Address to the National Press Club

Published on: August 03, 2011

3 August 2011

Today I am going to speak largely about the National Broadband Network.

But before I do, I must observe that as we argue over FTTH vs FTTN[1] not to speak of other access technologies, too little time is devoted to the rapid changes to our economy and indeed our culture that is being wrought by the Internet.

The digital world is revolutionizing every aspect of our lives. Above all it is supercharging competition across every aspect of our and the global economy. Those who were content with dominating their small ponds now find themselves part of a great ocean – the opportunities are immense, but so are the risks for those that are unable to innovate and rapidly execute.

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In order effectively to compete in the digital world we must ensure that our economy is as innovative, as nimble and as flexible as it can be. That will be the subject of another address at a later time, but one thing must be absolutely clear.

A competitive Australia is one that enables all of its resources, public and private, to be used in the most cost-effective way. Policies and practices that deploy public moneys in wasteful and inefficient ways necessarily detract from Australia's well being[2] and indeed from our ability to compete and win in this brave new digital world.

Lessons from New Zealand

While we may hope to thrash the All Blacks in the World Cup, we have been completely and utterly outdone by our Kiwi cousins on broadband.

If the NBN is completed in 2021 as planned and costs $50 billion[3], the Federal Government will have invested around $5900 for each of the 8.5 million households and businesses forecast to be connected, or $3800 for each of the 13.1 million households and businesses with access.

What about New Zealand? Over the same timeframe but for a net cost of only $600 million[4], the Government's Ultra-Fast Broadband (UFB) initiative will ensure 1.2 million (or 75 per cent) of households will have fibre to the home (FTTH) delivering similar speeds as the Australian counterpart.

The remaining 25% will be covered by the $300 million Rural Broadband Initiative and will receive broadband over the existing and enhanced fibre to the node (FTTN)[5] network (which currently covers 84% of New Zealanders and under the RBI will be extended to 93%) with speeds substantially faster than the official minimum of 5 mbps. The remaining 7% will be covered by wireless and satellite only[6].

The Rural Broadband Initiative is funded by a $300 million Government subsidy (about $250 million of which is from an industry levy).

At the end the New Zealand Government will have ensured nationwide access to fast (or 'ultra-fast' in most cases) broadband with public investment of $500 per FTTH household and $800 for households covered by the Rural Broadband Initiative. Overall net cost to taxpayers will be about $650 million, or $400 per household[7].

All that without a great big new Government monopoly. Or artificial restraints on facilities-based competition – Telstra Clear will continue offering voice and broadband on its HFC networks in Wellington and Christchurch and there is no prohibition or impediment to any other person building new fixed line networks. The copper network will remain as a competitor with the FTTH network.

Who will build and own the UBF broadband networks? In about 30 per cent of the fibre footprint, three new wholesale operators formed by electricity distribution companies will lay the fibre and compete directly with the existing FTTN network built by Telecom NZ.

In the balance of the UFB footprint, fibre will be rolled out by the structurally separated wholesale network business of Telecom NZ. Now named Chorus, it is in the process of being spun out as a separate listed company.

One reason Chorus and the rest of Telecom NZ are parting ways is because the New Zealand Government required companies bidding for UFB subsidies to be wholesale common carriers. These wholesalers may not offer retail services and must not discriminate between retail access seekers.

NBN – Unique In The World?

The Kiwis look across the Tasman at the NBN with astonishment. Its extravagance is almost beyond conception**.** .The most common reaction was "Well, you've got all those minerals so I suppose you can afford it. We have to watch our pennies here."

And reactions are similar elsewhere in the region. No wonder:

- No other country in the world is spending so much taxpayers' money on broadband.
- No other country in the world is building a new government-owned fixed line access monopoly.
- No other country in the world is actively eliminating competing access network infrastructure, regardless of economic value or operational life.
- No other country in the world is imposing a single variant (GPON) of a single technology choice (FTTH) on 93 per cent of all households and businesses.

Many Australians are as mystified by the NBN as everyone else. We all agree that everyone should have access to fast broadband at an affordable price.

In 2007 Kevin Rudd pledged his Government would not invest in major infrastructure unless it passed a rigorous cost benefit analysis.

What happened next is one of the great political mysteries. After the Government's original NBN policy failed in early 2009, why did the Labor Cabinet sign off on a project costing, as it was said at the time, $43 billion without any analysis whatsoever?

Why would you set up Infrastructure Australia, chaired by Sir Rod Eddington and tasked with assessing whether projects were beneficial and provided value for money to taxpayers, but fail to unleash them on the biggest infrastructure project in Australia's history?

I have no explanation other than the engrained, chaotic dysfunction of this Government.

NBN – An Answer To Too Many Problems?

The most troubling aspects of the NBN – its stifling of competition and high cost – arise from attempting to achieve several objectives with a single (very expensive) stroke:

- It does create a wholesale access network separate from Telstra's other businesses and open to all access seekers on equivalent transparent terms – but at the highest possible cost, by overbuilding the existing copper network with fibre whether this is economically justified or not.
- The NBN evens disparities in the quality, availability and price of broadband in different parts of Australia – but only by ruthlessly removing existing or prospective competitor networks, over-charging city users, and embedding a cross-subsidy of the bush in an opaque wholesale price.
- The NBN extends high-speed broadband to at least 2 million premises[8] with inadequate service – but won't reach some for many years, given Labor insists a new monopoly rolling out a monolith technical solution to 93 per cent of the country is the only answer.
- And the NBN does ostensibly, but incredibly, provide Labor with a 'commercial' return of 7 per cent, helping keep it off Budget – but even if you accept their financial assumptions (few do) the compromises to achieve this undermine other objectives, such as lower entry prices and affordability.

It's notable that in attempting to address these four constraints, Labor failed to keep two important additional objectives in mind.

Lower prices and wider take-up were not an objective of Labor's policy, even though Australians on lower incomes are less likely to have broadband. The NBN will increase retail prices because it ties up so much capital, and cost of capital plus opex for NBN are forecast to be double what they are for Telstra's copper[9]**.**

The NBN will also increase prices above their level in a competitive market (and constrain supply) because that is how monopolies operate, public or private.

More Bandwidth – Always Valuable?

Reflecting on the Government's argument for more and more bandwidth regardless of the cost or consumer demand, I am reminded of a farmer who lives 50 km out of town on a dirt road.

Whenever it rains it washes out, so frustrated by the local council's failure to seal it, he mobilizes his friends and relations and gets the numbers on the Council. In a fit of madness the Council then builds a six lane freeway to his farm.

This bankrupts the Council but worse still it does not get the farmer into town any faster than a single sealed lane would have done. As the Councillors are bundled out by the Administrators, they are heard to say to the angry ratepayers: "You Luddites, you don't have any vision. We were futureproofing that road so that it could handle the traffic if a city of a million people is built at the end of it."

Just like the freeway, bandwidth is only of value to consumers to the extent it enables them to access the applications and services they desire. Around the world telcos have struggled to attract any premium for the very high speeds available on FTTH because of the lack of applications.[10] Indeed in many parts of the world, the rush to FTTH is being rapidly rethought as technological enthusiasm gets mugged by commercial reality.

While all-fibre connections are becoming more common especially in greenfields sites, copper is far from dead as NBN's admirers sometimes claim – high speeds up 40 to 50 megabits per second and shortly 80 mbps together with continued economic value is being mined from existing infrastructure in many places.[11]

In terms of repelling a few myths put out in the media by the Government, the Coalition has never argued wireless is a complete substitute for fibre, or fixed lines generally. There will be wireless only users in the future as there are now, and LTE or 4G wireless will be the sole broadband technology for many people, at least in a residential context, but for most people wireless and fixed connections will be complementary as they are now and in any event all traffic, wireless or not, will be handed off to fibre as soon as possible.

But remember the debate is not about fibre per se; rather it is about whether the enormous cost of running fibre into 93 per cent of home s and businesses is justified by the benefits. That is the core financial issue with respect to the NBN.

Last but not least, the Coalition will not tear any fibre out of the ground – on the contrary, we will maximize the use and value of all of the NBN's assets as part of our policy.

The Coalition Alternative

Let me turn to what we will do.

At the outset let me explain our objective: to ensure all Australians have access to very fast broadband that enables them to access the services and applications of value to them, and at a price they can afford.

In achieving that objective we will ensure costs to taxpayers are minimised; competition is enabled and encouraged (not just in retail services but facilities as well); and under-served areas are addressed as soon as possible. Faster broadband faster.

Commitment to free markets and competition are engrained in Liberal Party DNA, but we also believe competition is a means to ensuring affordability, particularly at entry levels.

Given the key productivity benefit comes from all, or nearly all, Australians having access to broadband, it is extraordinary that the Government appears to have no interest in making broadband access more affordable notwithstanding that it is quite clear that the biggest barrier to accessing the Internet is not technology, but lack of household income.

I've already made it clear an early step in government will be to seek advice from the Productivity Commission on the most cost-effective means of achieving the objective. This advice will be given and considered however in the context of the contractual and legal constraints imposed by the Gillard Government prior to the election as well as the actual state of the rollout of NBN assets by that time.[12]

Urban & Regional Differences

A complication in every country including Australia is that densely-populated urban areas have much greater likelihood of being commercial and competitive than rural and remote areas.

Our commitment to the bush is that all Australians will have access to fast broadband at a price that is comparable to that available in big cities.

Because of geography and population density it will never be economic for the market to provide comparable investment or prices in the non-urban areas without some subsidy. The subsidy should be delivered transparently, ideally as a capital subsidy[13].

To the extent that infrastructure has been already deployed by the NBN in these areas, its capital cost also captures most of the required cross-subsidy. NBN assets on the ground in rural Australia can be made available to private sector wholesale network manager/operators who would complete and operate non-metropolitan broadband services on a common carrier basis.

For the 1.5 million or so Australians in remote or sparsely settled areas, the Coalition and Labor technology approaches are very similar – fixed wireless and satellite. It is no accident the technologies to be deployed by the NBN are the same as those which would have been used by OPEL (and, had that scheme not been cancelled by Labor in 2008 would today be providing fast broadband to Australians in those areas today).

Urban Areas with HFC

The melancholy truth is that more than 75% of the cost of this network is civil works – the people with the back hoes, trench diggers, trucks and cherry pickers. Plainly if you can use some of the existing fixed line local access network, you can reduce those civil works considerably.

So one must ask why on earth Labor and NBN Co want to overbuild and decommission the HFC pay TV cable network that passes 28 per cent of Australian premises. The network is already providing up to 100 mbps in Melbourne. [14] It could do so elsewhere if Telstra is provided with the certainty required to make the modest investment needed.

The network has plenty of potential for future upgrades – as NBN Co's corporate plan acknowledges, HFC node splitting "could be implemented as early as 2013-2013 and would

result in an increase in typical downstream speeds to 240 mbps and upstream speeds to 12 mbps." [15]

In the US, UK, Canada, South Korea, Japan and many other countries HFC is a fiercely viable competitor to copper – indeed it is usually the only threat that prompts incumbent telecoms to upgrade to FTTx[16]

Telstra and Optus are being paid billions of dollars NOT to use their HFC to provide broadband or voice services for no reason other than to ensure competition does not erode the NBN's monopoly prices.

Suburban and Regional Australia

Our approach to what I will call, for want of a better term, suburban and regional Australia[17] – those areas that are neither so built-up that they are within the HFC footprint, nor so remote that fixed wireless and satellite are the only real option – will be to invite private sector companies to deliver wholesale broadband services within the designated areas.

Some of these areas will be commercially viable and the timing and nature of upgrades will depend on the terms and regulatory certainty provided to investors. Others will not be economic in purely market terms and in addition to regulatory certainty will require different levels of Government support, which could be in the form of co-investment, capital subsidy or in a few cases both capital and recurrent subsidies.[18]

Telstra obviously would be in a prime position to tender for much or all of this role, but in order to do so it would need to separate its customer access network. Such separation would be most convincing to the next Government and to the market if it were in the form of a separate company as has been done in New Zealand. Other models are possible – but it is up to Telstra to make the case for why they better serve both the public interest and that of its its shareholders.

I might add that in my own personal view, such a structural separation would be value accretive to Telstra shareholders – in the sum of the parts is more valuable than the whole and another twenty years of fighting with regulators. The only people certain to lose from such a restructure would be the legal profession.

Assuming Telstra did form a new Network Co of its own, which could be one of several wholesalers in different parts of the country, it would be a regulated common carrier, would not offer retail services and would not discriminate between access seekers.

Its assets at the outset will consist of the Telstra exchanges, the copper customer access network and the HFC cable.

Network Co would be required to ensure, as far as is practicable, that Australians within the designated areas have access to a rapid upgrade in broadband services to at least 12 mbps as soon as possible – ideally within twelve months - and should have access to 24 mbps within forty eight months. Obviously given the capability of the various technologies available many Australians would have access to much higher speeds much sooner. The speed and extent of

the upgrade would be a very material factor in determining the nature of the Government's contribution.

As there are many areas which have services at or close to those speeds already, Network Co and the Government would agree on a timetable for upgrading the poorly served areas.

Our aim will be to ensure that those areas which are underserved today get very fast broadband much faster than they would under the NBN build.

Where the upgrade is effected by a FTTN deployment it should be done in a manner which facilitates a future upgrade to FTTH if and when that is felt to be justified by bandwidth demand.[19]

Greenfield sites should be fitted with FTTH as the incremental cost is not dramatically higher than copper or HFC.

The Government could provide support to a Network Co in the following ways:

As far as possible network assets belonging to NBN Co would be transferred to Network Co on agreed terms which may involve the NBN Co holding an equity interest in Network Co.

A regulatory regime would be established to ensure that Network Co can charge prices for access to its network that ensures it receives a reasonable return on its asset base and in particular its capex.

Where there are areas that cannot be economically upgraded to the levels required, an appropriate subsidy can be sought and obtained from the Government – this could be provided by way of a further investment in Network Co.[20]

There would be no barriers to other parties, including Optus and other owners of fixed line networks, from offering to provide fixed line services. Any party which received Government subsidy would have to comply with the common carrier principles described above.

Let me now outline the merits of this approach over the Government's NBN.

First it would involve a much lower expenditure of taxpayers' money as it would avoid the cost of a full FTTH rollout. The upgrades required in urban Australia could readily be met either by upgrading the HFC network at a relatively modest cost and/or by rolling out fibre further into the field in a FTTN deployment the total cost of which is likely to be in the order of $10 billion. Of course almost all of this would be borne by Network Co, as opposed to the Government or NBN Co, as it could be justified on commercial grounds. By way of real world and neighbourly benchmarking – Telecom NZ rolled out FTTN to 85% of New Zealand (around 1.4 million households) at a total cost of $500 million.[21]

Second it would ensure that the Government did not re-enter the telecommunications industry with a new monopoly carrier and that competition was facilitated at the facilities level as well as the retail level.

Third, as a consequence of the foregoing it would mean that access prices would be lower than they would be with an overcapitalised monopoly wholesaler with every incentive and every means to charge monopoly rents.

Fourth, while it is not my business to advise Telstra or its shareholders, I firmly believe that this approach is likely to create more value for Telstra shareholders. In other words I believe that the value of Network Co plus the value of Telstra Retail Co will be significantly greater than Telstra either as it stands or in an NBN world.

Let me now deal with the likely objections to this approach:

First, it will be said that Telstra is intractable and they will not play ball. I disagree with this. Telstra should recognise that the approach I have outlined will enable Telstra shareholders to realise the value of both their network business and their retail arm. Like Telecom NZ shareholders they should recognise, as noted above, that the sum of the parts is more valuable than the whole. This approach is hardly a novel idea. It is the obvious way to go which is why it has been pursued in one form or another in many other countries including the UK and of course New Zealand. A number of Telstra shareholders have argued that this approach should be one of the counterfactuals examined in the explanatory memorandum shortly to be sent to Telstra shareholders.

Telstra have often said that the cost of structural separation is enormous – over $1 billion. I understand that the cost of the operational separation of Telecom NZ's network business (now called Chorus) was about $300 million and that the cost of the subsequent structural separation would not be materially greater and indeed may have been less had there not been the rather cumbersome operational separation undertaken first.[22]

I should note that while I have assumed in the previous discussion that the private sector entity which would undertake this upgrade would be the Network Co separated from Telstra – but just as has been the case elsewhere, any other capable company should be able to participate.

One of the great mistakes of the Gillard Government has been to imagine that the only alternative to effecting a network upgrade with Telstra is for the Government to do it. New Zealand is an instructive example of a different approach.

Telecom New Zealand's participation in the NZ fibre rollout only came after it realized that there was a real prospect that private sector fixed line competitors could emerge over much of New Zealand.

Second, it will be said that by not rolling out FTTH we are failing to future proof Australia for higher and higher demand for bandwidth thereby giving up the immense productivity benefits from such a network.

This argument is utterly bogus. Firstly, as is widely acknowledged across the industry, not least in the NBN Corporate Plan[23] there are no applications of value to residential users today which would require the very high speeds available on FTTH. And as has been seen in Australia, South Korea and many other countries, Telcos have been unable to achieve any meaningful premium for higher speeds[24].

The reason for that is that while geeks and politicians talk about mbps, users are only interested in what they can use the bandwidth for. If the speed they have does all they need or want to do and there is nothing that a higher speed can offer them in terms of applications, they simply won't pay for it.[25]

The speeds that can be delivered on the basis of the plan I have outlined would in urban areas allow full service, high definition IP TV, high definition video conferencing as well as all of the existing broadband applications.

As far as productivity is concerned, all of the applications commonly talked about whether they are e-health, e-learning or e-commerce require relatively little bandwidth compared to HD streaming video channels.

The real uplift to productivity comes not from higher and higher speeds but from ensuring that all Australians are able to be connected and at speeds which enable them to use the applications that are important to them – that is why affordability is of such importance, as I mentioned earlier. The biggest barrier to internet access is not technological, but economic. The largest group of Australians without access to the Internet are in households of less than $40,000 a year in income.

Third, it will be said that this will result in a "patchwork" network with some connected via FTTH, some by FTTN, some by HFC and so on.

This argument, much favoured by Senator Conroy, is probably the worst of them all. Australia's telecommunications network is a patchwork now and will be a patchwork under any scenario if by "patchwork" we mean that people will access the Internet by a variety of channels. Even in an NBN world there will be people using fixed wireless and satellite not to speak of mobile wireless networks which in the 4G standard will be highly competitive with high speed fixed line broadband.

However in the regime I have described while all Australians can count on having bandwidth that enables them to do everything they are likely to want to do online, there will be some Australians with very high speeds indeed. The 30% of households with access to the HFC networks and the growing numbers on FTTH (as Greenfield developments are brought on line) will mean that there is plenty of opportunity for people to determine how much utility there is in the very high speeds. If applications do develop that make 100 mbps really valuable then those with access to that speed will take advantage of them and provide the commercial incentive for networks elsewhere to be upgraded to do likewise.

The Coalition is committed to a broadband future for Australians that is cost effective for taxpayers and affordable for consumers. It is a future that will encourage, not prohibit, competition at all levels and in so doing drive productivity, innovation and lower prices.

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[1] The various FTT acronyms can be bewildering. FTTH means Fibre to the Home meaning the fibre terminates within the customer's house or apartment or office premises, FTTP

means Fibre to the Premises which may be FTTH or may be simply FTTB, Fibre to the Basement where the fibre terminates at a multiplex in the basement of, say, an apartment building the signals being carried thenceforth on the buildings copper LAN. FTTN means Fibre to the Node a variant of which is FTTC or Fibre to the Cabinet where the cabinet is the node. The purpose of this is to bring the fibre further into the field so that the copper loop connecting to the customer's premises is short enough to enable very high speed DSL broadband to be delivered, typically over ADSL2 increasingly over a faster protocol VDSL. The term FTTx covers all of the above and is used generically to describe the programmes telcos are undertaking to upgrade their networks to enable faster broadband.

[2] See Secretary of the Treasury, Dr Ken Henry "Government spending that does not pass an appropriately designed cost-benefit test necessarily detracts from Australia's well being." Address to the ARACY Conference 3 September 2009

[3] The cost of the NBN remains a matter of dispute. The Corporate Plan forecasts the CAPEX cost at $37 billion and peak capital requirements at $41 billion. However that assumes over $23 billion of the revenue over the construction period, an assumption which is widely regarded as unreasonably optimistic. Moreover since the Corporate Plan was published, the planned tendering model was been abandoned and there has been no revision to the Corporate Plan since. It is also worth nothing that many industry figures believe the CAPEX assumptions are far too low – for one example see Cliff Gibson founder of Gibson Quai AAS, the leading telecom consulting firms, who was quoted in Commsday 16 May 2011 as saying that the "the end cost to build the network is more likely to be between $60 - 80 billion."

[4] The Government via Crown Fibre Holdings is providing $1.35 billion in loans and equity to the various fibre companies including three entities sponsored by electricity lines companies and Telecom NZ (via its network company spun out as Chorus). These investments are intended to be repaid as and when customers are connected so that the Crown carries in large part the cost and risk of slower take up. The $600 m figure is the Government's estimate of the NPV cost of the investment over its life.

[5] In New Zealand more often described as Fibre to the Cabinet (FTTC) or "cabinetisation"

[6] Some areas will be covered by multiple technologies. 98% of New Zealanders will have access to 5 mbps or better and a fair number of the remaining 2% will be able to access the wireless service as well.

[7] If you factor in the USO industry levy of $250 million the cost to taxpayers rises to $560 per household.

[8] The McKinsey/KPMG NBN Implementation Study (2010) identified 1.2 million pair gain or RIM lines where ADSL was not accessible (p.190), and another 0.4 million premises in the 'last 7 per cent' (p.282) where DSLAMs hadn't been installed in Band 4 exchanges. In addition there is another imprecisely quantified cohort of underserved premises which are in Exchange Service Areas where ADSL2+ is available but the length of the copper run from the DSLAM is too long to allow reasonable speeds. ADSL2+ has a theoretical maximum download speed of 24 mbps and upload speed of 1 mbps. But average download speeds in Australia are around 10mbps and 63 per cent of users are at least 2km from the exchange (NBN Corporate Plan 2011-13, p. 40). If distance from the exchange exceeds 4km maximum

theoretical download speed falls below 6 mbps. FTTN/FTTC resolves this problem by reducing the average and maximum lengths for copper runs.

[9] See RBS Equities Research "Telstra Corporation" 23 June 2011 p. 2-3

[10] The examples are legion. In Australia, Telstra has struggled to sell its "Ultimate" 100 mbps service on HFC in Melbourne despite only a modest price premium of $10 a month over the "Elite" 30 mbps product. In New Zealand Telecom NZ having upgraded its FTTN broadband customers to 10 mbps struggled to upsell them to 20 mbps. In South Korea, SK and LG have succeeded in upselling customers from 10 mbps to 100 mbps only by charging the same or even a lower price for the higher speed. Korea Telecom on the other hand has seen subscribers switch from 100 mbps to 50 mbps apparently to save about $A3 a month. See "Korea's Broadband – an Overview" at http://www.malcolmturnbull.com.au/blogs/malcolms-blog/korea-broadband-%e2%80%93-an-overview-implications-for-australia-2/

Note also that the NBN Corporate Plan acknowledges that the lack of applications requiring higher than ADSL2+ speeds are the principal barrier to uptake. See p. 39 "The main limiting factor in the early years of the NBN is expected to be the availability of applications that require high bandwidth. Without these applications, consumers have limited reasons for migrating to the speeds offered by the NBNm and price becomes the main factor in driving consumer choices."

[11] References are legion here too, but see Rob Gallagher "Questioning the Unquestionable: Is FTTH really the future of broadband?" http://blogs.informatandm.com/2357/questioning-the-unquestionable-is-fiber-to-the-home-really-the-future-of-broadband/ Accessed August 2, 2011 See BT's announcement from May 2011 regarding 80 mbps over FTTC http://www.btplc.com/news/Articles/ShowArticle.cfm?ArticleID=8CF30FA2-13B6-42CD-B11D-AA7F19B44734 Accessed August 2, 2011

[12] IF NBN Co achieved the forecasts in its December 2010 corporate plan, by the end of 2013 its fibre would pass 1.9 million premises (16 per cent of the national total), 1.1 million households would be customers, and $16 billion would be committed in equity.

[13] Other options include directing the proceeds of an industry levy to support uncommercial operations.

[14] Telstra is offering 100 mbps on HFC in Melbourne after upgrading to DOCSIS 3.0

[15] NBN Corporate Plan 2012-2013 p. 42

[16] As of December 2010, cable accounted for 29.4 per cent of all fixed line broadband connections across the OECD. OECD, (2010), "Broadband Statistics". In another dataset from Informa Telecoms and Media the HFC share of **global** broadband subscribers in 2010 was 19.59%, with xDSL at 63.88%, and FTTx at 13.19%.

[17] The FTTP footprint in the NBN Corporate Plan is 93 per cent, and HFC covers around 28 per cent of the market today, so this area is around 65 per cent of premises.

[18] As envisaged in the Coalition's 2010 election broadband policy

[19] I note that the advice I received from all parties I discussed this matter with in New Zealand affirmed that the Telecom NZ FTTN rollout reduced materially the cost of moving to FTTH – and rejected the view put around by NBN that the investment in FTTN is entirely wasted if a later decision to go to FTTH is made.

[20] This is in fact how the funding for the FTTH rollout in New Zealand has been provided – the total amount of Government funding is $1.35 billion and the net cost to the Government is estimated to be $600 million taking into account the preferential funding terms.

[21] There is extensive literature on the cost differential between FTTN and FTTH. For some more examples see a 2008 report by Analysys Mason, stated that deployment of FTTC in the UK by the incumbent had a capital cost of approximately 20 per cent of FTTH at all points along the curve from low-cost to high-cost premises. "Although there are clear benefits for both operators and users in taking fibre to the home, the level of cost involved suggests that FTTC is likely to be the predominant technology deployed in most areas."

Analysys Mason / Broadband Stakeholder Group – The Costs Of Deploying Fibre-based Next-Generation Broadband Infrastructure – Cambridge, 2008

A report by WIK Consult for the European Competitive Telecommunication Association, also in 2008, estimated that FTTC costs per premise were $690 in Germany and $530 in Sweden. Costs for FTTH were roughly four times higher at $3100 in Germany and 3.5 times higher at $1900 in Sweden.

WIK-Consult / ECTA – The Economics of Next Generation Access – Bad Honnef, 2008

[22] BT's publicly stated cost for setting up Openreach, the functionally separated network company, was GBP 70 million, including some provision for implementing equivalence of inputs, but most UK press and industry opinion was that the costs were considerably higher.

"A provision of £70 million has been recognised in the quarter relating to the incremental and directly attributable costs to create a new line of business, called Openreach, required under the legal undertakings agreed with Ofcom." BT – Second quarter and half year results to September 30, 2005 – London, 10 November 2005.

[23] See p. 39 "The main limiting factor in the early years of the NBN is expected to be the availability of applications that require high bandwidth. Without these applications, consumers have limited reasons for migrating to the speeds offered by the NBNm and price becomes the main factor in driving consumer choices."

[24] The evidence for this is legion – a few examples:- In South Korea for example customers of KT have been churning from 100 mbps plans back to 50 mbps plans to save about $3 a month. Other carriers such as LG and SK have managed to upgrade customers from 10 mbps to 100 mbps by pricing the higher speeds at either the same or even a lower price. In Melbourne Telstra has had little success selling its 100 mbps plan on HFC and in New Zealand Telstra Clear has had no more success with its 100 mbps plan. Telecom NZ having upgraded its FTTN customers to 10 mbps then had very little success in upselling any of them to 20 mbps.

[25] As the NBN Corporate Plan acknowledges the experience has been that subscriptions for high speed broadband and thus for FTTH are driven by broadcast-style streaming IPTV services – the third part of the typical triple play package of voice, data and entertainment. However, as video on demand (VOD) services become more popular (see Telstra's T-Box, Netflix, Apple TV etc), lower speeds (supported by adequate data caps) are quite sufficient. In Australia of course the potential for RSPs to offer streaming video services over the NBN is constrained by Foxtel's use of its own platform and its exclusive rights to much of the content.