



Vector Communications

Submission on the Broadband Investment Fund Draft Criteria and Proposed Process

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INTRODUCTION

Vector Communications welcomes the announcement of the Broadband Investment Fund ("**BIF**") as a demonstration of the Government's commitment to New Zealand's economic transformation.

It is very positive to see Government focus serious attention on achieving the objectives of the Digital Strategy, in particular a leadership position for New Zealand in telecommunications and information technology.

Vector Communications supports the concept of appropriately targeted seed investment and catalysing projects that deliver the outcomes that Government is looking for. This approach should ensure the best use of public funds in a commercial construct and the ongoing participation of the most appropriate investors with the greatest capabilities for delivering the outcomes sought most efficiently. Correctly applied, the investment fund could mitigate the risks that would otherwise deter or delay private investment without chilling the incentives to continue to deliver value using the best available technology.

Vector Communications submits that the North Shore urban fibre network resulting from the award of broadband challenge funds is a great example. This project has resulted in widespread deployment of the fastest broadband speeds available to entirely new segments of users. Increasing numbers of businesses on the North Shore are connecting to the network by taking services through six different independent service providers via Vector Communications' open access Metro Ethernet solution.

In this submission we will focus on the draft eligibility criteria for the urban funds, the proposed assessment criteria and the proposed timing of the process.

Summary of views

Eligibility criteria for urban funds

At a high level Vector Communications has concerns on the proposed definition of open access. Given the funding that is available, in Auckland for example, only a small percentage of network could be built compared to the 7,000km required to provide ubiquitous fibre to the premise for Auckland. Therefore, any collapse in investment incentives would lead to either the requirement for further Government funding, long delays or no progress towards fibre to the premise.

While Vector Communications recognises the intent of the "*open access passive infrastructure*" model on a fair and non discriminatory basis is to promote competition amongst broadband suppliers and to encourage future investment in open access passive infrastructure, Vector Communications believes that the

proposed model carries with it a number of costs and risks which the Government may not have contemplated. We believe that the Government should remain receptive to different open access approaches which may deliver more widespread benefits for the same level of funding.

An "*open access passive model*" that is regulated discourages private investment in fibre infrastructure by significantly increasing risk associated with obtaining a return on both existing and new fibre assets and also by introducing significant inefficiencies into the design, build and maintenance of fibre networks. There are likely to be significant costs associated with managing ongoing access to ducts for market participants to insert new fibre and connection of associated services.

There already exists competition in a number of the metropolitan markets for fast broadband, particularly in areas where there is significant density of businesses, schools, hospitals etc. Existing providers who have put significant investment capital at risk, including Vodafone, Telecom, Vector Communications, FX Networks, TelstraClear and CityLink face the severe risk that subsidised non commercial competition from a new network will undermine the returns available from existing unsubsidised investments. This will have the counter-productive effect of scaring investors away from making unsubsidised investments in expanding networks and an ongoing reliance on BIF type funding. Further, capital will not flow (or is unlikely to) for future investments from capital markets given the artificial environment/return levels.

Vector Communications submits that the eligibility criteria should include an absolute requirement that any proposed deployment must not be in any area where it would compete with an existing high speed open access fibre network (e.g., of the type that Vector Communications, FX Networks, TelstraClear and Citylink provides). There is no monopoly problem in these areas by definition, since these new entrants have been successfully able to enter in direct competition with Telecom and indeed have strong incentives to develop business models and partnerships to make uptake attractive to potential customers.

Contrary to the objective stated, the model will not lead to fibre to the home (FTTH). The nature of a network required to connect to key users is quite different from what is required for FTTH, therefore there will be little cost saving. The real obstacle holding back deployment of FTTH is not capital investment but commercial risk around take up. These risks are not addressed by this model and we would strongly recommend that funding is better focussed on take up risk and ensuring that the required products and services for customers are available.

Paradoxically the model is likely to favour vertically integrated incumbents. While vertically integrated players are clearly not eligible for funds there is nothing to prevent them enjoying risk free benefits of subsidised infrastructure as customers of the network entity while unencumbered by open access obligations and enjoying access to retail revenues.

Open access on this basis is at odds with international trends. An analysis of international examples of public intervention shows that open access is typically

provided at the bearer services layer. Where ducts and fibre have been opened it has been through regulation specifically aimed at breaking bottlenecks created by monopoly incumbents.

Our submission proposes that the Government expands the draft criteria to include alternative models which could more efficiently deliver on the Government's Digital Strategy aspirations. Vector Communications would propose that such models would focus on user segments that are not well served, that funding be directly linked to driving customer uptake by focusing on customer connection costs and encouraging a competitive retail and service provider market. There are a number of international examples of models that are structured in this way.

Assessment criteria

Vector Communications submits that the "**The network entities sustainability and potential for expansion**" should have a higher weighting. Given the funding is intended to provide seed funds to establish high speed broadband networks in areas where there is an unmet community demand, it is important that the provider has a sustainable business model and can expand on its own feet in the future.

Timetable

Vector Communications submits that the proposed timetable is far too compressed to enable a robust outcome that will best leverage the funds being made available. The criteria and objectives must be clear in order to ensure the right type of proposals. In particular, given the importance of not undermining future investment incentives by avoiding subsidised build in areas already served by existing open access providers, it will important that proposals are thoroughly assessed against conditions in each market.

ABOUT VECTOR COMMUNICATIONS

Vector Communications is the telecommunications subsidiary of Vector, one of New Zealand's largest infrastructure providers. Vector Communications owns and manages fibre optic networks in Auckland and Wellington on an open access basis.

Vector Communications has approximately 500km of network in Auckland and Wellington and is continuing to invest heavily in broadband communications infrastructure, with the recently announced a 300km extension of its Auckland fibre network. Since its inception, some seven years ago, Vector Communications has grown to be the largest independent provider of open access fibre based broadband access services.

We provide access to the network over which we deliver service providers' services to their customers. Our focus is on a business model that lowers the barriers to entry for services providers and facilitation of a dynamic and competitive retail market.

Vector Communications in partnership with North Shore City developed the North Shore urban fibre network as part of the broadband challenge. This project has resulted in widespread deployment of the fastest broadband speeds available to entirely new segments of users. Many schools have leapt at the opportunity to leverage this technology with outcomes such as the teaching of foreign languages via video conferencing, geography classes where 20+ students run individual sessions on Google Earth and schools rationalising costly resources such as servers and school management applications. North Shore City Council has used increased capacity at lower cost to rationalise their IT infrastructure over the whole city and, in particular, deliver high speed data, Internet and WiFi to public libraries. Increasing numbers of businesses on the North Shore are connecting to the network by taking services through six different independent service providers via Vector Communications' open access Metro Ethernet solution.

BROADBAND INVESTMENT FUND URBAN ELIGIBILITY CRITERIA

Broadband investment fund objectives

The vision articulated for the Digital Strategy is:

"New Zealand will be a world leader in using information and technology to realise its economic, social, environmental and cultural goals to the benefit of all its people."

The objectives of the broadband investment fund recognises the Digital Strategy vision which acknowledges that for New Zealand to truly have a knowledge economy and negate the tyranny of distance we must have communications infrastructure to support this. The fund's objectives have therefore been articulated as a "down payment on the Government's vision for a fast broadband future of fibre to the home." It has also been recognised that collaboration between public and the private sector will be critical and that private investment must be encouraged. The BIF seeks to attract a wide range of investors and to prevent the emergence of vertically integrated monopolies.

The proposed eligibility criteria for the urban fund

The eligibility criteria as set out do not appear to be aligned to the objectives.

The proposed criteria in summary are:

- (a) Applicant will be a legal entity;

- (b) Nature of the project – an investment in new or upgraded broadband access capability;
- (c) The network entity will offer infrastructure services on a fair and non discriminatory basis - open access at the passive layer;
- (d) Fit for purpose; and
- (e) BIF funding will not account for more than 50% of the total cost of the project.

Vector Communications’ proposed urban criteria

If the outcomes the Government are seeking are (as articulated by the Minister):

- (a) Encouragement of future private investment;
- (b) The BIF as a stepping stone to fibre to the home in 10 years;
- (c) The prevention of vertically integrated monopolies;
- (d) The stimulation of a competitive retail market with innovation in services; and
- (e) No/limited over build of current investment.

Vector Communications proposes that the resolution of the following issues would more likely achieve this objective:

- (a) **Targeting new customer segments that are not currently well served.** It is through bringing broadband to new customers rather than simply replacing current broadband services that real economic and social benefits are attained. This is demonstrated by the adoption of advanced services by schools enabled by the North Sore urban fibre network project. Many of the proposed targets in Auckland such as hospitals and universities are already well served with competing fibre network providers including Vector Communications – as our map shows (see Appendix 2). It would be inefficient to duplicate existing networks with subsidised duct: the Government could consider grants to such institutions to enable them to purchase existing access services.
- (b) **Investment certainty and clear boundaries for current investors.** Currently the proposed BIF leaves current investors such as Vector Communications wondering whether our current network investment could be devalued or worse stranded by a subsidised overbuild. This does not provide an environment conducive to further investment. Vector Communications has serious concerns that the model proposed incorporating open access to passive infrastructure will be very damaging to non vertically integrated infrastructure investors and the business

model we have operated successfully for seven years. Vertically integrated players will have less to lose by relinquishing some commercial control at the infrastructure layer because they have access to value at service and retail layers. Vector Communications as a wholesale infrastructure provider occupies a much smaller part of the value chain and has little ability to compensate for the commoditisation of its core business. Vector Communications has made considerable investment already and the provision of a subsidy is not taking place in a vacuum. Our investment has occurred in an environment of reaching appropriate commercial terms with customers. Existing investors have already made progress in these markets and have a significant stranded asset risk. There should be a philosophy "first do no harm", because otherwise if market participants observe that Government is willing to undermine existing sunk investments, then this will be counter-productive to the very cause that the Government is advancing. For example, if the Government provides funding for open ducts in direct competition with existing ducts (open or otherwise) then what if little fibre gets installed in these ducts (or only Telecom invest), would the Government then start funding the fibre? If there is a risk of this, then that may become a self-perpetuating prophecy and investment in non subsidised network will cease.

- (c) **Encouragement of a competitive retail/service provider market:** The current proposal suggests that the lack of investment in fibre is due to the high capital barriers to build the network. However the issue for Vector Communications, as an infrastructure owner and manager, is not the investment capital but rather our risk lies in finding committed service providers with the innovation at the service layer to "drive the need" for a fibre network. We believe that operating at the layer two/bearer services layer we are best able to level the playing field for new service providers to enter the market, lowering the barriers to entry and optimising the use of a scarce resource – fibre.
- (d) **Cost to connect - stimulating uptake:** As an open access (bearer services) network, the key barrier to uptake of our current fibre network is not the service price but the cost to initially connect a small business customer. To truly stimulate growth of broadband beyond major businesses, the cost to connect must be lowered. There are two ways to achieve this:
- An ubiquitous fibre to the home/premise network in which economies of scale reduce the cost to connect
 - Some form of subsidisation of the cost to connect to a customer (the down the driveway cost)

Public seed funding should directly link to driving uptake in general as opposed to focusing on well served entities.

Vector Communications proposed urban criteria

Therefore we would propose that more effective urban criteria could include:

- (a) Applicant will be a legal entity;
- (b) Nature of the project – an investment in new or upgraded broadband access capability, with no overbuild of existing open access network investments;
- (c) Projects should demonstrate that broadband will be delivered to a new underserved sector of the community and not displace services currently provided;
- (d) The network entity will offer at a minimum open access at the bearer services layer on commercial terms and conditions. Vector Communications supports the proposal to require any recipient of BIF funds to operate an open access model. However, it is very important that open access is provided at the appropriate functional level of the network – in Vector Communications’ view, that level is not the duct or dark fibre level. Market dynamics should prevail or again the capital availability will not be forthcoming, hence stifling future investment. As with any industry, firms in the telecommunications markets seek out the optimal degree of vertical integration of the various required inputs and operations. Vector Communications is not aware of any private provider of fibre network in the world that offers open access at the duct level. This is because such an approach is inefficient. Coordination, as well as broader transaction and production, costs are minimised by combining duct, dark fibre and bearer services. Vector Communications does this, and then offers open access to all service providers. This approach is very important in order to obtain a return on the large investments that are involved in developing a ducted fibre network, as we explain later in this submission. Dark fibre is grossly inefficient as the advantage of fibre lies in the ability to deliver multiple services in one fibre;
- (e) Fit for purpose; and
- (f) BIF funding will not account for more than 50% of the total cost of the project.

DETAIL ON ISSUES WITH URBAN ELIGIBILITY CRITERIA

The BIF criteria seek to create a competitive environment by making open access a requirement at the deepest layers of infrastructure. Vector Communications is concerned, however, that in practice it will lead to some perverse outcomes. In particular, we believe that, contrary to the stated objectives, the proposed model:

- (a) Will discourage private investment;

- (b) Will not lead to FTTH;
- (c) Will favour vertically integrated players; and
- (d) Is at odds with international trends.

Open access passive infrastructure will discourage private investment

Open access passive infrastructure increases risk for investors

As with any access regime, the rationale is to promote competition in a related market. However, mandated access and pricing can also “chill” the investment incentives on the access provider and public policy needs to balance these tensions.

Passive infrastructure open access increases the commercial risk of an investment in network through the potential for bypass and caps the upside from successful investments. Because at any time a fibre investment could be stranded by the potential entry of a new fibre provider in a duct, this will induce fibre investors to price their services in a manner that attempts to recover costs quickly, rather than over the likely physical lifetime of the asset.

Given the large investment and technological and demand uncertainty, business cases for broadband investment rely on creating commercial options that can be exercised throughout the life of the project, they are not one-shot trajectories. Regulated open access restricts those options, and grants “free options” to access seekers. For investment to occur, it is very important that these free options are accounted for in the access price.

Vector Communications may use commercial arrangements ranging from long term leases with up front charges, through to multiple low capacity managed broadband services in order to justify a network extension. These arrangements are negotiated with our customers and represent value to both parties.

The average costs of deploying network are high and therefore a “non discriminatory” price will similarly be high (e.g. a price of approx \$1,000 per month for dark fibre service). Users who value the services at more than incremental cost, but lower than the non discriminatory price, would miss out.

A one off subsidy at the start of a project is unlikely to compensate for the loss of commercial freedom resulting from passive infrastructure open access. In contrast, open access at a service layer would preserve more of the network owner’s options (assuming an appropriate access price is paid).

No rationale has been given for open access passive infrastructure. There have been no benefits ascribed to it beyond what can be delivered by service layer open access.

Build cost will be higher

Vector Communications builds fibre networks using air blown fibre (ABF) technology. In practice this means the civil construction consists of burying or drilling compact multi-duct conduits. Each conduit contains multiple micro-ducts into which micro-cable and multi-fibre "elements" can be blown after the conduit is placed. In order to minimise disruption and cost Vector Communications carefully considers what will be required along that route whether it be core, distribution or access network. Access network micro-tubes are re-used at regular intervals along their length to ensure the most efficient use of the infrastructure.

It is not clear what would be required in order to offer open access to ducts as the quantity of customers and their particular requirements would be difficult to anticipate. Not all fibre operators choose to use ABF. Increased cost would be incurred in installing extra infrastructure in anticipation of "duct customers". Pits and manholes would need to be considerably larger to support multiple operators' fibre cables, joint and cable slack requirements and there would need to be more of them.

Costs would also be incurred in ensuring that GIS and asset management systems could support third party use of those conduits.

In most cases existing network would be unsuitable for third party use as it has been built using a minimum of conduit, often in space constrained circumstance such as in old gas main and spare conduit associated with the electrical network. The placement of cables through such conduits requires expert resource, qualified for working in proximity of gas and electricity assets and trained to high standards of health and safety.

Building conduit systems to support open access is not cost efficient. Vector Communications has explored many innovative ways that make wide spread deployment of fibre based broadband networks economic. In order to support open access duct it seems we would need to set aside all that innovation and start building conduit networks as was prevalent in the last century.

The requirement to provide open access dark fibre will add significant cost due to the large amount of fibre required to deliver this service where as when operating as open access at a bearer services layer significant savings can be made due to the efficiencies associated with delivering multiple high speed services using far fewer fibre pairs.

Operating cost will be higher

Considerable additional ongoing operational cost will be incurred associated with establishing and running an open access duct and dark fibre network. There would be much greater resource required for operational issues such as resource allocation, record keeping, as-built verification, manhole administration etc. This is particularly the case given the requirements of clause 3.6 of Section A, Annex Two. While not clear at this stage, these requirements may require the successful bidder to establish a new subsidiary and to establish a variety of new governance arrangements and processes to ensure the required transparency. Once again, these costs would be lower if the open access was at the service layer.

Operational incidents are likely to be more frequent with more hands in the network and the issue of fault restoration priority in case of a network incident will be hard to resolve.

In addition to operational costs open access supporting multiple layers at every layer will introduce greater transactions costs associated with sourcing the input products from multiple disparate participants.

Pricing will be complicated and litigious

Requirements for fair and non discriminatory pricing for duct and dark fibre imply some kind of pseudo regulated pricing regime.

Pricing is very complex when there are large fixed costs, the size of the market for those services is difficult to estimate and the value ascribed to the use of elements of the network can vary so greatly. It would very difficult to determine the size of the market for services because it will be a small number of participant with many substitution options. The potential for locking in value destroying costs is great.

BIF applicants will be faced with the costs of determining, defending and ensuring transparency of their prices and will need to devote significant resources to the regulatory and/or monitoring processes that will ensue. This is the type of burden a large scale incumbent can expect and resource appropriately for. It is likely to be crippling however for the new entrant participants anticipated by the BIF criteria.

Mechanism unattractive to network operators

Taking into account the increased costs and risks represented by the BIF mechanism as it stands, a one-off subsidy for less than 50 % of the infrastructure cost is unlikely to motivate ongoing private investment from network operators.

Proposed model will not lead to FTTH

The proposed mechanism is unlikely to lead to any significant FTTH penetration in 10 years. Instead it is likely to result in a fractured and inconsistent market of disparate and disjoint empty duct systems.

The theory proposed is that availability of duct in a street will lower the cost of delivering FTTH. However, an access network that is designed to support low cost connections every 15 to 20 metres is very different from one that is designed to connect "key public users" every 500m to 1km. Cost savings are therefore predicated on the assumption that sufficient duct space is provided for and reserved until a FTTH operator starts deploying in that area. It would also require that duct was built to a standard that facilitated access connections for service leads at regular short intervals.

These requirements would add considerable cost to the original deployment that could not be recouped until a FTTH network was rolled out.

In Vector Communications' experience, contractors that do not fully understand more than the immediate requirements, will cut corners in ways that overcome immediate issues but make future service connections very difficult. For example there may be a strong temptation to drill the duct well below its intended position to avoid the need to locate obstructions. This makes future connections much more costly to provide when required.

These issues can be overcome by careful specification and rigorous quality control from the outset but that all adds to the cost. These costs would be better managed by a model that imposes open access at a higher level than the duct.

Even so the savings achievable by having some duct in the street will not be significant enough to encourage investment in FTTH. Duct infrastructure laid to support the connection of "businesses and key public users" would typically not be widely spread in residential areas, would not have provision for regular service lead connections and would be present on one side of the road only. Total project saving would probably amount to less than 10%.

But the key consideration comes from a better understanding of the business case for FTTH. The real obstacle is not the capital cost of build, it is the commercial risk around take up and average revenue per user (ARPU). These sensitivities are particularly acute for an open access FTTH network provider because they would not have any direct influence on the development and promotion of the advanced services that differentiate fibre in the customer's view.

FTTH, where it has taken hold, has been the result of commercial decisions and clear commercial models (even where it has been the result of public intervention) – it does not evolve from dark fibre, open ducts or even FTTN. There are no intermediate steps to FTTH because the network architecture differs significantly between FTTN and FTTH.

Proposed model favours vertically integrated players

Vertically integrated players are clearly not eligible for funds under the criteria. However, they can still be customers for wholesale ducts provided by successful BIF applicants and therefore directly benefit from the low cost infrastructure at fair and non discriminatory prices. Such players would then enjoy the benefits of subsidised infrastructure, the transactions cost efficiencies of “fibre-up” vertical integration as well as direct access to value add customer revenues. Because this model is least encumbered by costs or regulatory obligations it is likely to become dominant.

Vector Communications has established a competitive advantage by lowering build costs, offers open access at a bearer services layer and does not provide retail services. This model would become marginalised in the presence of subsidised infrastructure players and fibre-up vertical players. Such a participant would either need to elect to become a subsidised DuctCo (which is commercially unattractive) or vertically integrate to gain access to customer revenues.

Contrary to the objective of the BIF “to prevent the emergence of vertically integrated monopolies”, a likely outcome of the model under the proposed criteria is a market consisting of publicly subsidised DuctCo’s that are opportunistically used by otherwise vertically integrated players. A wholesale operator providing dark or lit fibre services in open ducts will face too large a stranding risk.

Vector Communications submits that because of the burden the BIF criteria place on subsidised players, they will become marginalised into unsustainable duct only providers and non subsidised players will be incented to vertically integrate as much as they can. There will be little room for the existing network operators that provide open access at a bearer services layer.

Proposed model is at odds with international trends

The model proposed is unprecedented in that not only does it specify open access at the deepest possible functional layer (the ducts), but it also specifies open access at multiple layers. While horizontal separation is a prominent feature of many structures resulting from public intervention access to lower layers is usually granted exclusively to one operator as a result of a tender and is not available to “*all third party service providers on a fair and non discriminatory basis*” as required by the BIF eligibility criteria (section 3.2).

In most case studies open access features at the bearer services layer. This supports our contention that it is at this layer that the most efficient network access product can be delivered that still delivers the competitive and innovation benefits of open access.

In areas outside of Auckland, Vector Communications is often offered dark fibre services at approximately \$1,000 per month per connection. This is suitable for large bandwidth users who would otherwise pay substantially more for a

managed bandwidth solution. However, it is difficult to serve customer segments with more modest requirements. It is impossible to offer a managed Ethernet service for, say, \$200 when one input of the service is priced at \$1,000.

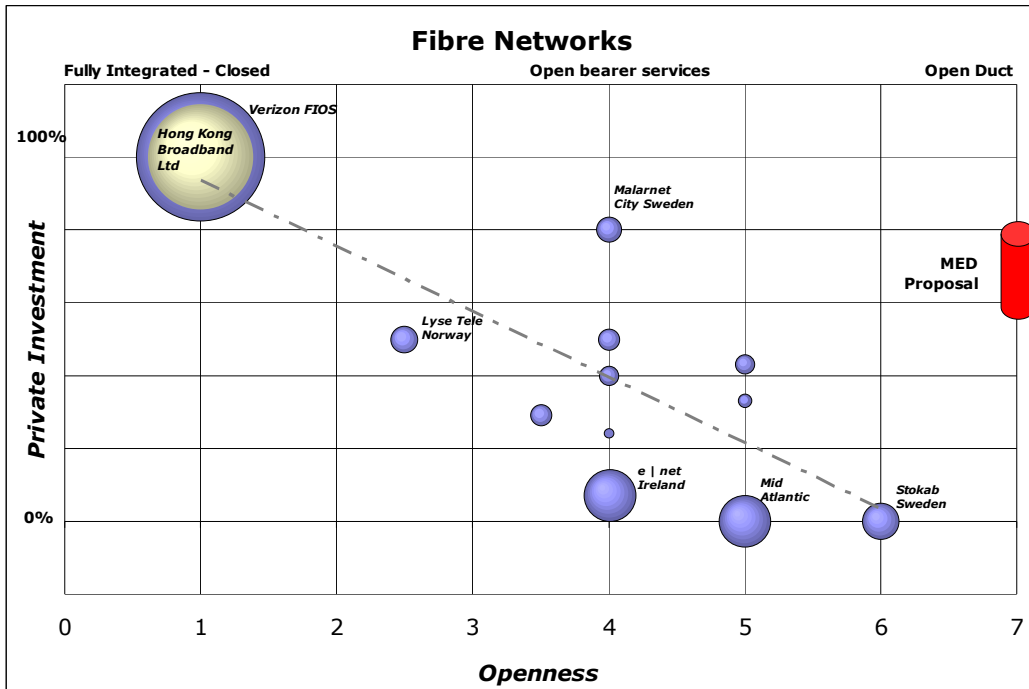
While there are examples where a monopoly incumbent has been required to make access to existing ducts available, research into international case studies where there has been public investment in new fibre have not revealed any models that provide open access at a duct layer.

On the outskirts of Melbourne, the City of Whittlesea developed a duct network by requiring property developers to build it while new subdivisions were being built. Access to duct was offered by a tender process, however no operator were willing to invest in networks using the ducts without further subsidy¹. This illustrates the issue raised above – open access at the duct level is not economic, because it unbundles various functions that are more efficiently provided together.

In Stockholm the city formed a dark fibre operator called Stokab with the objective of rationalising the deployment of fibre in the city. Stokab provide dark fibre enabling FTTH in mainly apartment blocks in Stockholm. This venture, however, has no private investment and does not provide duct access.

More international cases are considered in Appendix 1, however it is a general observation that the openness of the network is inversely related to the proportion of private investment. The criteria of the BIF are at odds with this observed relation requiring both unprecedented levels of openness and greater than 50% private investment.

¹ Robin Eckermann Presentation to OECD Workshop on Fibre Investment & Policy Challenges.



While not intended as a rigorous analysis this graph was prepared to illustrate three key points:

- (a) Greater levels of private investment occurs when there is greater vertical integration;
- (b) Most private investment open access models happen at a bearer services layer suggesting that this is an optimal model that balances costs/risks with openness; and
- (c) The proposed model which has unprecedented openness, but seeks greater than 50% private investment, is an outlier in this framework.

ASSESSMENT CRITERIA

The assessment criteria are:

- (a) Demonstration of the projects benefits – 30%;
- (b) The commitment of the applicant, including any partners – 30%;
- (c) The capability of the applicant – 25%; and
- (d) The network entity’s sustainability and potential for expansion – 15%.

Vector Communications supports the proposed assessment criteria but has concerns on the weightings allocated. If, as the Government states, that this

funding is to provide a stepping stone for future private investment in FTTH/P Vector Communications would put forward that "The network Entities sustainability and potential for expansion" assessment criteria should be a least equal weighting with the other assessment criteria. If the outcome of this funding simply funded one off island projects this would not lead to further investment delivering fibre to the home but instead could increase the difficulty in making future investment possible.

Vector Communications believes that the assessment criteria must be very clear in prohibiting any investment in areas where there is an existing open access network. This will be necessary to avoid crowding out existing and future private investment.

TIMING AND PROCESS

Vector Communications has concerns about the timetable. In particular, more time should be allowed for the MED to properly consider the feedback that will be submitted on the Broadband Investment Fund criteria and process. We would propose that at least two months would be required to fully absorb and analyse submissions. We also suggest that during this period the Ministry of Economic Development (MED) also undertakes a review of international models and their respective strengths and weaknesses with respect to delivering Digital Strategy outcomes. We propose that the MED revise the criteria date to the 31 August 2008.

Development of a worthwhile expression of interest will be an involved process especially if it involves developing a partnership or consortium. While Vector Communications understands the MED is not looking for an overly burdensome response it is still a response that potentially eliminates parties from the next stage. Given the large amounts of funding and the potential to cause disruption in the market this is a serious consideration and should not be taken lightly.

We suggest that the date for expression of interest stage be extended until 30 November 2008. This would have the effect of providing time for adequate time for consideration and development of meaningful partnerships without compromising the overall timeline for making funds available.

APPENDIX ONE

Review of international models

Some good examples of public intervention in Amsterdam and Singapore. However in these examples public investment was greater and access to infrastructure was granted to an exclusive operator based on a tender. That operator was required to provide open access bearer services to multiple service providers.

Stokab

Stokab has been successful in facilitating FTTH (particularly apartments) in and near Stockholm. Mature service provider community – mature market for high speed products. Operators using Stokab fibre are vertically integrated from fibre up. Stokab does not provide open access duct. Stokab is fully municipally owned by the city and invests with the aims of minimising disruptive civil build and providing a competitive and economic advantage for Stockholm i.e. it does not rely on private investment.

France

Regulator ARCEP has opened up FT civil infrastructure on the basis that it was inherited from a monopoly. This requirement does not apply to new entrant's investments in civil infrastructure.

ARCEP recognises an issue with gaining access to buildings and is considering symmetric regulation ensuring access to fibre infrastructure within buildings.

Amsterdam

In Amsterdam a joint venture operator (GNA) has been set up with ownership of the city and other partners mostly representing large landlords. While landlords are private investors their expected returns come from increasing the value of their property – not through operating profits from the network. This investment motive could be likened to a municipal or Government motive, that is long term value-add rather than operating profit.

GNA is building FTTH to 40,000 homes. A single network operator has been selected to run the network and provide wholesale bearer services on non discriminatory terms to multiple service providers. Although the design of the venture is horizontally separated, neither wholesale duct nor dark fibre feature as products available to end-users.

Singapore

Singapore plans to hook up all its homes and businesses with fibre by 2015, with some homes getting the 1 Gbit/s access services from 2010. To achieve its aims, Singapore has created a three-layered model: a network company to design, build, and operate the passive infrastructure; a network operator, to deploy network infrastructure (routers, switches) and act as a wholesaler of broadband capacity; and multiple retail service providers. While service providers all use the same underlying physical infrastructure it is accessed at a bearer services layer. There are no open access dark fibre or duct products.

Verizon USA

Verizon is undertaking the largest and fastest roll out of FTTH in the world. This is a purely private investment but only feasible because Verizon has been given regulatory clarity that it will not be unbundled and it can operate vertically integrated and exercise all commercial options available to best achieve a return on the huge investment required. This regulatory accommodation was acceptable because Verizon faced competition from cable networks.

Whittlesea

Whittlesea is a high growth municipality on the outskirts of Melbourne. For about five years the Council has required subdivision developers to install empty duct for FTTH and vest it back to Council. This is one of the few models that seeks to build new open duct. Duct, however, is still not provided on an entirely open access basis as network operators seeking to use the duct need meet requirements including the provision of retail services and must submit proposals in a tender process. Reportedly to date no operator has been prepared to use the duct without further subsidy.

APPENDIX TWO

Map of key users in Auckland

See attached PDF