Senator the Hon Stephen Conroy
Minister for Broadband, Communications and the Digital Economy

Deputy Leader of the Government in the Senate

Address to the National Press Club

National Press Club, Canberra
Tuesday, 28 April 2009

30 mins

Thank you and good afternoon.

When our leaders were contemplating the rollout of electricity in the 19th century, few would have foreseen the profound impact it has had on our economy over the past 150 years.

When, in 1894, most of Melbourne's streets were brightened by electricity from Australia's first power station, few could have known the full extent of innovation that would follow.

Since then we have seen the advent of refrigeration, automated production lines and electronic media.

New industries have flourished and services have improved standards of living across the country.

We live in a society where every function and process has been shaped in some way by electricity.

It has driven new market efficiencies, productivity and jobs.

This technology has fundamentally changed Australia.

For this we can thank the vision of previous Governments – Governments that ensured that Australia kept pace with the world and we reaped the rewards.

Our past leaders ensured we have had access to enabling technology, offering opportunity beyond their original intentions.

Electricity has transformed lives and delivered benefits across the economy.

Today we are discussing the implementation of new enabling technologies.

Just as electricity has changed the way we live over the past one hundred years, digital technologies will have untold influence on our lives for the next century.

The Rudd Government is not alone in our recognition of the profound potential of digital technologies.

Digital technologies, or Information and Communications Technologies as they are commonly known, offer massive opportunities:

- to improve quality of life,
- to drive market efficiencies and productivity, and
- to create jobs today – and the jobs of the future,

Intel, the giant digital systems maker, recently announced a $7 billion investment over the next two years to build advanced manufacturing plants in the United States.

CEO Craig Barrett is of the clear view that the world should “innovate and invest” its way out of the global recession.

Innovation and technology are “the backbone of the modern economy,” he says.

United Nations Secretary-General Ban Ki-moon has outlined a vision to drive ICT to help the global economic recovery.

He said recently:

> *"Information and communication technologies are increasingly critical for global development and human well-being. We must not allow today's economic downturn to slow progress in providing widespread access to these essential tools."*

Digital technologies will transform health care.

Digital technologies will revolutionise education.

Digital technologies will underpin our future carbon constrained economy.

Digital technologies will secure our infrastructure investments.

While electricity has supported the first phase of growth for digital technologies, the next phase and the new industrial era we are beginning requires a new platform.

We live in a world where homes and businesses are now commonly connected via the internet.

Many basic services are now provided online and digital communications tools have, in part, superseded traditional phone calls.

In commentary since our National Broadband Network announcement, I have seen people say, including my political opponents, that this is just about “downloading movies faster.”

This completely misses the point that broadband infrastructure will be the platform upon which the economy operates in the 21st century.

It is the equivalent of someone in the 19th century saying that the widespread introduction of electricity is just about having a better light to read in bed at night.

We should not be surprised that the Opposition fails to grasp the importance of this nation-building initiative.

After all, they failed to undertake critical infrastructure investment for 12 long years.

We are investing in our nation's future in difficult times.

The Liberals didn't bother, even when times were good.

Our political opponents remain the party of the past, not the future.

The connected society is now a reality.

Next is the connected economy and broadband is the vital enabler for this environment.

DIGITAL ECONOMY

Of course, broadband will allow us to improve many of the things we already do today.

For instance, Mark Scott at the ABC points out that high-speed broadband allows ways for media operators to enhance services and better meet the needs of audiences.

The ABC sees broadband as a way to distribute text, audio and video, and to host audience contributions and create local communities of interest.

Likewise, business sees broadband as a major driver of efficiency in the transfer of files – a basic online function and one we mostly all take for granted.

In 2008 Australian Industry Group members named the ability to download large data files quickly as the most important current benefit of a faster broadband network.

This was followed closely by conducting financial transactions.

Whether it's the small town graphic designer on the Yorke Peninsula swapping high-resolution files with a partner in Perth, or a supermarket chain managing payroll across the country – broadband means quicker and more efficient operations.

Take the manufacturing sector as a further example.

A comment by Bernard Charles, President and CEO of Dassault Systems, one of France's major manufacturers, is prophetic.

He said:

> *"In the future, all manufactured goods in the world will be digitally defined, engineered, simulated, produced and managed throughout their life-cycle."*

Simply from a transportation perspective, digital tracking technology is already assisting manufacturers by allowing intimate control of the distribution chain.

But leading thinkers in this space acknowledge – as was the case with electricity – that broadband will spur innovation far beyond what we can imagine today.

In turn, this innovation will spur new uses and revenue-generating traffic for the National Broadband Network.

Indeed, one respected industry commentator has predicted future services to account for the vast majority of future broadband revenues.

Pacnet, one of the largest providers of network connectivity in Asia, has predicted that video-based applications for business,

social services and consumers, will comprise more than 95% of all broadband data in the years to come.

These new services and applications will drive business productivity and efficiency across the economy.

This is why the Rudd Government is driving forward with investments with the private sector in the National Broadband Network.

CLIMATE CHANGE

Take climate change.

Australia has set ambitious targets to reduce carbon emissions by 2020 and this will require an economy-wide response.

Some have said why invest in broadband when we need investment in green technologies.

The fact is, broadband is green technology.

In fact, it is an enabler of efficiencies that could drive major reductions in carbon emissions.

In the energy sector, providers plan to use broadband to improve the way they monitor and manage power distribution.

Using broadband to connect power consumers with power generators allows them to harness ways to make distribution more efficient and reliable.

Smart grids connected by broadband raise the potential to not only monitor energy use but to allow remote adjustment of lights or temperature.

For households this means opportunities for reduced power consumption and costs.

Remote control of connected appliances, thermostats and electric meters will help energy companies balance the peaks and troughs of daily usage.

This in turn allows them to sell the recovered power on the market, reducing the need for new power generators.

For the country it means the very real possibility of significant carbon emission reductions.

In Australia and elsewhere, providers are already testing smart grid networks.

Estimates in the US have put the cost savings for consumers between 5 and 25 per cent.

One couple, early adopters of a pilot smart grid in Miami, claim they are saving $100 a month simply by keeping an eye on their digital energy meter.

The information allows them to understand household consumption trends and to adjust their habits accordingly.

The Fibre-to-the-Home Council commissioned PricewaterhouseCoopers to research the potential sustainability benefits of broadband.

Based on a count of 20 million FTTH users in Europe with 10 per cent of the population teleworking three days per week by 2015, it estimates greenhouse-gas emission savings per user of 330kg, equivalent to a car travelling 2,000 kilometres.

Research also shows that improving telecommunications use could result in significant savings for Australia.

In fact, Climate Risk has estimated that local energy and travel savings alone could be worth up to $6.6 billion annually.

It noted a number of major opportunities for communications to improve energy efficiency, including:

- Remote appliance power management,
- De-centralised business districts,
- Real-time freight management,
- Increased renewable energy, and
- High Definition video conferencing.

These are exactly the kind of applications that will be enabled via the National Broadband Network.

HEALTH AND AGED CARE

In health and aged care, the opportunities are just as profound.

Already we are starting to see the benefits of remote diagnosis and care, connecting patients in regional hospitals with specialists in capital cities.

Broadband tools are providing vital emotional welfare for young patients bed-ridden and separated from family and friends.

Late last year at Canberra Hospital I met young patients who spoke of emerging broadband applications providing a vital

social lifeline and support by connecting them to people facing similar challenges.

Broadband, supporting online file sharing and records access is helping regional doctors to become more efficient.

It is also providing access to training and resources to hospital staff across the country.

But as our population continues to age, and Governments work to deal with a stressed hospital system, broadband will become an even more vital piece of the healthcare solution.

In-home care has been identified as a key way to deal with the challenge of an ageing population that expects independence.

The same PricewaterhouseCoopers study I mentioned earlier estimates that 20% of the population over 75 years old would benefit from in-home assistance supported by broadband.

Australian Medical Association Federal President, Dr Rosanna Capolingua says the range of medical services that can be delivered remotely will increase as technology improves in coming years.

Broadband is the vital mechanism to support this.

Studies have shown that remote patient monitoring could reduce emergency room visits by up to 40 per cent and length of hospital stays by up to 60 per cent.

The significance of these figures should not be underestimated.

Indeed, the National E-Health Strategy developed in December 2008 and endorsed by the Australian Health Ministers' Conference placed e-health at the heart of our future healthcare system.

It recognises e-health as an enabler and driver of improved health outcomes.

At least one industry commentator has suggested that healthcare applications alone could consume an entire quarter of capacity on the National Broadband Network.

EDUCATION

The potential for the education sector will be just as great.

It will certainly contribute in the same way to bridge the divide between metropolitan and regional services.

The National Broadband Network will underpin the Government's Digital Education Revolution.

It will support new learning and teaching practices and help prepare students for further education, training and life in a digital world.

It will support virtual classrooms, video and audio streaming and high definition video conferencing – helping students and teachers to work together.

It will provide gateways for students to interact with peers and teachers in schools across Australia and around the world.

It will provide teachers with the tools and support they need for the development, use and sharing of learning resources.

But this is not just about schools.

Indeed, for anyone in the community seeking to further their education, broadband will provide that opportunity.

As the ABC has demonstrated with its Gallipoli: The First Day project launched for ANZAC Day – broadband makes history accessible in new ways to new audiences.

Universities already operate major distance learning operations over the internet and will ultimately stream lectures and interactive tutorials across broadband.

High-speed broadband is also an important platform for Australia's research community.

Already projects such as the super high resolution OptiPortal visualisation project linking Australian and Californian universities and the Australia Telescope Compact Array are driving huge new demand for bandwidth.

Supplying that demand via the National Broadband Network will help advance Australia's scientific endeavours.

In the vocational sector, broadband will support foundation skills training such as language, literacy and numeracy.

The National Broadband Network means that training for these skills and others will be available in regional Australia and other areas where the unemployed are keen to gain a new edge.

The National Broadband Network is an essential requirement for a comprehensive digital education environment and improved opportunities for Australian students and teachers.

It will break down barriers, providing benefits for students, teachers, parents and other members of the community, regardless of where they live or which school they go to.

SMART INFRASTRUCTURE

Broadband will also play an increasing role when it comes to managing assets and infrastructure.

As I've mentioned, smart grids have a massive potential to improve the efficiency of building power consumption – assisting the remote control of lighting, air conditioning and computing systems.

But broadband provides other powerful and pervasive opportunities to improve the economics of our infrastructure investments.

Larry Smarr, the physicist and internet architect, points out that broadband and connected technologies will reshape the way we think about infrastructure management.

Smart infrastructure, he says, will result in savings for everyone.

Digital technologies linked via broadband will improve the way assets are planned, constructed and maintained.

Smart infrastructure will be equipped with sensor technology to detect movement and deterioration.

The information will be monitored constantly allowing better timed and targeted responses.

It means better, more informed decisions can be made about safety and maintenance.

This is clearly demonstrated in the example of the St. Anthony Falls Bridge, which collapsed into the Mississippi River in 2007 killing 13 and injuring 145 people.

The replacement bridge incorporates thousands of sensors to monitor load and weather conditions and to ensure there is no repeat collapse.

The sensors will also help reduce maintenance costs.

Smart infrastructure means longer-lasting constructions, more efficient resource management and a better return on investments.

Our own research entity — National ICT Australia (or NICTA) — is making smarter water supply infrastructure.

NICTA's 'Water Information Network' project uses sensor networks to monitor and control canal systems.

This, in turn, makes water usage more efficient.

In water field trials on dairy farms, NICTA demonstrated a 27 per cent improvement in water productivity.

The benefits of this innovation, particularly in arid areas of the country and the globe, are obvious.

It highlights the far-reaching potential of using broadband to make infrastructure smarter and to drive better outcomes.

As I have described, broadband presents massive scope to drive improvements and new innovation across the economy.

It also presents opportunities for small business – taping into the rollout of the network, as well as taking advantage of the opportunities for innovation that flow from faster broadband.

These examples help highlight the potential opportunities for jobs and businesses, for productivity growth and improved standards of living presented by the National Broadband Network.

PRODUCTIVITY

Indeed, there is a growing body of work establishing broadband as a vital platform for future economic prosperity.

Research conducted by the European Commission shows the massive potential for broadband to drive growth.

The research found that broadband led to significant improvements in labour creation and productivity.

The 2008 Impact of Broadband on Growth and Productivity report found that broadband led to the creation of 105,000 new jobs in Europe in 2006 alone.

Broadband drove productivity growth up an average 5 per cent in the manufacturing sector.

In the services sector, average productivity growth was as high as 10 per cent.

In Australia, Access Economics found that a national high-speed broadband network will also positively impact our economic performance.

It points to the benefits of improved organisation, to the introduction of new services, better communication and enhanced choice and convenience for consumers.

Access Economics predicts that a national high-speed broadband network would mean that economy-wide productivity growth would be 1.1 per cent higher after ten years compared to if the network was not built.

Access Economics views this as a conservative estimate.

Another report by the Centre for International Economics in November 2008 said broadband could lift national economic output by 1.4 per cent after five to six years.

This is equivalent to $15 billion in terms of GDP in 2007/2008.

Compare this to the GST, which was championed by the Howard Government on the basis of evidence of that it would add to GDP growth by 0.5 per cent.

These figures are based on the availability of national high-speed broadband infrastructure and highlight the economic case for the Government’s strong commitments in this area.

The Rudd Government's investments in high-speed broadband are intended to unleash Australia's digital potential:

- to create jobs and drive productivity today and into the future,
- to create new efficiencies and sustainability,
- to improve the availability of emerging services and applications.
- to position Australia to take advantage of the global recovery, when it comes.

NATIONAL BROADBAND NETWORK

Of course, on April 7, we announced that the Government will invest with the private sector to build the new National Broadband Network.

Additionally, we will consider a range of regulatory reforms to improve competition and service during the rollout period.

The National Broadband Network will be the single largest nation-building infrastructure project in Australian history.

FTTP will connect 90 per cent of all Australian homes, schools and workplaces with broadband services with speeds up to

100Mbps - 100 times faster than those currently used by many households and businesses.

The network will connect all other premises in Australia with next generation wireless and satellite technologies that will be deliver broadband speeds of 12 megabits per second.

This exceeds our election commitment by ensuring high-speed broadband for all Australians, no matter where they choose to live or work.

Importantly, the National Broadband Network will support up to 25,000 local jobs every year, on average, over the 8 year life of the project.

This figure will peak at 37,000 people digging the ditches, running the fibres, planning and engineering, connecting homes and offices, creating and supplying network hardware and other associated jobs.

The investment is expected to generate additional economic activity of over $37 billion over the life of the project.

PROGRESS

Since our announcements earlier this month, the Government has moved swiftly to implementation.

The National Broadband Network Company has been established and I note states are jostling to host its headquarters.

The Government will soon announce the appointment of an executive search firm to assist in the selection of the board and chief executive of the company.

Negotiations are progressing with the Tasmanian Government to commence an early rollout of a FTTP network and next generation wireless in Tasmania by July.

We have commenced consultation on our $250 million priority broadband backhaul investment for regional Australia.

Following the close for submissions to the consultation in early May, we will begin a competitive tender process for the backhaul rollouts.

Construction on this element is expected begin as soon as September.

Last weekend we advertised for the appointment of a lead adviser for the implementation study process.

This advisor will report on the operating arrangements for the National Broadband Network Company in early 2010.

In addition, the first legislation required to underpin the National Broadband Network will be introduced in the winter sittings.

This includes a Bill to require greenfield developments to use FTTP technology from 1 July 2010 and for the Government to acquire network information needed to assist in the design of the national FTTP rollout.

Furthermore, consultation has started on legislative reforms to make the existing regulatory framework work more effectively.

Submissions are due by early June, with legislation to be introduced before the end of the year.

KEEPING PACE WITH THE WORLD

We need to be moving quickly to progress this project.

Australia should not be left to fall behind the world on high-speed broadband.

The FTTH Council says there are 13 million FTTH-connected homes in Japan, 6 million in the US, a similar number in China and about 2 million in Europe.

Some 78% of all global fibre-to-the-home connections are located in the Asia Pacific region and Australia must ensure that it keeps pace by joining that community.

There is common recognition that fibre is the end-game when it comes to broadband deployment.

Our rollout will start at 100Mbps, but once fibre is distributed, future hardware upgrades can boost speeds even further to 1000Mbps and beyond.

Unfortunately, our telco sector to date has not shown signs that it can achieve the quantum leap we require.

Australia is in the bottom half of OECD countries for broadband take-up (16 out of 30 in 2008).

Australians pay more for broadband than most OECD countries (20 out of 29 in 2007).

Australian small businesses pay more than all but 2 other countries for fixed line services.

The Internet Industry Association representing Australia's entire broadband sector recognises the need for Australia to take a jump into the future.

In 2006 it called for a nation-building approach to broadband and set benchmarks for 80% of population having access to 10Mbps and 67% having access to 24Mbps or faster by 2010.

I note that there have been strong comments from industry about appeal of this new investment opportunity.

Investing in FTTP broadband today puts Australia among world leaders such as Japan, Singapore, New Zealand, Korea and Malaysia – all driving the rollout of fibre-based services.

Investing in broadband at this time makes good sense.

It means jobs today, helping cushion the effects of the global economic recession.

It also means vital infrastructure to support our growth and prosperity in the future.

COMPETITION, PRICES, CHOICE, INNOVATION

Since our announcements, there have been ‘wild claims’ that consumers will have to pay over $200 per month in order to make the National Broadband Network viable.

Let me make take this opportunity to dispel a few myths on this issue.

The NBN will be Australia’s first truly national wholesale-only network.

No retail company will be able to control the network in its own interests.

Why is this important for consumers and the prices they will pay?

Well, because, the discipline of genuine competitive pressure in the market drives lower prices, innovation and greater choice of different services and price points.

It means companies have to fight hard to win and retain your business, or else you can switch providers.

It means companies will likely offer a range of plans and price points to suit the needs of different individuals and businesses.

Competition drives better outcomes for consumers.

Industry players and commentators expect the National Broadband Network to stimulate competition and support affordable prices.

Matt Healy from Macquarie Telecom has said:

> *"Ultimately the customer will be the winner as consumers and businesses will have a broader range of services to choose from at lower prices."*

Rosemary Sinclair, Managing Director of the Australian Telecommunications Users Group, dismissed the idea of an NBN costing end-users several hundred dollars a month as "*fanciful nonsense*."

According to Maha Krishnapillai from Optus:

> *"We will have a broadband network that will give us a level playing-field."*

In February this year Internode announced it would be delivering FTTP in greenfields developments and offering 25Mbps for $50 and 100Mbps for $100 per month.

This compares to Telstra's current pricing for its 'top bracket' ADSL and Cable broadband plans, delivering speeds of up to 20Mbs for $130 to $150 dollars per month.

The NBN will turbo-charge the competitive pressures in the Australian telecoms sector to unprecedented levels.

Consumers will be the ultimate winners.

AFFORDABILITY DRIVES TAKE-UP, DRIVES VIABILITY

No consumer or business will be forced to pay anything for services on the NBN.

But clearly affordability is an important factor to drive take-up.

NBN prices cannot be structured without having careful regard to the prices people pay today for comparable services.

That said, as I have already discussed today, the NBN will open up opportunities for the delivery of a whole new range of new revenue-generating services.

Much of the commentary seems to ignore these possibilities and potential revenue streams.

The implementation study will give careful regard to pricing levels on the National Broadband Network.

INTERNATIONAL EXPERIENCE

Evidence from countries rolling out FTTP networks is that investment in wholesale systems leads to lower, not higher prices for comparable services.

In Singapore, where the Government is facilitating a nation-wide FTTP rollout, prices for high-speed broadband are reported to be $15 lower than for comparable services on the existing copper and cable networks.

In France, where FTTP is being rolled out, it has been reported that the network operator is offering an agressive entry price for a ‘triple play’ bundle of voice, pay TV and broadband services of 100Mbps (around 60 Australian dollars).

The evidence also suggests that consumers can pick and choose from a range of options and price points – from low to high end – to suit their particular needs.

This does not suggest that NBN investments will lead to outrageously increased prices for users.

Rather, it suggests FTTP operators have developed targeted offerings that will appeal to a wide range of consumers and businesses.

MICRO ECONOMIC REFORM

In the commentary following our National Broadband Network announcements, most have grasped the nation-building scale of this historic project.

The National Broadband Network will be the core infrastructure of the digital economy throughout the coming century.

As the Prime Minister has noted, it is the most ambitious far reaching and long-term nation-building infrastructure project ever undertaken by an Australian Government.

It is bigger than the building of Snowy-Hydro scheme.

What has been missed by many however is that it is also represents an historic micro-economic reform.

The National Broadband Network will be a national wholesale-only open access network.

The wholesale network will not be controlled by any company that offers retail services over it.

Genuine competition in the Australian telecommunications sector has been stifled by the failure of previous governments to put in place structural arrangements to allow all carriers to compete on fair terms.

The Howard Government privatised Telstra without ever resolving the conflict of a vertically and horizontally integrated incumbent, owning the network infrastructure and dominating the retail market.

This was despite Productivity Commission advice that structural issues needed to be addressed prior to privatisation.

The National Broadband Network finally resolves this conflict once and for all because it delivers separation between the infrastructure provider and retail service providers.

This decision will transform the competitive dynamics of the telecommunications sector.

Households and business will benefit as open access for service providers will drive retail competition and lead to better services and more innovation.

The Hilmer Competition reforms introduced by the Keating Government in 1995 turbo-charged productivity growth and enhanced competition across the economy for a decade.

Like these reforms, the National Broadband Network will support our future productivity growth and our global competitive standing for the years ahead.

CONCLUSION

Broadband, like electricity in the century past, has the potential to drive innovation, productivity, efficiency and employment across the economy.

It will, over time, influence every activity and process throughout our daily lives.

Broadband will transform health care.

Broadband will revolutionise education.

Broadband will underpin our future carbon constrained economy.

Broadband will secure our infrastructure investments.

The National Broadband Network will support applications and services in these and other sectors that today we cannot begin to imagine.

And for the first time they will be delivered over a genuinely competitive platform.

It is our responsibility and obligation to ensure that these opportunities are available to future generations of Australians.

Thank you.