

## Proposed additional data and information– Stage 3 ESLs pricing

### Proposed Pricing data

1. Comparison of \$/MHz/Pop paid previously to proposed (i.e. in the ACMA's Stage 3 pricing paper), broken down by band (*We understand that this may not be an easy exercise of direct comparison, and that assumptions and caveats will be associated with this*).
  - Difference in % and \$ to what was paid previously in \$/MHz/Pop to proposed, broken down by band.

Provided in spreadsheet – the worksheet titled 'Q1 - \$-MHz-Pop Prices'.

The \$/MHz/pop prices are provided in full as well as converted to single-year values to control for licence duration. The single-year values have been converted in two different ways – using the 'flat annuity' approach with an 8.49% WACC like the ACMA's ESL pricing benchmarking methodology, and using a simple price/years conversion (e.g. a \$1.00 price for 5 years would be \$0.20).

2. Comparison of total price paid previously to proposed, broken down by band.
  - Difference in % and \$ to the total price paid previously to proposed, broken down by band.
  - Further data showing this information controlling for licence duration and/or population figure.

Provided in spreadsheet – the worksheet titled 'Q2 - \$ Prices'.

Licence duration conversions have been performed the same as for Q1 above.

3. Difference between what MNOs will pay for all their spectrum licences compared to what they paid previously.
  - Difference in % and \$ between what MNOs will pay for all their spectrum licences compared to what they paid previously.
  - Further data showing this information controlling for licence duration, and/or a population figure.

Provided in spreadsheet – the worksheet titled 'Q3 – Companies (Summary)'. More granular data akin to what has previously been provided is in the worksheet 'Q3 – Companies (Detailed)'.

Licence duration conversions have been performed the same as for Q1 and Q2 above.

We have not done this analysis for \$/MHz/pop figures as different spectrum bands have very different \$/MHz/pop values, so a combined value for an individual company is subject to sampling bias. We have previously provided \$/MHz/pop prices for each company in each band, which would be better to use for this pr

4. Is it possible to convert the prior prices MNOs paid for ESL spectrum into a present value? That is, for instance, converting the price Telstra paid for its 700 MHz spectrum licence in 2013 to 2025 prices (assuming that this is that just a CPI/\$ inflation exercise?).
  - Could this then be compared with the current preliminary proposed price?
  - Further data showing this information controlling for licence duration, and/or a population figure.

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We would caution the use of attempting to convert historic prices to present value and compare them with our preliminary views on pricing. Spectrum prices are typically informed by expectations of future earnings, so if expectations have become less optimistic over time, then spectrum prices will not have grown in line with CPI, PPI or any other inflation index. A comparison of CPI-adjusted previous prices with our preliminary price ranges may therefore not be a fair reflection of likely changes in spectrum values. In addition, it should be noted that we are implicitly indexing prices by population growth (which can theoretically contribute to CPI growth), as the \$/MHz/pop prices will be multiplied by higher population figures in later years.

We can commence exploring whether there is any value in performing CPI adjustments, but it will take some time to convert all previous prices, as we would need to adjust each individual price component of each licence (noting that licences were paid for at different times, and many have been traded/consolidated/split up since they were originally allocated). We therefore have not provided any data for this question at this stage.

5. Rail spectrum pricing: we noticed that the price range (based on the 1800 MHz band) used in the excel table of \$0.0208/MHz/Pop - \$0.0259/MHz/Pop does not match the range listed in the stage 3 consultation paper 4 of \$0.1895/MHz/Pop - \$0.2356/MHz/Pop. Could you please explain how the range in the excel spreadsheet was derived?

The 1800 MHz band price range for wireless broadband in our preliminary views was \$0.1895–0.2356/MHz/pop, which is based on a 15.58-year licence commencing in 2028. That price range is derived from a single-year value range in the current financial year of \$0.0208–0.0259/MHz/pop (you can see these values labelled in Figure 5 and Figure 6 in the ESL pricing paper in the consultation package). We used the single-year value range in the current financial year in the spreadsheet as it best reflects what the annual apparatus licence tax would be.

### Methodology

As noted above, we anticipate that MNOs may raise questions or concerns about the ACMA's pricing methodology to support their case for cheaper spectrum. In anticipation of this, we would like to be prepared with some explanatory points.

Have any MNO's raised objections or questions in relation to any specific aspects of the ACMA methodology yet? If so, it would be helpful for us to get a sense of what these are so we can understand and plan for what MNOs' arguments around pricing may be.

From what we understand, the benchmarking approach has arrived at conservative \$/MHz/Pop price ranges reflecting the changing value of spectrum over time, informed by auction data from relevant international and domestic auctions since 2016 (noting the 2013 700 MHz digital dividend auction is included).

1. Could you please succinctly advise the benefits of using the MSR/MHz/Pop index to arrive to the forward-looking values? Is there a sense of what the objections may be to this approach?

The MSR/MHz/pop index was proposed in a report we commissioned from Ian Martin Advisory. This index is based on the concept of a licensee's 'value-in-use' of spectrum, which reflects the utility

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gained by end-users and their willingness to pay for wireless services. Value-in-use consequently contributes to expectations of discounted future net cashflows that licensees can earn from the licence and therefore influences the market value of the spectrum. The MSR/MHz/pop index uses mobile service revenue (MSR) as a proxy for net cashflows and adjusts for spectrum supply and population, as greater spectrum supply or population for unchanged MSR means the value-in-use of spectrum decreases (we also work with \$/MHz/pop prices that account for these factors).

For the forward-looking values, we used the MSR/MHz/pop index but kept it constant every year after FY2025, with minor movements due to use of a 3-year moving average. Our intent was to determine prices that reflect the value of the spectrum at time of payment, and we considered the MSR/MHz/pop index was likely to be more accurate than other indexation methods like CPI (noting that spectrum values have not trended with standard indices like CPI over the past decade, and we have to multiply \$/MHz/pop prices by larger population sizes in later years anyway). We kept the index constant in future years because the MSR/pop aspect of the index is uncertain, and any increase to spectrum supply should not affect pricing for existing spectrum licences to be renewed.

The key objection is likely to be that the value of spectrum could change between when we propose final prices and when the renewal may occur. We have expressed that it is a challenge to balance early certainty with the flexibility to change prices at a later date, and we have prioritised early certainty – as advocated for by incumbent licensees throughout this ESL process.

2. Succinct advice on the efficacy of the weighting analysis, to ensure auction data used to inform the benchmarking analysis was most relevant to the Australian context and ESLs context?

The weighting techniques and parameters used are based on a report we commissioned from Plum Consulting titled 'Topics in spectrum valuation benchmarking'.

- The weighting parameters chosen are parameters that are correlated with \$/MHz/pop spectrum values based on Plum's historic econometrics work.
- The parameters are relevant to Australia. Real GDP per capita was used to give greater weight to allocations in countries with higher-income end-users; number of MNOs was used to give greater weight to allocations in countries with similar market concentration and consequent participation in auctions; and population density was used to give greater weight to countries with similar geographic characteristics.
- The weights calculated for each parameter used techniques proposed by Plum, while the use of a simple average weight for each allocation was part of Plum's discussion in the report.
- The cohort analysis thresholds were subject to a sensitivity analysis of +/- 0.1, with the chosen thresholds balancing maintaining a reasonable similarity to Australian values with an appropriately sized sample for each cohort.

3. Are you able to shed some light on international approaches to determining spectrum renewal pricing? Is benchmarking a methodology used in other jurisdictions?

Where pricing is used for spectrum licence renewals in other jurisdictions, there is typically one or a mix of benchmarking, cost modelling or full enterprise valuation modelling performed. The example of the UK's annual licence fees for spectrum licences that continue beyond their initial 20-year terms (which we know you are aware of) is the easiest to reference as an example, as it has commonly used benchmarking (see [Consultation: Review of Annual Licence Fees - Ofcom](#)).

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Please also refer to Chapter 10 (Case studies of use) in the Plum Consulting report 'International best practice in spectrum valuation methodologies' for a range of examples, noting some of these examples are for auction reserve prices rather than renewal prices.

4. We would welcome any other explanatory points the ACMA has on the use of the benchmarking methodology to arrive at its stage 3 proposed spectrum prices.

We will provide more clarifying information in due course.