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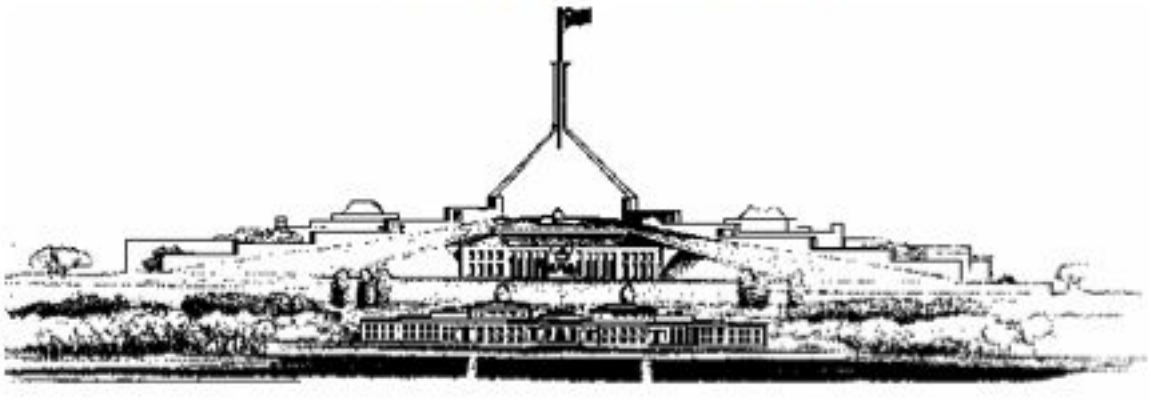

# HOUSE OF REPRESENTATIVES

# PROOF

# MATTERS OF PUBLIC IMPORTANCE

## National Broadband Network

# SPEECH

**Wednesday, 19 June 2013**

BY AUTHORITY OF THE HOUSE OF REPRESENTATIVES

# SPEECH

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**Mr TURNBULL** (Wentworth) (15:35): The honourable member for Lyne has been chairman of the committee on the NBN, which I have been a member of over the term of this parliament, and I am disappointed by his remarks. After all this time and after familiarising himself with the NBN, he still shows himself to be so terribly confused about the nature of internet bandwidth and the requirements of a network. He quotes from a recent report published by Cisco called *The zettabyte era*. The zettabyte is, as I recall, 10 to the power of 21. It comes before a yottabyte, which is not to be confused with the Nepalese concept of a yeti bite. He refers to this report which talks about a massive increase in data being transmitted over the internet. Of course that is well understood. There is nothing new in that and it is described extensively in our own policy. This is being driven, as the Cisco paper discloses, by a massive increase in video entertainment or video traffic being carried over the internet. This is the growth of IP TV and more and more movies and television shows being carried over the internet, to the point where one-third of all of the bandwidth in the United States is being consumed by one company, Netflix, which is a movie and television entertainment download business. That is well understood.

But the issue about the NBN is not whether there will be more bandwidth required in the network and not whether there will need to be more fibre capacity in the big cables in the core of the internet linking exchanges and linking countries and so forth. It is: what is the nature of the connection from the local exchange to the customer's premises—what is the size of the pipe in that last mile to the customer's premises? What the honourable member is confusing is an exponential growth in bandwidth across the network and assuming that that means you need to have a similar growth in the size of the pipe to the customer's home. If I can give honourable members an example that might make this clearer, it is a bit like this. If everybody in Sydney, for example, were to decide to have three one-hour-long showers every day, it would mean that Sydney Water would have to provide a lot more water. It may have to build another dam or another desalination plant. But it would not mean that every house had to have a bigger water pipe going into that house. You see, we will consume much more data through our internet connection but the size of the pipe—which is described misleadingly as talking about speed when it is really a question of capacity—whether it is 10 megabits per second or 25 or 30 or 40 or 100, does not necessarily need to grow. For example, if you want to watch a high-definition video, which is the biggest file that is typically transmitted over the internet to residential users, you need, we have assumed in our policy, about six megabits per second. Netflix know a bit more about this than any of us here, and their own publications say you need four megabits per second. So if you had, for example, a 25 megabit per second connection to the internet you could stream simultaneously four, or more than four—five or six—high-definition video streams. And so you could, as a household, be watching much more video, consuming much more data—hundreds and hundreds of gigabytes a month—but nonetheless not require that larger pipe. The issue, therefore, is: what is the utility of provisioning the larger pipe? We all understand that the utility of increased bandwidth, increased size of the pipe into your house, diminishes as it grows. To go from dial-up to five megabits per second, that is a big increase in utility. You can watch videos; there are a whole bunch of things that you can do that you could not do before. To go from five to 25 is another increase in utility, because if you have got a family with three or four people in it, they can all do that simultaneously. To go from 25 to 50, that may not be so much of an increase in utility. It is certainly not twice as useful. It may be a little bit better. To go from 50 to 100—it is very, very questionable how much of an increase in utility that is. The point is that it does not progress in a linear fashion.

The problem, however, is that because in order to reliably give everybody 100 megabits per second and more you would need to take, with current technology, fibre into every premise, the cost of taking everyone to 100 or better is enormous. Just as the marginal utility of higher speed starts to flatten out and become zero, that is when the cost of provisioning it goes through the roof. If you think about it in this context, if you can give everybody in a given area very high speeds, no one less than 25 and most people with 50 or better, for an investment of $1 million and meet all of their requirements—that is fibre to the node, that is the approach that we are talking about. If it costs you $5 million to take fibre to the premise so that they can have 100 or more, but with no incremental benefit to the customers, with no applications that they can use and value with that additional speed, then what

you have got is $4 million of investment, enormous trouble and expense, enormous delay, and no return on it. Inevitably, you have a higher cost of connectivity.

The fundamental problem that the honourable member overlooks is this: he says that the NBN has a seven per cent rate of return. That is the most extraordinary nonsense! I cannot believe that he could seriously say that the one thing—if we have learnt anything on the NBN joint committee, we have learnt that their financial forecasts are completely discredited. The contractors are going broke; we all know that. The project is failing. It will be lucky to make 15 per cent of its forecast build by 30 June, and we are taking their financial forecasts seriously? Come on, Deputy Speaker. The NBN Co. is a financial disgrace. It is the largest blank cheque ever written in the country's history. The government does not know how long it will take to complete, and they do not know how much it will cost. That, regrettably, is the truth.

We get back to this fundamental question of fibre to the premise. What is the additional benefit of taking fibre to the premise, and does it justify the investment? That is the key question. We could have had a very reliable, very considered, thoughtful, well-informed answer to that question if the government had lived up to its pledge in 2007 and had a cost-benefit analysis into this project. If the honourable member for Lyne had supported us consistently on this matter—

An honourable member interjecting—

**Mr TURNBULL:** Well, he was not able to get his friends on the crossbench to do that, but the fact is that without that cost-benefit analysis, we simply end up having an argument about this rather than having some very hard numbers.

If the proposition is that we should have fibre-optic cables deep into the network, we agree. The question is: how deep, how far? Alcatel-Lucent, the big telecom vendor, have got a good summary of this. They say that fibre should go to the furthest economically viable point. We agree with that. If you can achieve the bandwidth requirements that people need, as quickly as possible and at a lower cost, thereby making it more affordable, without taking the fibre right into the house, that makes sense.

As for the honourable member saying that fibre to the node is an African model, I did not know that the United States was in Africa; I did not know that Britain was in Africa; I did not know that Germany was in Africa. What an extraordinary statement, notwithstanding the rather unpleasant slur against Africa. The fact of the matter is that the approach that we are proposing it is one that is consistent with the practices of the major telcos around the world. By that I mean the honourable member down the back has never heard of Deutsche Telekom or British Telecom or AT&T or Bell Canada.

Government members interjecting—

**Mr TURNBULL:** The Labor members are shouting because they know this project is failing. But the fact is that the honourable member does not know remotely what he is talking about. British Telecom have passed 19 million premises in their broadband upgrade, 10 per cent with fibre to the premises and the balance with fibre to the node.

**Mr Mitchell interjecting**—

**Mr TURNBULL:** If the honourable member wants to doubt that he should get in touch with Mike Galvin, who is heading the rollout. They cannot cope with the truth.

The honourable member for Lyne said that the Cisco report says by 2016 our network in Australia will be overwhelmed. It says nothing of the sort. What it actually says is that by 2016 it expects average speeds on fixed line broadband in the Asia-Pacific to be 41 megabits per second, and that is very achievable under our policy. Indeed, we see most of the premises under our policy having 50 megabits per second or better. The report sees the speeds for handsets being on average 3.9 megabits per second. The proposition that the network is going to be overwhelmed has no basis of fact in that report.

The real issue of congestion in the future is not going to lie in the last mile to the home. If we get into office that will be addressed within a few years and by the end of the next parliament everyone in the fixed line footprint will have at least 25 megabits per second, most will have 50 or better. We expect to build plenty of fibre to the premises, and wherever it can be done cost-effectively we will do so—greenfield sites and others that appropriately qualify. But the real congestion is going to lie further back in the network. This, I regret to say, is what the honourable member for Lyne simply does not understand. The NBN is not a complete telecom network. It is a customer-access network. It connects an exchange, called a point of interconnect, to the customer's premises.

I ask every member and anyone listening to this speech to check their line speed when you get an opportunity and then seek to download something from iTunes or some other service of that kind. I would be very surprised if you do not find that your rate of download is a lot less than your line speed. The reason for that is that in a telecom network the rate at which data

is transmitted, at which signals propagate over the network, depends on the slowest link and the rate of the server to which you are connected. You may have 50 megabits per second between your house and the local exchange, but how much congestion is there behind your exchange back into the core of the network? How much congestion is there on the international cable? What is the rate that the server you are connecting with in the United States or wherever is delivering data? If it is very popular, you may be getting a very low rate of download.

If the honourable member is trying to say that we need to have more capacity in the core of the network and the backbone of the internet then he is absolutely right, although it is a penetrating glimpse of the obvious. But it is not a problem that the NBN will address, because the NBN is a last-mile customer-access network. So, yes—the NBN, under our approach, will certainly eliminate the last-mile bottleneck, but the questions of congestion will then be further back in the network. It will depend on how much capacity your retail service provider has bought, back into the core of the network, and all of the factors I mentioned.

So we do need more fibre. We do need it to the furthest economical point. But it is a great pity that the member for Lyne, after all these years, is still so confused on this important issue.