

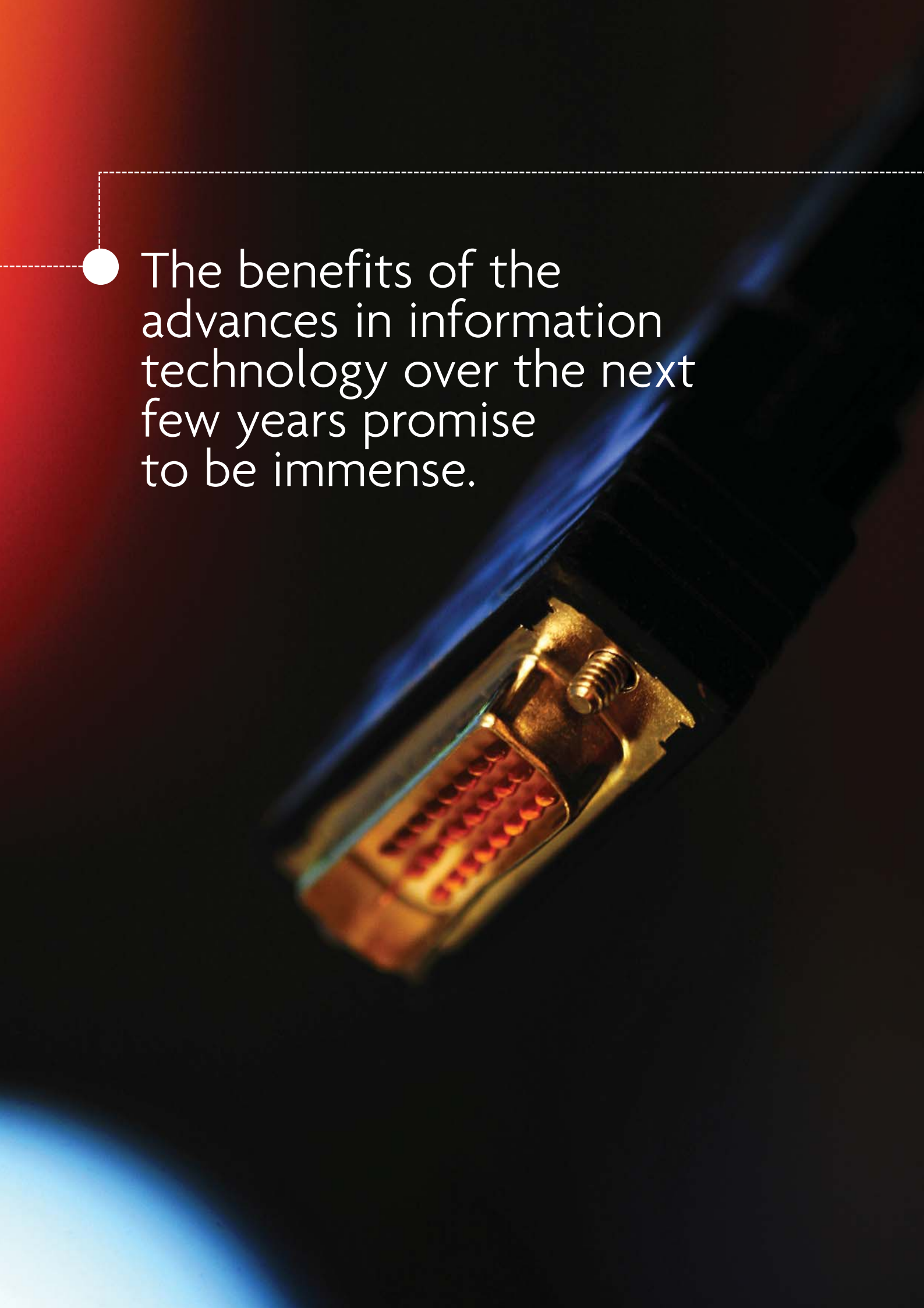
# Fibre to the future

PRINCIPLES FOR AUSTRALIA'S  
NATIONAL BROADBAND NETWORK

NOVEMBER 2008

**ACTU**



- 
- The benefits of the advances in information technology over the next few years promise to be immense.



# National Broadband Network statement of principles

The Australian Council of Trade Unions (ACTU) represents 2 million employees working across all sectors of the Australian economy. Three Unions represent employees within the telecommunications sector – the Communications, Electrical, and Plumbing Union (CEPU), the Community and Public Sector Union (CPSU), and the Association of Professionals, Engineers, Scientists & Managers, Australia (APESMA). Together, the ACTU and its telecommunications affiliates strongly endorse the Federal Government’s proposal to support the creation of a National Broadband Network (NBN) in the belief that our members will benefit from this initiative as workers, as users of communications services and as citizens. The ACTU and its affiliates believe that this project needs to serve the national interest, create good jobs for the future and take into account the needs of all Australians.

The benefits of the advances in information technology over the next few years promise to be immense. The availability and affordability of fast broadband is crucial to Australia being able to take advantage of those advances. However, the last decade has been a wasted opportunity, seeing Australia lag behind in international competitiveness in this area, a widening digital divide, decaying infrastructure, expensive existing services and skills shortages.

If the NBN is to overcome these problems, and to provide the foundation for the future of our society and economy certain principles must be met for business, the community, the workforce and the environment. Given the importance of this project, it is well worth it to take the time to get the framework right. The ACTU and its telecommunications affiliates call upon all potential bidders in the NBN process and the government to commit to:

## **Business**

1. Driving infrastructure development into the future
2. Providing genuine open access and equivalence
3. Maximising take up

## **Community**

4. Providing for all end users, and ending the digital divide
5. Facilitating effective and efficient public service provision

## **Workforce**

6. Building career opportunities
7. Providing quality jobs

## **Environment**

8. Promoting the benefits of communications and remote working practices
9. Ensuring that the environment is not damaged in the physical construction phase



# Australia's digital economy entering the 21<sup>st</sup> Century

The benefits of the advances in information technology over the next few years promise to be immense. However, the availability and affordability of fast broadband is crucial in maximising those benefits. The previous government left Australia woefully unprepared for the challenges of the 21<sup>st</sup> century in access, availability and take-up of broadband services.

## International competitiveness

The World Economic Forum 'Networked Readiness Index' measures a country's preparedness to participate in and benefit from the emerging information economy. The index shows Australia slipping from 11<sup>th</sup> in the world in 2004-05 to 14<sup>th</sup>.<sup>1</sup> The last decade was a wasted opportunity for Australia.

Australia ranks only 16<sup>th</sup> out of 30 OECD countries in broadband penetration (see Graph 1).<sup>2</sup> Furthermore, with regard to affordability, Australia is the 8<sup>th</sup> most expensive in the OECD, with the average price per Mbps at \$US21.34, compared with Japan, the cheapest, which averages only \$US3.09 per Mbps (see Graph 2).<sup>3</sup>

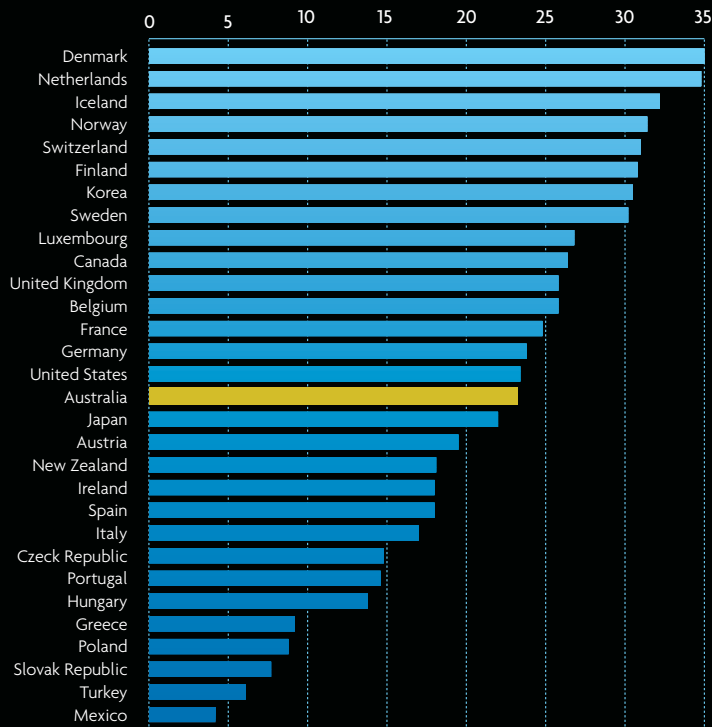
## Digital divide

The digital divide continues to leave rural and regional Australia behind on access and affordability of broadband services. The digital divide is real, and household internet use is linked to income, education levels, gender, age, disability and geographical location.

In Australia, broadband access and use is significantly higher for people from households in the top 40% of earners, people with higher levels of education attainment, and the employed.<sup>4</sup> Amongst those households with an income of less than \$40,000, the proportion with internet access is only 37%.<sup>5</sup> Of people aged over 65, 77% do not have access to the internet at all, and only 47% of the unemployed have access to the internet, compared with 82% of those employed.<sup>6</sup> Currently, only 57% of households in non-metropolitan areas have access to the internet at home, compared with 67% of metropolitan households.<sup>7</sup> Current speeds are too low, and prices too high for the government to utilise broadband to offer cheaper and more effective government services (see Graph 3).

### GRAPH 1: OECD Broadband Penetration

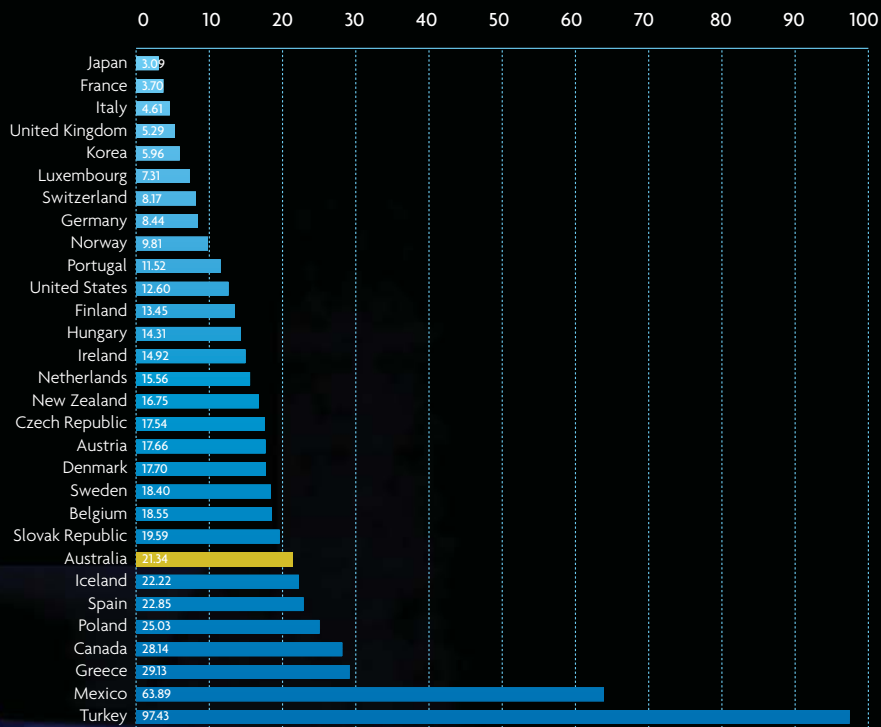
Subscribers per 100 Habitants, December 2007



SOURCE: OECD

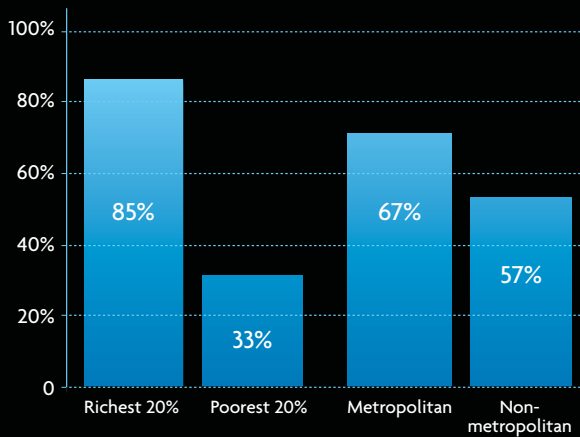
### GRAPH 2: Average Broadband Monthly Prices

Average Price per Mbps, US Dollars, October 2007



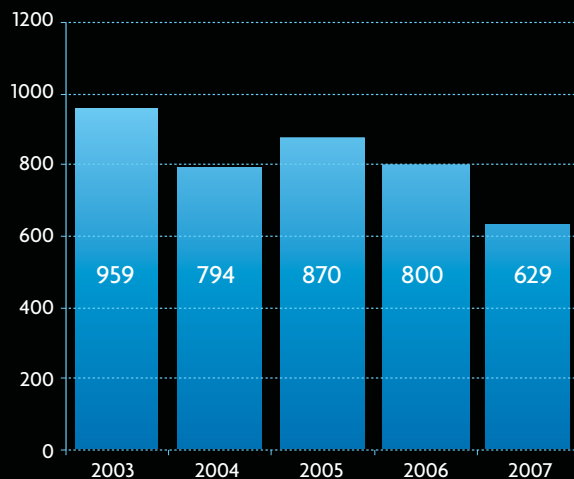
SOURCE: OECD

**GRAPH 3: Internet Access at Home**  
December 2007



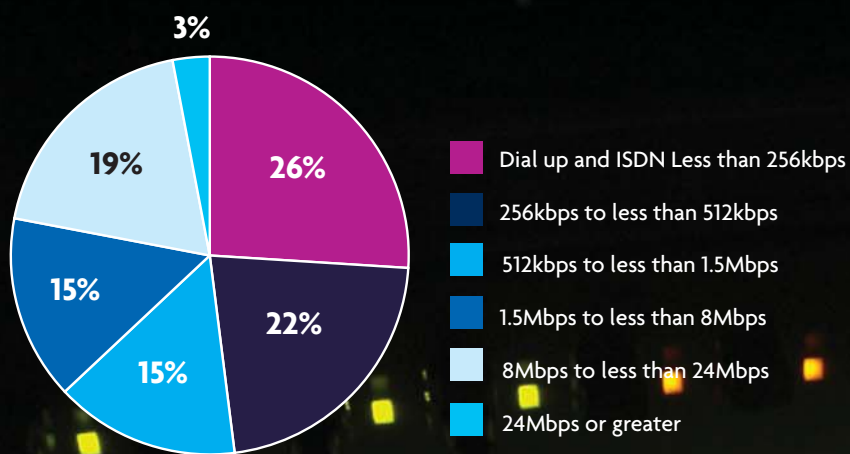
SOURCE: ABS

**GRAPH 4: Telstra Customer Access Network**  
Capital Expenditure 2003–2007 (Nominal \$m)

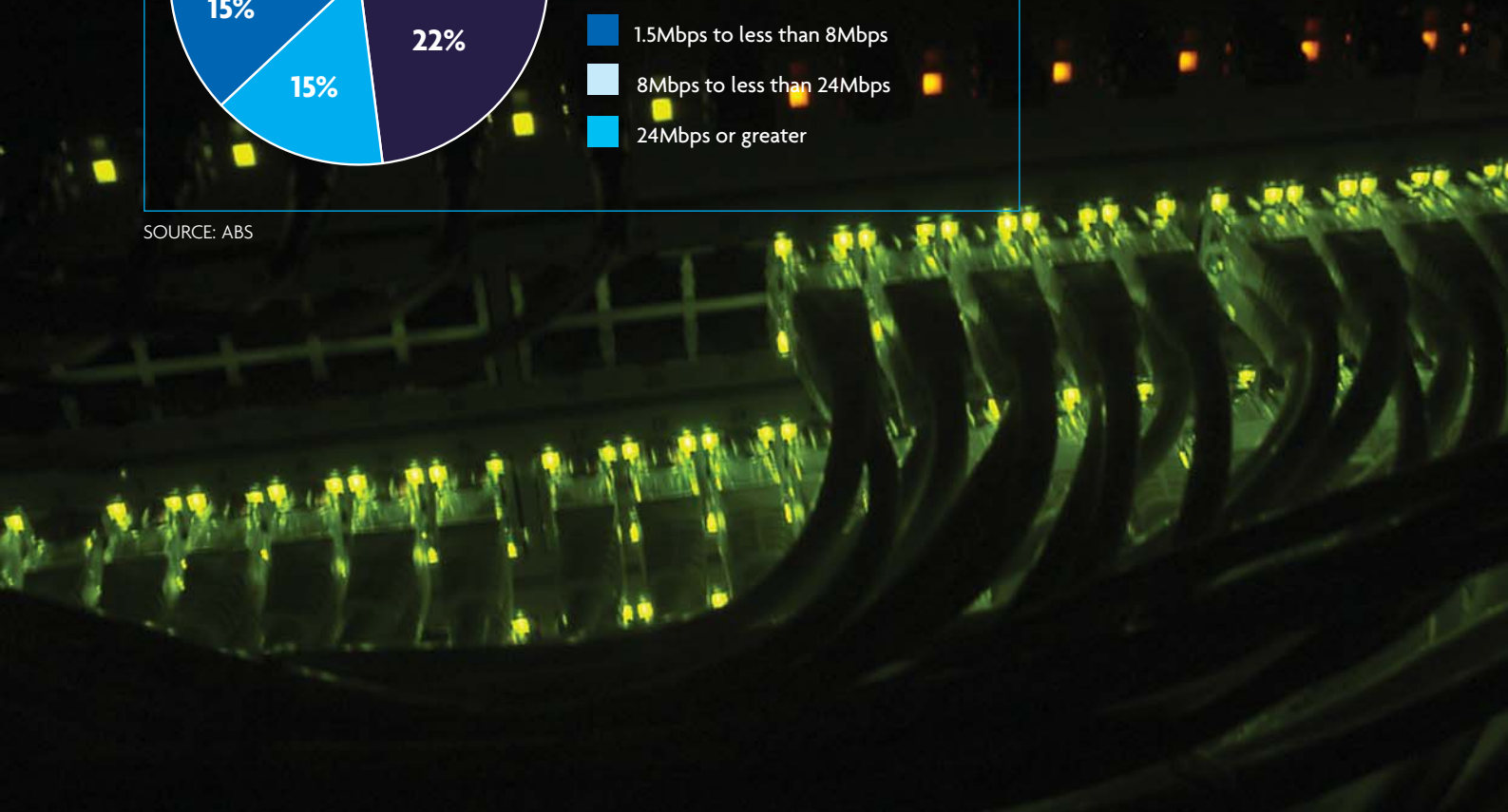


SOURCE: TELSTRA ANNUAL REPORTS

**GRAPH 5: Internet Access Speeds in Australia**  
December 2007



SOURCE: ABS





“Temporary” repairs. Note condensation inside bag.



Hundred pair cable in David Jones shopping bag. Sydney 2008

## Decaying infrastructure

In 2005, Telstra acknowledged its history of underinvestment in the copper Customer Access Network (CAN), suggesting that a further \$2-3 billion in operational and capital expenditure should have been spent in this area over the preceding 3-5 years.<sup>8</sup> It reported that over 14% of its lines had faults. Yet since that time, spending on the CAN has in fact declined.

The problems identified are by no means confined to regional and rural areas. They are pervasive. Some evidence of typical short-term maintenance practices is shown above. We suggest that a network dependent on the widespread use of plastic bags for insulation will not reliably support the high speed services which the Government wants for all Australians.

## Future services

There is clearly demand in Australia for higher speed internet access. Even though ADSL2+ has only been available for a short period of time, almost a quarter of households with internet receive speeds over 8 Mbps.<sup>9</sup> However, almost half still receive less than 512 kbps. The 12 Mbps mandated in the Request for Proposal for the NBN should be clearly seen in this light as a minimum. This is particularly true as the need for higher speeds to support future applications will only increase. For example, the bandwidth required for a standard television signal over the internet is roughly 2 Mbps, while high definition television is closer to 10 Mbps.<sup>10</sup>

## Employment and skills

Skills shortages in the telecommunications industry have been well recognised for some years. The problem reflects not only the general neglect of skills training under the previous Coalition government, but also the cost-cutting associated with the full privatisation of Telstra, particularly the increasing reliance on outsourcing and contractors for core services, leading to the degradation of the skills base within the industry.<sup>11</sup> This is particularly true in the area of civil construction, where telecommunications companies must compete for employees with the booming mining and resources sector when building infrastructure.<sup>12</sup> Over the past few years, thousands of telecommunications jobs have been sent overseas in the areas of customer service and IT.<sup>13</sup>



# The potential of a National Broadband Network

The National Broadband Network proposed by the Federal Government has the potential to overcome these difficulties of poor infrastructure, expensive services and skills shortages and to truly bring Australia into the 21<sup>st</sup> century. The tyranny of distance between Australia and the world, and between the cities and the regions can be overcome. High-speed broadband can drive innovation and productivity in our economy. The Network could allow significant advances in the fast and efficient delivery of government services, and to connect our communities like never before. As it is built over the next five years, the NBN has the potential to revolutionise the Australian economy, boosting productivity growth and growing Australia's long-term economic prosperity.

## Growing productivity


A National Broadband Network reaching 98% of the Australian population could support rich and vibrant applications and services that significantly improve our way of life. Competition in these downstream services will be crucial to ensuring their development and deployment. The recent report from the Australian Industry Group confirms that high-speed broadband is crucial for growing productivity in Australia, with the vast majority of businesses surveyed indicating that they would upgrade their internet connections when higher speeds become available.<sup>14</sup>

The potential for small and medium sized enterprises is significant, with broadband penetration amongst SMEs already at 91%, although insufficient speeds and high costs are still an inhibiting factor.<sup>15</sup> In delivering higher speeds, at lower costs, the NBN can significantly reduce costs for small business. As the OECD notes, broadband access allows people to work from home, reducing pollution and transportation costs, promoting work/life balance and stimulating economic activity in the more remote parts of the country.<sup>16</sup> However, there is great potential for the power of broadband to drive productivity and growth in many industries, with access to the internet at work by industry ranging from 18% in Accommodation and Food services to 78% in Professional, Scientific and Technical services.<sup>17</sup>

## Better public services

Broadband can also facilitate the fast and efficient delivery of government services, particularly in the area of e-health and education. The potential of remote monitoring of patients and improved links between caregivers, health institutions and patients promises both improved service provision and lower costs.<sup>18</sup> One US study estimates that over the next 25 years at least \$US927 billion could be saved in health care costs by using broadband based health care applications.<sup>19</sup>





● A National Broadband Network reaching 98% of the Australian population could support services that significantly improve our way of life.



● If competition is stifled downstream then the benefits of innovation in new products and services will take longer.

The OECD indicates that despite the early promises of such applications in the areas of health, education, energy, transport and teleworking, these benefits of such services have yet to be realised.<sup>20</sup> Australian schools are already taking up the challenge of broadband connectivity with nearly all Australian government schools having broadband, and 69% having access to 2 to 10 Mbps connections. Schools at all levels, must have access to low-cost, high speed connections to enable our kids to have all the opportunities that broadband can bring to education, particularly in those schools where students may not have access to high-speed broadband at home.

## Employment

The NBN project also represents an opportunity for the Government to address the issue of skill shortages in the industry and to encourage the development of a highly skilled telecommunications workforce supported by conditions which encourage high quality work.

However, if not done properly, the NBN has the potential to stifle innovation, and to entrench social exclusion and the digital divide.

Currently competition in broadband services is based on access to the local loop, with competitors installing their own DSL equipment to provide broadband to customers. With the shift to a FTTN network there will no longer be the middle road of unbundled local loop services: competitors will either have to build and operate their own infrastructure, or purchase wholesale products from the NBN operator. Thus the question of genuine open access in order to ensure vibrant downstream competition in services and applications is all the more important. High entry costs to infrastructure building will likely preclude competition at this level in most areas, with many areas of Australia having access to only one fibre network.<sup>21</sup>

This is a functional re-monopolisation of the telecommunications sector in Australia at the infrastructure level, whoever wins the bid. There is the possibility that in controlling such a major piece of infrastructure, the entity that builds and operates the NBN will be able to leverage that market power into anti-competitive and discriminatory behaviour in downstream markets. In fact, there is a strong argument that where the incentive exists for this to occur, it will be almost impossible to prevent. This can take the form of price non-equivalence, as well as non-price discriminatory behaviour, including lower quality of service, and limiting the ability for competitors to test and deliver new products.

This will have the effect of increasing the cost to consumers and business, and limiting our ability to reach the full potential of all the benefits offered by the National Broadband Network. If competition is stifled downstream then the benefits of innovation in new products and services will take longer to be delivered to the Australian market. If prices are too high at the retail end, low-income families and rural and regional communities will be unable to participate in the new information society. Government will not be able to deliver public services in health and education to the communities that need them most, and will not be able to offer existing services more efficiently. Clearly the consequences of getting the market design wrong in telecommunications are severe.

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- The entity that operates the NBN must be prevented from leveraging their near-monopoly power in infrastructure into downstream markets



# Principles for a fair network

In order for the Network to reach its full potential, the following principles for business, for the community, for the workforce and for the environment should be adhered to by government and industry.

## **Business**

In order to meet the needs of the business community, both small and large, the National Broadband Network must be operated by an entity whose central focus is on driving innovation, maximising competition and amplifying take-up.

### **Driving infrastructure development into the future**

The NBN operator must have genuine incentive to continue to invest into the future. It must not only be future proof, but future oriented, with the goal of extending fibre to the premises. It is imperative to avoid replicating Telstra's long term underinvestment in the current copper network with the NBN. The entity which builds the NBN must have the right incentives to invest in the network for the future, in order to allow new applications and services to flourish in the Australian market place.

### **Genuine open access and equivalence**

In order for the newest and most exciting applications and services to be delivered to Australia as soon as possible, companies must have the opportunity to deliver new services and applications to the Australian market. In order to make the most of these opportunities, the entity that operates the NBN must be prevented from leveraging their near-monopoly power in infrastructure into downstream markets.

The market must be designed in such a way as to ensure genuine open access and equivalence at all levels, and scope for access seekers to differentiate their product offerings in order to provide Australians with the most cutting edge technologies. A genuinely non-discriminatory access regime must be in place, including both service and price equivalence between access seekers, whether they own and operate the network or not. This will allow Australian businesses, both large and small to invest in innovative business practices, and to be at the forefront of Australia's economic growth. It is also crucial that the ACCC is given sufficient powers to investigate and enforce compliance with the regulatory regime.

### **Maximising take up**

In order to maximise the positive externalities from the connectivity that broadband brings, take up needs to be as high as possible. This is not just about the physical coverage of the network, but its affordability. It's not enough that the fibre reaches the neighbourhood, if small and medium enterprises cannot afford to take advantage of the benefits it brings. Market design must ensure that monopoly power is not used to inflate prices beyond what small and medium businesses can afford.



● Evolving infrastructure requires a commitment to building a skilled workforce

## Workforce

The workforce is a key component in both building the NBN, and maintaining its long term operation. This is a key opportunity to invest in the skills of the workforce for the future. The following principles should form the foundation for constructive relationships between the industry and unions.

### **Building career opportunities**

Given the recognised skills shortages in the telecommunications industry, an entity with a commitment to crucial, evolving infrastructure requires a commitment to building a skilled workforce, with opportunities for development and progression.

We believe that the NBN project offers a major opportunity for the Government to advance another element of the policy package it took to the Australian people at the last federal election – the commitment to rebuilding the Australian skills base.

The successful NBN builder should establish an NBN-based training program to address any local shortages identified, with the aim of adding to the Australian telecommunications industry's skills base. This is particularly important in the context of hundreds of customer service and IT jobs going overseas in recent years.

### **Providing quality jobs**

The building and operating of the National Broadband Network must be predicated upon decent pay and conditions, and secure employment, providing the foundations of a workforce of the future. This must recognise the rights of telecommunications employees to collectively bargain, and to union representation.

If and when there is a need for structural change in the industry through the NBN process, the government and companies should act to ensure continuity of employment and conditions for the nation's critical telecommunications workforce.

## Community

In order to deliver for the community at large the NBN must be an accessible and affordable network, encouraging a breakdown of the digital divide between urban and rural communities.

### **Providing for all end users, and ending the digital divide**

There must be a guaranteed commitment to equal access to all end users, predicated on equal access to all retail providers on the network.

Access and take up by end users requires a range of products and services available to all at fair prices – the network needs to be flexible enough to grant high end users the

bandwidth they need, while having pricing arrangements that bridge the digital divide between the wealthy and the rest. Services should be made available regardless of where the customer lives or works. Furthermore, the NBN must enable uniform and affordable retail prices to consumers, no matter where they live or work.

Universal service must continue to meet the needs of rural communities, people with disabilities, and the aged, to make sure that people aren't excluded from the benefits of broadband.

No customer, wholesale or retail, residential or business, should be made worse off by the introduction of the new network. Telephony services, at least at the current levels of quality of service, must continue to be available to all Australians. This quality of service must include the provision of crucial lifeline and emergency services.

### **Facilitating effective and efficient public service provision**

The foundation for the delivery of innovation in services is the commitment to developing network infrastructure which can serve as a platform for future government services over the NBN. A range of applications in e-health and e-education will, in the future, provide innovative, fast and reliable ways of communicating, educating and providing health care services.

Only a company that is prepared to work constructively with government and business can drive infrastructure provision at a reasonable price which can lay the foundation for innovation in these crucial areas.

## **Environment**

### **Promoting the benefits of communications and remote working practices**

In a National Broadband Network environment the possibilities of teleworking and using communications tools such as video conferencing and high-speed internet access in the home are great. Significant pollution costs can be avoided, with the potential for reducing carbon emissions from commuting by car and expanding the opportunities for video-conferencing to reduce the need for air travel. The extent to which businesses and consumers will be able to realise these opportunities is directly related to the cost of products and services.

### **Ensuring that the environment is not damaged in the physical construction phase**

The building of the Network itself will include a significant civil construction phase. It is crucial that local communities are consulted with regards to these installations and that environmental damage in this construction phase is avoided.



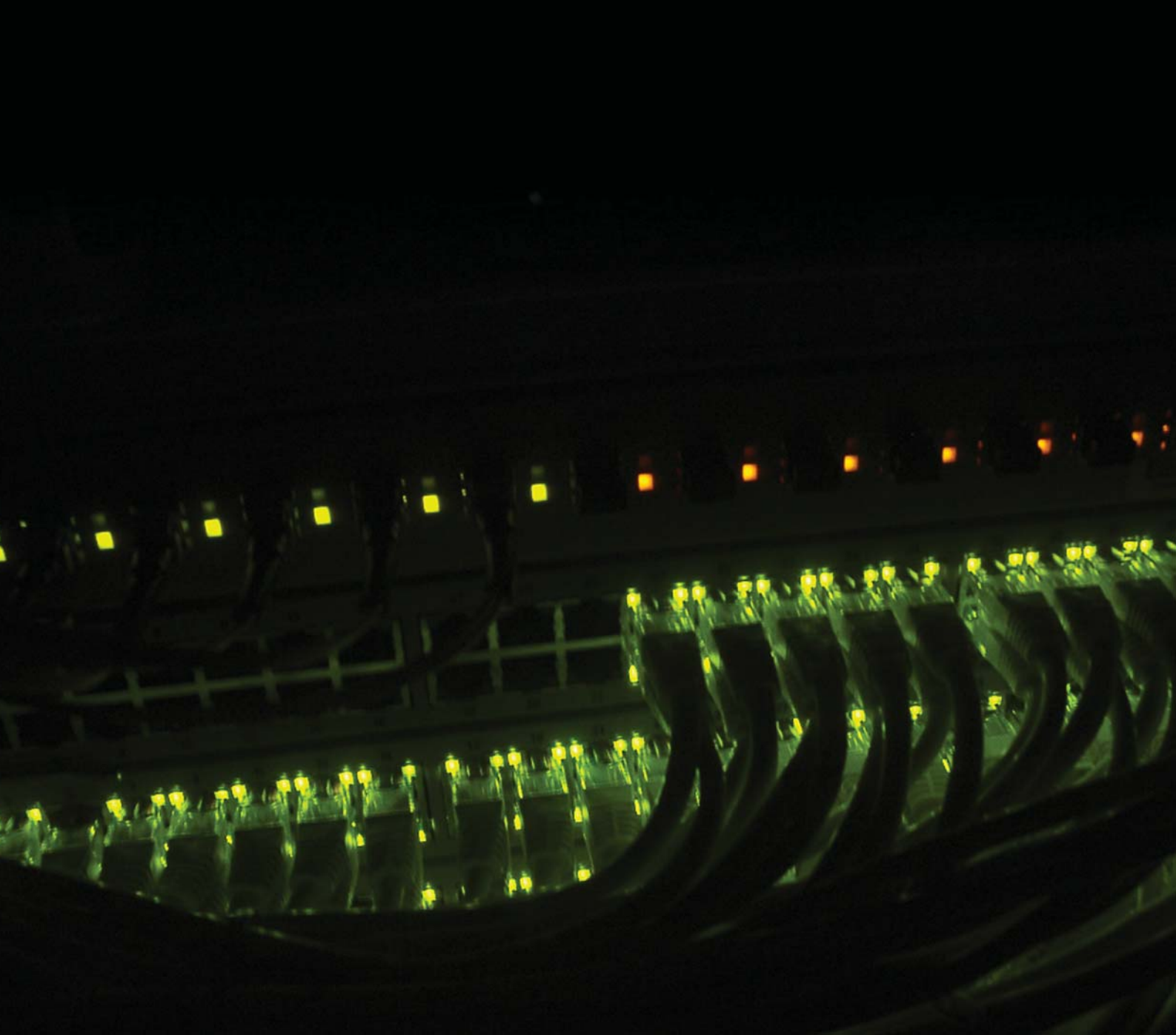
● Significant pollution costs can be avoided, with the potential for reducing carbon emissions.



## Endnotes

- <sup>1</sup> Given, J. 2008, "Australia's Broadband: How big is the problem?" *Media International Australia*, No. 127, May 2008, 6-10
- <sup>2</sup> OECD, "3a. Broadband penetration and population densities" *OECD Broadband Statistics*, [www.oecd.org/sti/ict/broadband](http://www.oecd.org/sti/ict/broadband)
- <sup>3</sup> OECD, "4f. Average broadband monthly price per advertised Mbit/s, USD PPP, October 2007" *OECD Broadband Statistics*, [www.oecd.org/sti/ict/broadband](http://www.oecd.org/sti/ict/broadband)
- <sup>4</sup> OECD, *Broadband growth and policies in OECD countries*, OECD Directorate for Science, Technology and Industry Committee for Information, Computer and Communications Policy, 17-18 June 2008, p91
- <sup>5</sup> ABS, *Household Use of Information Technology 2006-07*, Cat. 8146.0, Table 2.4
- <sup>6</sup> ABS, *HUIT 2006-07*, Cat. 8146.0, Table 3.1
- <sup>7</sup> ABS, *HUIT 2006-07*, Cat. 8146.0, Table 2.3
- <sup>8</sup> Telstra Corporation, *Telstra: The Path Forward*, Presentation for the Minister for Communications and the Arts, August 2005. p.14. [http://www.telstra.com.au/abouttelstra/investor/docs/tls339\\_briefingpaper.pdf](http://www.telstra.com.au/abouttelstra/investor/docs/tls339_briefingpaper.pdf)
- <sup>9</sup> Nicholls, R. 2008 "Pedestrian Crossings and Superhighway Robbery: Sources of Market Power in Broadband" Paper presented to ACCC Conference 24/5 July 2008
- <sup>10</sup> OECD, *Broadband growth and policies in OECD countries*, 17-18 June 2008
- <sup>11</sup> *TELIT Cabling Newsletter*, Vol. 8 Issue 1 May 2008, [http://www.citt.com.au/files/File/May\\_08\\_telit.pdf](http://www.citt.com.au/files/File/May_08_telit.pdf)
- <sup>12</sup> Australian National Training Authority, 2005 *Industry Skills Report: Resources and Infrastructure Industry Skills Council Report*, May 2005, [http://www.dest.gov.au/sectors/training\\_skills/publications\\_resources/profiles/resources\\_infrastructure\\_skills\\_report.htm](http://www.dest.gov.au/sectors/training_skills/publications_resources/profiles/resources_infrastructure_skills_report.htm)
- <sup>13</sup> See Schneiders, B. "Telstra call centre jobs to be axed in overseas deal" *The Age*, October 4, 2008
- <sup>14</sup> Australian Industry Group, Deloitte *High Speed to Broadband: Measuring industry demand for a world class service*, October 2008, [http://pdf.aigroup.asn.au/publications/reports/general\\_reports/7122\\_CEO\\_Broadband\\_web.pdf](http://pdf.aigroup.asn.au/publications/reports/general_reports/7122_CEO_Broadband_web.pdf)
- <sup>15</sup> OECD, *Broadband growth and policies in OECD countries*, 17-18 June 2008, p84
- <sup>16</sup> Rooney, D. 2008 "Widening broadband's reach" *OECD Observer*, No. 268 June 2008
- <sup>17</sup> ABS, *HUIT 2006-07*, Cat. 8146.0., Table 3.2
- <sup>18</sup> OECD, *Broadband growth and policies in OECD countries*, 17-18 June 2008, p100
- <sup>19</sup> Rooney, D. 2008 "Widening broadband's reach" *OECD Observer*, No. 268 June 2008
- <sup>20</sup> OECD, *Broadband growth and policies in OECD countries*, 17-18 June 2008
- <sup>21</sup> OECD, *Broadband growth and policies in OECD countries*, 17-18 June 2008, p55





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