



BROADCAST AUSTRALIA

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Dear Sir/Madam

Broadcast Australia (BA) appreciates the opportunity to comment on issues raised in the National Broadband Network (NBN) Implementation Study, released by the Government on 6 May 2010.

By way of introduction, BA owns and operates the most extensive broadcast transmission infrastructure network in Australia, operating from 605 transmission sites strategically located across metropolitan, regional and remote rural areas reaching more than 99% of the population. Over 2000 television and radio transmitters, and many more telecommunications services, operate from these sites.

BA has followed with great interest the Government's articulation of broad objectives and a process for the development of the NBN, and has now had the opportunity to read the Implementation Study and its recommendations. The key perspective that BA has to offer relates to the role and extent of coverage of fixed wireless technologies as an integral component of the overall objective of deploying the NBN.

BA broadly agrees with the description and technical characterisation of the relevant fixed wireless technologies. In addition, BA concurs that the recommended procurement of these services from the broader market (rather than NBN Co) through a competitive process is likely to produce the lowest cost and most effective solution. It is important that there is no limitation on respondents to this competitive process, and that it be open to the market at large.

1. Timing of Broadband Availability in Regional and Rural Australia

A key recommendation of the Implementation Study is that fibre should be deployed to 93% of the population, rather than the Government's originally expressed intention of 90%. Consequently, it is recommended that fixed wireless should cover the 93rd to 97th percentiles and satellite technology the final three percent of premises.

BA acknowledges the proposition that, at least for the foreseeable future, fibre is likely to offer consumers the highest bandwidths relative to other technologies and, therefore, that it is desirable to roll this technology out as far as possible. However, BA submits that the public interest in timeliness of network deployment must be an important balancing consideration in the NBN technology coverage assessment equation. Given the challenges and extended timeframe that may be associated with deploying a fibre network to premises in many regional and rural areas, it is suggested that further consideration be given to the potential benefit for affected consumers (i.e. all or part of the 90th to 93rd percentile) from the implementation of a fixed wireless network. BA believes that the deployment of a fixed wireless network in these areas could be achieved in around three years from contract execution.

BA notes that if the 2.3 GHz spectrum is used for the fixed wireless component of the NBN, this spectrum is immediately available (licences held by Austar). Accordingly, this may offer many communities in with an expedited pathway to the benefits of high bandwidth (i.e. 12 Mbps) services under the NBN.

2. The Importance of a Holistic Approach to Spectrum Planning

A fixed wireless solution is an important part of achieving the NBN's ubiquitous coverage mandate. The Implementation Study notes that there are essentially two spectrum choices available for the provision of these services – either frequencies in the 700 MHz or 2.3 GHz bands. There are advantages and disadvantages associated with each:

	700 MHz band	2.3 GHz band
Availability	Not available until analogue TV switch-off (i.e. on a progressive basis to 2013)	Immediately available
Propagation/reception characteristics	Achieving peak data rates out to 40 to 60 km if external antennas are used (ie. superior propagation characteristics)	Achieving peak data rates out to 30 to 50 km if external antennas are used
Infrastructure cost	Lower network density due to propagation characteristics which means substantially lower cost for network deployment (including both additional towers and fibre backhaul)	Higher cost for network deployment due primarily to the need for more sites to provide equivalent coverage
Greater potential to re-use existing tower infrastructure	Spectrum is ideally suited to utilise existing tower infrastructure	Likewise, existing infrastructure is available though some greenfield sites might be needed due to the increased site number requirements
Environmental impact	Lower network density and reutilisation of existing tower infrastructure means significantly lower environmental impacts	Higher environmental impact due to higher site counts

At the same time that the Government considers the Implementation Study, it is also considering the 'Digital Dividend' associated with the progressive shutdown of analogue TV services that will occur over the period mid-2010 to end-2013. As indicated in the Government's recent 'Digital Dividend Green Paper', this is a unique and once-in-a-generation opportunity to efficiently re-plan services in one of the most valuable radiofrequency spectrum blocks to optimise the availability of future communications services to the Australian community.

In the context of the Implementation Study and consideration of the optimal fixed wireless solution, BA urges the Government to take a holistic approach to spectrum planning/allocation in order to ensure the most appropriate utilisation of spectrum in the long-term interests of end users. BA has made a detailed submission to the Green Paper (dated 26 February 2010 and available on the DBCDE website) and, relevantly to the current process, makes the following recommendations:

- At an overall level and with efficient spectrum planning techniques, the Digital Dividend provides the opportunity for the Government to secure seven national digital TV channels, introduce 4G/mobile broadband services, take digital radio into regional Australia, provide a pathway to the 'next generation' digital TV technology and, significantly, make a contribution to the fixed wireless component of the NBN.
- Specifically in relation to the NBN, it would be possible to allocate some of the identified 4G spectrum for fixed wireless services in the 'last 10%' of the country, bearing in mind that 4G operators may not see these as viable markets to rollout their services.
- Upfront investment by government in Digital Dividend spectrum planning (i.e. completion by end-2010) will bring forward the timing of allocation of cleared spectrum and, therefore, financial returns to government. In the case of the NBN, there is the additional prospect of bringing forward the allocation of 700 MHz spectrum in regional/rural Australia as analogue TV is progressively shutdown in relevant markets from mid-2010.

3. Crossover Point from Fibre to Fixed Wireless

BA accepts the points made in the Implementation Study that the cost structures of wireless and satellite deployment are significantly different from that associated with fibre to the premises, particularly in relation to the very high upfront capital cost associated with the latter. It is also agreed that an appropriate model of cost comparison between the technologies is required as an essential ingredient in determining the optimal crossover points from one NBN technology platform to the other. It is clearly correct that this cost comparison model must take into account upfront capital costs as well as ongoing capital costs.

BA is concerned, however, that the assumptions used in the Implementation Study in relation to fixed wireless may not be appropriate. Specifically, it is stated that “the actual cost per premises activated for an NBN wireless service is likely to be higher than fibre between the 90th and 93rd percentiles” (page 281). This conclusion seems to rest on the key assumption that take-up rates for a fixed wireless service would be “materially lower” than fibre due to competing DSL and mobile broadband services (page 281). As a consequence, Exhibit 5-9 shows a wireless cost per premises covered of around \$3,000 and a wireless cost per premises activated of around \$11,000. The Study does not appear to nominate this assumed take-up rate, but the Exhibit implies that this is very low.

Given the sensitivity of relevant cost models to relatively minor adjustments in key assumptions, BA is not convinced that the 93rd percentile is the correct crossover point from fibre to fixed wireless and that it may properly fall between the 90th and 93rd percentile.

4. Video Services

In Chapter 3, the Implementation Study analyses a suite of new generation services that may be carried on the NBN. BA generally agrees with the conclusions drawn in relation to issues such as video distribution, RF overlay and IPTV.

BA would be pleased to discuss the above comments further with the Department. Please do not hesitate to contact the undersigned on 02 8113 4666 or at stephen.farrugia@broadcastaustralia.com.au.

Yours sincerely



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