



**SUBMISSIONS ON UCLL BACKHAUL  
AND UBA BACKHAUL STDS –  
CONSULTATION OVER THE MARKET  
DEFINITION AND COMPETITION  
ASSESSMENT**

**20 April 2010**

**Public Version**

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## A. OVERVIEW

- 1 Telecom welcomes the Commission's consultation paper reconsidering the appropriate market definition and competition assessment for the UCLL Backhaul Service and extending the competition test condition to the UBA Backhaul Service for the first time.
- 2 Telecommunications markets generally are undergoing a period of transformation and backhaul services are no exception. Extensive existing networks, and ongoing investment in fibre in the form of regional and national networks, make for increasingly competitive backhaul markets. This is evidenced by that fact that:
  - (a) Backhaul markets have undergone significant change since the backhaul STDs came into effect over 18 months ago – with more operators competing more intensively to provide backhaul services, including for the rapidly growing UCLL and UBA markets; and
  - (b) New, competitively priced commercial transport services are being offered for both the UCLL and UBA services and appear to be preferred by some customers to the regulated equivalents.
- 3 The dynamic and increasingly competitive nature of the backhaul markets, our proposed adjustments to the competition test below, and changes driven by the Undertakings lead us to believe that greater reliance can be placed on the market delivering competitive outcomes and that regulation can accordingly be rolled back further.

### **Adjustments to the competition test**

- 4 We do not believe that the Commission's current test captures the full extent of the existing, and potential, competition in the market. We believe some of the key parameters of the test are conservative and that too little weighting is given to certain competitive constraints. The net effect is to understate the level of competition / competitive constraint in the UCLL Backhaul and UBA Backhaul markets. We propose some adjustments to address these issues:
  - (a) Recognising that there is a competitive constraint imposed on Telecom by vertically integrated (**VI**) operators like TelstraClear, in the same way this is recognised by Ofcom in the UK<sup>1</sup>;
  - (b) Taking account of Telecom Wholesale's competitive offerings, which demonstrate the existence of competitive pressure and Telecom Wholesale's willingness to respond to that pressure; and

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<sup>1</sup> Ofcom recognises this constraint - See: <http://www.ofcom.org.uk/consult/condocs/wbamr07/wbamr07.pdf> (para 184) and <http://www.ofcom.org.uk/consult/condocs/wba/wbacondoc.pdf> (paras 3.154 – 3.184)

(c) Adjusting the *near entrant constraint* to more accurately reflect the actual constraint imposed.

5 Our proposed adjustments reflect the reality that we see day to day in the relevant markets alongside the ambition we share with the Commission of pursuing regulatory best practice. These adjustments will mean that Telecom is deemed not to face limited competition on a backhaul link when one or more of the following is present:

(a) One or more wholesale only backhaul operators (as is currently the case);

(b) A VI operator is present and (i) is offering a wholesale backhaul service or (ii) the VI operator is not wholesaling but there is evidence that market outcomes are comparable to routes not subject to limited competition. The evidence threshold would be satisfied where demand for a commercial service (where one is provided by Telecom or another party) is considerably higher than for the regulated service.

(c) Where UCLL is forecast to roll out and where the actual build cost<sup>2</sup> is less than the aggregate \$150,000 or \$300,000 cost or there otherwise is evidence of prospective entry that would impose a constraint on Telecom in the supply of backhaul from a particular exchange.

6 If applied, these adjustments to the competition test are likely to reduce the number of links where Telecom is deemed to face limited competition - leading to a more accurate reflection of the competitive situation in these markets.

7 There are a number of possible approaches to defining the relevant geographic market, any one of which could be made to work for UCLL Backhaul and/or UBA Backhaul. We are keen though not to propose unnecessary change and / or add complexity unless there are tangible benefits to doing so. Therefore, while remaining open to alternative approaches to widening the geographic market definition, we are not advocating such a change at this stage.

#### **Effect of Telecom's Operational Separation Undertakings**

8 Telecom's obligations under the Undertakings provide comfort to the Commission and customers that effective safeguards are in place to protect pro-competition outcomes - without the need for a regulatory "backstop".

9 Under the Undertakings, Chorus and Wholesale have strong incentives to act in their own, and their customers', best interests - to innovate and provide services where there is sufficient customer demand. A good example is Telecom

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1 <sup>2</sup> We would expect build costs for suburban and semi-rural areas will be considerably lower than the average cost figure which includes higher cost urban / CBD areas.

Wholesale's Tail Extension service, which was developed as a commercial solution to meet customers' needs in parallel to the regulated UBA Backhaul service.

- 10 In addition, non-discrimination obligations (amongst others) ensure Chorus and Wholesale customers will be on a level playing field to Telecom internal customers. This safeguard applies to any services meeting the UCLL Backhaul and UBA Backhaul service descriptions in the Telecommunications Act (**Act**) - without the need for a Commission determination.

**Increasing competitive outcomes suggest that further de-regulation is likely to be appropriate in future**

- 11 The underlying markets for backhaul services are competitive - with competitive constraint extending beyond links with an active competing wholesaler. Furthermore, the degree of entry to date and ongoing investment rolling out fibre networks indicate both that barriers to entry are low and a willingness to invest.
- 12 With this in mind it is appropriate to question the purpose of, and future need for, regulation of these markets. While this question may be beyond the scope of this consultation, this consultation should sufficiently inform the Commission of market conditions to enable it to consider whether a wider review of these regulated services would be appropriate (an act Telecom would support). Deregulation, where there is sufficient evidence of competitive market conditions, is a measure of the Commission's own success.

**B. WHY IS IT IMPORTANT TO PROPERLY ACCOUNT FOR COMPETITIVE DYNAMICS IN RELEVANT MARKETS?**

- 13 When considering the appropriate market definition and competition assessment, it is important not to lose sight of the overarching principles of the Act and regulatory best practice.
- 14 The Act and best practice tell us that the purpose of regulation is to promote competitive market conditions to deliver long term benefits to end users. Competition is preferable to retaining regulation. The direct and indirect costs of regulation, the potential to distort markets (for example investment incentives), and the risk of regulatory failure often outweigh any risks associated with removing that regulation.
- 15 As the Commission recognised in its NGN Study<sup>3</sup> regulation should be considered only where necessary to constrain market power – where for instance it is conferred by control over bottlenecks; and, should be scaled back as workable and effective competition develops. This approach is also consistent with that taken in the UK where Ofcom has a duty to review the ongoing effectiveness of regulation and to minimise regulatory burdens.<sup>4</sup>

**...and further safeguards are in place**

- 16 The Undertakings regime is highly relevant in this context and is a form of regulation over and above the STDs.
- 17 Under the Undertakings, Chorus and Wholesale have strong incentives to act in their own, and their customers,' best interests - to innovate and provide services where there is sufficient customer demand. A good example is Telecom Wholesale's Tail Extension service, which was developed as a commercial solution to meet customers' needs in parallel to the regulated UBA Backhaul Service.
- 18 In addition, non-discrimination obligations (amongst others) ensure Chorus and Wholesale customers will be on a level playing field to Telecom internal customers. This safeguard applies to any services meeting the UCLL Backhaul and UBA Backhaul service descriptions in the Act - without the need for a Commission determination.
- 19 Telecom's Undertakings obligations have the effect of replicating the market conditions that would exist if Wholesale and Chorus were wholesale-only operators. Therefore the risk associated with adopting a less conservative competition test (and consequently reducing service specific regulation) is low.

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<sup>3</sup> *Discussion Paper on Next Generation Networks*, Commerce Commission 24 December 2008, page 4.

<sup>4</sup> See section 6: [http://www.opsi.gov.uk/Acts/acts2003/ukpga\\_20030021\\_en\\_2#pt1-pb2-l1g6](http://www.opsi.gov.uk/Acts/acts2003/ukpga_20030021_en_2#pt1-pb2-l1g6)

### C. SAME MARKET DEFINITION AND COMPETITION TEST FOR BOTH SERVICES

- 20 The competition test in the UCLL Backhaul STD took effect from the date the STD came into force. In the case of the UBA Backhaul, for the first three years after the service description was included in the Act, there was no equivalent competition test. That initial three year term expired at the end of last year. The methodology and process for undertaking the UBA Backhaul competition test must now be implemented.
- 21 We agree with the Commission that it is also time to consider whether the UCLL Backhaul market definition and competition test need to be updated.
- 22 On balance we believe that, at this stage, the same or a substantially similar market definition and competition test should apply to the UCLL Backhaul and UBA Backhaul Services. We note that there are technical differences between the services and obvious differences between the geographical footprints of the services (UBA Backhaul is available from 29 handover points whereas UCLL Backhaul extends deeper into the network of exchanges). We do not believe that these, together with bandwidth differences between the two services, justify adoption of separate market definitions or competition tests.

### D. CURRENT BACKHAUL MARKET

- 23 The UCLL Backhaul and UBA Backhaul Services are two of a number of services that are being offered in the relevant backhaul markets. If the Commission focuses only on these two specific services it will miss some of the significant competition that is occurring in the broader backhaul markets.
- 24 For both UCLL Backhaul and UBA Backhaul, there are a number of existing and potential competitors, as well as commercial alternatives in some instances. Potential competition exists wherever another company has fibre in the ground, or even a trench or power pole close to the relevant exchange. Commercial alternatives exist where parties are offering a service to deliver non-UCLL and non-UBA traffic, but that infrastructure could also be used to provide services for UCLL or UBA traffic.
- 25 The map and the commentary **attached** in Appendix 2 show that fibre continues to be rolled out in, and between, New Zealand's major population centres. This Appendix illustrates that there are a variety of companies offering both layer 1 and layer 2 services in different parts of New Zealand. Therefore, at the very least, the potential for UCLL Backhaul and UBA Backhaul competition exists in all of these areas and there could well already be commercial alternatives in existence that could be substituted for the transport of UBA and UCLL services. However, this potential competition will not necessarily be captured through the

Commission's current assessment. We discuss this in greater detail in the following sections.

- 26 It is also worth noting that commercial services in a competitive market can also provide more flexibility than regulated outcomes. Take, for example, the UBA Backhaul Service. There has been limited demand for the regulated service. However, demand for Wholesale's Tail Extension service has been much stronger.
- 27 Backhaul markets will continue to evolve and it would seem highly likely that the parties that have entered this market will continue to expand their networks and their offerings as they try to maximise the return from their investment.
- 28 The evolution of the market is likely to mean that parties deliver innovative and cost effective service offerings, eventually making the regulated services less attractive than they are today. The level of competition for the specific UCLL Backhaul and UBA Backhaul Services is likely to increase, as market participants may well choose a substitute service that better reflects and changes to meet their needs over time, in preference to a regulated service. We have already seen this occurring with the Tail Extension service. Fixed wireless links are also potentially relevant supply side substitutes. It is important that these substitutes are captured in the Commission's competition assessment in respect of the markets where they exist.

## **A deregulatory aspiration**

Regulation should be targeted, effective and responsive to local and macro level developments in the market.

One problem with the current methodology is an over-emphasis on point to point competition which, while fine historically, now (and increasingly in the future) risks missing important broader regional and national considerations. The result is likely to be an underestimation of the state of competition in backhaul markets. We have refined our thinking in this area and believe the Commission's methodology would be improved if two adjustments were made. These adjustments are to take greater account of:

- Direct and indirect competitive constraints in the current link by link competition test; and
- Competitive constraint reflected in market behaviour at a macro level, including in markets without direct competition.

These adjustments, which are consistent with regulatory best practice, would lead the Commission to view these markets as competitive at an underlying level. In turn, this would allow for greater reliance on the market delivering competitive outcomes including:

- A roll back of backhaul regulation in the short to medium term (in particular for UBA Backhaul where the national market is more clearly defined and scale advantages exist); and
- Greater reliance on structural remedies provided for in Telecom's Undertakings (although retaining the current service description in the Act for a defined period may be appropriate in the short term).

## **E. MARKET DEFINITION**

- 29 The definition of the relevant market for regulatory purposes is based on the principle of the hypothetical monopoly embodied in the SSNIP test. In short, the relevant market should be defined as the minimum area which could be successfully monopolised. For present purposes, this test should be carried out as a progressive expansion of the geographic areas under consideration starting from the smallest possible area. In practice, rather than formally using the SSNIP test with the associated data issues, consideration is more often given informally to the forces which could restrain a hypothetical monopolist. The existence of increasing competition in the market for UCLL Backhaul and UBA Backhaul means that demand and supply substitution must be taken into account in determining the geographic dimension of the relevant market. This should not be confused with the consideration required for the competition test once the market has been defined.

30 The current market definition is based on the point to point geographic area for both primary and secondary links. In respect of UCLL Backhaul, for instance, in some areas of New Zealand demand and supply substitution certainly represent constraining forces. If separate market definitions were to be adopted for UCLL Backhaul and UBA Backhaul, a wider market approach would probably be appropriate for UCLL Backhaul. However, for the reasons noted above, Telecom believes that, at least at the present time, the same market definition should be used for both backhaul services. Telecom would not be averse to a broadened regional test for both services in the future if this could be defined adequately and be shown to be the most appropriate way of improving the current test. For the present, however, Telecom believes that the demand and supply substitution pressures, which would drive a regional market definition, should be more fully considered in the competition test. Telecom emphasises, however, that it is appropriate for the Commission to keep the approach to market definition under regular review.

## F. COMPETITION TEST

31 One potential consequence of too conservative a competition test is to delay or deter market entry. We believe that the current test is too conservative and understates the competitive pressures in the UCLL Backhaul and UBA Backhaul markets. In particular it:

- (a) Does not take adequate account of the competitive constraint imposed by VI operators. It is worth noting that when faced with the same question Ofcom has come to a different conclusion to the one reached by the Commission. Ofcom has concluded that indirect competition does impose a competitive constraint. This view was originally expressed in 2007. Ofcom noted at clause 4.144 of its review of the wholesale broadband access markets 2006/07:<sup>5</sup>

*Ofcom does not agree that there needs to be a merchant market for wholesale broadband access services to third parties for there to be sufficient constraints at the wholesale level. It is feasible for there to be a sufficient constraint from competition at the retail level where LLU operators and Virgin Media self supply wholesale services to their own retail divisions. Nevertheless, as noted above under the discussion of Market 2, there is evidence of a merchant market beginning to develop.*

Ofcom proposes retaining this position in its 2010 review of the wholesale broadband access market.

As set out in our previous submissions, our view is that the Commission should take TelstraClear's infrastructure and presence into account when

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<sup>5</sup> See: <http://www.ofcom.org.uk/consult/condocs/wbamr07/wbamr07.pdf>

deciding whether to regulate a route – regardless of whether it is actively wholesaling on that route.

- (b) Should account for commercial wholesale offerings provided by Telecom Wholesale as evidence of responsiveness to customer demand and competitive pressures;
- (c) Is likely to overstate the actual costs of rolling out fibre, thereby generally understating the probability of entry on a given link, and it ignores broader market dynamics driving investment in backhaul networks such as the accelerating roll out of UCLL<sup>6</sup>; and
- (d) Does not account for non-discrimination and other obligations under Telecom's Undertakings which collectively address many of the Commission's concerns in this area.

32 In aggregate this means the current test is likely to understate the competitiveness of the relevant market. Therefore we would support enhancing the test by adjusting certain parameters within the test and generally adopting a less conservative approach. We discuss our rationale and proposed adjustments below.

#### **Rationale for adjusting key parameters**

33 We believe that it is relatively straight forward to develop the current test to better account for the broader market dynamics discussed above and to take a bolder stance on fibre roll out costs. We propose that the Commission should:

- (a) *Take greater account of competition from VI operators.*

In Decision 626 the Commission indicated that "it would review its position should evidence emerge that markets outcomes on such routes are comparable to routes that are found not to be subject to limited competition." In our view this has been established beyond doubt – with competitive conditions very similar on links where there is a VI operator (but no wholesale only operator present). These parties have the capability in the short run to enter the wholesale market for backhaul (as has been the case with TelstraClear) and accordingly represent a competitive constraint<sup>7</sup>.

- (b) *Take account of Telecom's commercial wholesale offerings.*

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<sup>6</sup> How this shapes fibre roll out plans and the pressure this places on non-competed Telecom links.

<sup>7</sup> The fact that VI operators have entered a specific market is, in itself, evidence that the barriers to entry in that market are low.

Attractive commercial offerings by Telecom Wholesale reflect effective competition or at least competitive pressure on particular links. Services such as Wholesale's Tail Extension Service (developed to meet customer needs and a Relevant Service for Undertakings purposes) demonstrate the existence of competitive pressure and Wholesale's willingness to respond to that pressure.

(c) *Better recognise the near entrant constraint.*

- (i) When considering the ability of a competitor to enter a given market, the cost of entry and geographic proximity criteria adopted by the Commission should be considered carefully. These costs vary significantly depending on whether a competitor installs ducts, uses direct buried trenching or uses aerial deployment, and on the areas through which the trench runs. For example, the cost per metre of duct trenching for instance can vary by almost 600% depending on the terrain and location. The costs of duct trenching in suburban areas may be as much as 30% lower than the CBD.

The Commission's more flexible approach should take account of this sensitivity, the principle consequence of which is to extend the range of the near entrant constraint.

We also note that the Commission sends out a questionnaire to try to ascertain potential competition. Given the Commercial sensitivity of the information it is asking for we have no visibility of the information it receives or how the Commission uses that information, but it would seem unlikely to be catching all potential competition.

We are unclear why the Commission has asked certain questions. In particular, the question about whether a company "plans to" provide backhaul. Even where companies have fibre close to an exchange or a point of interconnection, they are unlikely to build to a site without a specific need to be connected to that site, or a customer to connect to. So, on the face of it, even a negative response to this question may not mean that they are not going to compete in this market. The more pertinent question seems to be whether they could compete in this market.

- (ii) Entry into a specific market will be driven not only by cost but also by factors such as population density and demand in an exchange area. These are commercial matters which we are unable second-guess. However, entry in adjacent markets is prima facie evidence that the barriers to entry are low and intent to enter exists. Accordingly, entry in

adjacent markets along with stated intentions of operators<sup>8</sup> should always be taken into account in considering competitive constraints.

- (iii) We support continuation of the Commission's one year timeframe for assessing supply side substitution.

34 Notwithstanding that these markets are dynamic and affected by broader changes in the telecommunications sector they bear all the characteristics of competitive markets.

### **Proposed adjustments**

35 Our proposed adjustments reflect the reality that we see day to day in the market and the ambition we share with the Commission of pursuing regulatory best practice. With this in mind, we propose that Telecom is deemed not to face limited competition on a backhaul link when one or more of the following is present:

- (a) One or more wholesale only backhaul operators (as is currently the case);
- (b) A VI operator is present and (i) is offering a wholesale backhaul service or (ii) the VI operator is not wholesaling but there is evidence that market outcomes are comparable to routes not subject to limited competition. The evidence threshold would be satisfied where demand for a commercial service (in those cases where one is provided by Telecom or another party) is considerably higher than for the regulated service.
- (c) Where UCLL is forecast to roll out and where the actual build cost<sup>9</sup> is less than the aggregate \$150,000 or \$300,000 cost or there otherwise is evidence of prospective entry (for example stated intentions) that would impose a constraint on Telecom in the supply of backhaul from a particular exchange.

36 As discussed earlier in this submission, we believe there is a credible short to medium term case for completely removing link by link regulation of these services and relying on a combination of competitive market constraints and Telecom's Undertakings.

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<sup>8</sup> For example some operators have strategic reasons for investing which may not align with the Commission's (or any other party's) business case analysis.

2 <sup>9</sup> We would expect build costs for suburban and semi-rural areas will be considerably lower than the average cost figure which includes higher cost urban / CBD areas.

## APPENDIX 1– RESPONSE TO THE COMMISSION’S SPECIFIC QUESTIONS

**Comments on whether the geographic dimension of the market definition applied by the Commission is too narrow. In particular, should this be a regional, rather than a route by route market. If a broader geographic market is considered appropriate, how should the boundaries of such a market be defined**

- 37 Telecom believes the current market definition remains appropriate at this time. However, the demand and supply substitution pressures, which would drive a regional market definition, should be more fully considered in the competition test. The Commission should continue to keep the market definition under regular review. We refer to paragraphs 29 and 30 above

**Comments on whether the Commission’s revised approach to ‘near entrant’ networks is appropriate for determining whether a nearby network exerts a competitive constraint on the supply of UCLL Backhaul Service from a particular exchange. Comments are sought on the use of a one-year timeframe within which to assess supply-side substitution and, in particular, whether it is reasonable to expect a ‘near entrant’ to build out to an exchange and commence supply of a backhaul service within a one year timeframe**

- 38 Telecom believes that further refinements to the Commission’s competition assessment are required to better account for ‘near entrant’ networks. We support the use of a one-year timeframe within which to assess supply-side substitution. We consider that a near entrant could enter the market to provide backhaul services within that timeframe. We refer to paragraph 33(c)(iii) above.
- 39 When assessing whether it is reasonable to expect a ‘near entrant’ to build and commence a backhaul service within that time frame, the Commission should carefully consider its use of a single estimate of the cost of entry for a given geographic proximity. Telecom believes that the wide variation in costs for building out to an exchange should be taken into account in the criteria adopted by the Commission.
- 40 One of the largest costs involved is the trenching cost. Based on Telecom’s own experience with the costs of trenching, these costs vary significantly depending on whether a competitor installs ducts, uses direct buried trenching or uses aerial deployment, and on specific ground conditions in the areas through which the trench runs. As noted above, the cost per metre of duct trenching for instance can be very significantly different depending on the terrain and location. The costs of duct trenching in suburban areas may be materially lower than the CBD.
- 41 These cost structures suggest that the distance associated with a given cost threshold may vary widely depending on the terrain and location. Using a single

distance/cost criterion means that the Commission's test does not take full account of the actual competitive constraint arising from the threat of 'near entrants'

- 42 The Commission has in the past been of the view that Telecom faces limited competition in relation to routes where Telecom faces competition from one other vertically integrated fibre operator. Telecom believes that this view fails to take account of the competitive constraint created by the presence of another operator. The costs of entry into the wholesale broadband market for a vertically integrated operator are low, and the time required for entry is relatively short. Accordingly, the presence of a vertically integrated fibre operator in the market represents a real and significant competitive pressure. We believe that the Commission should amend its view in this area – noting that a similar conclusion around competitive constraint was reached in the UK. We refer to paragraph 31(a) above.

**Comments on whether the Commission's approach to market definition and competition assessment adequately addresses investment incentives, so that those incentives promote infrastructure competition and the introduction of greater service innovation or more efficient technologies**

- 43 Telecom considers that there is significant competition occurring in the broader backhaul market. For both UBA Backhaul and UCLL Backhaul there are a number commercial alternatives and a range of existing and potential competitors. Telecom considers that the Commission should take the full range of substitutes and existing and potential competitors into account as described in paragraph 35 above.

**Comments on whether there has been a significant increase in the number of backhaul competitors in this market since June 2008, and whether sunk costs and profitability are at levels likely to entice such competition**

- 44 We expect the Commission would have the most detailed information on the competitors in the markets, but as demonstrated in the material set out in Appendix 2, there are a number of fibre providers operating throughout New Zealand. Telecom considers the fact that market entry has occurred and that market participants continue to make new fibre investment strongly suggests that both sunk costs and profitability are at levels which do encourage competition.

**Comments on the appropriate frequency of competition reviews, and in particular whether a review every twelve months would appropriately reflect the evolution of the market**

- 45 We consider an annual review is appropriate. We note that UFB is likely to change the competitive landscape significantly, so more regular reviews may be required at that time.

**Comments on whether the Commission should consider undertaking competition reviews on an individual link by link basis, either in response to requests from interested parties or on its own initiative, in addition to conducting a competition review of all links**

- 46 Yes, in addition to the annual review, we consider that the Commission should undertake a link-by-link review in response to requests from interested parties or on its own initiative where there has likely been a shift in competition.

**Comments on whether the same framework should be adopted for the UBA Backhaul market definition and competition assessment as is used for UCLL Backhaul competition assessment**

- 47 Yes we believe that, at this stage, the same or a substantially similar market definition and competition test should apply to the UCLL Backhaul and UBA Backhaul Services. We refer to paragraphs 20-22 above.

**Comments on other issues interested parties consider the Commission should take into account in reviewing the approach to the market definition and competition review for both the UCLL Backhaul and UBA Backhaul Services**

In determining what amendments to the market definition and competition test might be appropriate for the UCLL Backhaul and UBA Backhaul Services, the Commission should be mindful of the wider market environment. In particular, the uncertainty surrounding the outcome of both the UFB and RBI processes will likely mean that parties may in some cases wait for further developments before making some investment decisions in this market. It is also important to note that such a choice to defer investment does not remove the competitive constraint created by a 'near entrant' or a VI operator in a given backhaul market.

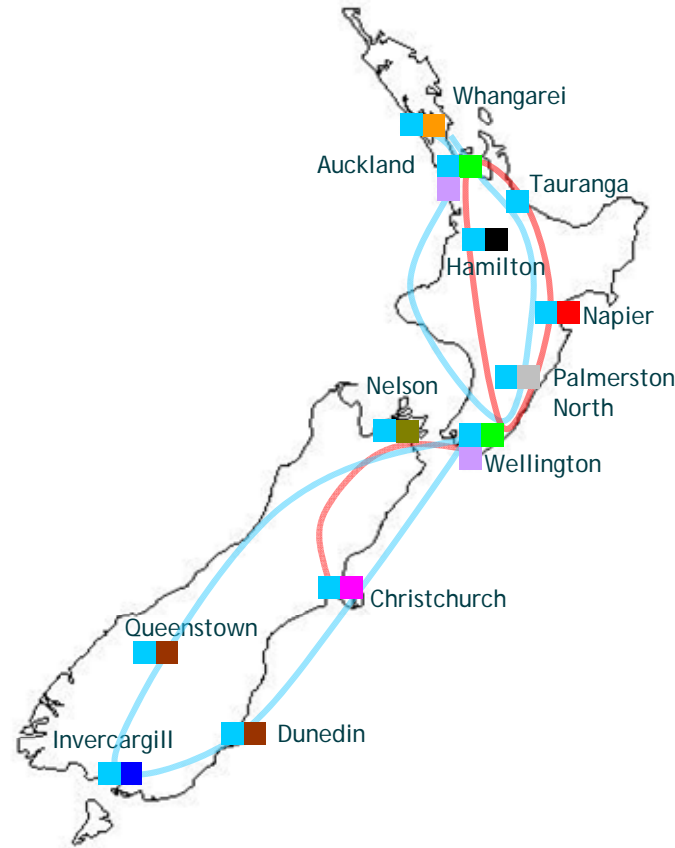
# Competing fibre across New Zealand

## Transport

- TelstraClear
- FX Networks

## Regional

- TelstraClear
- Vector
- CityLink
- Enable
- InverNet
- Aurora
- NorthPower
- Network Tasm
- Velocity
- Digital Nation
- Unison



## Population distribution

Urban Center	% Pop
Auckland	30%
Christchurch	9%
Wellington	9%
Hamilton	4%
Tauranga	3%
Dunedin	3%
Palmerston North	2%
Napier / Hastings	2%
Nelson	1%
Rotorua	1%
New Plymouth	1%
Whangarei	1%
Invercargill	1%
Rural NZ	32%

## Details of Telecom's competitors

Company	Network situation/ activity
<b>TelstraClear</b>	<ul style="list-style-type: none"> <li>• TelstraClear's Fibre network currently spans 6,000 km.</li> <li>• Link <a href="http://www.telstraclear.co.nz/">http://www.telstraclear.co.nz/</a></li> </ul>
<b>Vector</b>	<ul style="list-style-type: none"> <li>• Vector currently has around 780 km of fibre in Auckland and Wellington and has 32km of aerial fibre as well.</li> <li>• A 150 kilometre fibre-optic network connecting Transpower's 14 Auckland substations will be operational by the end of 2010.</li> <li>• We understand Auckland's fibre network is being expanded by an additional 300 km of fibre, connecting 41 exchanges and 40 of it's electricity substations.</li> <li>• Although Vector has sold its Wellington electricity business it has retained the right to hang fibre off it's power poles.</li> <li>• Link <a href="http://www.vectorfibre.co.nz/">http://www.vectorfibre.co.nz/</a></li> </ul>
<b>CityLink</b>	<ul style="list-style-type: none"> <li>• Citylink has 100 km of fibre in Wellington, 25 km of fibre in Auckland and a small network in Christchurch.</li> <li>• Link <a href="http://www.citylink.co.nz/">http://www.citylink.co.nz/</a></li> </ul>
<b>Enable</b>	<ul style="list-style-type: none"> <li>▪ Formerly CCNL, we understand enbale has 40 km of fibre throughout Christchurch and plans to expand its network to 100 km with 300 connections by 2011.</li> <li>▪ Link <a href="http://www.enablenetworks.co.nz/">http://www.enablenetworks.co.nz/</a></li> </ul>
<b>InverNet</b>	<ul style="list-style-type: none"> <li>▪ Regional fibre player in Invercargill.</li> <li>▪ Link <a href="http://www.invernet.info/home.html">http://www.invernet.info/home.html</a></li> </ul>

## Several other smaller regional power companies have followed

Company	Network situation/ activity
<b>Aurora</b>	<ul style="list-style-type: none"> <li>▪ Aurora Energy Limited (Aurora) is an Electricity Lines Business serving the Dunedin, coastal Otago, and Central Otago communities. Aurora has developed Flute Network, an emerging open-access fibre-optic network located within the CBD areas of Dunedin and Queenstown</li> <li>▪ Link <a href="http://www.electricity.co.nz/">http://www.electricity.co.nz/</a></li> </ul>
<b>NorthPower</b>	<ul style="list-style-type: none"> <li>• Core fibre network already in place. Plan to spend up to \$30 million over five years to extend fibre to a majority of its 52,000 customers in Northland. Partnered with TCL to offer services</li> <li>• Fibre will be strung on NP's power poles and run through it's underground ducts</li> <li>• Link <a href="http://www.northpower.co.nz/">http://www.northpower.co.nz/</a></li> </ul>
<b>Network Tasman</b>	<ul style="list-style-type: none"> <li>• Regional utility company that has run fibre through its gas mains and power lines</li> <li>• Fibre network "The Link" has 360km of fibre after its extension in 2007. Cover Nelson, Tasman and Marlborough</li> <li>• Link <a href="http://www.networktasman.co.nz/home.asp">http://www.networktasman.co.nz/home.asp</a></li> </ul>
<b>Velocity</b>	<ul style="list-style-type: none"> <li>• Regional Fibre Player in Hamilton.</li> <li>• Link <a href="http://www.velocitynetworks.co.nz/">http://www.velocitynetworks.co.nz/</a></li> </ul>
<b>Digital Nation</b>	<ul style="list-style-type: none"> <li>• Regional Fibre Player in the Manawatu region.</li> <li>• Link <a href="http://www.digitalnation.co.nz/">http://www.digitalnation.co.nz/</a></li> </ul>
<b>Transpower</b>	<ul style="list-style-type: none"> <li>• Transpower is installing a 425km-long buried fibre optic cable connection, which will link Hamilton, Wellington and Christchurch.</li> </ul>
<b>Unison</b>	<ul style="list-style-type: none"> <li>• Unison Networks are deploying fibre along core routes throughout their power network covering Hawke's Bay, Taupo and Rotorua.</li> <li>• Link <a href="http://www.unison.co.nz/">http://www.unison.co.nz/</a></li> </ul>