

# CHAPTER 5

## 800 MHz band v 700 MHz band

5.1 This chapter considers the evidence in relation to the 700 MHz band and 800 MHz band. In exploring the most appropriate band for public safety agencies, the chapter considers technical, cost, timeliness and risk factors, and contextualises international harmonisation efforts.

### Allocation of spectrum in the 800 MHz band

5.2 According to the ACMA, the original terms of reference for the PSMBSC established to consider spectrum requirements was to consider an 'allocation if needed from spectrum in the 800 megahertz'.<sup>1</sup> Mrs Cahill from the ACMA explained that the focus remained on the 800 MHz band for three reasons as follows:

First, because the technical characteristics of 800 are well suited to deployment required by public safety agencies. Secondly because the timing in terms of when it could be made available and the work that the ACMA was doing coalesced and it will be made available in the time that is needed for a roll-out. Thirdly, because it was identified as a potentially harmonised band in our region. So the actual terms of reference for the Public Safety Mobile Broadband Steering Committee, which has been in place since May 2011, have been focused on the 800 megahertz band.<sup>2</sup>

5.3 Dr Kerans from the ACMA went on to comment that the spectrum estimation was undertaken in the ACMA's Spectrum Planning Branch which is made up almost exclusively of engineers. He noted that the process entailed considering the data demand methodologies or the data flow required for the operational needs of PSAs and considering how much spectrum would be required. Dr Kerans elaborated that:

We did not at any time consider the commercial value of the spectrum we were allocating. At the moment in the spectrum that we are talking about—the 800-megahertz block—no decision on the allocation of that spectrum has been made. We have not finished the review of the 800 band yet. So, basically, a portion of that was set aside before any of those decisions were made, based purely on an engineering analysis of the data presented to us.<sup>3</sup>

5.4 However, the governments of WA, the ACT, Victoria and NSW held an alternative view on the allocation. They asserted that spectrum was both considered and offered in the 800 MHz band on the basis of the following three considerations:

- the importance of regional harmonisation as the 800 MHz band is being promoted in the Asia-Pacific region as the band for public protection and disaster relief;

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1 Mrs Maureen Cahill, ACMA, *Committee Hansard*, 24 June 2013, p. 17.

2 Mrs Maureen Cahill, ACMA, *Committee Hansard*, 24 June 2013, p. 17.

3 Dr Andrew Kerans, ACMA, *Committee Hansard*, 24 June 2013, p. 13.

- the commercial value of the 700 MHz band which was estimated by the ACMA to be valued at approximately 28 per cent higher per MHz than the 800 MHz band; and
- the assumption that there would be no 700 MHz band spectrum available following the April 2013 auction. However, as noted in Chapter 2, two paired 15 MHz segments, or 30 MHz in total, failed to sell and remain available in the 700 MHz band.<sup>4</sup>

5.5 Stakeholders also held differing views on how the commercial value of spectrum informed the decision making process. Telstra noted that the continuing growth in demand for commercial mobile broadband services was one of the reasons why spectrum in the 700 MHz band was not appropriate for a PSMB network.<sup>5</sup> Assistant Commissioner Peter Barrie of the NSW Police Force took the view that the work of the PSMBSC was restricted by a 'strategic view' of how the 700 MHz harmonised spectrum would be made available through auction. Furthermore, he argued that:

If you exclude that or take it off the table and look at opportunities in the 800 band, which is quite congested, there is a large portion of the 800 band that is currently used by the carriers that was specifically excluded from consideration. There is also a large number of incumbent users in that 800 band.

The difficulty then becomes, if senior officers have provided advice that public safety can be accommodated in the 800, going through a process which clearly defines what those requirements look like in terms of their capacity, and then finding that they are in a very difficult situation as to how they are going to achieve that.<sup>6</sup>

5.6 The NSW Police Force also argued that the focus had remained on satisfying the requirements of the ACMA to justify an appropriate allocation of spectrum rather than the development of the wider scope of requirements needed to develop and implement the information and communication technology required. It argued that such an approach had not afforded the PSAs the opportunity to draw on existing science and innovation capabilities as promoted in the National Security and Innovation Strategy.<sup>7</sup> Similarly, Mr Burgess of the PFA noted that as there was an expectation that the 700 MHz band spectrum would sell, the PSMBSC was set up on the basis of reviewing the 800 'because there was an expectation that there would be no 700 available'.<sup>8</sup>

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4 Western Australian Government, *Submission 4*, p. 3.

5 Telstra, *Submission 11*, p. 3.

6 Assistant Commissioner Peter Barrie, NSW Police Force, *Committee Hansard*, 12 July 2013, p. 12.

7 NSW Police Force, *Submission 17*, p. 4.

8 Mr Mark Burgess, PFA, *Committee Hansard*, 17 June 2013, p. 6.

## Technical differences

5.7 The DBCDE issued a fact sheet in December 2012 which stated that the spectrum in the 800 MHz band had almost identical characteristics to that of the 700 MHz band in terms of:

- data-carrying capacity and ability to support video applications;
- distance covered; and
- ability to penetrate buildings.<sup>9</sup>

5.8 Orange Horizons argued that from a technical viewpoint, the transmission characteristics are effectively the same for both the 700 MHz band and 800 MHz band as there is 'no technical advantage between them'.<sup>10</sup> Similarly, Ericsson noted that there was 'negligible difference in coverage characteristics' between the 700 and 800 MHz bands.<sup>11</sup> This evidence was supported by the ACMA which stated that the two bands have 'almost identical characteristics'.<sup>12</sup>

5.9 However, the PFA put a different view and stated that the 700 MHz band is the perfect spectrum for PSAs because it is not affected by atmospheric conditions.<sup>13</sup> Mr Waites from the PFA noted that the 700 MHz band was often called the 'sweet spot' by radio technicians for this reason.<sup>14</sup>

5.10 PSAs also raised concerns regarding penetration in relation to the ACMA's provision of spectrum in the 4.9 GHz band. This evidence was confirmed by Dr Kerans of the ACMA who acknowledged that the 4.9 GHz band does not have the same penetrating ability as that of the 700 or 800 MHz bands. However, he stated that it would be used to offload the data from the network that does have the penetration.<sup>15</sup>

## Costs differences and economies of scale

5.11 The committee received evidence from a number of states and territories which noted that provision of spectrum in the 700 MHz band is expected to reduce the costs of a PSMB network. The Western Australian Government stated that:

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9 Department of Broadband, Communications and the Digital Economy, Fact sheet 3: Public safety mobile broadband capability—700 MHz v 800 MHz—Suitability for Australian public safety use, December 2012, [http://www.dbcde.gov.au/\\_data/assets/pdf\\_file/0016/139120/Fact\\_Sheet\\_3\\_-\\_Dec\\_2012.pdf](http://www.dbcde.gov.au/_data/assets/pdf_file/0016/139120/Fact_Sheet_3_-_Dec_2012.pdf) (accessed 28 May 2013).

10 Orange Horizons Pty Ltd, *Submission 1*, p. [3].

11 Ericsson, *Submission 3*, p. 7.

12 Mr Chris Cheah, ACMA, *Committee Hansard*, 24 June 2013, p. 9.

13 Mr Robert Waites, Police Federation of Australia, *Committee Hansard*, 17 June 2013, p. 5.

14 Mr Robert Waites, Police Federation of Australia, *Committee Hansard*, 17 June 2013, p. 5.

15 Dr Andrew Kerans, ACMA, *Committee Hansard*, 24 June 2013, p. 15.

The reduction in cost is due to the 700 MHz band's ability to support commercially available public safety grade equipment and systems integration solutions (whereas the 800 MHz band currently does not).<sup>16</sup>

5.12 Similarly, in a joint letter to the Prime Minister of July 2012, the Premiers of NSW, Victoria, Queensland and Western Australia stated that the costs arising from building a capability on the 800 MHz spectrum would result in additional costs incurred by the jurisdictions, 'particularly to purchase and maintain equipment to establish a public safety capability on this spectrum'.<sup>17</sup>

5.13 The ACMA was of a different view, explaining that the only currently available equipment worldwide is for the USA band plan which both the USA and Canada have committed to.<sup>18</sup> However, the ACMA's Mrs Cahill argued that the move to harmonisation or a standardised approach in the Asia-Pacific region including 'potentially, for equipment to be standardised' would provide for economies of scale.<sup>19</sup>

5.14 There was considerable debate during the inquiry regarding harmonisation and its potential impact on economies of scale. Mr Abul Rizvi, Deputy Secretary of the DBCDE, acknowledged that the international community could be divided in terms of commercial production between the USA and Canada on the 700 MHz band and others, potentially countries in the Asia-Pacific including Australia, which might choose to allocate spectrum in the 800 MHz band to PSAs.<sup>20</sup> Motorola Solutions clarified that, were spectrum to be allocated in the lower part of the 800 MHz band, then it and other manufacturers would have to start customising chipsets for what would amount to a relatively small market resulting in a higher cost per unit.<sup>21</sup> Mr David Hill, Area North Manager, Government and Public Safety, Motorola Solutions explained that:

The chipsets have to be developed for a specific band set, or set of bands, depending on the particular region. Here, in Australia, chipsets are developed harmonised for all of the spectrum that is currently being used by the commercial operators. Similarly, there is a much larger potential market in the 700 megahertz band in the Asia-Pacific. I should clarify that point, too: we are not advocating using the North American band plan here, in Australia. We are advocating using the harmonised. When we are talking about the 700 megahertz spectrum we are talking about the harmonised Asia-Pacific spectrum, which has already been agreed by all the countries in the region.<sup>22</sup>

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16 Western Australian Government, *Submission 4*, p. 3.

17 Western Australian Government, *Submission 4*, Attachment 1, p. 1.

18 Mr Chris Cheah, ACMA, *Committee Hansard*, 24 June 2013, p. 16.

19 Mrs Maureen Cahill, ACMA, *Committee Hansard*, 24 June 2013, p. 17.

20 Mr Abul Rizvi, DBCDE, *Committee Hansard*, 24 June 2013, p. 26.

21 Mr David Hill, Motorola Solutions, *Committee Hansard*, 24 June 2013, p. 30.

22 Mr David Hill, Motorola Solutions, *Committee Hansard*, 24 June 2013, pp 29– 30.

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## Risk factors

5.15 Mr Hewitt of the NCCGR argued that there is a significance difference between the 700 and 800 MHz spectrum: there is a 'clear and free chunk of spectrum' now available in the 700 MHz band which is going to be used internationally for LTE and that in terms of commercial risks, the 700 MHz band is less of a risk than the 800 MHz band. Mr Hewitt noted that:

The choices of spectrum in 800 should be looked at quite carefully. If the chunk at the bottom of the 800 is used, the capacity for expansion is quite limited because you are sitting on top of the 700 megahertz allocation, which has already been allocated to commercial operators. It would, basically, snooker you into a corner.<sup>23</sup>

5.16 Mr Hewitt further explained that as there is only 10 MHz available in the 800 MHz to PSAs, it leaves 'nowhere to go after that'. Therefore, he concluded, PSAs should not be using that piece of spectrum if they wanted to expand their contiguous spectrum allocation at any stage.<sup>24</sup>

5.17 In response to this argument, Dr Kerans of the ACMA stated that if more data is required then PSAs can increase the density of their networks. In this regard, he noted that this is what commercial carriers do in cities and what the ACMA expects PSAs to do as their data needs increase into the future.<sup>25</sup>

5.18 However, PSAs emphasised to the committee that they do not, and cannot, operate in the same way as commercial carriers.<sup>26</sup> They provide a service to the community largely free of charge and cannot, therefore, reinvest profits into infrastructure to meet data needs as they arise. Given their mandate to save lives and protect the community, PSAs must respond to emergencies and disasters in a timely and effective manner in order to meet community needs and fulfil community expectations. Their operational decisions are based on saving lives rather than maximising return. For these reasons alone, PSAs cannot be expected to operate in the same way as commercial carriers.

## Securing the necessary spectrum in a timely manner

5.19 According to the ACMA, its offer of 5 MHz + 5 MHz of spectrum for public safety mobile broadband will be made available in 2015 in areas where PSAs advise that it is required. Dr Kerans from the ACMA explained that while the top 5 MHz (820 – 825 MHz) which is paired with 865–870 MHz is currently occupied, the block below (810 – 820 MHz) is clear as a result of the digital dividend and will be available in the same timeframe as the 700 MHz band. Dr Kerans further noted that the ACMA had given an undertaking to the PSAs that, 'provided they undertake to build a

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23 Mr Jim Hewitt, NCCGR, *Committee Hansard*, 24 June 2013, p. 35.

24 Mr Jim Hewitt, NCCGR, *Committee Hansard*, 24 June 2013, p. 35.

25 Dr Andrew Kerans, ACMA, *Committee Hansard*, 24 June 2013, p. 13.

26 Western Australian Government, *Submission 4*, Attachment 2, p. 18.

network' which he noted they have not done to date, 'we will commence the clearance of the band'.<sup>27</sup>

5.20 However, the PFA noted that while 10 MHz of spectrum in the 800 MHz band might be cleared by 2015, it would be 'exceedingly difficult to make 20 MHz of cleared spectrum available in that timeframe'.<sup>28</sup> Similarly, Motorola Solutions made the point that the 700 MHz network and the services to the PSAs would probably become available from 2014 whereas in the 800 MHz band, it might be available from 2017.<sup>29</sup> Motorola Solutions noted that:

Given the high level of incumbency in the 803–960 MHz band and the requirement to potentially relocate a significant number of users from parts of the band, it is envisaged that implementation will occur over an extended period.<sup>30</sup>

5.21 Motorola Solutions explained that the allocation of an additional 5 + 5 MHz (above the current offer of 5 + 5 MHz) in the 800 MHz band would take more than five years as it will require the clearing of currently occupied spectrum before any re-allocation was possible.<sup>31</sup> The PFA also noted that it could take five to ten years to clear out 20 MHz in the 800 MHz band 'depending on the current licences that exist there'.<sup>32</sup>

5.22 Motorola Solutions cited evidence from the ACMA which held the view that the timeframe for availability in relation to this option of 10 + 10 MHz would be 2017 at the earliest and amount to an allocation between 814 MHz and 824 MHz paired with 859–869 MHz.<sup>33</sup>

5.23 Evidence to the committee suggested, however, that the challenges in relation to clearing the 800 MHz band do not apply to the 700 MHz band which is 'ready to go'.<sup>34</sup> The recent auction of 700 MHz spectrum which is being made available through the digital dividend process left 30 MHz (15 + 15 MHz) of unallocated spectrum. Motorola Solutions noted that sufficient spectrum could be allocated from this band 'almost immediately' and would become available for use after the television re-stack process is completed at the end of 2014.<sup>35</sup> Similarly, the Western Australian Government noted that in contrast to the uncertainty surrounding the availability of

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27 Dr Andrew Kerans, ACMA, *Committee Hansard*, 24 June 2013, p. 19.

28 Police Federation of Australia, *Submission 2*, p. 9.

29 Mr Paul Thompson, Motorola Solutions, *Committee Hansard*, 24 June 2013, p. 29.

30 Motorola Solutions, *Submission 10*, p. [5].

31 Motorola Solutions, *Submission 10*, p. [8].

32 Mr Robert Waites, Police Federation of Australia, *Committee Hansard*, 17 June 2013, p. 5.

33 ACMA cited in Motorola Solutions, *Submission 10*, p. [6].

34 Mr Vince Kelly, PFA, *Committee Hansard*, 17 June 2013, p. 5.

35 Motorola Solutions, *Submission 10*, p. [6].

the 800 MHz band, provision in the 700 MHz band could be made when analogue television is switched off across Australia by the end of 2013.<sup>36</sup>

### Asia-Pacific Telecommunity

5.24 The International Telecommunications Union (ITU) has divided the world into three zones. During the World Radiocommunication Conference 2012, the 3GPP band 27 (807 – 824 / 852 – 869 MHz) was amongst the bands recommended for PSAs within the Asia-Pacific region (Region 3).<sup>37</sup> ITU Resolution 646 concerning public protection and disaster relief states that:

...to encourage administrations for the purposes of achieving regional harmonized frequency bands/ranges for advanced public protection and disaster relief solutions, to consider the following identified frequency bands/regions or parts thereof when undertaking their national planning:

- in Region 3: 406.1–430 MHz, 440–470 MHz, 806–824/851–869 MHz, 4 940 4 990 MHz and 5 850–5 925 MHz.<sup>38</sup>

5.25 A footnote regarding Region 3 notes that some countries in the region have also identified the bands 380–400 MHz and 746–806 MHz for PPDR applications.<sup>39</sup>

5.26 The ACMA's Senior Engineer, Mr Christopher Worley, informed the committee that there is no equivalent listing for PPDR for the 700 MHz band in Region 3.<sup>40</sup> Similarly, AMTA Chief Executive Officer, Mr Chris Althaus, argued that if PSAs were insistent on a standalone network, the 700 MHz band was the wrong spectrum band because the ITU had earmarked the 806–824 MHz and 851–869 MHz bands for Public Protection and Disaster Relief in the Asia-Pacific region.<sup>41</sup> Mrs Cahill of the ACMA also noted that the ACMA was working toward harmonisation in the 800 MHz band for public safety agencies across the region through the Asia-Pacific Telecommunity. She explained that:

We have been working very closely through the Asia-Pacific Telecommunity to have 800 as the spectrum identified for equipment manufacturers for public safety agency needs. It is, in our view, the optimal spectrum to enable economies of scale in terms of cost of equipment for the

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36 Western Australian Government, *Submission 4*, p. 3.

37 Ericsson, *Submission 3*, p. 7.

38 International Telecommunications Union, Resolution 646 (Rev.WRC-12), Public Protection and disaster relief, the World Radiocommunication Conference (Geneva) 2012, pp 4–5, <http://www.itu.int/oth/R0A0600001A/en> (accessed 10 July 2013).

39 International Telecommunications Union, Resolution 646 (Rev.WRC-12), Public Protection and disaster relief, the World Radiocommunication Conference (Geneva) 2012, footnote 6, p. 6.

40 Mr Christopher Worley, ACMA, *Committee Hansard*, 24 June 2013, p. 16.

41 Australian Mobile Telecommunications Association, Is a standalone emergency services network a cost-effective use of public funds?, <http://www.amta.org.au/articles/Is.a.standalone.emergency.services.network.a.cost-effective.use.of.public.funds> (accessed 4 June 2013).

public safety agencies, and also in term of interoperability within the Asia-Pacific region.<sup>42</sup>

5.27 Similarly, Orange Horizons noted that it would appear that the ITU was moving towards utilising 800 MHz spectrum in the Asia-Pacific region and that there was justification in maintaining compatibility with the ITU.<sup>43</sup> The ACMA held that 'international harmonisation' is highly important to Australia domestically and internationally, providing for equipment economies of scale, interoperability and cross-border roaming, as well as spectrum efficiency, while ensuring that the myriad of radio technologies used in all aspects of society can coexist without interfering with each other.<sup>44</sup>

5.28 Noting, however, that the harmonisation in question concerns the Asia-Pacific region rather than the international community as a whole, the committee received contrary evidence to that of the ACMA. Mr Hewitt of the NCCGR made the point that while the 800 MHz spectrum had been identified as the band for PPDR, it was used in Asia by police and emergency services for narrowband voice rather than broadband data.<sup>45</sup> Motorola Solutions also noted that ITU Resolution 646 was originally drafted to harmonise spectrum for narrowband operations or voice operations for two-way radio types of operations. The ACMA acknowledged that the resolution initially focused on narrowband radio and cited the resolution which stated that:

e) that current public protection and disaster relief applications are mostly narrow-band supporting voice and low data-rate applications, typically in channel bandwidths of 25 kHz or less;

f) that, although there will continue to be narrow-band requirements, many future applications will be wideband (indicative data rates in the order of 384-500 kbit/s) and/or broadband (indicative data rates in the order of 1 100 Mbit/s) with channel bandwidths dependent on the use of spectrally efficient technologies.<sup>46</sup>

5.29 The ACMA stated that it was engaged in the technical and operational considerations relating to broadband PPDR so that ITU-R Resolution 646 'can be amended to better reflect the trend in PPDR applications towards higher bandwidth applications'.<sup>47</sup>

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42 Mrs Maureen Cahill, ACMA, *Committee Hansard*, 24 June 2013, p. 15.

43 Orange Horizons Pty Ltd, *Submission 1*, p. [3].

44 Australian Communications Media Authority, *Supplementary Submission 7*, p. [2].

45 Mr Jim Hewitt, NCCGR, *Committee Hansard*, 24 June 2013, p. 37.

46 International Telecommunication Union, Resolution 646 (REV.WRC 12), Public protection and disaster relief, The World Radiocommunication Conference, Geneva, 2012, <http://www.itu.int/oth/R0A0600001A/en> (accessed 11 July 2013).

47 Australian Communications Media Authority, *Supplementary Submission 7*, p. [7].



5.30 However, Mr Hill of Motorola Solutions stated that:

In our region at the moment there is no agreement and that is part of the work that ACMA is doing with the APT and the ITU and to which we are also helping to contribute. But there is currently no agreement in the region as to what part of spectrum is to be used for public safety for broadband.<sup>48</sup>

5.31 Mr Hewitt of the NCCGR explained that while Australia might move to harmonise that spectrum as broadband data, the question remained as to whether the rest of the region would be prepared to 'push out all their own voice systems and replace them with the broadband data at some cost to themselves'.<sup>49</sup> Therefore, as Mr Hewitt explained, while harmonisation was a key consideration of the ACMA in its announcement that public safety agencies should operate on the 800 MHz band, there are no assurances that the region will undertake the necessary configuration to move from voice to data and purchase the compatible chipsets. The possibility remains, therefore, that Australia could, be left on its own with no commercial advantage.<sup>50</sup> The committee notes in this regard, ITU Resolution 646 which states that some countries in Region 3 have already identified the band 746–806 MHz for PPDR applications.

5.32 The ACMA acknowledged that while the ITU identified the 800 MHz band, there is no country in the Asia-Pacific region operating the 800 MHz band for broadband data at present.<sup>51</sup> Indeed, the ACMA's Dr Kerans explained that Australia is probably leading the region 'when it comes to allocating a band for public safety agencies and a number of the other regions were watching to see what we do'.<sup>52</sup> The ACMA emphasised that significant progress within Region 3 had been made on the development of a regionally harmonised plan while acknowledging that 'no endorsed plan is yet in place'.<sup>53</sup>

5.33 Submitters noted that decisions regarding the PPDR spectrum were expected to be taken at the World Radio Congress in 2015.<sup>54</sup> Therefore, the suggestion from the ACMA that ongoing alignment of Australian spectrum allocations with international regulations will benefit Australian PSAs from 'improved economies of scale in equipment manufacture and enhanced interoperability with overseas counterparts' is premature at best.<sup>55</sup> The NSW Police Force noted, for example, that it appears 'unlikely that there will be a significant demand for LTE equipment operating in the proposed harmonised PPDR 800 MHz band in the immediate future'. The NSW Police

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48 Mr David Hill, Motorola Solutions, *Committee Hansard*, 24 June 2013, p. 30.

49 Mr Jim Hewitt, NCCGR, *Committee Hansard*, 24 June 2013, p. 37.

50 Mr Jim Hewitt, NCCGR, *Committee Hansard*, 24 June 2013, p. 37.

51 Mrs Maureen Cahill and Mr Chris Cheah, ACMA, *Committee Hansard*, 24 June 2013, p. 15.

52 Dr Andrew Kerans, ACMA, *Committee Hansard*, 24 June 2013, p. 16.

53 Australian Communications and Media Authority, *Supplementary Submission 7*, p. 7.

54 APCO Australasia, *Submission 5*, p. 3.

55 Australian Communications and Media Authority, *Submission 7*, p. [2].

Force highlighted the views of the jurisdictions and law enforcement across Australia that:

There is still no certainty that international representations for an allocation of harmonised spectrum for PPDR in the 800 MHz band will come to fruition or that there will be sufficient demand generated for broadband equipment to generate competition, improve product availability and reduce development costs. The opportunities highlighted by the ACMA in previous submissions have not been realised.<sup>56</sup>

### **Committee view**

5.34 The committee supports the allocation of spectrum in the 700 MHz band for the purposes of a national PSMB network. The committee notes that the 700 MHz band is the preferred band of Australian PSAs themselves which have diligently examined and reported on their own requirements to the ACMA over the past three years. Notwithstanding this point, as the spectrum allocation process focused on the 800 MHz band for inception, the possibilities for PSAs in the 700 MHz band were not fully explored. However, the 2013 auction of spectrum in the 700 MHz band has provided a once-in-a-lifetime opportunity for the PSAs which cannot be overlooked.

5.35 While the committee appreciates the efforts of the ACMA in relation to international harmonisation, the evidence has demonstrated that there are considerable obstacles to harmonisation in the Asia-Pacific region. Such obstacles make harmonisation across the region, as well as the flow-on benefits including interoperability and potentially economies of scale, an extremely unlikely prospect. This prospect is made more improbable given that some countries in Region 3 have already identified the 746–806 MHz band for PPDR applications. Allocation of spectrum to PSAs in the 700 MHz band will, therefore, enable Australia to harmonise with at least some countries in the region.

5.36 The committee holds the view that it is imperative that Australian PSAs are resourced adequately to operate in an effectively, timely and efficient manner. Indeed, it is an expectation of the Australian public. As there remains 30 MHz of unallocated spectrum, the committee can foresee no reason as to why the ACMA cannot allocate 20 MHz of remaining spectrum in the 700 MHz band with immediate effect.

5.37 The committee recommends, therefore that the Minister for Broadband, Communications and the Digital Economy issue a Ministerial Direction to the ACMA to allocate 20 MHz of contiguous spectrum in the 700 MHz band for the purposes of a national PSMB network. Furthermore, the recommended 10 MHz of additional spectrum for PSA purposes should be provided in the 700 MHz band.

5.38 In the event that the committee's recommendation for 20 MHz of spectrum for PSAs in the 700 MHz band is not supported by the Australian Government, however, the committee recommends the reservation of 20 MHz in the 800 MHz band as the minimum requirement for a PSMB network.

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56 NSW Police Force, *Submission 17*, p. 2.

**Recommendation 1**

**5.39** The committee recommends that the Minister for Broadband, Communications and the Digital Economy issue a Ministerial Direction to the Australian Communications and Media Authority to allocate 20 MHz of contiguous spectrum in the 700 MHz band for the purposes of a public safety mobile broadband network.

**Recommendation 2**

**5.40** The committee recommends that the Minister for Broadband, Communications and the Digital Economy take appropriate measures to secure, for public service agencies, priority access to an additional 10 MHz of spectrum in the 700 MHz band for public safety purposes.

**Recommendation 3**

**5.41** If recommendation 1 is not supported by the Australian Government, the committee recommends that the Minister for Broadband, Communications and the Digital Economy issue a Ministerial Direction to the Australian Communications and Media Authority to allocate as a minimum requirement, 20 MHz in the 800 MHz band for the purposes of a public safety mobile broadband network.

