



Australian Government

Department of Communications and the Arts



# Spectrum Pricing

Consultation paper

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## Summary of draft proposals

### Allocation decisions

1. The ACMA should publish guidelines on how it approaches its spectrum pricing decisions.
2. To ensure efficient use of spectrum, the Government and the ACMA should endeavour to charge users of similar spectrum at the same rate.
3. Bespoke pricing arrangements will sometimes be necessary. Where spectrum fees are determined other than by auction or by the administered pricing formula, the ACMA, or the Government where it directs the ACMA on pricing, should publish the reasons for this decision.

### Market-based allocations

4. The ACMA should further identify bands to transition from administratively set fees to competitive market-based allocations in its annual work program.
5. In setting reserve prices, the ACMA and the Government should consider the influence of the reserve price on competitive behaviour, and the scope for price discovery through upward movement toward the market value of the spectrum.
6. For spectrum access charges determined by auction, the ACMA should generally require upfront lump-sum payments. There may be circumstances where instalment payments are warranted shortly after the beginning of a licence term. In considering use of instalments, the ACMA should assess the risks to the state of default and the potential impact on competition.

### Administered allocations

7. The ACMA should undertake a detailed review of the administrative pricing formula's parameters, including density areas, the number of pricing bands, and the number of power categories. The ACMA should implement regular updates to the location and band weightings to reflect changes in density, demography and demand.
8. The ACMA should apply opportunity cost pricing to a greater number of spectrum bands, especially where it is impractical to competitively allocate spectrum. This work should be identified in the ACMA's annual work program. The ACMA should consider more time effective approaches to implement these, and review fees as market conditions change over time.

### Legislative and cost recovery framework

9. The Government should consolidate the three existing spectrum tax Acts into one tax Act. The ACMA should continue to have the power to make determinations on the amount of tax under this Act. There should be no changes to the direct charges framework. In addition to the consolidation of the tax Acts, provisions of the separate *Radiocommunications Taxes Collection Act 1983* and the *Radiocommunications Taxes Collection Regulations 1985* should be consolidated with the remaining legislation.
10. The apparatus licence taxes and spectrum licence spectrum access charges should be combined into a single spectrum access charge. This existing apparatus licence tax formula should become the administered incentive pricing formula and should dictate the price paid for administered prices under the spectrum access charge. This formula would be adjusted to remove the minimum tax constraint.
11. The spectrum licence tax and the minimum tax constraint of the apparatus licence taxes should be subsumed into one radiocommunications licence tax. The ACMA may choose to set the amount of this tax to cover where the spectrum access charge would not otherwise recover the costs of managing the spectrum. The ACMA should continue to recover direct costs through charges. The ACMA should explore if there are any additional costs that can be recovered through the direct cost mechanisms.

## Introduction

### The Spectrum Review

The Department of Communications released its Spectrum Review in March 2015. In August 2015 the Government announced it would implement the recommendations of the review, including agreement to:

1. replace the current legislative arrangements with new legislation that removes prescriptive process and streamlines licensing for a simpler and more flexible framework
2. better integrate the management of public sector and broadcasting spectrum to improve the consistency and integrity of the framework
3. review spectrum pricing to ensure consistent and transparent arrangements to support the efficient use of spectrum and secondary markets.

This review seeks to implement recommendation 3.

### Purpose and scope

Spectrum is essential to a digitally networked economy and a major contributor to Australia's economic and social wellbeing. It is critical infrastructure enabling production for industrial, commercial, educational and other social services. The economic value of Australia's spectrum to the national economy is estimated to be \$177 billion over 15 years<sup>1</sup>.

Technology has changed substantially since 1992 when the current regulatory framework was introduced. The framework has served the nation well and been a source of international competitiveness. However, sector wide changes are challenging the efficiency, productivity and accessibility of the current arrangements for spectrum management. As technology advances, there are increasingly novel ways to use spectrum to communicate and send information. This constant development means there is increasing demand for spectrum arising from an expanding array of uses.

The extent to which the benefits of spectrum are realised or improved upon will depend in part on the ability of the spectrum management regulatory arrangements to accommodate rapid technological change and respond to increasing demand.

The last major shift in the way spectrum in Australia is priced and allocated occurred in 1992. Prior to the commencement of the *Radiocommunications Act 1992*, spectrum was largely allocated through administrative mechanisms. As a finite resource, international regulators agree that a 'command and control' approach limits the efficient and flexible use of spectrum<sup>2</sup>. The 1992 Act enabled market-based allocation for the first time. Markets are important in ensuring spectrum is efficiently allocated – that is, producing what society wants, at the least cost, over time as societies and technology change.

Spectrum management has been reviewed at two instances since the hallmark reforms. A Productivity Commission Review in 2002 made a host of recommendations in order to see further use of the market in allocating spectrum, the majority of which were accepted by the Government at the time. The ensuing 2004 Australian Communications Authority review addressed the implementation of the Productivity Commission's recommendations.<sup>3</sup>

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<sup>1</sup> Centre for International Economics (2015) *The economic value of spectrum*, Research report prepared for the Department of Communications

<sup>2</sup> Sims, M., Youell, T. and Womersley, R., (2015) *Understanding Spectrum Liberalisation*, CRC Press

<sup>3</sup> Productivity Commission (2002) *Radiocommunications*, Report no. 2

Incorporation of market-based mechanisms to spectrum allocation has been steady and is well utilised for bands used by mobile communication. Administered pricing mechanisms, in contrast, have remained largely unchanged during this period. There has been no comprehensive review of spectrum pricing. The payment structures and taxation arrangements between the licensing systems remain different. While positive progress has been made further work can be done to implement a pricing approach in a consistent manner.

The Spectrum Review recommended reviewing spectrum pricing, as part of a comprehensive suite of reforms, to ensure consistent and transparent arrangements to support the efficient use of spectrum and secondary markets. This review of spectrum pricing is concurrent to reforms to the primary legislation governing spectrum management in Australia (the Radiocommunications Act).

In the 2017-18 Budget, the Government announced its intention to abolish broadcasting licence fees and introduce a price for the use of broadcasting spectrum that better reflects its value. Unlike current broadcasting licence fees, the price for the use of the spectrum would not be based upon revenue, but the usage of the spectrum. As this is a large change for the broadcast industry, the Government has committed to a five year transitional package to ensure broadcasters are not disadvantaged due to the new fees during this period. The Government has made a commitment to review the broadcast pricing arrangements within five years to assess if the pricing arrangements needs adjustment under the new legislative arrangements. As such, the impact on broadcasting prices of any recommendations in this paper (such as a review of density areas) will be considered in that separate broadcast pricing review.

This consultation paper suggests draft proposals for public consideration. These proposals are not the final recommendations to the Government. Your feedback on the draft proposals and questions put forward in this paper will assist the Government in its consideration of an appropriate spectrum pricing framework under the new legislative framework.

## The role of government in spectrum pricing

While markets are important in ensuring the efficient allocation of spectrum, spectrum's commons nature means that there is a continuing role for governments in spectrum management. Like private goods, one person's use of spectrum stops somebody else from using it. But unlike private goods where the user is also discernibly in possession of the good to the exclusion of others, it's difficult to exclude people from using whatever spectrum they desire. In the absence of clear property rights and/or government intervention, there may be overuse, resulting in interference to other users. Government therefore has a role to play in providing orderly and fair access to spectrum, while enabling market forces to operate as much as practicable.

The Government's use of efficient pricing methods can influence the allocation of spectrum between different users of a similar use. The price determines which user will most likely put the spectrum to the highest value use. Such an approach by government enables the efficient allocation of spectrum while ensuring interference is managed.

The Government also manages spectrum to achieve other public policy outcomes. For example, governments may intervene in spectrum markets to foster competition in upstream and downstream markets, realise innovative spectrum uses, and manage spectrum resources for government use. Effective regulation can drive greater economic growth, increased investment, lower prices, better quality of services, higher penetration, and more rapid technological innovation in the sector. Effective spectrum management considers and promotes the long-term public interest derived from spectrum.

Australia uses a combination of market-based and administrative prices to charge users for access to spectrum (sometimes referred to as a hybrid approach). Prior to the commencement of the

Radiocommunications Act, administrative pricing was the predominant pricing mechanism used for spectrum charging. A key feature of the Radiocommunications Act was to introduce market-based mechanisms, which made Australia a world leader at that time.

## Current arrangements

### Fees, taxes and charges

The word fees is used in this paper to refer to direct cost-recovery charges, indirect cost-recovery taxes, resource charges, and resource taxes. In legislative terms there is a difference between a charge and a tax. A tax is a compulsory exaction of money for a public purpose, and requires separate legislation for the imposition of the tax. Taxes are often levied on some sort of measure such as income or use of a resource. Taxes may either recover the indirect costs of a regulatory activity (such as the spectrum licence tax) or reflect the value of access to spectrum (for example, the apparatus licence tax).

A charge is a payment that does not amount to taxation. Examples of charges under the current regulatory regime include charges relating to direct cost recovery of regulatory activity (like those currently set under s 60 of the *Australian Communications and Media Authority Act 2005*), or the value of access to spectrum (such as those under s. 294 of the Radiocommunications Act for spectrum licences).

Direct costs reflect the costs incurred by the ACMA to deliver a particular service, and are recovered through charges. A direct cost can be traced to a specific activity or good with a high degree of accuracy and can be attributed to a specific licensee. For example, the labour cost to issue or renew a licence is a direct cost. The ACMA is authorised to recover the expenses it incurs in the management of spectrum.<sup>4</sup>

Indirect costs reflect a licensee's share of costs incurred for benefits that cannot be attributed to an individual licensee, and are generally recovered via taxes. This includes the membership costs associated with international organisations such as the International Telecommunication Union or broader services such as technical band planning. Indirect costs are currently recovered through the spectrum licence tax and apparatus licence taxes.<sup>5</sup>

**Table 1: Current taxes and charges**

Fees	Use	Current example
Charges		
Cost recovery	Recovers direct costs	s 60 ACMA Act cost-recovery charges
Resource	Access to spectrum	Spectrum access charge
Taxes		
Cost recovery	Recovers indirect costs	Spectrum licence tax
Resource	Access to spectrum	Apparatus licence tax*

\* Also recovers indirect costs

<sup>4</sup> Radiocommunications Act 1992 (Cth), Australian Communications and Media Authority Act 2005 (Cth), s 60.

<sup>5</sup> Radiocommunications (Receiver Licence Tax) Act 1983 (Cth), Radiocommunications (Transmitter Licence Tax) Act 1983 (Cth), Radiocommunications (Spectrum Licence Tax) Act 1997 (Cth).

Consistent with broader Government policy, the fees the ACMA collects are not directly returned to the ACMA, but are returned to the Government's consolidated revenue. This paper discusses taxes and charges in more detail in the legislative and cost-recovery framework section.

## Spectrum licences

Currently, Australian licensed spectrum users must either hold a spectrum licence or an apparatus licence. Spectrum licences are generally auctioned, are for a specific part of the spectrum, a specific geographic area, and are for a fifteen year period. Currently, spectrum licence holders pay three fees:

- ACMA charges which are direct cost recovery charges
- spectrum licence taxes which are indirect cost recovery charges calculated on an annual basis and adjusted with the value of the spectrum a licensee uses
- spectrum access charges which are value-based fees generally set by auction or through renewal of existing licences.

The first two of these fees recover for some of the ACMA's costs in managing spectrum. Direct cost charges reflect the ACMA's activities that benefit a single licensee, such as licence renewals and equipment certification. The spectrum licence taxes recover indirect costs associated with managing the spectrum of multiple users and adjust with the value of the spectrum a licensee uses.

Spectrum access charges are generally set by auction, which have been used in Australia since 1994. Spectrum access charges can also be determined by other means. For example, in 2012 the Minister for Communications directed the ACMA to set renewal prices for several spectrum licence holders in various bands (such as Telstra and Vodafone's holdings in the 800 MHz band), instead of allowing expiring licences to go to auction.<sup>6</sup>

## Apparatus licences

The ACMA generally uses apparatus licences in cases where auctions are impractical (we explore this issue in more detail in the section on administered pricing arrangements). Apparatus licence holders pay apparatus licence taxes. The tax recovers for both indirect costs and the value of the resource. Most administered licences are allocated on a first come first served based, and their prices are not typically affected by competition.

The apparatus licence tax formula is the ACMA's main mechanism to charge administered prices, and most apparatus licences are priced according to this formula. The apparatus licence tax generally relates spectrum prices to factors which may be consistent with demand, congestion or opportunity cost. A minimum tax constraint, essentially a price floor, ensures all spectrum users contribute towards indirect costs. Other than adjustments for inflation, the apparatus licence tax formula has been largely unchanged since 2001.

Like spectrum licence holders, apparatus licence holders also pay for the ACMA's direct costs. These fees are small – an apparatus licence holder pays only around \$4 for a licence renewal, while the licence tax imposed for a transmitter can be thousands of dollars.

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<sup>6</sup> *Radiocommunications (Spectrum Access Charges) Direction 2012*, available at: <https://www.communications.gov.au/sites/g/files/net301/f/Direction-to-the-ACMA-under-subsection-294-2-of-the-Radiocommunications-Act-1992.pdf>



## Bespoke pricing arrangements

The Government may at times wish to price spectrum using mechanisms other than by auction or by the apparatus licence tax formula. This is often achieved by either adding prices to the annual administrative pricing determination<sup>7</sup>, or by a determination for spectrum access charges.

There are many reasons why the Government may wish to do this. Specific pricing may be provided for a subset of users due to restrictions imposed or allowances provided by other legislation (for example, the ACMA is required to issue a transmitter licence under the Radiocommunications Act to certain licensees under the *Broadcasting Services Act 1992*). Some licences, such as marine licences, may not be bound by the geographic limitations of the administered pricing formula. The Government may also wish to create stability through licence renewal, or incentivise the production of a public good.

**Table 1: Examples of users priced with bespoke pricing arrangements**

### Spectrum licences

*Spectrum licences are for up to fifteen years.*

User	Band	Year	Notes
Rail authorities	1800 MHz	2013	State rail authorities were provided discounted spectrum.
Vodafone, Telstra	800 MHz	2012	Licences were renewed at a price of \$1.23/MHz/population.
Telstra, Optus	2.3 GHz	2012	Licences were renewed at a price of \$0.03/MHz/population.
Telstra, Optus, Vodafone	2 GHz	2012	Licences are being renewed at a price of \$0.625/MHz/population.

### Apparatus licences

*Apparatus licences are generally renewed annually, but are at times paid for up to five years up front.*

User	Band	Year	Notes
nbn	3.5 GHz	2014	nbn was allocated spectrum following valuation of that spectrum.
Commercial television and radio broadcasters	AM, FM, VHF and UHF bands	2017	As announced in the 2017-18 Budget broadcast licence fees will be abolished and replaced with a price for use of broadcasting spectrum more reflective of its value..
Airports	SHF band	2012	Body scanners for aviation security at international airports pay a flat tax due to the public benefit of heightened security and the low interference potential of the device.
Telstra, Vodafone, Optus	UHF band	Around 1992	Each of these users pay a flat tax per MHz to access PMTS Class B (935-960 MHz) spectrum.
Narrowcasters	Various bands	2007	Licences are auctioned, but annual licence taxes are charged based on the city of their use.

<sup>7</sup> Radiocommunications (Transmitter Licence Tax) Determination 2015

## Concessions and exemptions

Some users are exempt from licence fees when seeking allocations of spectrum under regulation 5 of the *Radiocommunications Taxes Collection Regulations 1985* and section 10 of *Radiocommunications (Charges) Determination 2017*. Exempt users include diplomatic and consular missions, surf life-savers, remote ambulance services and volunteer fire fighting and search and rescue organisations. The annual benefit to these organisations is around \$7 million. Applications for exempt user status must be made to the ACMA and are assessed against legislated criteria in the collection regulations. There are a number of regulations around how these licences are used and when they can be transferred to another user.

Others may receive a concessional rate of 28.5 per cent under the ACMA's annual tax determinations (for example, through the *Radiocommunications (Transmitter Licence Tax) Determination 2015*). Only the Royal Flying Doctor Service and narrowcasting television services that transmit for community and educational non-profit purposes are eligible to receive this concessional rate. The annual benefit to these parties amounts to around \$765,000 in total. As with exemptions, applications for a fee concession must be made for each licence to which a concession is sought. The ACMA assesses each licence to confirm that the equipment being licensed is being used for the purposes of that licence.

The current exemptions and concessions lists are relatively effective with targeted criteria.<sup>8</sup> For the most part, exemptions and concessions are provided to organisations already exempt from paying other Government taxes and charges, and imposing spectrum fees would be a departure from this approach.

## Pricing review principles

In August 2015 the Government asked for a review of spectrum pricing to ensure consistent and transparent arrangements to support the efficient use of spectrum and secondary markets. Clear pricing principles allow government decisions to be transparent, predictable and accountable. The following principles are the foundation to this review and the proposals. The principles below build on the existing principles that govern the ACMA's general spectrum management activities<sup>9</sup> and provide further context for the ACMA's pricing framework.

## Efficiency

The primary economic objective for management of any resource is to maximise the benefits that resource provides to society. This occurs when spectrum is allocated and used efficiently. As a general rule, this objective is more likely achieved if decisions on spectrum's use is more often made by spectrum users through market mechanisms, rather than government. Spectrum is allocated and used efficiently where an equilibrium between supply and demand is met. An excess of demand over supply of spectrum in an area can give rise to congestion. This decreases the quality of services provided, and means that new users aren't able to introduce innovative products and services. In a well-functioning market, prices will adjust upwards to reflect increases in demand, rationing spectrum to those who will put it to the highest value use. Similarly, an excess of supply will mean spectrum isn't being put to use, so prices will adjust down. Prices respond flexibly and ensure that inputs move to their highest value use.

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<sup>8</sup> For example, to meet one type of exemption, you must be staffed principally by volunteers, be exempt from income tax, and be either a rural fire fighting, search and rescue, or coastguard service.

<sup>9</sup> ACMA (2016) *Principles for spectrum management* <<http://www.acma.gov.au/Industry/Spectrum/Spectrum-planning/About-spectrum-planning/australian-spectrum-management-principles-spectrum-planning-acma>>

Access to secondary markets can help reduce inefficiencies of spectrum prices. Secondary markets, where spectrum is traded directly between users, is a vital mechanism in allowing spectrum to move to its highest value use over time. Secondary trading is generally regarded as a tool *in conjunction* with other tools like pricing and auctions for achieving efficient spectrum allocation as the highest value use of spectrum may vary over time.<sup>10</sup> The proposed Radiocommunications Bill will facilitate this by eliminating hard legislative barriers between different licence systems and types, making all licences freely tradable without approval by the ACMA, and providing greater certainty around end-of-licence arrangements.

Though secondary markets are desirable, such markets take time to develop and may not always be practicable due to technical specifications or the depth and liquidity of the market. Government intervention may be necessary to ensure spectrum is efficiently allocated whether by administered prices or periodic spectrum auctions.

A resource pricing model is consistent with the Australian Government Charging Framework<sup>11</sup>. Guided by correct price signals, spectrum will tend towards those users who can use it most effectively. In the absence of price signals, there is a risk that a spectrum user would not use the spectrum efficiently.

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 cost of managing the spectrum. Otherwise, charges should reflect the market value of the spectrum. Charging according to the price a market could have reached enables the Government to send important price signals to spectrum users about the value of the resource being used. The fee can be set via market mechanisms such as auctions, or via Government administratively setting the fees.

Other countries have recognised this with their approach to spectrum management. For example, Industry Canada noted in 2010 that the Government's objective in conducting auctions is not to raise revenue, rather it is to award licences fairly, efficiently and effectively so as to ensure that the Canadian public derives the maximum possible benefit from the spectrum resource. The Government should be cautious when setting prices to ensure that unnecessarily high or low prices do not lead to unintended market outcomes.

## Cost recovery

The ACMA incurs costs for spectrum regulatory activities such as planning, interference management and coordination, and these costs should be recovered from those using spectrum. Costs are important to identify as the Government should only provide goods where the benefits exceed their costs. If the price received for the spectrum is less than the cost incurred to manage that spectrum, then the Australian taxpayer is worse off in the absence of other public policy benefits. Generally, spectrum's management costs are low compared to its value, and are not prohibitive to spectrum access.

## Consistency and simplicity

Under current arrangements there are separate rules, processes and outcomes dependent on the licensing system. The move to a single licensing system under the proposed Radiocommunications Bill enables greater consistency between spectrum users.

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<sup>10</sup> Plum Consulting (2012) *Spectrum trading in Australia*, report for the Department of Broadband, Communications and the Digital Economy.

<sup>11</sup> Department of Finance, *Australian Government Charging Framework – Resource Management Guide No. 302* (July 2016).

Greater consistency within a single licensing system should enable greater simplicity, and minimise the burden on the licensee. A simple framework should enable licensees to understand and navigate their regulatory requirements. It should use the least restrictive approach to reduce regulatory burdens, allowing licensees to focus on optimising their use of spectrum.

## Transparency

To efficiently use spectrum, licensees and investors need clear information on how the regulator makes its pricing decisions. This allows businesses to make informed decisions and anticipate government administrative outcomes. The transparency of pricing frameworks also increases the accountability for the ACMA, who regulates spectrum, and the Australian Government, which provides the broad policy direction for spectrum management.

## Proposals

### Allocation decisions

Markets are important in ensuring spectrum is efficiently allocated. Efficiency means that the least amount of resources are used to produce the most amount of goods.

A well-functioning market co-ordinates the interactions of buyers and sellers, facilitating the production of goods and services which people want. Market prices convey information about the ability and willingness of consumers to pay for goods and services, and the ability and willingness of firms to produce them. In most cases, this promotes the efficient allocation of society's resources, and facilitates innovation, technical change and progress in the economy as a whole. Historical evidence shows that even less-than-perfect markets can produce more efficient outcomes than central planning.

Productivity Commission, 2002

This means that ideally governments would use market-based allocations to more efficiently allocate spectrum. This is because bidders know the value of the spectrum to them and understand how the allocation will create value for their organisation. In recent years there has been an international trend towards auctions. Their success in allocating spectrum efficiently has led to a general consensus among regulators that auctions are the best way to distribute spectrum resources. In an appropriately designed auction, auctions facilitate competition between bidders. Parties that receive the highest value from the spectrum are likely to be the highest bidder, and therefore tend to win the licenses.

In the absence of a market-based approach, an efficient allocation by government requires the regulator to know the present and future benefits and costs of spectrum use.

### Publish guidance on spectrum allocation mechanisms

#### Draft proposal 1

The ACMA should publish guidelines on how it approaches its spectrum pricing decisions.

Generally, auctions should be used where demand exceeds supply, and the costs of running an auction would not outweigh its benefits. Even when these conditions are met, there are a number of considerations why market mechanisms may not achieve the objectives of the Radiocommunications Bill. For example, the:

- extent of demand for the relevant spectrum: if supply outstrips demand then market-based allocation is redundant

- duration of the licence: it is generally simpler and more efficient to administratively allocate shorter term licences
- coordination problems: auctions may prevent large numbers of small users being able to express their demand for spectrum
- objectives other than efficiency: centrally planning and pricing a spectrum band allows the Government to manage policies other than efficiency – for example, competition, the realisation of innovative spectrum uses, and the management of spectrum resources for Government use
- auction costs: costs may limit the efficacy of market-based allocations
- the desire for continuity: auctions reduce certainty for incumbent spectrum holders, and may reduce incentives for long-term investment.

Although the ACMA has set out its approach to pricing mechanisms on a case by case basis, there is no general framework that articulates what factors will inform its decision regarding choice of allocation and pricing mechanisms be it auctions, administered pricing, or other bespoke approaches.

To enable transparency, certainty, and consistency the ACMA should publish clear guidelines and pricing policies (that is, whether an administrative or a market-based allocation is generally ideal).

### Bespoke pricing arrangements

#### Draft proposal 2

To ensure efficient use of spectrum, the Government and the ACMA should endeavour to charge users of similar spectrum at the same rate.

There are often arguments for users not on the concessions or exemptions lists to receive subsidised or free access to spectrum. This often may arise from a desire to subsidise activities that provide a social benefit or good. If nothing is done, the social benefit provided by organisations remain as ‘externalities’, which may mean their overall provision is less than what is economically efficient.

However, discounted rates introduce allocative and pricing distortions into the market. Charging some users less than other spectrum users means there is a reduced incentive for the discounted users to use spectrum efficiently. The requirement for Government to charge all users the same for spectrum currently applies to Government users of spectrum who for the large part pay the same price as other users of spectrum. This is despite the significant social benefit that government provides. This approach is also supported by international regulators like Ofcom in the UK<sup>12</sup> and was reiterated in the Productivity Commission’s recent assessment of public safety mobile broadband:

Regardless of how and to whom spectrum is made available, it should be priced at its opportunity cost — the value of the next best use for the spectrum. This would give purchasers a strong incentive to use spectrum in an efficient way, including potentially leasing or selling spectrum access rights to a third party when it is not needed.

Productivity Commission, Public safety mobile broadband research report

Other subsidy mechanisms like federal and state government grants or existing taxation policy measures may be better placed to provide financial support directly to non-profit community service organisations not already on the concessions or exemptions lists. A grant or other taxation concession means that an organisation can choose to continue purchasing spectrum or reduce use and vacate the

<sup>12</sup> Ofcom, *SRSP: The revised Framework for Spectrum Pricing – our policy and practice of setting AIP spectrum fees* (December 2010) <[https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0024/42909/srsp-statement.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0024/42909/srsp-statement.pdf)>.

spectrum for higher value uses. There is no proposal to adjust the current concessions and exemptions list.

### Draft proposal 3

Bespoke pricing arrangements will sometimes be necessary. Where spectrum fees are determined other than by auction or by the administered pricing formula, the ACMA, or the Government where it directs the ACMA on pricing, should publish the reasons for this decision.

At times Government policy or the physical limitations of spectrum may create a need for bespoke pricing arrangements (i.e. mechanisms other than market-based and administered pricing allocations). Where bespoke pricing arrangements are used, the reasons for this decision should be published. For the most part, the ACMA provides this information through consultation material, explanatory statements and discussion in pricing schedules. The ACMA, or the Government where it directs the ACMA on pricing, should continue to accompany all bespoke pricing arrangements (such as spectrum access charges, administrative taxes, and renewal prices) with clear justification, and where possible include the assumptions and calculations used to reach the determined pricing.

### Questions (allocation decisions)

Does industry seek any specific guidance from the ACMA on how it approaches spectrum pricing decisions? Where is clarity required in the decision making process?

Are there times where the Government should not charge users the same amount for the same type and amount of spectrum, through the use of bespoke pricing arrangements?

What reasons justify the Government entering bespoke pricing arrangements? How can these arrangements ensure efficient allocation of spectrum?

## Market-based allocations

As discussed before, market-based allocation more efficiently allocates spectrum as bidders know the value of the spectrum to them, are incentivised to make correct decisions, and understand how the allocation will create value for their organisation. Parties that receive the highest value from the spectrum are likely to be the highest bidder, and therefore tend to win licences to use the spectrum.

There are a number of market-based allocation methods, including tender processes. Over recent decades, there has been an international trend towards allocation by auctions and this has led to a general consensus among regulators that auctions are the best way to distribute spectrum resources. An auction's transparency allows market participants to witness the allocation process, understand spectrum valuations and reduces the risk of the Government picking winners.

This section will primarily focus on auctions in considering market-based allocations.

### Transition to market-based allocations

#### Draft proposal 4

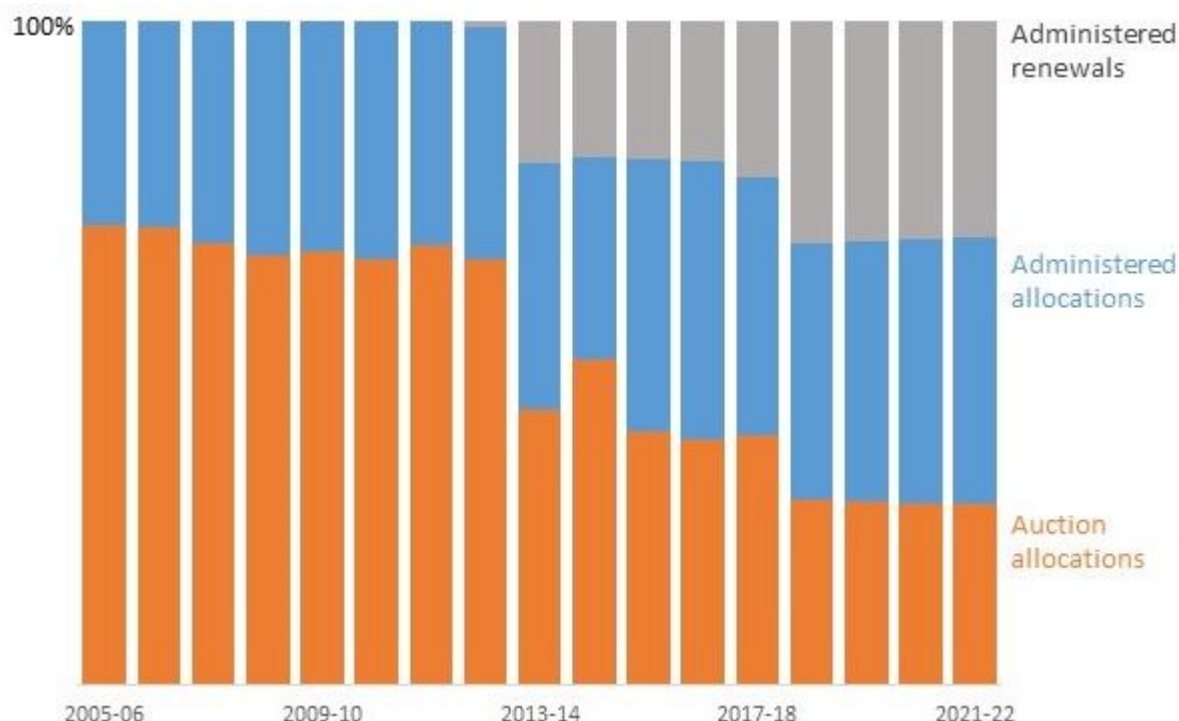
The ACMA should further identify bands to transition from administratively set fees to competitive market-based allocations in its annual work program.

The use of auctions to allocate spectrum has fallen over the past decade, as seen in Figure 1. The decline is mainly due to a decision to renew expiring licences (originally auctioned in the 1990s and 2000s) at administratively determined rates. This means that today, only one-third of spectrum



revenues are determined directly by the market. All other revenues are administratively determined through legacy pricing approaches or spectrum valuations.

Figure 1: Share of revenues from allocation type<sup>13</sup>



To reverse this trend, there are a number of spectrum bands that may warrant a transition from administratively set prices to auctions. For example, a large amount of spectrum is held by mobile carriers in the GSM 900 MHz band which may be well placed to transition to market-based allocations. Considering such a move would be a complex issue. The ACMA is currently consulting on options for the 900 MHz band, and other bands may be worthy of similar consideration. The ACMA is well placed to consider the feasibility of these bands for market-based allocation, and should identify these in its annual work program. The annual work program is legislated under the proposed Radiocommunications Bill, and the first of these is expected soon after passage of the Bill.

## Reserve prices

### Draft proposal 5

In setting reserve prices, the ACMA and the Government should consider the influence of the reserve price on competitive behaviour, and the scope for price discovery through upward movement toward the market value of the spectrum.

Spectrum reserve prices reflect the minimum a bidder can offer for a spectrum lot, and set a starting point for an auction. Unlike a house auction, these reserve prices are generally made public before the auction commences. Bidders are therefore able to factor this price floor into their bidding strategies. Reserve prices are not estimates of the value that may be achieved. Instead, competition will see the participants outbid each other until the price rises to the market value of the spectrum. For example, for the regional 1800 MHz auction in 2016, reserve prices of \$0.08/MHz/pop would have raised

<sup>13</sup> Revenue from auction allocations and administered renewals has been amortised over the relevant licence period.

\$62.7 million. The final outcome revealed revenues of \$543.5 million, meaning prices easily exceeded the reserve prices set.

At a minimum, a reserve price should reflect what the Government is willing to forgo to hold the spectrum instead of allowing it to be allocated to a spectrum user. This is generally quite low as the Government has little use for unused spectrum. Often, reserve prices are set at a higher level to reduce the incentive for anti-competitive behaviour. This is particularly relevant in auctions with a limited number of bidders, where the lack of competition may limit price rises.

Analysis by Plum Consulting<sup>14</sup> has shown that in many international cases, the gap between reserve prices and auction outcomes has narrowed. Also, a significant number of auctions in recent years have ended up with unsold spectrum lots, suggesting that in some cases, reserve prices were set too high. Whilst unsold spectrum does not provide the Government with an immediate return, it may still have value and may encourage competition in downstream markets at a later point in time (such as if an entrant becomes a stronger competitor).

Reserve prices should be set at a level that dissuades anti-competitive behaviour, but still allows for price discovery through upwards movement to the market value of the spectrum. Price discovery allows bidders to gauge the value of the spectrum by the bids of others, and adapt their bidding strategies accordingly. If values are not allowed to rise from the reserve price, price discovery doesn't occur. In a scenario where demand for spectrum exceeds supply, rising traffic demand and a competitive market environment, spectrum users should have sufficient incentives to bid prices up to their most efficient point.

## Payment terms

### Draft proposal 6

For spectrum access charges determined by auction, the ACMA should generally require upfront lump-sum payments. There may be circumstances where instalment payments are warranted shortly after the beginning of a licence term. In considering use of instalments, the ACMA should assess the risks to the state of default and the potential impact on competition.

Payment terms for auctions stipulate whether licensees pay all fees prior to the commencement of the licence, or if some fees are deferred over the term of the licence. The current approach recommends fees being paid up front. Upfront payments are advantageous as they secure revenue prior to issue of the licence, thereby protecting against the risk of payment default. Upfront payments reduce the complexity and increase the certainty of spectrum auction outcomes. Upfront payments also help to reduce speculative bidding and artificially inflated bids.

While payment terms should generally require upfront lump-sum payments, there may be circumstances in which payment by instalment shortly after the beginning of a licence term is reasonable. Imposing an upfront payment may, for example, limit market entry by smaller entrepreneurial players that would nonetheless deliver higher value services. In considering exception-based requests for instalment payments, the ACMA should consider the risk to the Commonwealth in the case of default and the impact of upfront lump-sum payments or bank guarantees on participation in the auction.

The ACMA should therefore generally receive upfront payments before the licence period begins. However, the Government recognises that long term licences require a large amount of capital.

<sup>14</sup> Plum Consulting, *Reserve prices in spectrum auctions – why size matters* (21 April 2016) <[www.plumconsulting.co.uk/plum-insight-reserve-prices-spectrum-auctions-size-matters/](http://www.plumconsulting.co.uk/plum-insight-reserve-prices-spectrum-auctions-size-matters/)>.



Therefore, there may be circumstances where Government or the ACMA approves short term deferrals. In considering these circumstances, the Government or the ACMA should take into account the risks to competition of payment deferrals (including the role the competition limits are playing), the number and type of bidders at an auction, and the risk to the Government of unpaid licence payments. In these circumstances, requirements such as a bank guarantee over a portion of outstanding funds are appropriate to reduce risk to government.

#### Questions (market-based allocations)

Are there specific bands that industry would seek to have transitioned from administratively set fees to competitive market-based allocations? What is an ideal timeframe to achieve this?

How can government ensure that reserve prices allow upwards movement while still managing competitive behaviour?

Under what limited scenarios will short-term instalments be an appropriate approach for market-based licence payments?

### Administered allocations

While market-based allocations offer many advantages, they may be impractical in some cases. As identified before, auctions should be used where demand exceeds supply, and the costs of running an auction would not outweigh its benefits. Even when these conditions are met, there are a number of reasons why markets may not achieve the Government's objective of promoting the long-term public interest derived from the use of the spectrum. If supply outstrips demand, then there is enough spectrum for everybody and market-based allocation is redundant. Market-based mechanisms may not be appropriate for shorter term licences as running an auction every year or two would soon prove a burden. Auctions may prevent large numbers of small users being able to express their demand for spectrum, as without collective or central guidance a large number of potential spectrum lots can become unwieldy and cause confusion. Auctions also reduce certainty for incumbent spectrum holders, and may reduce incentives for long-term investment, as incumbents may not be willing to make significant investments given the risk they'll lose their spectrum in several years time. In such circumstances, the Government will choose to set prices administratively.

Charges set at levels similar to the market are therefore an effective alternative tool to ensure efficient allocation. Such fees are designed so that the spectrum ends up with the highest value user, and that those spectrum holders use their holdings efficiently.

Despite this, characteristics of the spectrum market make it difficult for governments to set administrative prices that accurately reflect market prices. Of note:

- spectrum is rarely traded, unlike other assets like land and shares
- there are a limited number of technological alternatives to base a pricing model's cost profiles on
- to take advantage of the cost of equipment and economies of scale, spectrum use is typically harmonised with other international jurisdictions, limiting the use of different spectrum bands
- there is no easy way to determine whether there is excess supply or excess demand in particular spectrum bands
- there is a lack of data on how prices respond to spectrum demand, therefore there is subjectivity about how much to reduce (increase) prices in the face of excess supply or demand
- pricing needs to be updated regularly to reflect changes with market developments such as technological, demographic, and band plan changes.

For these reasons, administrative prices should be seen as a ‘best attempt’ to approximate opportunity cost, given limited information, rather than being an exact efficient price.

### Pricing formula

#### Draft proposal 7

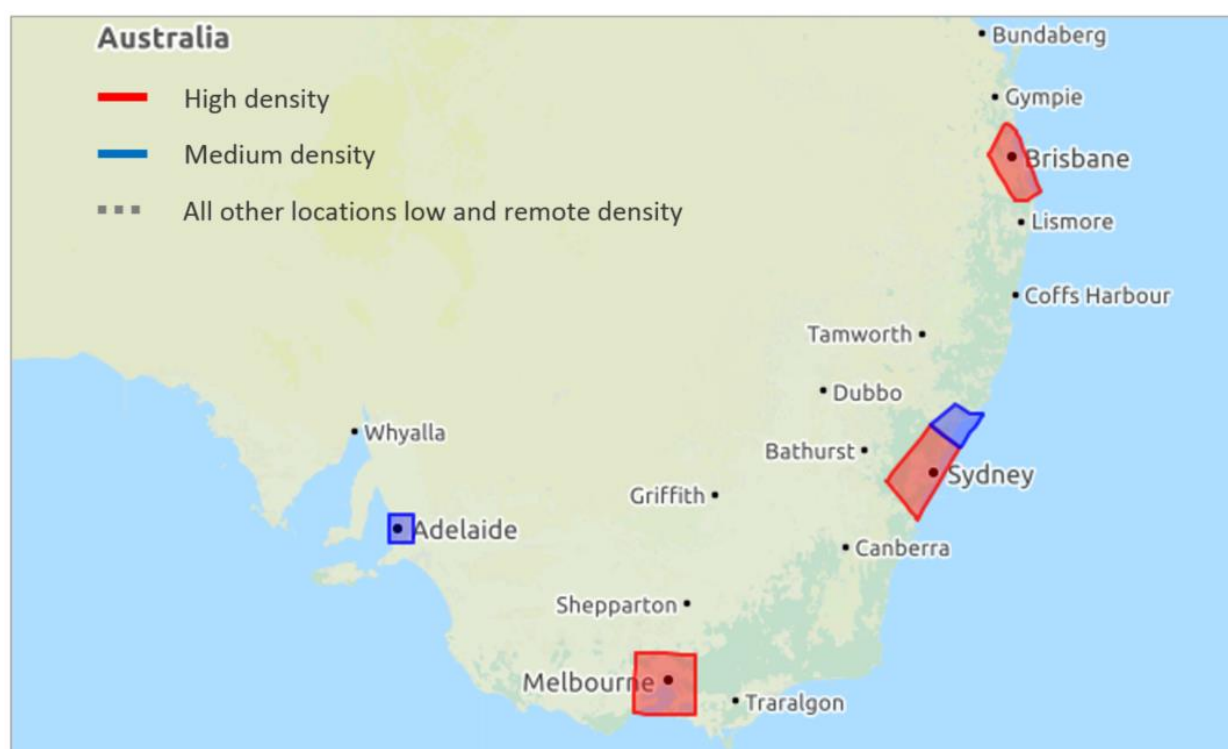
The ACMA should undertake a detailed review of the administrative pricing formula’s parameters, including density areas, the number of pricing bands, and the number of power categories. The ACMA should implement regular updates to the location and band weightings to reflect changes in density, demography and demand.

The current apparatus licence formula, which was set in 1995, is based on parameters that drive spectrum denial or congestion. This is done by combining the location’s density, the spectrum band, the type of user, the amount of spectrum used, whether the device is low powered, and inflation.

The formula has not been updated other than for annual indexation and some limited price adjustments. Since then, the media and telecommunications industries have significantly changed, with increased demand for many spectrum bands. The ACMA has not explicitly priced spectrum based on modern valuation techniques other than in limited situations.

Given the rapid growth in spectrum use and demographic change since 2005, it is unlikely that the geographic density parameters used by the apparatus tax formula still reflect the market value of the spectrum. For example, urban sprawl has meant that locations that were once low density in the 1990s are now medium or even high density areas. Currently, the immediate boundaries outside the three high density areas (Sydney, Melbourne and Brisbane) are classified as low density areas. Given there are no medium density areas to separate these high and low density areas, there exists a sharp reduction in charges immediately outside metropolitan areas. Figure 2 below shows that low density areas border most high density red areas.

Figure 2: Australian east coast density areas



The current number of spectrum bands included in the apparatus licence tax formula – thirteen – is likely too low to allow the ACMA to implement adjustments at a sub-band level. For example, the 520 to 960 MHz pricing band includes spectrum bands for mobile, for land mobile users, for television, and for radio. The current formula does not allow the ACMA to differentiate between these characteristics of each spectrum band. The low number of pricing bands also results in significant price drops between contiguous bands.

The power adjustment factor currently employed by the formula is binary – a 90 per cent discount for devices that use less than 8.3 watts (generally land mobile devices that cover a 2km radius), and no discount for all others. The low power discount is not available for all licence types.

The use of a formula provides several benefits, including consistency, transparent calculations, clear guidelines, and the flexibility to adjust for individual situations. But it would be timely for the ACMA to undertake a detailed review of the formula, and how consideration of parameters more applicable to a universal formula can be more responsive to the underlying value of the spectrum.

### Opportunity cost

#### Draft proposal 8

The ACMA should apply opportunity cost pricing to a greater number of spectrum bands, especially where it is impractical to competitively allocate spectrum. This work should be identified in the ACMA's annual work program. The ACMA should consider more time effective approaches to implement these, and review fees as market conditions change over time.

Regulators try to replicate market outcomes by setting prices according to the 'opportunity cost' of the spectrum. Opportunity cost seeks to overcome some of the shortcomings of other forms of administered pricing (such as basing fees off international benchmarks, or choosing figures based on legacy pricing structures) by providing more accurate pricing signals to spectrum users.

Opportunity cost is a sophisticated form of administered pricing. It reflects that in using spectrum, users deny spectrum for others, and that alternative use has value. Opportunity cost approaches set the price at that foregone value. This generally mimics the price a market would have reached, as it means the company who purchases the spectrum likely values it somewhat more than the opportunity cost (leading to profits), and the person who misses out would prefer to put their dollars to another use. If the use of spectrum isn't denying anybody else (in the case where supply of spectrum exceeds its demand), then its opportunity cost is zero. However, if it does deny use of the spectrum (where demand exceeds supply), then the opportunity cost increases with the value of the spectrum.

In general terms, benefits to society will be maximised over time if spectrum is priced to reflect opportunity cost. The opportunity cost is the price that would emerge in a well-functioning market and reflects the value of spectrum to the best alternative use or user that is denied access to it.

Ofcom, 2010

Approaches to opportunity cost methods are flexible. For example, an opportunity cost valuation can assume that only current users are able to benefit from a spectrum band. It can also account for public good value (for example, of public safety use of spectrum) and for government regulation (for example, a broadcaster's content obligations).

There are a range of methodologies available to estimate the opportunity cost of a band. The choice of approach is informed by the objectives the regulator is seeking to achieve, the frequency band being considered, and the quality of the information available. The current practice is to estimate prices using

a number of these approaches and then settle on a point within that range. The ACMA sets the final price based on the specific circumstances. For example, the ACMA has successfully used opportunity cost pricing in the 400 MHz band, where network congestion led to the gradual raising of prices to reduce demand. The ACMA is also using opportunity cost pricing methods to reduce several taxes for spectrum users in the Ka-band satellite spectrum.

This recommendation is not novel. The Productivity Commission's *2002 Review of the Radiocommunications Act 1992* recommended increased use of opportunity cost pricing for spectrum. Since then the ACMA's introduction of opportunity cost has been slow and piecemeal. Of the ACMA's thirteen spectrum ranges for apparatus licence tax purposes, opportunity cost pricing has only been applied to the 400 MHz band and the Ka-band. The remaining eleven are unchanged, and there are no identified plans to review these. This could be identified in the ACMA's annual work program required to be produced under the proposed Radiocommunications Bill. This would build consistency for industry and increase transparency of any decisions to move to opportunity cost.

Full opportunity cost assessments, including appropriate analysis, consideration and consultation, take time to implement. The ACMA's 400 MHz exercise took four years to implement the initial price adjustments. While this can be expected for a regulator's first model of a new pricing approach, the ACMA should consider ways to innovatively and more quickly implement opportunity cost pricing for the remaining bands.

Opportunity cost assessments only reflect a point in time. Without adjustment, administered fees could diverge from the true market price of the spectrum. Therefore timely updates are required to readjust fees. Where updates happen more frequently, it is less likely fee changes will be significant, and markets will have a better opportunity to adjust. However, there is a balance between providing accurate estimates that best assist in allocating spectrum to its highest value use, and providing long-term certainty on fees. The ACMA annual work program could also outline how reviews of fees as market conditions change might occur.

#### Questions (administered allocations)

Other than the parameters listed above, are there any additional parameters that should be incorporated into the formula?

Are there scenarios where opportunity cost pricing is not a valid pricing approach for pricing spectrum?

How can the ACMA improve its approach to opportunity cost pricing?

### Legislative and cost-recovery framework

The current system was created in 1992 for the existing apparatus and spectrum licensing systems. The multiple pieces of legislation and different methods to determine charges creates an inconsistent framework between different licensing systems. The proposed single licensing system will remove the distinction between apparatus and spectrum licences. This means many parts of the current framework will become unnecessary or obsolete, presenting an opportunity to restructure. It was for this reason that the Spectrum Review recommended consolidating pricing and taxation arrangements.

This section identifies how a consolidation of these arrangements can be achieved.

## Legislative framework

### Draft proposal 9

The Government should consolidate the three existing spectrum tax Acts into one tax Act. The ACMA should continue to have the power to make determinations on the amount of tax under this Act. There should be no changes to the direct charges framework. In addition to the consolidation of the tax Acts, provisions of the separate *Radiocommunications Taxes Collection Act 1983* and the *Radiocommunications Taxes Collection Regulations 1985* should be consolidated with the remaining legislation.

The power to charge for spectrum is through a complex hierarchy of legislative arrangements. There are six Acts and many legislative instruments that enable the current pricing framework. Figure 3 shows the legislation behind the current pricing framework. The legislative instruments are primarily based on whether the licence is an apparatus or spectrum licence, but overlap does occur.

Figure 3: Current pricing framework

	Apparatus licences	Spectrum licences	Class licence
Direct cost recovery	<b>ACMA charges</b> Australian Communications and Media Authority Act 2005		No fees
Indirect cost recovery	<b>Apparatus licence tax</b> Radiocommunications (Receiver Licence) Tax Act 1983 Radiocommunications (Receiver Licence Tax) Determination 2015 Radiocommunications (Transmitter Licence) Tax Act 1983 Radiocommunications (Transmitter Licence) Tax Determination 2015	<b>Spectrum licence tax</b> Radiocommunications (Spectrum Licence) Tax Act 1997 Radiocommunications (Spectrum Licence Tax) Determination 2014	
Value-based component		<b>Spectrum access charge</b> Radiocommunications Act 1992 Multiple determinations	
Other instruments	<b>Tax enabling legislation</b> Radiocommunications Taxes Collection Act 1983 Radiocommunications Taxes Collection Regulations 1985 Radiocommunications Taxes Collection (Penalties on Unpaid Tax) Determination 2015		

Multiple spectrum taxation acts and determinations are not necessary under a single licensing system. The revised cost recovery and value-based fee framework discussed below will be governed by a streamlined legislative structure.

Figure 4: Proposed pricing framework

	<i>Radiocommunications licence</i>	<i>Spectrum authorisation</i>
<i>Direct cost recovery</i>	<b>ACMA charge</b> <b>Australian Communications and Media Authority Act 2005*</b> Radiocommunications (Charges) Determination  *No changes	No fees
<i>Indirect cost recovery</i>	<b>Licence tax</b> <b>Radiocommunications (Licence) Tax Act</b> Radiocommunications (Licence) Tax Determination	
<i>Value-based charge</i>	<b>Spectrum access charges</b> <b>Radiocommunications Act</b> Spectrum access charge determinations: <ul style="list-style-type: none"> <li>• Administered allocations (the formula)</li> <li>• Market-based allocations (auctions)</li> <li>• Bespoke arrangements (eg. renewals)</li> </ul>	

The proposed structure is similar to the current spectrum licence pricing arrangements. The single licensing system offers the opportunity to reduce the volume of enabling legislation and simplify pricing. The number of Acts has been halved (from six to three) and the number of instruments required is therefore also reduced. Moving to a uniform pricing structure would increase transparency for licensees and differentiate between cost recovery and value-based fees.

Using this framework, the ACMA will set cost-recovery taxes (reflecting the costs of managing that spectrum) and also set value-based charges (reflecting the value of the spectrum). A spectrum user will pay both charges.

### Value-based fee framework

#### Draft proposal 10

The apparatus licence taxes and spectrum licence spectrum access charges should be combined into a single spectrum access charge. This existing apparatus licence tax formula should become the administered incentive pricing formula and should dictate the price paid for administered prices under the spectrum access charge. This formula would be adjusted to remove the minimum tax constraint.

A value-based fee reflects that spectrum has considerable value. Setting the price at the level the market would have reached drives the efficiency of spectrum allocations. The value of spectrum generally exceeds the cost in managing the spectrum by regulators, and therefore spectrum's value-based fees generally cover its management costs.

The merging of two licensing systems into one creates the need for one resource charge. The approach to determining this charge would differ depending on its form of allocation (administrative or market-based).



### Administratively allocated licences

Administratively allocated licences will have their new spectrum access charge governed by an annual determination by the ACMA, as it does now for apparatus licences. The current apparatus licence fee formula will continue as the administered incentive pricing formula, and will determine the spectrum access charge paid for the majority of these licences. The annual determination will also identify the spectrum access charge for those administratively allocated licences not set by the formula (such as television outside broadcast and PMTS Class B licences).

A minimum tax constraint, effectively a tax floor of around \$40 per licence, is currently imposed on licences. In transitioning to a spectrum access charge, the minimum tax constraint will no longer be applied. This means that spectrum access charges may be zero for some spectrum bands in certain areas. The ACMA may instead choose to recover for costs via the cost recovery framework detailed below.

It is not expected that any major adjustments to licence fees will result from this change. The transition to the new framework should be clearly identified by the ACMA in its transition to new licences under the proposed Radiocommunications Bill.

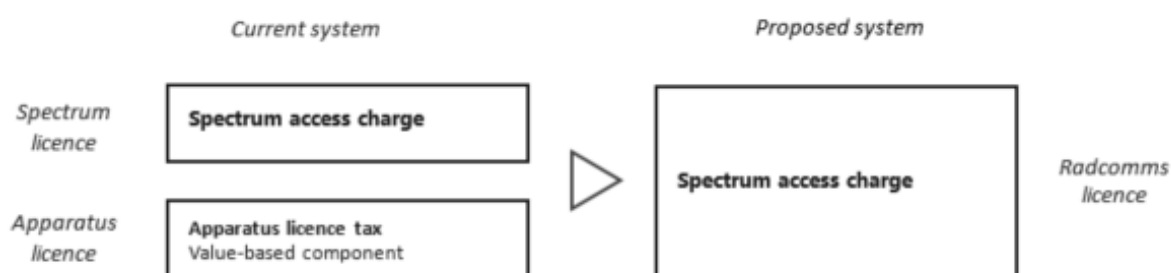
### Market-based allocations

There will be no impact on existing spectrum licence holders as spectrum access charges have already been paid. Future licence holders who gain their spectrum at auction will pay an upfront<sup>15</sup> spectrum access charge as determined by the auction. This process is consistent with current arrangements.

### Bespoke pricing arrangements

The proposed pricing arrangements will continue to allow the setting of bespoke fees (such as the spectrum access charges determined for licence renewal) outside the above two mechanisms. This process also remains consistent with the current arrangements.

Figure 5: Proposed value-based fee framework



<sup>15</sup> Or short-term instalments as indicated in the proposals for market-based allocations.

## Cost recovery framework

### Draft proposal 11

The spectrum licence tax and the minimum tax constraint of the apparatus licence taxes should be subsumed into one radiocommunications licence tax. The ACMA may choose to set the amount of this tax to cover where the spectrum access charge would not otherwise recover the costs of managing the spectrum. The ACMA should continue to recover direct costs through charges. The ACMA should explore if there are any additional costs that can be recovered through the direct cost mechanisms.

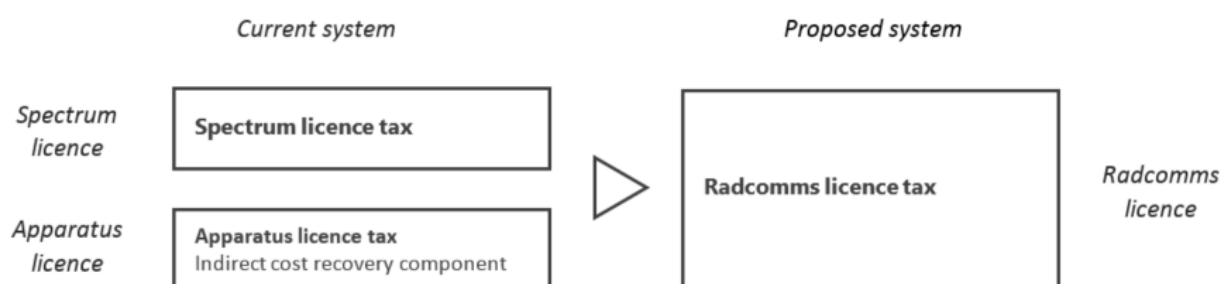
The Australian Government's Charging Framework recommends that both direct and indirect costs should be recovered through fees.<sup>16</sup>

As a general rule, the ACMA should set charges to recover its regulatory costs in full. Spectrum users who receive a direct benefit from the services provided by the ACMA should pay for these services. Spectrum users who receive an indirect benefit from general regulatory activities should be apportioned a reasonable share of costs. There are some cases where although ACMA services have been of value to the user, there is no efficient way to collect any fees from that user. For example, current class licences (known as spectrum authorisations in the proposed Radiocommunications Bill) may have incurred a cost to the ACMA but it is not possible to allocate a fee to all the users (such as people who use garage remote controls).

Current licence holders pay either a spectrum licence tax or an apparatus licence tax depending on the licensing system used. Under the new framework it will be difficult to differentiate between these legacy licence systems. Not all current spectrum licences are auctioned, and not all apparatus licences have been administratively allocated. The maximum licence durations currently differ – one to five years for apparatus licences and fifteen years for spectrum licences – however this difference will no longer be relevant under the single licensing system where a licence can be granted for up to twenty years. Given there will no longer be a clear division between two licensing systems, a consistent approach to cost recovery in setting taxes and charges is required.

Unlike direct costs, indirect costs can only be recovered through a tax. It is proposed that a new radiocommunications tax will replace the existing spectrum licence tax and the indirect cost recovery component (ie. the minimum tax which is currently around \$40) of the apparatus licence tax.

Figure 6: Proposed indirect cost recovery framework



<sup>16</sup> Department of Finance, *Australian Government Charging Framework – Resource Management Guide No. 302* (July 2016).



### Fee determination

To determine the level of fees set under the radiocommunications licence tax, how these fees would adjust over time, and who it affects, the ACMA would ideally review the costs associated with managing spectrum in Australia. This review may wish to consider using this tax to recover the costs of activities that benefit a group of users, such as licence area replanning, or to recover the costs of one-off activities that benefit all spectrum users, such as the changes required to implement the broader Radiocommunications Bill proposals.

Given the current approach to direct costs is not affected by the move to a single licensing system, there should be no change to the overall framework governing direct cost recovery. These costs will continue to be recovered through their various mechanisms, such as s 60 of the ACMA Act. However, the ACMA should identify in its review of costs if there are any direct costs not currently recovered.

#### Questions (legislative and cost recovery framework)

Are there any barriers that would limit a spectrum framework as described above? Does the revised spectrum framework sufficiently simplify the current spectrum pricing framework? Are any components above unnecessary, or are any additional components necessary?

Should both costs and value be priced into the fee for spectrum? Should costs be explicitly recovered through a separate tax? What level of transparency of costs and fees would most help users?

## Conclusion

The move to a single licensing system both necessitates and provides an opportunity to modernise the way we price spectrum in Australia.

The options being considered in this review relate to increasing the efficiency of spectrum markets, allowing spectrum to move to its highest use, and reducing the complexity of spectrum pricing frameworks. Most of the findings and proposals are not novel. Instead, they build on the ACMA's research, independent reports, and best practice over the past two decades. The paper seeks feedback from stakeholders on whether draft proposals in the paper will provide a greater level of certainty in spectrum pricing decisions.

It is anticipated the proposals in this paper are possible within the proposed changes to the exposure draft of the Radiocommunications Bill. Given the Bill's flexibility and general nature, many changes will be contained in policy and administrative mechanisms. Minimal legislative change will be required above the changes already proposed in the Radiocommunications Bill. A draft spectrum tax act will be provided following consultation on this paper. This will provide the opportunity to ensure the legislation allows the implementation of any final recommendations.

The Department and the ACMA are currently considering the transitional arrangements for the broader reforms detailed in the exposure draft of the Radiocommunications Bill. This includes many of the transitional arrangements for licensing, and how the current licensing system of apparatus and spectrum licences will need to be transferred to a single licensing system. Many of this review's pricing proposals, in particular those made on the pricing and licensing framework, will need to be considered as part of this. It is expected that spectrum users will transfer to the new pricing arrangements described in the legislative and cost recovery framework section at the same time they transfer to the new regulatory arrangements.

Several proposals also relate to the ACMA's responsibilities outside of the transition process. This includes processes like updating pricing formulas, increasing the transparency of its pricing decisions, and reviewing auctions. All this work will need be considered both during and following the transition to the new single licensing system.

## Feedback options

The Government welcomes feedback on the ideas presented in this paper. The easiest way to provide feedback is to visit our website at [www.communications.gov.au/what-we-do/spectrum/spectrum-reform](http://www.communications.gov.au/what-we-do/spectrum/spectrum-reform).

Alternatively, you can provide written comments to:

- Spectrum Reform  
Department of Communications and the Arts  
GPO Box 2154  
Canberra ACT 2601
- Or by email to [spectrumreform@communications.gov.au](mailto:spectrumreform@communications.gov.au)

Submissions close on 30 June 2017.

Please include:

- contact name
- organisation name, if applicable
- contact details, including telephone number, postal and email addresses
- confirmation whether or not your submission can be made public – published – or kept confidential.

All submissions to be made public need to meet the [Digital Service Standard](#) for accessibility. Any submission that does not meet this standard may be modified before being made public.

If your submission is to be made public, please ensure you do not include any personal information that you don't want to be published.