

The business case for the National Broadband Network

Submission to the Joint Standing Committee on the National Broadband Network Inquiry into the business case for the National Broadband Network

Biography Paul Budde

Paul Budde is the CEO of Paul Budde Consulting, an independent consultancy company. Paul specialises in the strategic planning of government and business innovation and transformation around the digital, sharing and interconnected economy, resulting in building smart cities and smart communities (including e-health, e-education, smart grids, smart transport and digital media).

He has been involved as an advisor in discussions on the national interest concept of smart infrastructure during meetings in the White House and with the FCC, the United Nations and the governments of Australia, the Netherlands, Australia, Britain, Qatar, Ireland and New Zealand.

He was the co-initiator of the UN Broadband Commission for Digital Development of which he consequently was the special advisor, he was also the lead author of a report: *'Broadband - A Platform for Progress'* that was presented to the UN Secretary General Ban Ki-moon.

He is a director of the Global Smart City and Community Coalition (GSC3) was the founder of Smart Grid Australia, is an advisor to the Australian Smart Communities Association and a founding board member of the Global Smart Grid Federation.

Paul has advised over 50 local councils in Australia on how to best develop smart city strategies. He has presented keynote addresses at conferences in Washington, Houston, Amsterdam, London, Milan, Barcelona, Tokyo, Beijing, Chennai, Kuala Lumpur, Sydney and Melbourne as well as at UN meetings in New York, Geneva, Paris and Mexico City.

In 2017 he received the prestigious Charles Todd Medal for services to the telecommunications industry.

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From the beginning the business model and investment model for the NBN has been on a very unclear footing. The question can even be asked whether there is a business plan at all. This is the key reason there is now so much confusion and negativity surrounding the project.

At least in its original plan there was an overarching vision from the government on the social and economic benefits of the NBN, and this was supported by a range of 'digital economy' and smart grid policies.

This original view was largely abandoned when the current government came into power in 2013. Prior to that, The Hon Tony Abbott, at that time the leader of the Opposition, launched a campaign to 'Kill the NBN'. This was only just avoided, thanks to the then Shadow Minister for Communications, The Hon Malcolm Turnbull; but there was little room for a positive policy towards the NBN within that poisonous political environment.

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After the 2013 elections and for the reason mentioned above little interest was shown in developing a long-term vision for the NBN in relation to the national good, because that could be taken to be a political endorsement of the project. The government never took full ownership of the NBN, instead using every opportunity to talk the project down, blaming the previous government.

The new government failed to provide its own national vision for the infrastructure and a broad level of policies concerning the country's need for the NBN. Instead it concentrated on detailed policies in relation to 'cheaper' technologies. A better approach would have been for the government to provide its NBN vision in relation to health care, education, government service, e-commerce and so on.

Just one example here to illustrate that point – the government could have mentioned using the NBN for the development of e-health services aimed at lowering healthcare costs by distributing more services through digital systems. Such policy parameters should then have been handed over to engineers, who would have been able to develop a fit-for-purpose infrastructure with appropriate costing models and implementation plans.

The lack of a business plan also left the financial situation of the NBN in limbo. Is it a nation-building project or not? What was clear was that the government required a return on investment, which could indicate that it sees the NBN just as a commercial venture.

It is important to look at the original NBN initiative within the market and industry context of that time. Based on the situation back in the 2000-2009 period there was no opportunity to develop a viable business model for a national broadband network, basically because of lack of cooperation from the very dominant and powerful telecommunication provider Telstra. Although their attitude changed after 2009 a private market model was never tested again. Under the current telecoms laws and regulations, it is now even forbidden for private enterprise to build residential fixed broadband networks. Several providers have indicated that they are interested in building commercial FttH networks in selected areas, and Telstra had already indicated in 2007 that it would be willing to build an FttN network to 50% of Australian premises.

After the massive policy changes to the NBN in 2013 no new business model was developed, and this has created the current messy situation with a relatively low level of broadband quality – with hindsight it would have been better to let private enterprise develop their own high-speed broadband networks. Recent research from the Melbourne School of Engineering has indicated that such a network would have been built anyway by private enterprise by now.

The only reason for the government to be involved in the NBN would be if they see it as essential national infrastructure. This would be one of the first questions that needs to be answered before building a proper business plan. Without that you simply cannot build a business case for it.

Although it is unclear precisely what the government's position is on the issue, to all intents and purposes the NBN is, of course, essential national infrastructure. While national plans and policies differ, all western economies are building their NBNs and there is nearly always bipartisan support for these plans.

While this might not have been specifically articulated by the government the fact that it is investing some \$50 billion in the NBN means that they must see some social and economic benefits. So why not talk about them?

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The confusing situation in Australia can be rectified with the stroke of a pen, but this requires the political will to do so, and there doesn't seem to be any hope of that

Let us very briefly retrace the story of the NBN

By 2005 it had become clear that the digital economy was well and truly underway, and that broadband was its essential infrastructure. The economic value of the NBN is not in the infrastructure itself but in the services that can be built on top of it, providing significant productivity gains, lowering traditional costs linked to legacy systems and legacy policies, and offering new opportunities for innovations and new economic opportunities.

In 2005 digital developments such as the internet, social media and e-commerce were already starting to create havoc among various sectors, and there was the understanding that deep transformations were necessary to develop the new business and investment models better-suited for the digital economy that would keep businesses – and Australia in general – competitive. There were also well-grounded reports from the CSIRO and others, indicating the need to transform the healthcare and education services to ensure that in the future these services would remain affordable and of good quality. Broadband and ICT technologies facilitated by broadband were earmarked as key tools to transform these and other sectors.

And, of course, there are also many commercial applications as well.

There was broad agreement on these basic principles. Within the Communications Alliance some 400 people, representing the industry as well as consumer organisations, worked together between 2005 and 2009 on what the strategic technical requirement for such an infrastructure would have to be. They achieved broad agreement and reports were given to the government. All of this was put aside when the Coalition came into power in 2013.

However, for all Australians to be able to access the services associated with economic and social benefits a uniform, ubiquitous, high capacity, low latency and secure infrastructure was considered essential.

The reality unfortunately is that the current NBN is not of such a ubiquitous quality – for example, it will be difficult, and even impossible, to deliver a range of ubiquitous services in healthcare, education, business, etc to all Australians. This seriously undermines the value of the NBN. Recent research from the Melbourne School of Engineering has indicated that, in relation to quality high-speed broadband, the multi-technology mix (MtM) will only deliver a 10.8% benefit above what would have been available without government intervention. That is a very small return from a massive \$50 billion investment.

At the same time, we start seeing cities building their own gigabit networks, wireless operators bypassing the NBN, and companies such as TPG, Vocus and others building their own fibre networks to multi-dwelling units. This clearly indicates that more than a 10.8% benefit will be needed from new broadband infrastructure to make it a commercial success.

Obviously, these developments pose a significant risk to the NBN's MtM investment.

Nevertheless, all is not lost. But to move forward the government, as mentioned before, must first come up with a policy which indicates why it wants the NBN; what its importance is for the country; and what its broad parameters are for such infrastructure (healthcare, etc, as mentioned above).

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Based on that a technical plan with proper costings can be made – considering requirements from healthcare, education, businesses, energy companies and smart cities.

This holistic approach is known as the trans-sector concept, and we now also recognise that such a policy must underpin all new infrastructure projects; creating economic multiplier effects. In addition, since the government is (at least indirectly, and in many cases directly) in control of most of these sectors it needs to show leadership.

Based on the above a proper business plan can be developed in which it will also become clear how much needs to be invested for the common good and how much can be invested in a long-term infrastructure utilities-based ROI model. There is a growing understanding in the investment world that there are good investment models for such projects (see [OECD report](#)) if the government works together with private industry and investors.

While a full review of the NBN is inevitable, it is most unlikely that this will be initiated by the current government and it looks as though we need to wait for the next election before we reach clarity on which business model can be built.

Failing to address these issues will continue the current confusion and undermine the financial situation of the NBN company. Based on the current financial model the company will be unable to meet its financial requirements. As explained below, it will be very difficult to increase its prices to address that issue.

Most users have a monthly budget for home broadband of between \$50 and \$80. If the NBN cannot deliver a service at such levels customers simply will not buy their service (as we clearly saw this in relation to the 25Mb/s and 50Mb/s situation). Worldwide the norm in the broadband access market is that new upgrades are provided at roughly the same price we now pay for a 50Mb/s service, at roughly the same price that Australians received a 4Mb/s service ten years ago or a dial-up service before that. In 5 years' time we will get 100Mb/s for the price of 50Mb/s (we see this already happening in some countries with more advanced broadband networks). This is facilitated by a reduction in cost for the telcos, made possible through new technologies.

So, the revenue options are limited, and this is obviously a risk to NBN's financial model.

The real value of broadband resides in the value that it provides to society and to the economy – but these social and economic benefits don't show up on the balance sheets of the NBN company. It is therefore important for the government to put a value on this and take that into account in the overall business model.

Or the government can take its hands off the NBN and privatise it. Indications from several sources such as the ACCC, PwC indicate that making this an attractive project, capable of appealing to outside investors, would involve a significant write-down of the government's investment in the NBN.

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