

SPECTRUM COMMITTEE

Meeting date: 8 August 2023

Agenda Number:

[REDACTED] [REDACTED] [REDACTED] [REDACTED]

Consultancy Reports: Expiring spectrum licence - pricing and valuation

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3. The consultation paper also provides some initial observations about the approach to pricing and valuing the spectrum associated with the ESLs, noting:
 - a. the ACMA will undertake work to develop valuations for the relevant spectrum, which could be used to derive the formula used to calculate the spectrum access charge for relevant licences should they be renewed.
 - b. consideration of issues, like auction avoidance pricing, where the spectrum access charge has taken into account the value to the licensee of renewing spectrum licences and avoiding the uncertainty and the potential costs of gaining access to the spectrum via an auction.
 - c. previous instances where public interest pricing has been applied, such as pricing for the re-issue of spectrum licences authorised for rail safety purposes and the conversion of apparatus licences to spectrum licences in the 3.5 MHz band.
 - d. previous circumstances where it has been appropriate to take into account specific conditions on individual licences (e.g. the 2.5 GHz band mid band gap).
4. We anticipate that pricing and valuation issues will be contentious. It is difficult to estimate the potential value of the spectrum that is part of the ESL process, these spectrum licensed bands are fundamental to business operations of spectrum licensees. Putting aside the spectrum access charges that may apply should the licences be renewed or reallocated, the timeline for the expiry of the spectrum bands, implies that spectrum licensees will also face a series of potentially significantly high payments over the period up 2032.
5. In addition, significant resources and expertise will be required to undertake the various valuation and pricing approaches. It is noted that for previous ESL process, the Department undertook much of the valuation and pricing analysis with assistance from external experts (i.e. Plum Consulting). A short overview of the previous ESL process can be found in the consultation paper. As a result of the work undertaken by the Department the then Minister directed the ACMA on price.
6. To assist in developing our thinking about pricing and valuation staff have procured 2 consultancies related to:

- a. pricing and valuation methodologies provided by Plum Consulting (the "Plum Report") (**Attachment A**)



7. It is expected that these consultancies will assist in developing a work program for the pricing issues associated with the ESL program.

Current issues

Pricing and valuation methodologies

8. The Plum Report (Attachment A):

- outlines different approaches/methodologies and the advantages and disadvantages of each approach for valuing spectrum, namely:
 - a. **direct benchmarking**: a comparison of actual prices from spectrum auctions or trades for a selection of data points.
 - b. **adjusted benchmarking**: a comparison of prices from spectrum auctions or trades for a selection of data points but adjusting those prices relative to prices for other frequency bands.
 - c. **econometrics**: is a statistical method which provides an objective way of controlling for market and economic factors, and therefore offers an arguably more promising way forward than simply taking values from other auctions.
 - d. **avoided cost modelling**: the calculation of the potential cost reduction that an operator could expect if additional spectrum is available in its spectrum portfolio following an award process.
 - e. **iterated cost models**: The iterative cost model provides an alternative way of thinking about data and spectrum demand by treating data demand as endogenous. In other words, consumers adjust their consumption of data in response to unit cost and price changes, rather than simply demanding the same quantity of data (regardless of the cost and price). On the supply side, operators expand network capacity as long as there is sufficient willingness to pay for the extra capacity.
 - f. **full enterprise value or business modelling (discounted cash flows)**: assesses the value of spectrum from a commercial perspective. The objective is to understand how much profit the spectrum in question will generate for a spectrum user over the licence duration. Estimating the value of spectrum involves the analysis of the impact on profits as a result of changes in spectrum fees over the modelling period.
- looks at factors that could influence the choice of methodology, ranging from data availability through to the ways in which the valuation will be used. The Plum Report also acknowledges that there is no single correct way of valuing spectrum, and regulators must consider each exercise in the context of its own requirements.

9. In recent years the ACMA's approach to pricing of spectrum licences (i.e. starting prices in auctions and administratively set spectrum access charges (i.e. the conversion of apparatus licences to spectrum licences for commercial broadcasters and the ABC in the mid band gap of the 2.5 GHz band and the renewal of the Defence spectrum licences in the 20 GHz and the 30 GHz bands) has been derived from the direct benchmarking approach.¹ A preference for this approach has been largely driven by availability of the good domestic price information, given previous auction/allocations and reissue processes. However, despite some of the limitations, the ESL process is likely to benefit from also considering other approaches:

- the adjusted benchmarking approach may be useful in considering the relative value of the bands where spectrum licensees are considering the value in the context of their suite of spectrum holdings.
- econometric modelling provides a more structured approach to compare international prices but is likely to face some data limitations.
- the cost and business modelling approaches are heavily reliant on a range of information some of which the ACMA does not have ready access to and requires a deep understanding of network operations.

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¹ Over time previous Ministers has also directed the ACMA on starting prices for some auctions (2013 Digital Dividend Auction and the 700 MHz unsold lots auction) and spectrum access charges for the previous ESL process and the conversion of the 3.4 GHz band apparatus licences held by NBN Co.

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Next Steps

17. Staff will commence developing a work program to consider the pricing and valuation aspects of the ESL process, in collaboration with the development of our broader work program for considering ESL matters. The Plum Report highlights that the information requirements for the various pricing methodologies and the expertise need to apply those methodologies are likely to be significant. The first part of the work program will be to consider the capacity to undertake the work and resources required. This work program will be aligned with the broader work program for the ESL process and the 4 stage process.

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Attachments

- A Plum Consulting Report: International best practice in spectrum valuation methodologies

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