

# Chapter 1

## Introduction

1.1 The development of the Internet and the personal computer have had a significant impact on Australians' use of information and communications technologies. While the emergence of broadband is a relatively new feature, it has the potential to revolutionise the manner in which we use these technologies. As the technology continues to evolve, so do the technology users. Many Australian households and small businesses are beginning to adopt broadband technology, when once it was the preserve only of large institutions in the public and private sectors.

1.2 However, as the Committee found in its inquiry into the Australian telecommunications network<sup>1</sup> many parts of the country, particularly in rural and regional areas but also in some suburban areas on the fringes of the major urban centres, do not have access to broadband Internet services other than those offered by satellite, which is a more expensive option than traditional wireline delivery systems. While infrastructure provision, which was the focus of that inquiry, is a key determinant of accessibility to broadband, in this inquiry the Committee is primarily examining the extent to which competitive forces may also be a contributory factor.

1.3 In this chapter the Committee examines the key overview issues in relation to broadband, describes the various platforms which support broadband, outlines current Commonwealth programs and strategies aimed at improving broadband delivery and access and reviews other reports and inquiries relevant to the terms of reference. This chapter provides the broad framework for Chapter 2, which examines the regulatory framework for competition in the Australian telecommunications industry.

### Why is broadband important?

1.4 It is accepted that broadband technologies can deliver significant economic and social benefits to Australia.<sup>2</sup> The Australian Industry Group told the Committee of the economic benefits of broadband and noted that:

Broadband technologies will be the roads and railways of the 21st century, generating the next wave of economic expansion. Just as transport opened up new economic horizons in the last century, advanced communication networks will pave the way for productivity gains across global economies in the new century.<sup>3</sup>

---

1 Senate Environment, Communications, Information Technology and the Arts Reference Committee, *The Australian telecommunications network*, 5 August, 2004.

2 Townsville City Council, *Submission 15*, p.2.

3 Australian Industry Group, *Submission 34*, p.14.

1.5 Assuming that broadband is adopted as universally as the telephone over the next 25 years, it has been estimated that broadband technology could produce economic benefits of \$12 billion per annum to Australia.<sup>4</sup> Mr Paul Budde told the Committee:

We estimate that by 2015, \$90 billion will be pumped into the economy by economic activities based on broadband. By that time approximately 80 to 90 per cent of our telecommunications will be based on broadband, so we will not have any narrowband telecommunications based on copper cable networks and things like that.<sup>5</sup>

1.6 The Committee heard that Sony Computer Entertainment Australia and Microsoft Australia trialled online gaming packages for release in Australia in 2003 and that the online interactive entertainment industry in Australia was worth \$825 million in retail in 2002.<sup>6</sup>

1.7 The Australian Industry Group outlined the benefits of broadband connection to business performance. Almost three-quarters of AIG member firms (73%) who responded to a 2003 September Quarter survey about their use of broadband had indicated that connection to broadband technology had a positive impact on their efficiency and productivity.<sup>7</sup>

1.8 The social benefits of broadband technology cannot be underestimated. The Committee heard that broadband will:

Change the way we live, work, play, learn, shop, are entertained and how we interact with each other. It was intended to give us remote access to archives, museums, libraries, medical care, employment and government. Services would be delivered across high-speed, high-bandwidth networks and the entirely new “on demand” customised and personalised ways that individuals interact with these services would change our lives significantly.<sup>8</sup>

1.9 Telecommunications and Disabilities Consumer Representatives (TEDICORE), which promotes the interests of people with a disability, also stressed that:

Telecommunications is vital for effective communication in today's society. Broadband can open up many new possibilities of communication for people with disabilities if the appropriate mechanisms are in place for access

---

4 The Institution of Engineers Australia, *Submission 25*, p.3.

5 Mr Budde, *Committee Hansard*, Sydney, Thursday 13 November 2003, p.64.

6 Interactive Entertainment Association of Australia, *Submission 28*, p.1.

7 Australian Industry Group, *Submission 34*, p.14.

8 The Institution of Engineers Australia, *Submission 25*, p.1.

---

to be available as for any other Australian. For example, we have a vision that ... a Deaf person living in a rural area has equitable access to appropriate communication using broadband services at the cost of a local phone call.<sup>9</sup>

1.10 The Committee fully accepts the potential value of broadband to the Australian community. As it will examine in this report, it is concerned that the goal of making sufficiently fast broadband access widely available to all Australians on an equitable basis may be restrained by elements of government policy and the state of competition in the telecommunications industry.

### **What is broadband?**

1.11 'Broadband' was originally an engineering term referring to the amount of information that could be carried between a sender and a receiver by a communications channel, with the implication that a broadband network can carry a lot more information than the traditional methods of accessing the Internet, typically referred to as 'narrowband' or 'dial up' using a telephone line and modem. There exists little consensus, however, on how exactly to define broadband. Society's notion of how much information is 'a lot', as well as the technologies themselves, are also constantly evolving. For example, Mr Chris Cheah from the Department of Communications, Information Technology and the Arts (DCITA) told the Committee that:

Broadband tends to be one of those things where there is a fairly long string on some of this stuff and, undoubtedly, it will evolve over time as well. I am sure that in five years there will be all sorts of different views about what is broadband.<sup>10</sup>

1.12 And representatives from the City of Ballarat told the Committee:

A lot of people do not understand what broadband means. They are bombarded with a lot of different technologies. When they get their service they are underutilised—there may not be enough broadband—or they are given too much. That is certainly an issue with a lot of consumers.<sup>11</sup>

1.13 It has been suggested that broadband is commonly defined as any communication involving a data rate of higher than 250 kb/s, or having a bandwidth exceeding 250 kHz.<sup>12</sup> As discussed in detail in the next section, a broadband service

---

9 TEDICORE, *Submission 46*, p.1.

10 Mr Cheah, Department of Communication, Information Technology and the Art, *Committee Hansard*, Canberra, 10 March 2004, p.31.

11 Ms Angeloni, City of Ballarat., *Committee Hansard*, Ballarat, 5 February 2004, p.5.

12 Mr Moore, *Submission 19*, p.2.

can be supplied by copper or optical fibre cable, as an adjunct to a cable TV service, satellite, or Asynchronous Digital Subscriber Line (ADSL) on conventional phone lines. It is accepted that Integrated Services Digital Network (ISDN) technologies which provide data rates of 64 kbps or 128 kbps do not qualify as broadband technologies. Mr Cheah noted:

Probably these days 64 kilobits would not be regarded as broadband.... The consensus we have adopted in the HiBIS scheme is to say that broadband is broadly equivalent to current ADSL services being provided in metro areas, which is 256 kilobits per second downstream and 64 kilobits per second upstream.<sup>13</sup>

1.14 The Australian Competition and Consumer Commission's 2002 survey of broadband deployment defines broadband as '... any high speed connection greater than 200 kbits/sec over a mix of media'<sup>14</sup>, which is the same definition as used by the US Federal Communications Commission. The Queensland Government defined broadband as that level of bandwidth providing video and audio of sufficient quality for electronic service delivery and e-commerce applications. To date, this has proved to be at least 256,000 bits per second (or 256 kbps).<sup>15</sup> This definition is widely accepted by the Australian market which has defined broadband as including a minimum download transfer rate of 256 kbps.

1.15 Both the Australian Communications Exchange Limited and TEDICORE gave evidence to the Committee which argued the need for a bandwidth which would allow data transition of sign language and other visual communications:

Consideration needs to be given to the size of uphill and downhill bandwidth to ensure that it is large enough to send and receive video images at a quality suitable for communicating fluently in Sign language. Our research has shown that for effective Sign language or other visual communication via real-time video a bandwidth of at least 128K (eg. for a social chat between two Deaf people), and preferably 384K (eg. for video interpreting), is required.<sup>16</sup>

---

13 Mr Cheah, Department of Communication, Information Technology and the Arts, *Committee Hansard*, Canberra, 10 March 2004, p.31.

14 Australian Competition and Consumer Commission, *Snap shot of broadband deployment as at 31 March 2002*, URL: [http://www.accc.gov.au/telco/statistics/broadband\\_31mar02.PDF](http://www.accc.gov.au/telco/statistics/broadband_31mar02.PDF)

15 Queensland Government, *Submission 39*, p.3.

16 Australian Communication Exchange, *Submission 12*, p.4.

1.16 Mr Jeffrey Dowsley, of the University of Ballarat argued that broadband should be around 256 kilobits upstream as a minimum and half a 'meg' downstream.<sup>17</sup> For most web browsing, a 256 kbps connection is sufficient. However, as Mr Tom Worthington, Visiting Fellow at the Australian National University's Department of Computer Science, submitted:

While the ACCC excludes services under 200 kbps from the definition of broadband, the author uses Transact's service in Canberra at 100 kbps. This provides a more than adequate service for home and micro business use.<sup>18</sup>

1.17 Nevertheless, newer gaming applications and larger file transfers will necessitate that broadband speed requirements will need to rise. Therefore, the Committee was told that 256 kbps should be considered the minimum speed classification for broadband.<sup>19</sup> And that in many other countries, broadband services are defined as those exceeding 1 megabit per second.<sup>20</sup>

1.18 A higher speed definition was supported by the Institution of Engineers who argued that second generation technologies dependent upon ADSL, cable modems and certain satellite data connections, at 200 kbps, were not fast enough to be considered broadband. The Institute argued that third generation services with connection speeds of 10 megabits per second (Mbps) or greater would allow for true broadband services.<sup>21</sup>

1.19 In contrast to this somewhat indeterminate discussion about the benchmarking of broadband against certain speed criteria, Telstra defined broadband in terms of its functionality of service (rather than speed) and by an 'always on' capacity. The Committee was told that the Broadband Advisory Group (BAG) Report entitled *Australia's Broadband Connectivity* defined 'broadband' as:

... the ability of a single access line or wireless or satellite link, connected to a telecommunications network, to provide support for fast, always-on access to digital content, applications and a range of services, some or all of which can occur simultaneously.<sup>22</sup>

1.20 DCITA has suggested that broadband is defined as always-on access with data speeds equal to or faster than 256 kbps (the download speed for ADSL). A broadband

---

17 Mr Dowsley, University of Ballarat, *Committee Hansard*, Ballarat, 5 February 2004, p.15

18 Mr Worthington, *Submission 38*, p. 2.

19 Personal Broadband Australia Pty Ltd, *Submission 11*, p.2.

20 Queensland Government, *Submission 39*, p.3.

21 The Institution of Engineers Australia, *Submission 25*, p.1.

22 Telstra, *Submission 21*, p.6.

service can transmit large amounts of data, voice or video over long distances and does not tie up the consumer's telephone line when it is being used.<sup>23</sup>

1.21 While DCITA is clearly comfortable with defining broadband around speeds based on the capabilities of Telstra's ADSL service, that approach proved the basis for some contention. Comindico advised the Committee that:

Telstra are a very clever organisation .... they have done very well to link ADSL and broadband as the same thing. They are not, and the committee must be made very aware of that. They are very different things. ADSL is a short-term measure that turns copper into a way of carrying larger capacity, but it is not broadband long term. It is a form of broadband, but it is like giving someone a drink of salty water: it will work for a while but it is not really going to go the whole way.<sup>24</sup>

1.22 In fact, Telstra did admit that:

I think it is right to suggest that ADSL is an interim technology. It is probably the last sweating...of the old copper network assets.<sup>25</sup>

1.23 The issue of speed is, of course, relative to the needs of the user, but concerns have been expressed that some network providers are artificially restricting data transmission speed, with differences between claimed and actual capabilities. The Australian Telecommunications Users Group told the Committee that this practice has a detrimental effect on the uptake and possible applications of broadband:

There is no extra cost to any network provider to increase the available upstream line rate from the current restricted offerings, and this would be a large benefit to broadband users of interactive applications and content providers. All Broadband Access Network Operators should be encouraged to offer a greater range of access speeds, particularly a greater range of upstream line speeds (or leave the upstream direction "unthrottled") to enable effective content/service provision and interactive applications to be used effectively on broadband networks.<sup>26</sup>

1.24 Mr Roger Nicoll, from Primus, similarly told the Committee that Telstra has technology that could provide faster synchronous services or a variety of services but had chosen to provide 256 kbps, 512 kbps, one or two meg services:

---

23 Department of Communications, Information Technology and the Arts, URL: [http://www.dcita.gov.au/Article/0,,0\\_1-2\\_3-4\\_102256,00.html#9](http://www.dcita.gov.au/Article/0,,0_1-2_3-4_102256,00.html#9)

24 Comindico, *Committee Hansard*, Canberra, 12 November 2003, p.10.

25 Dr Tony Warren, Telstra, *Committee Hansard*, Canberra, 12 November 2003, p.74

26 Australian Telecommunications Users Group, *Submission 33a*, p.4.

---

[Telstra] are not providing ADSL at its full speed capability, which is six megabits per second out to 3½ kilometres, which I understand would serve 80 per cent of subscribers at that sort of speed. Currently the maximum speed is only 1.5. So why they are not doing that is clearly a market strategy decision. My personal opinion is that, probably on both counts, it is because the higher speed services would be suitable for larger business customers and maybe they are trying to avoid losing what are higher revenue services from a historical offering of leased line type products.<sup>27</sup>

1.25 The Committee is concerned that Telstra appears to have sufficient market dominance to arbitrarily set the speed of ADSL download at 256 kbps and at a distance of 3.5 km from the exchange. However, the Committee is more alarmed by the fact that DCITA and the Government appear to be captured by Telstra in endorsing speeds at which Telstra are prepared to offer broadband services.

1.26 The Committee does not see particular merit in any definition of broadband that has the effect of narrowing its applicability, especially when certain definitions are seen as serving the interests of one company over another. It is also persuasive that an expert of Tom Worthington's standing argues that a speed of as low as 100 kbps is of an acceptable standard for many broadband users. The Committee accepts suggestions that it is the combination of both speed and an 'always on' function which are the definitional parameters of what constitutes broadband.<sup>28</sup> This is best summarised by the definition of the former National Office for the Information Economy (NOIE), as highlighted by Uecomm in its submission:

NOIE defined broadband as the "term used for any kind of fast Internet access. Broadband is designed to give a business or residential user instant Internet access 24 hours a day."<sup>29</sup>

## **Broadband technology**

1.27 The Committee received considerable evidence about the advantages and disadvantages of the different broadband technologies. The Institution of Engineers Australia, provided the following comprehensive overview of the variety of methods by which broadband telecommunications can be delivered to the end user.

- ***Existing copper telephony network:*** The most common technique being used is an Asynchronous Digital Subscribers Line or ADSL, which is limited to delivering broadband services to customers located within a few kilometres of the telecommunications carrier's exchange or broadband distribution point. As a result, the service is not available to more distant

---

27 Primus, *Committee Hansard*, Ballarat, 5 February 2004, p.49.

28 Bits on Light, *Submission 23*, p.1

29 Unecomm, *Submission 42*, p.4.

customers. The existing telephone network also includes electronic pair gain devices that do not support ADSL and telephone customers on these pair gain systems cannot be supplied with a broadband service via ADSL.

- ***Optical fibre:*** While the medium has proved extremely reliable, very few business or residential premises are connected to an optical fibre network. Final access distribution can be provided by other solutions including twisted copper pair (DSL), powerline communications (PLC) and wireless local loop, which can provide quite high data rates over short distances. The installation of individual fibres to every customer would be prohibitively expensive and would entail the duplication of the existing copper network. The use of optical splitters/combiners to allow a single or small number of fibres to service a large number of customers is a potential solution that is yet to be used as a standard method of construction.
- ***Geostationary or Low Earth Orbit (LEO) Satellites:*** Currently this technology can supply broadband to a relatively small number of customers at a substantial cost. Geostationary satellites also have the drawback of introducing a propagation delay into each link. Both satellite systems have the ability to service a relatively small number of remote and difficult to reach customers. Some recent developments in “high power” geostationary satellites (eg IPStar) and very small aperture satellite earth stations (VSATs) suggest that opportunities for satellite broadband are promising. Although not commercially attractive, this technology can be useful to service customers in rural and remote Australia, as part of the overall broadband mix.
- ***Power Line Carrier Systems:*** The widespread distribution of power line infrastructure together with its ability to provide final distribution from optical fibre provides an opportunity for using this technology. It can be used over relatively short distances often on existing power line infrastructure and provide a simple and cost effective method of distributing broadband, particularly in areas where there is electrical power distribution but no telecommunications cabling.
- ***Existing mobile phone infrastructure:*** Originally installed to provide a narrowband service, mobile phone infrastructure has the potential to provide a level of broadband service without expensive infrastructure upgrades or the degradation of service to narrowband customers. This method is attractive for future generations of mobile phone services and user equipment when functions of laptop computers and personal digital assistance (PDAs) converge into mobile phones. Currently, it is simply too expensive for all but a small minority of mobile users. It should also be noted that while cost and spectrum availability may constrain broadband mobile data, network security and useability may be a greater constraint.



- ***Cable TV infrastructure:*** This is already delivering broadband data services to customers within the reach of cable TV infrastructure. However, the availability of cable TV has been limited to small parts of some major cities which limits the area that this technology can serve. The likelihood of the cable TV network being extended is very remote given the financial status of this industry and the prospect of Internet services delivering video in real time.
- ***Terrestrial radio distribution infrastructure:*** This technology was established specifically for broadband distribution and is already delivering Internet access in limited areas. There are a variety of radio based broadband technologies available, with some having a range of a few metres, while others have coverage measured in kilometres. Existing radio infrastructure, including microwave and TV broadcast towers can support this type of technology. However, many more radio sites will be needed to provide effective coverage and service levels.<sup>30</sup>

1.28 There is considerable debate about the future of the existing technology and the Committee discusses technology convergence in Chapter 4 of this report. The Committee heard evidence from a number of telecommunications engineers whose technical expertise was invaluable to the Committee's understanding of the issues. It trusts that the technical solutions proposed in their submissions will be investigated by those both in government and in the telecommunications industry. Mr Malcolm Moore, with some 35 years technical experience in the industry, told the Committee that:

There is a technology convergence between the CAN and the IEN/IPN for their respective transmission mediums, and they will converge onto Optical Fibre for the mainstream with a small portion on SHF radio. Mobiles will continue to use SHF radio as their medium.

Copper will no longer be the medium of telecommunications choice in either IEN/IPN or CAN areas and will need to be replaced because of age issues and bandwidth requirements by optical fibre in the very near future.

Optical Fibre has the capability of combining CATV, Broadband Internet, and multiple telephony circuits to every Australian residence within 70 km of a 'local' exchange / Central Office.<sup>31</sup>

1.29 The Committee heard from Mr Duncan Raymont, a telecommunications engineer with some 30 years experience, who argued the importance of developing technology to deliver broadband telecommunications:

---

30 The Institution of Engineers, Australia, *Submission 25*, pp.2-3.

31 Mr Malcolm Moore, *Submission 19*, p.7.

Telecommunications is poised to make another giant step forward. The introduction of widespread broadband telecommunications is as significant as the step from telegraphy to telephony. The successful introduction of widespread broadband telecommunications into Australia is essential if we are to prosper in the 21st century.... The technology is available for the telecommunications and electronic media industry to be opened up to many new operators. These small, new players will have the vigour and flexibility to inject new life into these industries. They are more likely to provide Australia with a 21st century communications system than the established players who want to retain a 20th century communications system where they are dominant.

There are a variety of technology options available. The use of appropriate technology to provide the best solution in any given case should be promoted wherever possible. Restrictions on the type of services carried on the broadband network should be limited to technical issues such as safety and service quality. Restrictions based on the competition that new services on the broadband network will provide to other existing services should be vigorously opposed.<sup>32</sup>

## **Related inquiries and reports**

1.30 A number of significant reports into the current Australian telecommunications landscape have been produced in recent years. The Committee found that several of these reports were relevant to its inquiry.

### ***Emerging market structures in the communications industry***

1.31 In March 2002 the Minister for Communications, Information Technology and the Arts, Senator Alston, tasked the Australian Competition and Consumer Commission (ACCC) with investigating the extent to which emerging market structures were likely to affect competition across the communications sector. Competition in pay TV, the implications for competition of bundling TV, telephony and broadband services and competition in the provision of consumer reception equipment was of particular importance to the investigation.

1.32 The ACCC's report found that Telstra's continuing domination of the telecommunications market had significant implications for market competition and hence efficiencies, innovations and customer benefits. The report made a number of key recommendations:

- That Telstra should be divested of its HFC cable network and its 50 per cent share in Foxtel.

---

32 Mr Duncan Raymont, *Submission 18*, p.10.

- 
- That the Government conduct an 'across-the-board' review of the regulations applying to the media sector, in particular those that have a direct impact upon competition.
  - That the Government introduce legislation to increase access to pay TV content for broadband networks.
  - No amendments be made to current legislative provisions that apply to bundling conduct. However, it is recommended that where pay TV services are provided as part of a bundled telecommunications offering, the Telecommunications Industry Ombudsman be given jurisdiction to investigate complaints about the provision of the pay TV service.<sup>33</sup>

1.33 The Committee considers many of these key recommendations in Chapter 4.

### ***Broadband Advisory Group***

1.34 Also in March 2002, the Federal Government established a Broadband Advisory Group (BAG) to provide advice on the development of the broadband market in Australia. The group was asked to provide advice on:

- appropriate ways to measure broadband take-up and success;
- current impediments to, and likely drivers of, broadband take-up, particularly in key productivity sectors such as small business, education, health and community services;
- possible policy solutions to current and emerging challenges on both the supply-side and demand-side of the broadband issue;
- market based strategies for raising broadband awareness, particularly in key productivity sectors;
- strategies to encourage the development of marketable applications that will facilitate broadband take-up in key productivity sectors;
- emerging technologies and new business models for delivering broadband services, as requested; and
- issues that are likely to emerge as the Australian broadband market develops.

---

33 Australian Competition and Consumer Commission, *Emerging market structures in the communications sector*, 2003, p.xx.

1.35 The report focused on education, health and government services across rural and regional Australia. It recommended that the Government adopt a national vision for broadband and made a series of recommendations which included:

- Australia should adopt the goal of broadband being available to all Australians at fair and reasonable prices;
- the Government should adopt a National Broadband Strategy;
- the Government should establish a National Broadband Strategy Implementation Group;
- the Government should consider initiatives to develop services that may not be commercially viable, but which could potentially deliver significant economic, security and social benefits. These should predominately focus on rural and regional Australia;
- all tiers of government should co-operate to develop demand aggregation strategies;
- all schools and educational institutions should be connected to broadband Internet services;
- the Government should give high priority to stimulating the digital content industries in Australia; and
- the Government should require the ACCC to monitor and report on progress in ensuring an open, competitive and interoperable broadband market.

1.36 In response to the BAG report the Commonwealth Government announced a National Broadband Strategy with funding of \$142.8 million over four years. This will support a program of demand aggregation brokers, a Coordinated Communications Infrastructure Fund (CCIF) requiring matched dollar-for-dollar State funding, and a Higher Bandwidth Incentive Scheme (HiBIS) which will subsidise the provision of broadband services in rural and remote areas. These are outlined in greater detail below.

### ***Wireless Broadband Inquiry***

1.37 On 15 April 2002 the Minister for Communications, Information Technology and the Arts, Senator the Hon Richard Alston, referred an inquiry into wireless broadband to the House of Representatives Standing Committee on Communications, Information Technology and the Arts. The Committee was asked:

To inquire and report on the current and potential use of wireless technologies to provide broadband communication services in Australia, including regional Australia.

---

1.38 The Committee found that:

No wireless broadband technology is able to handle the data rates of the best wire-line technologies but there are many situations where the latter cannot yet be used or is simply unavailable (such as in remote and regional areas, and even in some suburban metropolitan areas) [and that] the solution to the ‘last mile’ service involves a mixture of technologies, both wire-line and wireless. Clearly, however, for regional and remote Australia where wire-line solutions are not economically viable in the short to medium term, the last mile problem could be addressed by a variety of wireless techniques.<sup>34</sup>

1.39 The Committee made 14 recommendations which dealt with:

- improving access to spectrum for wireless broadband applications;
- educating prospective wireless operators about the market and the regulatory environment;
- examining the regulatory environment to ensure that wireless ISPs have access to the Internet backbone; and
- facilitating wireless broadband access for the hearing impaired.

***Connecting Regional Australia (The Estens Report)***

1.40 On 16 August 2002 the Minister for Communications, Information Technology and the Arts, Senator Richard Alston, established the Regional Telecommunications Inquiry (the Inquiry), to assess the adequacy of telecommunications services in regional, rural and remote Australia, and to advise on a number of other policy issues as set out in specified Terms of Reference.

1.41 The Terms of Reference required the Inquiry to consider and report on two key areas:

- A detailed assessment of the adequacy of telecommunications services to regional, rural and remote Australia, and
- Advice on whether, and if so what, arrangements should be put in place to address some specific policy concerns identified by the Government relating to:
  - The delivery of Internet services at 64kbps or better and wireless-based technologies in regional, rural and remote Australia.

---

34 House of Representatives Standing Committee on Communications, Information Technology and the Arts, *Connecting Australia! Wireless Broadband*, November 2002, p xi.

- The current provision of legislated consumer safeguards including the Universal Service Obligation, the Customer Service Guarantee, untimed local calls and the Telecommunications Industry Ombudsman and whether further action is required to ensure these safeguards are enforced into the future.
- The ongoing commitment of Telstra to a local presence (such as Telstra Country Wide) in regional, rural and remote Australia.
- The most effective means by which the Government can ensure that people in regional, rural and remote Australia can share reasonably equitably—in terms of availability and cost—with residents in metropolitan Australia in the benefits of future advances in telecommunications services resulting from competition and new technologies.<sup>35</sup>

1.42 In regard to Internet service the report found:

- Access to higher bandwidth services is becoming vital for the economic and social development of regional, rural and remote Australia.
- Since the TSI report, the commercial provision of higher bandwidth services has expanded considerably, with services delivered over a range of platforms and through a number of competing providers.
- The Government has provided support, through a variety of policy and program initiatives, to improve access to higher bandwidth services in regional, rural and remote areas.
- The major impediment to regional, rural and remote Australians having equitable access to higher bandwidth services is the higher prices that users in some areas pay for these services.
- The Government should investigate whether the timeframes for connection and repair of ISDN services that are required under the Digital Data Service Obligation should be more closely aligned with regulated timeframes applying to telephone services.
- Some Telstra pricing arrangements for ISDN services seem discriminatory, and would appear to unduly favour Telstra over other providers. This should be brought to the attention of the Australian Competition and Consumer Commission.

---

35 Department of Communications, Information Technology and the Arts, *Connecting Regional Australia, The Report of the Regional Telecommunication Inquiry*, 2002, p.4.

- The Government should establish an incentive scheme for the provision of higher bandwidth services to regional, rural and remote areas, to enable all Australians to have access to services at prices comparable to those prevailing in metropolitan areas. A preferred model for the scheme is provided in this report.
- The Government should provide further support to communities to undertake demand aggregation strategies, and other activities that would support the take-up of higher bandwidth services. Support should also be considered to assist consumers and small businesses to make effective use of higher bandwidth opportunities.<sup>36</sup>

1.43 On 25 June 2003, the Australian Government announced its response to the report of the Regional Telecommunications ('Estens') Inquiry (RTI). The Federal Government accepted all the 39 recommendations of the Inquiry and allocated \$181 million to the response. Of significance to this Inquiry was the commitment to:

- obtain a formal undertaking from Telstra on how it will improve, as soon as possible, the quality of phone services affected by pair gain systems. Telstra will also provide an undertaking on how it is addressing dial-up data speed issues on these systems. Pair gain and other similar systems were installed for voice telephony purposes but can be deficient for the provision of advanced voice services, dial-up Internet speeds and access to broadband. Telstra's formal undertakings will include timeframes, and will be monitored and reported on publicly by the Australian Communications Authority (ACA);
- develop a National Broadband Strategy (NBS) with funding of \$142.8 million over four years. A National Broadband Strategy Implementation Group (NBSIG) was developed to oversee the Strategy, with Federal Government funding of \$2.9 million; and,
- the establishment of demand aggregation brokers, the Coordinated Communications Infrastructure Fund (CCIF) and Higher Bandwidth Incentive Scheme, discussed below, key initiatives under the NBS.<sup>37</sup>

1.44 The Regional Telecommunications inquiry found that services were broadly adequate except for two areas. During Senate estimates hearings in May 2004, Mr Chris Cheah, the General Manager of Telecommunications within DCITA told the Senate Environment, Communications, Information Technology and the Arts Legislation Committee that:

---

36 Department of Communications, Information Technology and the Arts, *Connecting Regional Australia. The Report of the Regional Telecommunications Inquiry*, 2002, pp.xii – xxviii.

37 The Governments response to the *Report of the Regional Telecommunications Inquiry*, URL: [http://www.dcita.gov.au/Article/0,,0\\_1-2\\_3-4\\_115317,00.html](http://www.dcita.gov.au/Article/0,,0_1-2_3-4_115317,00.html)

The RTI's chief finding was that services were adequate apart from two things which needed to be done. Those were that we needed to make the Internet Assistance Program a licence condition and impose that on Telstra—that has been done—and that the ACA immediately apply its network reliability framework to the worst performing exchange services areas, and the ACA has also done that. I think the view would be that the basic adequacy findings have been met. From hereon in it is a matter of doing some enhancement of existing services and starting to tackle some of the emerging issues before they become pressing.<sup>38</sup>

### **Commonwealth broadband programs<sup>39</sup>**

1.45 The Department of Communications, Information Technology and the Arts (DCITA) administers the policy framework for Internet and broadband services. As stated above, central to this policy framework is the National Broadband Strategy, launched in March 2004, which is a \$142.8 million program focussed on the broadband needs of regional Australians and undertaken in partnership with all levels of government.

1.46 The key elements of the strategy are:

- \$2.9 million over four years for a national coordination mechanism, the National Broadband Strategy Implementation Group;
- \$107.8 million over four years for the Higher Bandwidth Incentive Scheme (HiBIS);
- \$8.3 million to support demand aggregation in regional Australia through funding of demand aggregation brokers; and
- \$23.7 million in catalytic funding over four years to accelerate the roll-out of broadband into regional Australia using key sectors such as health education and local government as anchor tenants.

### ***National Coordination***

1.47 The National Broadband Strategy seeks to ensure that broadband investment across all levels of government will be coordinated with regional priorities and the needs of key sectors such as health and education, while also providing a national focus to all activities. It is anticipated that this will lead to:

---

38 Mr Chris Cheah, Department of Communications, Information Technology and the Arts, Senate Budget Estimate, *Committee Hansard*, Canberra, Monday 24 May, 2004, p.114.

39 Department of Communications, Information Technology and the Arts, URL: [http://www.dcita.gov.au/Article/0,,0\\_1-2\\_3-4\\_115486,00.html](http://www.dcita.gov.au/Article/0,,0_1-2_3-4_115486,00.html)



- the wide distribution of best practice in broadband development and procurement;
- improved outcomes in terms of services and prices for regional broadband access;
- the development of national broadband infrastructure assets; and
- focusing of resources towards areas that will not be adequately served by the market within a reasonable time period.

1.48 All States and Territories are represented on the National Broadband Strategy Implementation Group, which has played a critical role in developing the Strategy and will continue to play a vital role as it is implemented. Only the Victorian Government had failed to endorse the National Broadband Strategy at the time of preparation of this report.

### ***Higher Bandwidth Incentive Scheme***

1.49 The Higher Bandwidth Incentive Scheme (HiBIS) makes available a financial incentive to service providers to offer broadband services in rural and remote areas at prices reasonably comparable with those available in urban areas. \$107.8 million in funding has been allocated to the HiBIS over four years. Funds unallocated under the Building Additional Rural Networks (BARN) program funding of \$35 million will be transferred to the HiBIS and other National Broadband Strategy initiatives.

1.50 Mr Simon Bryant from the Department of Communication, Information Technology and the Arts told the Committee that HiBIS was:

An incentive program that is very broadly based, has very broad objectives to provide equity for consumers and is intended to provide opportunities across the industry and is a multi-provider scheme, in a sense the HiBIS program will be an important part of the market in regional and rural Australia.<sup>40</sup>

1.51 In May 2004 Telstra announced that, with the assistance of HiBIS funding, it had been able to halve the number of customers needed under its ADSL Broadband Register before the enabling of exchanges became viable.<sup>41</sup>

### ***Demand Aggregation Strategies***

1.52 Demand aggregation is a process which coordinates demand at a regional level so that there is a viable business case for rolling out infrastructure to areas that may

---

40 Mr Bryant, Department of Communication, Information Technology and the Art, *Committee Hansard*, Canberra, 10 March 2004, p.28.

41 Telstra, *Broadband boost to the bush*, media release, 4 May 2004.

not otherwise receive broadband services. Public services such as health, education and local government are recognised as key anchor tenants for demand aggregation strategies. The result of investment supported by these anchor tenants is improved connectivity for the wider community. A representative from the then National Office for the Information Economy told the Committee that the strategy relies on a network of demand aggregation advisors and brokers:

The Demand Aggregation Broker Program operates in three distinct but related areas. The first area is national broadband advisers for health and education, the second area is state based demand aggregation brokers and the third area is community demand aggregation broker grants. Two national broadband advisers will be engaged to focus on multijurisdictional broadband initiatives in health and education. The advisers will develop sectoral broadband strategies to improve broadband access and application in consultation with relevant agencies and institutions.<sup>42</sup>

1.53 The Government will contribute \$8.4 million towards the funding of a network of Demand Aggregation Brokers. Specialist demand aggregation brokers will work with rural and regional communities and across all levels of government to aggregate demand from different users in a particular geographic area, thereby creating a business case for investment in broadband services.

#### ***Coordinated Communications Infrastructure Fund (CCIF)***<sup>43</sup>

1.54 In October 2003, the Government announced that it had allocated \$23.7 million to the Coordinated Communications Infrastructure Fund (CCIF), as part of its response to the Regional Telecommunications Inquiry. The CCIF will build on the Australian Government's \$50 million National Communications Fund (NCF).

1.55 Mr Grant from the then National Office for the Information Economy told the Committee:

Unlike HiBIS ... the CCIF and the Demand Aggregation Broker programs are not entitlement based. Applications are assessed against a number of selection criteria.... The CCIF aims to encourage further investment in broadband infrastructure in rural and regional areas by funding selected projects. This infrastructure will support improvements in the delivery of health, education, government and other services that will lead to significant economic and social outcomes.<sup>44</sup>

---

42 Mr Grant, National Office for the Information Economy, *Committee Hansard*, Canberra, 30 March 2004, p.2.

43 National Office for the Information Economy, website accessed 23 March 2004, URL: <http://www.noie.gov.au/about/index.htm#overview>.

44 Mr Grant, National Office for the Information Economy, *Committee Hansard*, Canberra, 30 March 2004, p.1.

---

1.56 Of the total allocation \$21.988 million is available for CCIF payments with the balance of the funding used to administer the program. CCIF funding is available in the four years commencing 2003-04. The minimum amount of funding per proposal is \$500,000, with the maximum being \$2 million unless exceptional circumstances can be demonstrated. CCIF funding must be at least matched by funding from sources other than the Australian Government.

1.57 On 20 April 2004, the then Communications Minister, the Hon Daryl Williams MP, announced a series of projects under CCIF. These included:

- a fibre optic cable running from the Charles Darwin University in Alice Springs through the MacDonnell Ranges to a number of institutions;
- a broadband infrastructure project for 12 communities in the Ngaanyatjarra Lands in Western Australia;
- microwave broadband through the Yorke Peninsula of South Australia and the linking of 12 towns in far north Queensland to broadband; and
- a 'last mile' infrastructure project that will bring broadband to 16 towns in Far North Queensland.<sup>45</sup>

### ***Concerns about government programs***

1.58 The Committee heard evidence critical of the Commonwealth Government's various broadband programs. Networking the Nation (NTN) is a \$180 million program established in 2002 to assist the economic and social development of rural Australia. The program funds projects which:

- enhance telecommunications infrastructure and services;
- increase access to, and promote use of, services available through telecommunications networks; and
- reduce disparities in access to such services and facilities.<sup>46</sup>

1.59 The Committee was told that:

It is my belief that the so-called '*Networking the Nation*' has resulted in an immense waste of otherwise useful resources that could have gone directly into building and maintaining the network. In all cases each interested group

---

45 Minister for Communications, Information Technology and the Arts, Media release, *Broadband boost for rural and remote Australia*, 20 April 2004. URL: [http://www.dcita.gov.au/Article/0,,0\\_7-2\\_4011-4\\_118311,00.html](http://www.dcita.gov.au/Article/0,,0_7-2_4011-4_118311,00.html)

46 Department of Communications, Information Technology and the Arts, URL: [http://www.dcita.gov.au/Article/0,,0\\_1-2\\_3-4\\_106337,00.html](http://www.dcita.gov.au/Article/0,,0_1-2_3-4_106337,00.html)

had to provide a bid submission (with their very limited knowledge) and in that, produce a business case to 'justify' their immediate service requirement. The reports have shown that a portion of successful bids have gone to social clubs and entities that included the almost key word 'communication' but omitted the actual key words 'network' linked with 'telecommunications'.... Further the processes of advertising, lobbying, extensive meetings, document production and presentation, all combine to drain the resources from the essential core; that of providing a highly functional telecommunications network in Australia. This '*Networking the Nation*' was in my opinion a farcical waste of resources and manpower that was maybe well intentioned but ill directed and managed because there seemed to be no overall engineering plan to co-ordinate and standardise the overall program.<sup>47</sup>

1.60 Neighborhood Cable submitted that:

The federal government has made available pools of funding for the development of regional telecommunications. But for many reasons this has not delivered any tangible benefit to regional Australia and has not improved access to broadband services. Funding generally goes to community groups or non-profit bodies, but these groups do not support a business case or provide any services to consumers. The result is that funding given to these groups invariably finds its way back to Telstra for the sole purpose of improving its mobile phone coverage.<sup>48</sup>

1.61 The Gold Coast City Council was critical of its exclusion from programs designed to redress inequalities in rural and regional areas:

Gold Coast City Council considers the present Federal policies and programs that address broadband supply and demand impediments, and which currently exclude the City, are based on a lack of understanding of the broadband needs of the City. The National Broadband Strategy is a national agenda and cannot be exclusively regional and rural focused.<sup>49</sup>

1.62 However, a representative from the then National Office for the Information Economy told the Committee:

I think there might be some confusion, because they [the Gold Coast] are excluded from the Broadband Demand Aggregation Broker Grants program because of the HiBIS lines, but they are not excluded from CCIF.... The intent of the program is to deliver services where they may be not delivered

---

47 Mr Moore, *Submission 19*, p.9.

48 Neighborhood Cable, *Submission 49*, p.7.

49 Gold Coast City Council, *Submission 41*, pp.9-10.

---

in the normal course of events in the near future, so more populated areas are in fact more likely to get services than less populated areas.<sup>50</sup>

1.63 Mr Paul Budde was perhaps the most dismissive of the Government's approach:

If you look at HiBIS, which this government has implemented, it is like investing \$180 million in the steam train; it is not investing in new infrastructure. We have to look at new infrastructure that actually allows us to build this knowledge based society and that creates an economic backbone that companies can build on. But what are we doing? It is as if we are putting more money into steam train systems.<sup>51</sup>

1.64 The Committee is concerned about Telstra's propensity to access Commonwealth funds, such as HiBIS, to subsidise the installation of services which Telstra should be providing on a commercial case basis. Additionally, the use of these funds by Telstra enhances the company's monopoly position in regional and rural Australia and significantly hinders future broadband competition in these areas.<sup>52</sup> Telstra's purchase of the IP1 fibre optic network which runs from Melbourne via Adelaide, Kalgoorlie and Perth to Bunbury is argued to be an example of Telstra's ability to access government funding for infrastructure roll-out, Dr Green said:

It has killed [competition] stone dead. I have been in discussions with the Western Australia Internet Association, and their view is that, without that independent infrastructure, the higher bandwidth incentive scheme, the aggregation facilities, are basically useless in WA. It is a case of another way of handing money to Telstra.<sup>53</sup>

1.65 The Committee addresses these issues in Chapter 3.

---

50 Ms Anne-Marie Lansdown, National Office for the Information Economy, *Committee Hansard*, Canberra, 30 March 2004, pp.4-5.

51 Mr Paul Budde, *Committee Hansard*, Sydney, 13 November 2003, p.59.

52 Senate Economics Committee, Senate Budget Estimates, *Committee Hansard*, Canberra, May 24 2004, pp.122 – 123.

53 Dr Green, Communications Expert Group, *Committee Hansard*, Canberra, 12 November 2003, p.34.

