepted by Government at <https://www.communications.gov.au/documents/spectrum-pricing-review>

² See page 1 of NBN Co Ltd Statement of Expectations 24 August 2016 at <https://www1.nbnco.com.au/content/dam/nbnco2/2018/documents/Policies/soe-shareholder-minister-letter.pdf>

³ <https://www.nbnco.com.au/blog/the-nbn-project/what-is-the-nbn-multi-technology-mix>

⁴ <https://www.nbnco.com.au/blog/the-nbn-project/bushfire-recovery-and-support-updates> and <https://www.nbnco.com.au/blog/the-nbn-project/coronavirus-covid-19-and-nbn-working-from-home-tips-and-faqs>

⁵ See **nbn's** weekly progress report at <https://www.nbnco.com.au/corporate-information/about-nbn-co/corporate-plan/weekly-progress-report>

⁶ <https://www.nbnco.com.au/corporate-information/media-centre/media-statements/nbnco-extends-additional-capacity-offer>



Questions

We have provided responses to some of the questions in the Paper as set out below.

2 Do stakeholders have any views on the legislative and policy environment that may be relevant to the pricing issues outlined in this paper?

We note the ACMA's view that spectrum pricing, along with licensing, planning and technical regulation, provides a tool to manage spectrum efficiently and effectively for the benefit of all Australians.

In terms of the relevant legislative and policy environment, **nbn** notes that its spectrum requirements are developed, and refined, to enable it to meet the Government's Statements of Expectations and our new obligations as Statutory Infrastructure Provider. On this basis, **nbn** considers that the ACMA's exercise of its spectrum management functions to enable **nbn**'s spectrum requirements is consistent with the objects of the *Radiocommunications Act 1992* (Act) and the ACMA's Principles for Spectrum Management.

- This includes maximising, by ensuring the efficient allocation and use of the spectrum, the overall public benefit derived from using the radiofrequency spectrum. This can be done by providing an efficient, equitable and transparent system of charging for the use of spectrum, taking into account the value of non-commercial use of spectrum and supporting the communication policy objectives of the Commonwealth Government.
- **nbn**'s spectrum use case constitutes a high value use of spectrum as it enables **nbn** to meet the Government's Statement of Expectations, to work towards closing the digital divide in some of the most remote parts of the country and to continue to offer services that would not otherwise be offered given the loss-making and non-commercial nature of **nbn**'s FW and satellite networks.⁷

While not the focus of this paper, Recommendation 3 of the Spectrum Pricing Review recognises that at times Government policy (or the physical limitations of spectrum) may create a need for bespoke pricing (i.e. mechanisms other than market-based and administered pricing allocations).⁸

In this respect, **nbn** notes the following:

- **nbn**'s new role as the default Statutory Infrastructure Provider under amendments made by the *Telecommunications Legislation Amendment (Competition and Consumer) Act 2020*, which commence on 1 July 2020. **nbn**'s obligations, including its role as Statutory Infrastructure Provider in most parts of Australia, mean that the company will need to provide services in numerous locations where these services are loss making. **nbn** submits that it is appropriate that spectrum pricing take into account the public interest good of providing broadband in locations where other providers would not.
- The non-commercial value of spectrum related to **nbn**'s use of spectrum in its loss-making FW and satellite networks more generally.

⁷ The Department of Communication's Bureau of Communications and Arts Research (BCAR) determined that nbn's FW and Satellite network is loss-making and non-commercial, and estimated that the net present value loss for FW and satellite services to FY2040 is approximately \$9.8 billion. In FY2015 real terms, this loss represented a per-month subsidy of approximately \$105 and \$110 for each FW and Satellite premises activated. See BCAR '*NBN non-commercial services funding options, Final report*' March 2016, p7 at <https://www.communications.gov.au/publications/nbn-non-commercial-services-funding-options-final-report-march-2016>

⁸ See footnote 1.



- The public value, including the consumer surplus and economic impact, created by **nbn**'s use of spectrum.
 - The improvement in welfare that **nbn** delivers to businesses and households measured by valuing the consumer and producer surplus.
 - The uplift in macroeconomic outcomes delivered by the **nbn**, including GDP and job creation. Fully harnessing the **nbn** network could deliver a total of \$16 billion a year in GDP and 19,000 additional jobs in 2021.⁹
- The restrictions placed on **nbn**, including the wholesale only nature of its network provided to all RSPs on a non-discriminatory basis, that limit its ability to monetise spectrum holdings to the same extent as other potential acquirers of spectrum (for example, mobile network operators) noting among other things the Line of Business restrictions in the *National Broadband Network Companies Act 2011*.

3 Do stakeholders have comments on the ACMA's draft spectrum pricing guidelines including the relevant spectrum pricing decisions, guiding principles and process for changing prices?

Guiding principles. **nbn** notes the proposal to include the following in the spectrum pricing guidelines:

Efficient allocation and use of the radiofrequency spectrum (efficiency)

The primary economic objective for managing public resources is to maximise the benefit that resource provides to society. This occurs when spectrum is allocated and used efficiently. This is achieved where spectrum is allocated to the highest value use or uses; that is, the use or uses that maximise the value derived from the spectrum by licensees, consumers and the wider community. This is most likely to occur when prices are set in a way that reflect the opportunity cost associated with spectrum denial.

nbn suggests that the ACMA's spectrum pricing principles also recognise the pricing principles set out in the final recommendations for the [Spectrum Pricing Review](#) in establishing the efficient allocation and use of spectrum. The final recommendations state that *where there is enough spectrum to satisfy the demand of all interested parties if prices were to be zero, charges should be limited to recovering the ACMA's direct and indirect costs of managing the spectrum.*

On this basis, **nbn** understands that analysis of whether there would be a sufficient supply of spectrum in a particular band / frequency range is informed by the interested parties defined with reference to the ACMA's planning arrangements and technical regulation for that same band / frequency range. The ACMA's planning arrangements and technical regulation are determined to allocate spectrum to the highest value use or uses and the relevant interested parties would therefore appropriately be defined as those that would use the relevant spectrum for the corresponding highest value use or uses.

Process for changing prices. We note our answer to Q9 below regarding the proposal to monitor bands for potential changes in taxes.

Focus area 1: Large bandwidth and multiple (networked devices) requirements

6 What are the relevant price points to undertake an opportunity cost analysis of taxes for services above 5 GHz? Examples of relevant information may include:

⁹ See <http://www.connectingaustralia.com.au/#economyresearch>



- *how prices for products and services have changed over time*
- *how prices of radiocommunications equipment have changed over time relative to spectrum prices*
- *comparisons with international auctions results or administrative spectrum prices.*

nbn makes the following submissions on opportunity cost analysis:

- Considerations of demand for, and supply of, spectrum within a particular band / frequency range with interested parties (defined by the relevant band planning arrangements and technical regulation) would be relevant to opportunity cost analysis. In this respect, we note for example that satellite network operators are able to share spectrum and the use of spectrum by a single satellite network operator does not reduce the amount of spectrum available for use by other satellite network operators.
- **nbn** notes that the ACMA refers to relevant information potentially including how prices for products and services have changed over time. **nbn** notes that the amount of bandwidth required to provide a service has increased over time given customer demand for increased performance. The additional bandwidth (i.e. spectrum) requirements generally do not correlate to increased prices nor increased number of active services.
- **nbn** submits that non-price point considerations, including an assessment of spectrum denial could also be relevant to an opportunity cost analysis of taxes for services above 5GHz.
 - We note that the ACMA decreased licence taxes for space licences in the 10.7-11.7 GHz, 18.2-18.8 GHz and 19.3-19.7 GHz bands with the uncoordinated earth receive stations supported on a non-protected basis to the minimum amount to reflect the lower level of spectrum denial.¹⁰
 - We submit that the following considerations inform pricing in the 28 GHz band:
 - For Fixed Wireless services, use outside the 27.5–28.1 GHz frequency range in large population centres will be on a secondary basis to the FSS and the ACMA’s view is that FWA use can coexist with FSS satellite receivers on a ‘no protection’ basis with no interference concerns from FWA into FSS earth stations.
 - For satellite services, the operation of uncoordinated earth satellite receivers (i.e. user links) is secondary to apparatus licensed FSS earth stations and FW services in large population centres in the 27.5-28.1GHz frequency range.

Focus area 3: Defined approach to considering changes in taxes and opportunity cost pricing

9 Do stakeholders have comments on:

- *the proposal to monitor bands for potential changes in taxes and the balance and precision required in monitoring and pricing spectrum?*
- *the use of inflation to keep apparatus licence taxes contemporary and whether there are alternative approaches?*

nbn submits that it would be helpful to understand in further detail the basis on which the ACMA would decide that a review of prices for a band is required and any relevant timing considerations. In this respect, **nbn** agrees that it would be appropriate for the ACMA to engage with industry on any proposal to develop a monitoring framework.

¹⁰ Page 13, Implementing outcomes of the 11 GHz and 28 GHz reviews, Consultation paper, December 2019



Focus area 4: Consistency of pricing approach across geographic areas and bands

10 Do current spectrum locations or frequency ranges remain appropriate? If not, what changes should be made and why?

11 What factors should the ACMA consider in determining new spectrum locations or frequency ranges?

12 Do the different tax rates associated with different spectrum locations or frequency ranges influence decisions about deploying radiocommunications equipment?

13 How does the value of spectrum change across geographic locations?

14 The ACMA also seeks views from stakeholders about:

- should density areas be refined for different services/bands?
- rather than having density areas, do models of congestion (like that used in the 400 MHz work) potentially better reflect demand for services and the value of spectrum? If so, what features would such a model have?
- whether different pricing constructs, such as \$/MHz/Pop for different licence types should be considered?
- whether there should be parity in pricing arrangements between services like commercial broadcasting taxes and open narrowcasting taxes?
- whether there are other services where the ACMA should be considering providing greater parity in pricing?

nbn notes that its demand for spectrum for its FW and satellite network across spectrum locations or frequency ranges and geographic locations is informed by the government's Statement of Expectations that **nbn** provides very fast broadband to all Australians and upgrade paths as required.

We also submit the following:

- **Ka-band.** We note that there is a large differential in tax rates between the spectrum locations / frequency ranges above and below 31.3 GHz used to inform pricing for satellite services using Ka and Q/V Bands, a factor of nearly 4 for the Australia-wide location weighting. We note that there are very similar propagation characteristics between these bands. Given this, we submit that consideration be given to reducing the taxes payable for Ka-Band pricing to that for Q/V-Band noting the relevance of these bands to **nbn**'s existing satellite network and upgrade path.
- **Australian-wide location.** Spectrum is required across Australian for **nbn**'s satellite network to ensure coverage to Australians where other technologies (i.e. FW or fixed line) are not available. The price of this spectrum is therefore calculated using the Australia-wide location weighting in the apparatus tax formula that results in **nbn** paying a price that is higher than that payable for the high-density location (as well as medium, low, and remote density) to service remote locations for instance. **nbn** submits that it is appropriate that spectrum pricing take into account, among other things, the public interest good of **nbn** providing broadband in locations where other providers would not.
- **26 and 28 GHz apparatus licences.** **nbn** submits that a \$/MHz/Pop pricing construct be considered for the apparatus licences (area wide licence type) to be allocated in the 26 GHz and 28 GHz band. We note our earlier comments that the secondary status of FWA be considered in pricing arrangements in 27.5-28.1 GHz outside large population centres and 28.1 – 29.5 GHz in all areas.
- **Frequency range.** **nbn** submits that the use of frequency ranges encompassing smaller amounts of spectrum be considered (i.e. a more granular approach), noting the balance to be managed with simplicity and implementation.



- **Geographic areas.** nbn submits that the use of a more granular approach to the density area concept may be appropriate, noting for example, the proposed use of area wide licence apparatus licences in the 26 and 28 GHz bands.

Focus area 5: New technologies and trials

15 Do stakeholders have views on:

- *the current pricing arrangements for scientific-assigned licences for new technologies?*
- *the proposal for new short-term scientific-assigned licence trials and alternative pricing proposals?*

nbn supports the proposal for new short-term non-renewable licence trials and suggests a timeframe of 9 months as an alternative to the ACMA's proposed period of less than 60 days. This is given the need to align the timing of multiple activities for trials including the acquisition and installation of equipment which for trials is typically not available off-the-shelf, and the co-ordination of multiple parties to successfully trial new technologies in an end to end field test environment.

Focus area 6: Transparency and ease of calculating taxes

16 Do these proposals promote transparency and ease in calculating taxes?

nbn supports the proposal that the ACMA publish guidelines about its approach to pricing, provide details of how previous taxes have been determined, and develop a new calculator to calculate the possible taxes for a new licence.