

Simon Mackenzie speech to NZ-Australia Investment Forum: Open for Business 11 March 2010

The theme of this forum is “open for business”, and I want to talk about the key infrastructure investment that will drive New Zealand’s “openness” in the next decades.

I am referring to fibre, of course, and to our government’s commitment to make a significant investment towards creating a nationwide ultra fast broadband network for New Zealanders – fibre to the door in other words.

It cannot be said, however, that all approaches to building broadband infrastructure are equal. There are three things we have to get right:

- The right technology in the right place;
- The right market structure; and
- The right incentives for undertaking the build.

Like any major infrastructure decision, it is possible to get it wrong. And – as evidenced by the Auckland Harbour Bridge and its notorious clip-on lanes – the legacy of poor infrastructure decisions lives on for decades – not only in terms of use but also in the perceptions of ease of living and doing business in NZ.

Today I want to set out a case I believe is compelling:

- A case for Fibre to the Door as the right technology for New Zealand’s future broadband infrastructure;
- A case for a market structure that provides true open access, and at the same time provides strong incentives for rapid uptake in order to draw new and innovative service providers into the market; and
- A case for experienced infrastructure operators, with an ability to respond regionally but coordinate nationally, to be entrusted with the job of building New Zealand’s ultra fast broadband architecture.

But first I want to take you back to your childhood. Those of you old enough to have grown up in the 1960s and 1970s may recall the endless reruns of American sitcoms on New Zealand afternoon television during those decades.

Amongst those sitcoms was one called “Greenacres”, in which a wealthy New York attorney, played by Eddie Albert, and his wife, played by Zsa-Zsa Gabor’s sister, Eva, decide to forsake the city life and buy a farm out in the sticks.

Somehow they get extraordinarily bad real estate advice, and end up buying a farm where nothing works. There is no running water, the shower is outside, and in just about every episode the ancient tractor blows a gasket and sends a wheel or two rolling across the set.

But the most memorable gag throughout the series was the fact that the telephone was located at the top of a pole in the front yard. So, whenever the phone rang or they wanted to contact the plumber, someone (either Eddie in a three-piece suit with a martini in one hand, or Eva, in high-heels, a sequined evening gown and a pink feather boa) would have to clamber up the metal pegs hammered into the pole and conduct a conversation at a height of about five metres from the ground.

What made the gag even more funny was how all the characters simply accepted this absurd state of affairs as the way things had to be. They got on with their lives, showing only mild irritation at having to climb up the pole whenever they wanted to access what, in the 1960s, counted as modern information and communications technology.

They adjusted their expectations downwards and got on with running their woefully inefficient farm with as much style as they could muster.

As we enter the second decade of the twenty-first century the views that are being expressed for New Zealand's broadband infrastructure needs are – sadly – very real.

The right technology: Why we need Fibre to the Door

The Australian Communications Minister, Stephen Conroy, recently made the comment that: "Fibre is the endgame when it comes to broadband deployment. [Australia's] rollout will start at 100Mbps, but once fibre is distributed, future hardware upgrades can boost speeds to 1000Mbps and beyond."

In the same way, we need clarity around what we are investing in, that is, what type of broadband capacity New Zealand needs in order to thrive in the decades to come, before we get too caught up in alternative models and costings. If we do not follow the lead of many advanced nations, including Australia, Japan and Singapore, by investing in this "endgame", we risk finding ourselves playing an "endless game" of catch up as we struggle to keep up with the rest of the world.

This is a frustration familiar to New Zealand businesses as we play catch up in roading infrastructure, where judgement calls about future capacity needs that were made decades ago have proven problematic.

We have an opportunity to avoid that scenario with respect to broadband. But we face the risk that if we stop short of a true fibre network that we may end up in ten years with the broadband equivalent of the "Greenacres" telephone pole in the front yard.

This is a potential scenario with what is known as Fibre to the Node or Fibre to the Cabinet, which runs fibre to a cabinet some distance from the premises and uses the existing copper wire infrastructure to the premises.

First, Fibre to the Cabinet has a ceiling on capacity, a ceiling higher than what most domestic users can currently access, but considerably lower than what Fibre to the Door can deliver. That ceiling can, is, and I would say will, become a bottleneck, as computing power and storage space continue on their upward growth trajectory.

We believe the government's fast broadband objective can only be met by Fibre to the Door.

The response from advocates of other models is that no one can imagine any domestic internet user needing these kinds of broadband speeds, outside of online gaming addicts and those who want to download the kind of movies they are too embarrassed to be seen taking out of the video shop. This minority of users, it is argued, could install their own fibre connection anyway.

This argument is chillingly reminiscent of the comment Bill Gates famously made in 1981, that "640 kB ought to be enough for anybody".

My favourite remains the response that Alexander Bell had from bankers and investors when he was seeking finance for wire telephony in the 1880s: "What are you planning to do Mr Bell ... wire up every house in the country?"

How fortunate we are that he didn't give up at that stage.

My point is not to question the intellect or sincerity of these individuals; at the time they made these comments we may have even agreed with them. How many of us remember the rush of adrenalin when we first made the leap from dial-up internet to the dizzying speeds achievable with the early broadband services.

What we have learned from the history of technology is that, in most environments, additional capacity creates a vacuum which drives innovation, both in terms of content and in terms of the scope for information technology to transform and add value to new aspects of our lives and our businesses. There is a lot of demand awaiting increased capacity.

The fact is that it is not difficult to foresee transformative applications for ultra fast broadband that could impact on every part of modern life. In fact you only have to look at our Pacific Rim neighbours to observe the changes in place.

To take one example, the idea of developing New Zealand as a high-end service hub for the Asia-Pacific finance industry was proposed by the Capital Markets Taskforce last year and was recently endorsed by the Prime Minister. This has the potential to be a billion-dollar industry and to create 3,000 to 5,000 high-paying jobs. It is unthinkable without fibre as its basic infrastructure, and many of those jobs will be amenable to teleworking arrangements.

Genuinely fibre has the capacity to transform how we work, how we play, and how and what we consume. Within the domestic economy it will transform data transfer, finance, the management of distribution chains, freight management, marketing, energy and so on. It will also transform health care, through remote diagnosis, monitoring and care.

And for exporters in areas such as high value manufacturing, design, computer graphics, software development and biotechnology services, it is the essential infrastructure of the future. It enables the step change they want to achieve, just as refrigerated shipping enabled our pastoral farmers in the 1880s to overcome the tyranny of distance from markets.

Fibre to the Door provides an opportunity to rethink and redesign our cities, businesses, services and our patterns of work. That has been given additional urgency by the revised demographic data on Auckland's population released recently, which showed that the city will reach 2 million by 2031, which is two decades earlier than thought.

That's bad news for a city whose transport infrastructure is already a major source of frustration. Auckland has to make a major shift so that we do more transporting of data and correspondingly less transporting of people. That has to be a basic feature of the Auckland Super City. And it is inconceivable without a world-class communications infrastructure.

In case we are tempted to regard this effect as trivial, the Fibre to the Home Council and Price Waterhouse Coopers conducted a Europe-based study of potential sustainability benefits of broadband. They examined what the potential impact on emissions would be if 10 per cent of the European population were teleworking three days per week by 2015. They found that, each of those workers would travel around 3,000 km less over the course of a year, resulting in less congestion and a saving of 330kg of greenhouse gas emissions per user and of course they use more public transport than us.

Genuinely fast broadband will increasingly become what defines a modern international city and a modern national economy. Fibre to the Door is becoming the standard amongst the Pacific Rim economies, and especially the small trading nations such as us who rely upon an efficient interface with export markets.

The Fibre to the Home Council notes that 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. This however is rapidly increasing.

The benchmarks are being set in Korea and Japan and California and parts of Europe. And New Zealand has to meet those benchmarks simply to stay in the game.

Like it or not, indicators of broadband fibre investment and uptake are becoming “hygiene factors” when decisions are being made about where to invest.

I recently received a copy of a letter sent to residents of Singapore by their government notifying them of the date and time at which fibre installers would be knocking on their door, and advising them to be home to provide access. How better to signal to the business community that Singapore is shifting from a constrained to an unconstrained world! What better way to demonstrate that a nation is open for business!

We need to take account of the barriers we already face on the world stage. There are barriers we can't do much about, such as those imposed by our geographical location and by the relatively small size of our domestic economy, but we need to unconstrain the barriers we can.

We have to be ready to punch above our weight. And that means not providing any excuses for businesses, investors and smart people to bypass living and investing in New Zealand.

For that reason I believe our government's fast broadband strategy needs to send out an unequivocal 'open for business' signal.

It needs to signal that, like Korea and Japan and Singapore, New Zealand is shifting from a constrained to an unconstrained world and quick.

A solution such as Fibre to the Cabinet would allow other economies to move further ahead of us, so that in five to seven years time we will be asking ourselves how we managed to get stuck in the cabinet. Surely a topic for heated recriminations around the Cabinet table!

The right structure

The second problem with Fibre to the Cabinet is that New Zealand's broadband capacity would remain tethered to the legacy assets of existing telecommunications companies. That is simply the wrong structure for getting the economic gains promised by fast broadband.

The dynamism fast broadband creates depends crucially upon new solution providers, retailers and other providers using the increased capacity to drive through innovations which open up new products and foster new business models.

And to allow that innovation we need an open access platform.

I believe that view is widely accepted within government and the business community; but infrastructure strategy often involves trade-offs and last-minute compromises, so I want to remind you of why we should not compromise on this point, even though it may involve disruption to current players.

What we want is the exponential effect of thousands of New Zealand companies and individuals finding ways to work smarter, to innovate, to add new value to the market for better connectivity.

We cannot allow vertically integrated providers to be the gatekeepers to this growth potential, as has been the case in the past. It's as simple as that.

As much as they will talk the talk, and will genuinely want to facilitate growth in the market, their primary responsibility will be to their shareholders and they will be seeking understandably to preserve the value of their legacy assets.

It is not a matter of who has the best intention, but how to create the best incentives.

That said, I believe established telcos should see an open access network as a huge opportunity for them. They have an established customer base whose needs they understand. That ought to be an invaluable springboard for developing a new business model based on innovative market offerings, rather than relying on customer inertia to underpin their returns.

Across the Tasman, Australia is going for a national wholesale-only network, in order to harness competitive forces to drive better prices and facilitate a proliferation of plans and value-added services. In this regard, New Zealand needs to follow suit.

The other key structural decision that the government needs to take relates to whether to take a regional or a national approach to its ultra-fast broadband initiative. The government has indicated a clear preference for a regional approach, in spite of complaints from some commentators that this will be inefficient and could lead to 'incompatible and disconnected islands of coverage'.

In my view the answer depends crucially upon whether one is looking at the installation of the fibre itself – that is, the first layer of so-called dark fibre – or the second layer of investment needed to make the fibre 'live'.

Layer 1 creates a playing field, but without grass, or goalposts, or floodlights or touchlines.

Extending the build to what is known as Layer 2 – or lit fibre – provides all that is needed for the game to begin. Kiwis need to turn up with the ball and at the same time limit the role of a whistle happy ref.

But that requires agreed national product and interconnection standards for fibre which are built new and clean and unshackled from the complexity of legacy assets. This is important for low capital base operators, who often provide the most innovative products and services, but who need rapid uptake to turn those innovations into a viable business model. The magnitude of New Zealand's SME market is worth remembering in this context from an economic growth perspective.

For this reason, the government has recognised the need to put its weight behind the effort to create a strong momentum for growth in traffic; as it has rightly recognised, uptake by schools and hospitals could be important in priming the fibre pump.

If instead we allow ourselves to get into slow-takeoff mode, much of this potential dynamism will be lost so we will not only have a brain drain but a digital drain and the economic gap will widen.

The need for national standards at Layer 2 does not imply that the government should only consider national providers for the broadband infrastructure build, either at Layer 1 or Layer 2. What many existing technology retailers and new entrants are looking for is **not** a national dark fibre solution. Their focus is on being able to buy lit capacity from a national provider.

So it is the provision of national Layer 2 services that is critical to competition, not the national build and management of dark fibre.

A regional Layer 1 approach, such as the government has proposed, is well suited to the development of one or more national Layer 2 networks, offering wholesale open access services and allowing any retailer to connect to any premise.

Regional players in fact have many advantages. They understand the local environment; they know where to build; they have the support of local stakeholders; and can quickly modify their plans according to local needs.

Economies of scale are far lower for Layer 1 than for Layer 2 because the majority of construction costs are for civil works. As a result, the critical driver of build efficiency is the ability to project manage local infrastructure deployment effectively, a skill possessed by all the key regional New Zealand players.

What is more, a regional build creates more transparency and accountability for the Crown because local build and performance metrics will be visible and can be benchmarked nationally to drive best practice, not to mention inter region competition.

That means the regional deployment of dark fibre will be at least as cost efficient as a national deployment.

The right model for undertaking the build

So I come to my final point, which relates to the right model for building New Zealand's next generation broadband infrastructure.

It is no secret that Vector and the Regional Fibre Group of companies have put forward their submissions. What makes these solutions attractive is a combination of the right experience and the right incentives.

At Vector we live and breathe open access. That is what we have practiced as a major infrastructure provider with 90 years experience building, maintaining and operating multiple infrastructure networks.

Since what we propose is a new network it means we have no legacy assets to protect, and no commitment to existing vertical business models; we also have a very strong incentive for rapid deployment to ensure that the benefits are realised quickly. Our submission sees us deliver to a timeframe that is 3 years shorter than the government's 10-year target. Obviously this may change but I stress it also has to make commercial sense for us.

By comparison, any bidder who starts out with legacy assets has an incentive towards a slow, managed transition.

The Asia Pacific Fibre to the Home Council recently commented that the global trend is to favour infrastructure companies as broadband network builders. Consumers have a high degree of trust not only in their technical competency and focus, but also in the fact that they have no agenda other than delivering the best platform for broadband services and getting traffic volume on that network.

Paul Budde, and Australian telecommunications commentator supports this view, saying that while not all lines companies may want to take on the role of a Local Fibre Company, they should be given first right of refusal. If the lines company declines, then the Local Fibre Company role could be offered to others, including possibly the incumbent telco.

In stating his case for lines companies to be deploying fibre networks in New Zealand, Budde says that this approach represents a shift from the status quo and could result in a fibre based technology platform on which true competition among service providers can thrive.

Interestingly, in the last couple of weeks we have seen offshore a telco company buying an energy network company, in order to take advantage of the future technology.

Our regional colleagues are an important aspect of the initiative, first because of their combined experience, and also because, being local companies with a strong association to their region, they can reflect community priorities in how they manage the roll-out.

If communities see that they have a voice in setting the priorities for fibre roll-out to their region, they are much more likely to encourage uptake and to find ways of leveraging fast broadband to support their unique clusters of businesses. It becomes a matter of civic pride, or taking ownership of the network as the road to prosperity for the region and of course many will have an ownership stake through trust and local body structures. None of that is guaranteed if decisions are being driven from afar.

Conclusion

To sum up:

New Zealand needs Fibre to the Door to enable a step change in our economy, our way of relating to the outside world, connecting to our mates cross the ditch digitally and creating sustainable cities and communities at a time when, for example, our governments are working on passport free travel, we must also think about digital travel standardisation between the new fibre networks to be built in both countries. Other options may get us on the journey, but they won't carry us to the finish line in time and the game will have played out.

Our fast broadband strategy should not get too caught up in technical detail, but instead should focus on outcomes creating an impetus for uptake and innovation, driven by a shift in mindset from incremental change to step change.

That means creating a market structure based on open access, and choosing a build partner with both the experience to get the job done and the incentive to do so quickly.

We owe it to New Zealand to get this one right.

Thank you.