

**Treasury Report: Budget 2008: Bilateral for Vote: Communications
(Broadband)**

Date:	29 February 2008	Report No:	T2008/277
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Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Dr Michael Cullen)	Read the attached briefing and use it as the basis for making decisions in your bilateral with the Minister of Communications. Forward the attached briefing to the Minister of Communications and Information Technology.	5 March
Associate Minister of Finance (Hon Trevor Mallard)	Note the contents of this report	5 March

Contact for Telephone Discussion (if required)

Name	Position	Telephone		1st Contact
[deleted – privacy]	Analyst, Business Regulation	[deleted – privacy]	[deleted – privacy]	✓
Len Starling	Manager, Transport			

Minister of Finance's Office Actions (if required)

Forward a copy of this bilateral brief to the Minister of Communications and Information Technology.

Enclosure: Yes

Treasury Report: Budget 2008: Bilateral for Vote: Communications (Broadband)

Attached is a briefing for the bilateral between the Minister of Finance and the Minister of Communications at 7:30 p.m. on 5 March 2008 to discuss the Broadband initiative within Vote: Communications. The Co-ordinating Minister for the ET-Other Theme is also expected to attend.

The briefing provides an analysis of the options to progress the ET priority of accelerating investment in Broadband infrastructure. All other initiatives within Vote: Communications are being dealt with through the theme process.

The bilateral briefing is structured as follows:

Summary of Options for Addressing Gaps in the Broadband Infrastructure	p. 3
Potential Packages	p. 7
Analysis of Specific Gaps in the Broadband Infrastructure	p. 8
Residual Available in the Broadband Challenge Fund	p. 11
Annex: Related Initiatives	p. 12

Treasury's view is that while a scaled version of the initiative has merit, it is not a priority given other capital pressures in Budget 2008 and the high degree of private investment in broadband infrastructure currently planned. Should Ministers wish to commit additional funding in this area, Treasury has provided advice on the relative priority of the different funding options.

Recommended Action

We recommend that you **read** the attached briefing and use it as the basis for making decisions in your bilateral with the Minister of Communications at 7:30 p.m. on 5 March 2008.

Len Starling

Manager, Infrastructure
for Secretary to the Treasury

Hon Dr Michael Cullen

Minister of Finance

Treasury Report: Budget 2008: Bilateral for Vote: Communications (Broadband)

Summary of Options for Addressing Gaps in the Broadband Infrastructure

Funding is sought to assist New Zealand's economic transformation by accelerating the deployment of broadband infrastructure. This has been previously agreed as an Economic Transformation priority [CAB Min (07) 38/7 refers]. The funding would address identified infrastructure gaps taking into account Government's long term goal of extending fibre to the home. Funding will assist the refresh of the Digital Strategy due to be released in March. The agreed gaps are:

1. urban fibre
2. international connection; and
3. rural broadband.

The Ministry has submitted a range of options to address the gaps, some of them requiring a substantial amount of funding. Lower cost options are available, however, and Ministers may also wish to focus funding on only one or two of the gaps.

Ministers therefore have a menu of options from which to choose. Gaps can be funded individually, regardless of funding decisions on other gaps. Recommended scaling ranges are also included. Treasury recommends Option A at the lowest level and Option C as the best package for value for money and ET benefits.

Gap to address	Options to address gap	Funding over 3 years (\$million)	Please indicate decisions here
Urban Fibre	Option A: Extend the Broadband Challenge Fund	35.000 - 65.000 <i>operating</i>	
	And/or , Option B: Contingency to speed up FTTN	75.000 or more <i>operating</i>	
And/or International Connection	Option C: Crown Anchor Tenant	15.000 ¹ <i>capital</i>	
And/or Rural Broadband	Option D: Contestable Fund ²	75.000 – 150.000 <i>operating</i>	
	Or , Option E: Capitalise Kordia	75.000 or more <i>capital</i>	

Although operating is preferred by officials, some options could be designed to use capital if Ministers want to retain an ownership concern. Any capital would also require a relatively small amount of ongoing operating funding. All options would require a report back on implementation (including implications for Vote: Communications baselines costs) prior to announcement in Budget 2008.

It would also be possible for contestable funding for urban fibre and rural broadband (Options A and D) to be placed within one, multi-criteria fund. In order to decide on the amount and focus of any such fund, these options are treated separately in this briefing.

¹ Figure quoted is \$US the NZ \$ figure will be subject to calculations based on the exchange rate at the appropriate time.
² There is also the option to fund individual rural projects at a much lower level (\$5 – 15 million) although this would not effectively address the rural broadband infrastructure gap. For more information, see page 9.

Option A: Extend the Broadband Challenge Fund

- The Ministry proposes to extend the Broadband Challenge Fund (BCF) or establish a similar Fund to support a second round of contestable funding for open access urban fibre loops.
- Treasury's view is that should Ministers wish to commit any additional funding for Broadband infrastructure, urban fibre loops provide the highest ET benefits of the options within this package.

	Total Cost*	Comments	\$million - increase/(decrease)		
			2008/09	2009/10	2010/11
<i>Operating (GST excl)</i>					
Option A: Extension of Broadband Challenge Fund or similar to provide contestable funding for urban fibre loops.	\$180 million or more	Likely applicants include Auckland, Wellington and Dunedin. <i>[Deleted – commercial position]</i> Negotiation with local government necessary.	35.000	20.000	10.000
Treasury		Scalable down.	-	-	-

AND/OR

Option B: Contingency to speed up the roll-out of fibre in urban residential areas (FTTN).

- An additional option would be to establish a contingency to speed up the roll-out of fibre in urban residential areas (FTTN). This would be subject to a viable model and negotiation with Telecom. While Telecom's FTTN plans will significantly improve broadband performance in New Zealand, they will not be sufficient for meeting the Government's stated objectives of moving into the top quarter of the OECD for broadband performance by 2015.
- Treasury's view is that should Ministers wish to improve urban fibre infrastructure, Option A (above) offers higher value for money, stronger ET benefits, more immediate delivery and a more certain outcome than Option B.

	Total Cost*	Comments	\$million - increase/(decrease)		
			2008/09	2009/10	2010/11
<i>Operating (GST excl)</i>					
Option B: Contingency to leverage higher urban	Up to \$667	Difficult without a joint industry process such as FibreCo which is unlikely and may require	25.000	25.000	25.000

* This is the total project cost, the difference between Crown funding and the total cost will be made up by third parties.

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speeds (Urban FTTN).	million	regulatory change. Kordia an option but not well-aligned with current business and likely to be high cost.			
Treasury		Scalable up or down.	-	-	-

2. Gap 2 – International Connection

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Option C: Crown Anchor Tenant (demand guarantee) to facilitate a second international cable

- The Ministry and the Treasury agree that the option of the Crown capitalising REANNZ to guarantee demand and enable a second international cable to be built, has merit and would provide ET benefits. (See Annex for more detail on how this proposal relates to the recent presentation to shareholding Ministers on the future of REANNZ).
- Treasury's view is that a second cable is likely to be built without additional Crown funding.

	Total Cost*	Comments	\$million - increase/(decrease)		
			2008/09	2009/10	2010/11
<i>Capital (GST excl)</i>					
Capitalise REANNZ as an anchor tenant for a second international cable	Unknown	<i>[information deleted in order to protect the commercial position of the person who supplied the information]</i> REANNZ is the single most significant purchaser of international services.	15.000	-	-
Treasury		Any funding should be contingent on the REANNZ financial review and production of an approved business case.	-	-	-

3. Gap 3 – Rural Broadband

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Option D: Contestable Fund

- The Ministry proposes that a contestable fund be established to leverage the upgrade of regional backhaul (the connection that feeds exchanges, which is an impediment to the provision of broadband in rural areas) and to provide seed funding towards investment in 'last mile' technologies in rural areas. This could be combined with the urban fibre fund (using multiple criteria) and would be open to both fixed and wireless providers. This would be beyond what is secured through

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the Telecom undertakings.

- Treasury's view is that rural broadband is not an ET priority and the value for money is low.

	Total Cost*	Comments	\$million - increase/(decrease)		
			2008/09	2009/10	2010/11
<i>Operating (GST excl)</i>					
Contestable fund to improve rural broadband.	\$260 million	This is the minimum feasible Crown contribution to make a noticeable improvement to rural broadband.	25.000	25.000	25.000
Treasury		Scalable up.	-	-	-

OR

Option E: Capitalise Kordia to provide Rural Broadband services

- An alternative would be to contract directly with Kordia to provide improved rural Broadband services. Kordia could provide last mile services or these services as well as wireless backhaul.
- Both the Ministry and Treasury's view is that if Ministers wish to invest in rural broadband, they should choose Option D, and Kordia should be encouraged to bid for contestable funding. This will ensure value for money and a technology-neutral approach by government. Capitalising Kordia also removes the potential for joint industry projects to provide service in otherwise non-viable areas.

	Total Cost*	Comments	\$million - increase/(decrease)		
			2008/09	2009/10	2010/11
<i>Capital (GST excl)</i>					
Capitalise Kordia to provide Rural Broadband services	Unknown		25.000	25.000	25.000
Treasury/Ministry		Additional operating funding may be required, subject to negotiation with Kordia.	-	-	-

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Potential Packages

Ministers have been presented with a menu of options to address the gaps that have been identified in the Broadband infrastructure. **These options are also scalable.** To help Ministers create a package, some suggested combinations of options at different funding levels are included below.

<i>Operating unless otherwise stated</i>	<i>\$million - increase/(decrease)</i>				
	<i>2007/08</i>	<i>2008/09</i>	<i>2009/10</i>	<i>2010/11</i>	<i>2011/12 & Outyears</i>
1. Comprehensive Package (\$230 million)					
Option A: Extend Broadband Challenge Fund (urban fibre loops)	-	35.000	20.000	10.000	-
Option C: International Cable	-	15.000 <i>Capital</i>	-	-	-
Option D: Rural Contestable Fund (at a higher level) Note: Options A and D could be combined into a single Fund.	-	50.000	50.000	50.000	-
2. Quick Gains and ET Focus (\$80 million)					
Option A: Extend Broadband Challenge Fund (urban fibre loops)	-	35.000	20.000	10.000	-
Option C: International Cable	-	15.000 <i>Capital</i>			-
3. Quick Gains and ET Focus – Scaled (\$50 million)					
<i>Treasury preferred if Ministers wish to commit additional funding</i>					
Option A: Extend Broadband Challenge Fund (urban fibre loops) - Scaled	-	20.000	10.000	5.000	
Option C: International Cable	-	15.000 <i>Capital</i>	-	-	-
4. Social Inclusion Focus - Scaled (\$110 million)					
Option A: Extend Broadband Challenge Fund (urban fibre	-	20.000	10.000	5.000	

loops) - Scaled					
Option D: Rural Contestable Fund (minimum level)	-	25.000	25.000	25.000	-
Note: Options A and D could be combined into a single Fund.					

Analysis of Specific Gaps in the Broadband Infrastructure

Urban Fibre

- Round 1 of the Broadband Challenge provided urban fibre loops in Christchurch, Hamilton, the North Shore, Nelson-Marlborough and the Hutt Valley. Likely applicants and costs for Round 2 (requiring an extension of the Broadband Challenge Fund) are shown below.

		<i>\$million - increase/(decrease)</i>				
	Total Cost	Crown funding				
	<i>(Crown and 3rd parties)</i>	<i>2007/08</i>	<i>2008/09</i>	<i>2009/10</i>	<i>2010/11</i>	<i>2011/12 & Outyears</i>
<i>Operating (GST excl)</i>						
<i>[information deleted in order to enable the Crown to negotiate without disadvantage or prejudice]</i>	<i>[information deleted in order to protect the commercial position of the person who supplied the information, or who is the subject of the information]</i>					
Total	<i>At least 180.000</i>	-	35.000	20.000	10.000	-

- Vector has recently announced its intention to build 300km of cable in Auckland without Crown co-investment. This will result in competition for backhaul in the Auckland region. MUSH entities (municipalities, universities, schools and hospitals) will not necessarily be connected directly to Vector's loop if this is not commercially viable, but will benefit from increased competition and density in urban fibre infrastructure. However, outside of Auckland the business case given population densities may be harder for one entity to establish, without a discussion with local government, and bringing on board other partners.
- The alternate proposal, to leverage greater urban FTTN, is likely to require significant work. It would be contingent on negotiation with Telecom for access to its last mile network (with ensuing regulatory changes) and be subject to at least 2 year delays given the risk to new entrants' investments in LLU. The full cost of urban FTTN may be up to \$667 million which would deliver 20 Mbps to 80% of the population, an improvement on the 10 Mbps to be delivered by Telecom as part of operational separation. The most effective means to accelerate the roll-out of FTTN would be to contract with Telecom to increase the level of its current FTTN plans.
- Treasury's view is that Telecom's commitment under operational separation to roll out faster Broadband to at least 80% of the population, along with the competitive response, as

indicated by Vector's recent announcement of 300km of fibre in Auckland, means that Crown investment in urban fibre is not only unnecessary but will displace private sector investment. Urban fibre loops are the highest priority initiative within the package, however, and will deliver the highest ET benefits.

International Cables

5. Prices for international connectivity are relatively high. Competition from an open access second international cable is likely to lower prices and improve network resilience.
[information deleted in order to protect the commercial position of the person who supplied the information, or who is the subject of the information].
6. Should Ministers view international connection as a priority, the Ministry proposes the Government capitalise REANNZ to tender for a second cable to be built, costing around \$15 million. Through REANNZ the Crown would purchase an indefeasible right of use *[deleted – negotiate without prejudice]*, which would be a transferable Crown asset should REANNZ be wound up at some stage in the future.
7. Ministers will be aware that the business model of REANNZ as a whole will be scrutinised in a Cabinet report back in September 2008. Capitalising REANNZ to facilitate a second international cable would have benefits for their business. Despite this being a separable component part of the presentation recently provided to shareholding Ministers, it may be considered appropriate that decisions on the future of REANNZ be made independently after the September report back (see Annex for more detail).
8. Treasury's view is that it is not clear that additional Government funding is required for a second cable to be built. If this option is to be funded it should be contingent on completion of the REANNZ financial review and production of a sound business case for the cable investment.

Rural Broadband

9. Contestable funding is sought to improve broadband coverage in rural areas, beyond what can be secured through the Telecom separation undertakings. This funding could be open to all providers, both wireless and fixed-line (including Telecom). Officials consider that a technology neutral fund would better meet both value for money and effectiveness objectives. The Ministry considers that the minimum level of Crown funding needed to make a noticeable improvement in the coverage of rural broadband is approximately \$75 million over three years.
10. The scale of investment required to upgrade to fibre backhaul in rural regions is approximately \$110 million. This upgrade will need to be undertaken before any concerted effort to improve the coverage of fixed or wireless broadband technologies. Once backhaul is upgraded, a further \$130 million is required to improve the availability of fixed-line broadband from 54% to 81% of rural households.
11. An alternative option, not preferred by the Ministry or Treasury, is to capitalise Kordia to invest in an agreed initiative to improve rural broadband. Kordia's wireless solutions may provide cheaper options in the short-term but face significant bandwidth constraints. Because Kordia could compete for contestable funding this option would remove the ability to test Kordia's commitment to achieving value for money and remove the option of tailoring solutions to local conditions thus potentially hindering Government objectives. Kordia's interest in this option is unknown, but it may require divestment of their retail business (Orcon).

12. It should also be noted that should Ministers wish to improve nationwide rural Broadband (beginning at a cost of around \$75 million to the Crown) it is possible to set up a contestable fund for individual communities to bid for PROBE extensions. This has a relatively low cost and officials would recommend at maximum investment of \$5 million per year for three years. It must be noted that this option would only provide pockets of improved bandwidth. The existing Broadband Challenge Fund, for example, has allocated \$1.089 million in contestable funding to five rural and underserved communities.
13. Treasury's view is that improving rural broadband is not an ET priority and the value for money is low.

Residual Available in the Broadband Challenge Fund

14. The Broadband Challenge Fund is a Multi-Year Appropriation established in 2005/06. It expires at the end of 2008/09. There are residual funds remaining and these are available for use in a second round total \$4.309 million. Treasury recommends this amount is netted off any final package.

	<i>\$million - increase/(decrease)</i>			
	<i>2005/06</i>	<i>2006/07</i>	<i>2007/08</i>	<i>2008/09</i>
<i>Operating (GST excl)</i>				
Establishment	21.333			
<i>Less</i> Transfer to Vote: Education	(0.700)			
<i>Less</i> Administration (2 transfers)	(1.367)			
<i>Less</i> Applicant Development Grants	(0.350)			
<i>Less</i> Round 1 Urban Fibre Loops in: Christchurch, North Shore, Hutt Valley, Nelson-Marlborough and Hamilton		(14.198)		
<i>Less</i> PROBE extensions in rural and underserved communities		(1.089)		
<i>Less</i> Sundry Transfers (Digital Governance, engagement with local authorities)			(0.600)	
PROBE residual returned to Fund			1.280	
Auckland Broadband Strategy (no net impact)			-	
Total Remaining	17.839	3.629	4.309	

15. There is also an underspend of around \$0.500 million per year for the provision of textphone relay services and equipment which will be available from 2009/10.

Annex: Related Initiatives

Leveraging Government Purchasing Power (Demand Aggregation)

[information deleted in order to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials]

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One-page Initiative Summary

The one-page summary of the initiative up for discussion at this bilateral is attached.