

New Zealand Government

Ultra-Fast Broadband Initiative

Overview of Initiative



September 2009

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1. Introduction

1. This document provides an overview of the structure, process and timetable for the government's \$1.5 billion ultra-fast broadband initiative (the **UFB Initiative**).
2. Further detail on the UFB Initiative will be set out in tender documentation to be released publicly in the near future.

2. Objective and principles

3. The government's goal for the UFB Initiative is to create a step-change in broadband services by delivering on an aspirational goal of achieving ultra-fast broadband¹ for the majority of New Zealanders. This is a key part of the government's wider strategy to increase New Zealand's global competitiveness, particularly compared to other OECD countries.

Overall objective

4. The government's objective for the UFB Initiative (the **government's objective**) is:

To accelerate the roll-out of ultra-fast broadband to 75 percent of New Zealanders² over ten years, concentrating in the first six years on priority broadband users such as businesses, schools and health services, plus greenfield developments and certain tranches of residential areas.

5. The government's objective will be supported by government investment of up to \$1.5 billion, which is expected to be at least matched by an equal amount of private sector investment, and will be directed to open-access infrastructure.

Key principles

6. Achievement of the government's objective will be consistent with the following principles:
 - making a significant contribution to economic growth;
 - neither discouraging, nor substituting for, private sector investment;
 - avoiding entrenching the position, or 'lining the pockets', of existing broadband network providers;
 - avoiding excessive infrastructure duplication;
 - focusing on building new infrastructure, and not unduly preserving the 'legacy assets' of the past; and
 - ensuring affordable broadband services.

¹ 'Ultra-fast broadband' is defined for the purposes of this initiative as a minimum uncontested 100 Mbps downlink and 50 Mbps uplink.

² For the purposes of this initiative, '75 percent of New Zealanders' means 75 percent of the New Zealand population. This matter is discussed later in this document.

7. These principles, some of which are in tension with each other, have guided the design of the UFB Initiative.
8. Of these principles, 'avoiding excessive infrastructure duplication' has been the most controversial.
9. When deciding on acceptable levels of overbuild, the new Crown-owned investment company (Crown Fibre Holdings or **CFH**) will have regard to the following characteristics of existing networks:
 - performance (particularly speed and capacity), both current and future;
 - terms of access (whether the network is open access and/or wholesaled at commercially reasonable rates);
 - the level of competitiveness of the relevant markets in which the network provides services; and
 - the pragmatic needs of operating a network business.
10. In the case of central business areas, where the market is usually well served by fibre, gaining access to existing networks will generally be preferred if such access can be secured on reasonable terms. However if, notwithstanding the existence of other providers, access cannot be gained on reasonable terms, then overbuilding will be considered. A similar approach will apply to intra-city backhaul.
11. In the case of residential access networks, such as Telecom's copper and TelstraClear's cable networks, it is clear that they do not have the capability to compete with the performance of fibre-to-the-premise (**FTTP**) networks in the medium to long term. As a result, it is likely that these networks will eventually be overbuilt. In the short to medium term, consideration will be given to the speed, capacity, terms of access, and price of services on existing networks when investment proposals are considered.
12. In all cases, government-funded networks should not be put in a position where they have isolated islands of coverage or are burdened by unnecessary commercial or technical complexity through an overly strict application of the non-duplication principle.

3. Crown-owned holding company ('Crown Fibre Holdings')

13. The government will manage its investment in fibre networks via a new Crown-owned investment company, Crown Fibre Holdings.
14. CFH will be operationally functional by late October 2009. Ministry of Economic Development (**Ministry**) officials will continue to manage the UFB Initiative process until such time CFH is ready to assume full responsibility for the process. Ongoing support will be provided by the Ministry to CFH in order to ensure a smooth transition.
15. The core role of CFH will be to operate a contestable partner selection process and to manage the government's investment in fibre networks so as to achieve the government's objective.

16. The tasks of CFH will be to:
- assess responses to the tender documents, based on criteria set by the government, and to carry out commercial negotiations with selected partner(s);
 - negotiate commercial arrangements with private sector and other partners to co-invest in Local Fibre Companies (**LFCs**)³;
 - appoint board members to LFCs;
 - monitor the performance of, and manage the government's investment in, LFCs;
 - approve technical and operational standards in order to achieve the necessary degree of national consistency; and
 - co-ordinate deployments, liaise with local government, and do all other things that are necessary to ensure that the government achieves the best possible outcomes from its investments.
17. In terms of form and governance, CFH will be a wholly-owned Crown company and is likely to be constituted under Schedule 4 of the *Public Finance Act 1989*. It will not be a State-owned enterprise, because it also has non-commercial objectives. The Board of CFH will be comprised of approximately five to seven directors with relevant commercial and technical expertise. The Board will be appointed by, and will be accountable to, the Minister of Finance and the Minister for Communications and Information Technology (the **Shareholding Ministers**).

Role of the Ministry

18. CFH will work closely with the Ministry in its establishment phase, and on an ongoing basis on matters that have a direct bearing on the wider regulatory framework and competitive environment for telecommunications in New Zealand.
19. The Ministry and The Treasury will have ongoing roles monitoring the success of the policy as well as CFH's performance.

4. Investment process

Invitation to Participate

20. A formal Invitation to Participate (**ITP**) will be released seeking proposals for co-investment in, and deployment of, fibre networks. The initial ITP will be released by the Ministry in the next month.
21. The terms of the ITP will encourage the provision of commercially attractive proposals that meet the government's objectives. The ITP will provide sufficient certainty of the government's specific requirements for potential co-investors to develop and optimise proposals in an efficient way.

³ Note that this document refers to LFCs in both the singular and the plural. This is for convenience only, as there may be one or more LFCs depending on the outcome of the ITP process.

22. If required, CFH will conduct further investment rounds to meet the government's objective.

Assessment of proposals

23. The ITP will allow both national and regionally-based proposals. Consortium proposals, proposals that aggregate more than one region and proposals that provide for operational integration across LFC regions, will also be welcome.
24. The criteria for assessment of proposals will be designed in such a way as to provide an objective basis for the comparison of proposals and to enable transparency of decision-making by CFH. The criteria for the ITP will be broadly based on the following:

Eligibility criteria

- commercial and technical ability of partner to execute the proposal;
- financial capability of the partner to execute the proposal;
- compliance of the proposal with minimum technical specifications (including specifications for the network as well as interconnection requirements);
- compliance of the proposal with open access requirements (including providing specified open access product(s)); and
- the fibre optic network to be deployed and operated by the relevant LFC will be owned by that LFC.

Assessment criteria (comprising both quantitative and qualitative components)

Quantitative components:

- build cost per premise passed and per premise connected;
- proposed pricing for a specified passive dark fibre product⁴;
- proposed LFC structure;
- amount of government funding sought, relative to proposed contributions by partner; and
- proposed coverage.

Qualitative components:

- proposed risk sharing (particularly construction/build risk and demand/uptake risk);
- likely improvements to the competitiveness of the market as a result of the proposal;

⁴ A dark fibre product is a raw input product operating at Layer 1 of the Open Systems Interconnection model, providing access to unlit strands of fibre-optic cable which have been deployed in a network setting. A specification for this product will be provided in the ITP documentation (this matter is discussed later in this document).

- proposed duplication of existing networks;
 - strength of the business case; and
 - additional benefits accruing from the proposal.
25. Following receipt of proposals, CFH will assess the proposals against the eligibility criteria to select a preliminary shortlist of preferred partners. CFH will then have a period of time to seek clarification of matters included in the proposals of preliminary shortlisted preferred partners and to request changes, additions or amendments to such proposals.
 26. CFH will then evaluate proposals against the criteria, and will select a shortlist of preferred partners.
 27. The parameters of the likely commercial arrangements to be entered into with preferred partners will then be negotiated and captured in final binding offers.
 28. Based on the terms of these final binding offers, CFH will then make a decision on the preferred partner(s).

Formal agreement phase

29. Decision-making by CFH will be followed by a period of due diligence and final negotiations to complete formal arrangements with the preferred partner(s).
30. In the event that final agreement with any preferred partner cannot be reached, CFH will have the ability to pursue alternatives.
31. Shareholding Ministers' approval will be required for all "major transactions" as defined in the *Companies Act 1993*. As such, there will be a requirement that CFH gain Shareholding Ministers' approval of its final decision on preferred partner(s). The role of Shareholding Ministers will be limited to approval of the decision made by the CFH (this will not include any influence on the composition of the shortlist, for example).
32. CFH will not have the authority to agree to changes to the wider telecommunications regulatory regime as part of this process, if indeed any such changes are requested. The Ministry will work closely with CFH on any matters that have a direct bearing on the regulatory framework.
33. In the event that Telecom becomes a selected partner, any consequential changes to its Operational Separation Undertakings will be managed according to the processes set out in the *Telecommunications Act 2001*. In particular, any proposed changes to the Undertakings will be subject to public and industry consultation (carried out by the Ministry) on whether the proposed variation meets the purposes set out in Part 2A of the *Telecommunications Act 2001*, prior to making a decision to approve them.

5. Local Fibre Companies

34. Following agreement between CFH and the partner(s), the parties will establish a commercial vehicle, referred to as a Local Fibre Company⁵. The government's

⁵ LFCs can alternatively be based on existing business entities where those entities have the characteristics of an LFC, such as being open access fibre businesses.

preference will be for the LFC to be a new, limited liability company, or limited partnership.

35. The LFC will be the operational entity that deploys the fibre network and sells access to products on that network in a particular region or regions. LFCs will be required to provide a specified dark fibre product (and may provide other dark fibre products), and will be permitted to optionally provide Layer 2 active products⁶. The government does not intend its own investment in LFCs to extend to Layer 2 active products – these will need to be funded by the partner.
36. The overriding objectives of LFCs will be:
 - to maximise the availability⁷ of additional fibre infrastructure within the relevant region;
 - to maximise the availability of dark fibre products within the relevant region;
 - (where the partner(s) decides that it wishes to invest in Layer 2 active products) to make Layer 2 active products available within the relevant region;
 - to provide products to customers in an open access and non-discriminatory manner so as to promote vibrant and competitive retail and service provider markets;
 - to comply with the matters agreed between CFH and the partner in the shareholders agreement (and any other relevant agreements entered into between CFH and the partner and between the LFC and its shareholders); and
 - to operate on a commercial basis.
37. The specific commercial objectives for each LFC business are expected to be contained in a shareholders' or similar⁸ agreement entered into at the time the LFC is established. The agreement will cover matters such as:
 - coverage targets;
 - capital requirements;
 - performance milestones; and
 - profit policy.
38. Voting rights, profit policy and shareholding sale and assignment restrictions will also be included in the shareholders agreement (which is discussed in Section 10). The contribution of the partner(s) may be a combination of assets, capital or debt.

⁶ Layer 2 active products provide raw data connectivity by way of a bitstream which operates at Layer 2 of the Open Systems Interconnection model.

⁷ In this context, 'availability' means making the fibre access network available to any end-user within the coverage area, so that ultimately an end-user is able to purchase a fibre-based service and have a customer premises 'lead-in' installed on demand. There will be an exception for schools, whereby the 'lead-in' will be installed at the time of deployment of the fibre network in the relevant area, so as to make fibre-based services available to schools immediately upon LFC network deployment.

⁸ The specific commercial structuring of LFCs will be detailed in the ITP documentation. This document refers to a shareholders agreement for the purposes of simplicity.

39. The constitution of the LFC, which binds the activities of the company, and/or certain other contractual documentation, will also contain a number of the broad limitations on the LFC, reflecting the government's public policy 'bottom lines':
- an LFC must:
 - deploy and make additional fibre available in the relevant region;
 - provide open access to the network on equivalent⁹ terms;
 - provide access to dark fibre products on the network, including to residential areas;
 - an LFC may provide Layer 2 active products, though where it does so, it must provide these on an open access basis; and
 - an LFC must not provide retail services¹⁰.
40. Subject to the exception that applies where the partner owns or operates a retail operation, as described in Section 7, voting rights to appoint directors will be in proportion to the parties' relative shareholdings, unless otherwise agreed. CFH will likely appoint one or two directors on all LFC boards.

6. Phasing considerations

41. To manage risk and ensure that achievable goals are set for the UFB Initiative, it is expected that shareholding and related agreements will be based on a phased network roll-out. Such an approach best manages deployment and commercial risks, as well as cash flow.
42. The following is an example of a phased deployment that might be appropriate in a medium to large LFC area:
- Phase 1 – Build to all main business, commercial centres, state institutions (including schools and hospitals) and other concentrations of demand (such as cell sites, apartment buildings and substations):
 - this approach will help maximise cash flows in the early stages of deployment;
 - the location of such concentrations of demand will likely result in the development of backbone infrastructure across each urban area, thereby acting as a foundation for subsequent suburban FTTP deployment; and
 - the execution and uptake risk is likely to be lower in this phase.
 - Phase 2 – Initial suburban FTTP deployments:
 - the first suburban FTTP deployments could be conducted contemporaneously with (or towards the end of) Phase 1 in a number of carefully selected areas; and
 - the initial deployments should be selected in order to maximise the learning opportunities and de-risk subsequent suburban phases.

⁹ In general terms 'equivalence' refers to the provision of a service to any access seeker on the same terms (including price and non-price terms) as that service is provided to the LFC's own internal business unit(s). This is discussed further in Section 7.

¹⁰ In this context, 'retail' means any product other than those Layer 1 and 2 products which are approved by the CFH.

- Phases 3 and 4 – Suburban FTTP:
 - Given the different risk profile and the magnitude of the capital requirements for the suburban phases, approval to proceed with suburban FTTP phases in each LFC area is expected to be subject to reasonably stringent criteria, including financial and operational performance of the LFC; confirmation of the parameters of the business case; and both parties making the necessary capital contributions.

43. Clearly defined phases with 'checkpoint' decisions and 'go/no go' decision criteria are expected to be a feature of all agreements CFH enters into.

7. Open access requirements

44. A key principle underlying the UFB Initiative is that the infrastructure funded by the government will be open access.

45. The requirements for open access to LFC networks can be summarised as follows:

- LFCs must provide a specified dark fibre product on an open access basis;
- LFCs may design their passive networks in any way they see fit, subject to compliance with certain principles;
- where an LFC chooses to provide Layer 2 active products, then it must provide a particular specified Layer 2 active open access product; and
- equivalence and transparency requirements will apply.

46. The government's approach to open access is based on:

- international best practice for government-funded next-generation fibre networks, as applied to the New Zealand context;
- a broad trade-off between open access requirements and maintaining sufficient incentives for private sector co-investment to be forthcoming; and
- an assessment of the likely market outcomes arising from the UFB Initiative, and in particular the likely demand for passive and active open access products delivered on an LFC's network.

Passive layer open access requirements

Provision of passive open access product

47. LFCs will be required to provide a specified open access passive dark fibre product. The specifications for this product will be set out in the ITP documentation. In addition, LFCs will be free to provide any other dark fibre products, so long as they are provided on an equivalent and open access basis.

Passive network design

48. The forms of open access at the passive layer are inextricably linked with the type of network architecture selected for the passive layer. While the Passive Optical Network

(**PON**) fibre access network architecture does not lend itself to unbundled line access as naturally as the Point-to-Point (**PTP**) architecture, there are methods for providing open access to PONs and further methods are being developed¹¹.

49. To the extent possible, the government wishes to remain technology neutral, and to allow partners to select the most cost-effective technology available for LFC networks, while meeting the requirement to provide open access.
50. Therefore, the government will not mandate, and does not have a preference for, the use of either PON or PTP network architectures. The government's focus is only on the obligation of the LFC to deliver on the government's open access objectives.
51. LFCs will therefore be free to choose either network design, subject to the following key principles:
 - cost-effectiveness;
 - ability to provide unbundled line access to an individual premise at the passive layer;
 - ability to serve concentrations of demand; and
 - future-proofing – this has two elements:
 - the ability to provide for growth in additional connections; and
 - the ability to provide for upgraded speeds in the future (of at least ten times initially deployed speeds¹²).
52. The Ministry has studied the issue of passive unbundling of PON networks and is confident there are a number of approaches that could be adopted. ITP respondents will have an opportunity to specify the approach they propose to take, in order to achieve the government's open access objectives (and will need to provide a specified dark fibre product, as mentioned above).

Provision of Layer 2 active products, and active layer open access requirements

53. LFCs may *optionally* provide Layer 2 active products. Where an LFC chooses to provide any sort of Layer 2 active product, this will trigger a requirement that the LFC also must provide a particular *specified* Layer 2 active open access product. LFCs will be free to provide other Layer 2 active products, subject to gaining approval from CFH.
54. While the government will allow LFCs to provide Layer 2 active products, the government does not intend its funding to be used for the provision of Layer 2 active products. This is because once a passive fibre network exists, the market can be expected to provide Layer 2 active products on a commercial basis without government intervention. As such, where the LFC chooses to provide Layer 2 active products, it will be expected that the partner will fully fund the provision of such products.

¹¹ For example, splitter-level unbundling is possible on PON architectures, and a future version of 'Wave Division Multiplexing PON (WDM-PON)' is likely to provide for wavelength unbundling on a PON architecture.

¹² For residences the minimum requirement is 100 Mbps and the upgrade path must be capable of delivering at least 1 Gbps.

Specified Layer 2 open access product

55. LFCs that choose to offer Layer 2 active products will be required to provide a certain specified type of Layer 2 active open access product to any access seeker, on reasonable terms and conditions.
56. This product must conform to the OFCOM and Openreach Active Line Access (**ALA**) service principles¹³. Although this is a developing area, the ALA service principles being developed by OFCOM and Openreach in the United Kingdom attempt to capture international best practice for a Layer 2 open access product on next generation networks. A Layer 2 active product conforming to these principles is likely to result in optimal competition outcomes at the active network layers, and is likely to be the most appropriate form of open access for Layer 2.
57. Recognising that the competition benefits of an ALA-compliant product are likely to accrue mainly to residential and small-to-medium enterprise customers, LFCs will only be required to provide an ALA-compliant product to these customer segments¹⁴.
58. A detailed service definition and specification for a Layer 2 active product which conforms to the ALA service principles will need to be developed for New Zealand by the CFH, LFCs and the industry, including service and content providers. The Ministry and the Commerce Commission will also have a strong interest in this matter. Development of the standard will need to take place over a period of time, and so for the purposes of the initial partner selection round, a basic service definition will be included in the ITP documentation. This should be sufficient for the purposes of initial partner selection and an initial product to be offered by the relevant LFC(s).
59. A timeline for the development of the detailed service definition will be created in consultation with partners and the wider industry. LFCs which provide Layer 2 active products will be required to adopt the final service specification following completion of its development.
60. This service definition development process will be familiar to the industry. Similar service specifications have been developed for the Unbundled Bitstream Access and enhanced Unbundled Bitstream Access (**EUBA**) services by the Commerce Commission in conjunction with the industry. An ALA-compliant Layer 2 active product would have many similarities with the specified EUBA service¹⁵, and the service definition could build on the foundation work already done for the EUBA service.
61. The Layer 2 active product design requirements will include standards on the network device in the customer premises to prevent customer switching barriers from emerging.
62. Related home wiring standards, particularly requirements for upgrading existing homes and business premises, will also need to be developed.
63. CFH and the Ministry will play a central role in developing and overseeing all the technical standards required in order for the government's objectives for ultra-fast

¹³ OFCOM is an independent organisation which regulates the United Kingdom's broadcasting, telecommunications and wireless communications sectors. It also sets and enforces rules on fair competition between companies in those industries. The ALA service principles are discussed in *Delivering super-fast broadband in the UK: Promoting investment and competition*; OFCOM; 3 March 2009 (go to www.ofcom.org.uk/consult/condocs/nga_future_broadband/statement/) and *New build investment guidance on telecoms regulation*; OFCOM; 27 May 2009 (go to www.ofcom.org.uk/telecoms/ioi/orp/newbuild/). Also see www.ofcom.org.uk/telecoms/discussnga/eala/.

¹⁴ The identification of these customer segments is likely to be based on coverage areas and District Plan zoning information.

¹⁵ For example see a comparison carried out by OFCOM:

http://www.ofcom.org.uk/telecoms/discussnga/eala/ala_broadband_may/ALA_vs_International.pdf.

broadband to be met. Work has already commenced in a number of areas. Further details will be provided in the ITP documentation.

Independence, equivalence and transparency requirements

64. LFCs must provide all products on an independent, equivalent and transparent basis, as outlined below.
65. LFCs will be expected to enter into enforceable commitments or behavioural undertakings focussed on operating their businesses on an open and equivalent basis.
66. The following principles will apply:
 - equivalence – LFC products must be provided to all access seekers on equivalent terms and conditions, including price. Where Layer 2 active products are provided, there must be equivalence of inputs with the LFC's own dark fibre product, which is an input into the LFC's Layer 2 active products. An LFC must offer an equivalent dark fibre product to itself (for the purposes of its Layer 2 active products) and to all access seekers;
 - transparency – LFC proposals submitted to the ITP process will be required to set out the pricing methodology, and actual prices, to be charged by the LFC for an initial period, and the LFC must provide its shareholders with regular reports on its compliance with these requirements; and
 - independence – LFCs will be prohibited from providing retail services¹⁶.
67. In terms of independence, in the event that a prospective LFC partner currently owns a retail operation, the party either:
 - must divest itself of the retail operation (or alternatively alter governance arrangements so that it does not control the retail operation); or
 - will not have the right to appoint the majority of directors to the Board of the relevant LFC, and the chair of the LFC Board must be an independent chair agreed to by all shareholders.

8. Financial arrangements

68. CFH will have sufficient flexibility to explore a range of financial arrangements that will give effect to the government's objectives.
69. CFH will agree funding arrangements that ensure it is transparent that government funding (via CFH) is targeted at the passive layer.
70. The arrangements entered into by CFH will be guided by the following philosophies:
 - simple, clear and transparent structure;
 - agreements that best promote the early deployment of fibre networks and services; and

¹⁶ In this context, 'retail' means any product other than those Layer 1 and 2 products which are approved by the CFH.

- agreements that best protect and preserve value for taxpayers.
71. Complementing these philosophies, the decisions made by CFH on financial matters during the ITP process will be influenced by the following guiding principles, which are intended to apply to all prospective partners and types of agreements:
- *the government is prepared to accept a less than commercial return for an initial period.* The dimensions of this concession will be negotiated with selected partners;
 - *the government contribution will be in a clean entity.* This means that the entity should not be encumbered with assets or business activities that are not central to the core function of delivering ultra-fast broadband. This enables transparency over where the government's funds are being invested and ensures the appropriate incentives are set for LFCs;
 - *the government contribution will be tied to equity or equity like securities.* Given that the government is investing in FTTP, and shouldering a proportion of the uptake risk, it expects to enjoy all the benefits of being an equity holder, including the opportunity to enjoy a financial upside in the event of better than expected financial performance;
 - *the government contribution will be tied to behavioural undertakings, rights to information and representation.* Given the role (and risks) the government is taking on, it is essential that it secures access to information, representation and intervention as any equity holder would enjoy;
 - *the government contribution will be structured so as to preserve the government's interests and the LFC's operations in adverse business events.* In the event the LFC business falters, the partners fail or other adverse events occur, the government must be in a position to act decisively and, if necessary, take control of the LFC business; and
 - *the government intends to hold no more than 50 percent of the equity in each LFC.* The government should not be in a position where it contributes more than half of the required investment. In adverse circumstances, the government may find itself holding more than 50 percent of the equity. It is desirable that the government holds at least 25 percent due to the rights (for example, over major transactions) that would accrue.
72. The ITP documentation will contain the detail of preferred arrangements.
73. CFH will also have flexibility with regard to:
- re-investment of any dividends;
 - ability to provide further capital contributions; and
 - whether there are any exit provisions depending on the extent of losses.

9. Candidate coverage areas

74. The ITP will allow both regional and national proposals, within the same framework. This is achieved by allowing any of the following:

- proposals focused on individual candidate regions;
- proposals focused on any combination or aggregation of candidate regions; and
- proposals focusing on all candidate regions, that is, national proposals.

75. As such, aggregated proposals covering any number or combination of candidate areas will be permitted. That is, while the ITP will list the 33 regions below, LFCs may be formed that cover any number of regions.

76. CFH may also consider proposals that:

- do not cover whole candidate areas. For example, rural fringe areas of low population density, or very high-cost areas, may be excluded; and
- include areas close to, but outside, the listed candidate areas. This flexibility is provided for situations where it makes clear economic sense to connect adjacent areas (for example, extending Blenheim to Picton, or Queenstown to Wanaka).

77. CFH will have the flexibility to ensure that individual network coverage areas are designed and, to a degree, co-ordinated so as to optimise the value of the overall investment.

Determining candidate areas

78. The list of candidate coverage areas is provided in Table 1. The candidate coverage areas for the UFB Initiative have been determined on the basis of population numbers, but with two alterations from the draft proposal released on 31 March 2009:

- 2021 population projections¹⁷ have been used, to ensure the population figures are more in keeping with the expected population coverage following project completion; and
- the list of candidate areas has been expanded to include a greater number of urban areas. The expanded list includes just under 80 percent of the population, in recognition of the fact that approximately 4.5 percent (220,000) of the projected 2021 population will live outside high-density population centres and may not be economic to serve with fibre.

79. It is important to note that the absence of a population centre from the list does not mean that investment proposals covering those centres will not be considered. As discussed above, CFH will have the flexibility to consider economically rational proposals that include other population centres. In addition, the government is releasing a separate strategy for improving rural broadband. In general terms, it is not intended that the government's UFB Initiative funding will be directed into rural areas.

¹⁷ Statistics NZ projections, medium forecast.

Table 1: Candidate coverage areas

Urban area	2021 projected population ¹⁸	2021 projected population (%)	Cumulative coverage (%)
Auckland ¹⁹	1,587,200	33.269	33.269
Christchurch	417,800	8.757	42.026
Wellington ²⁰	409,600	8.586	50.612
Hamilton	227,100	4.760	55.372
Tauranga	142,700	2.991	58.363
Napier-Hastings	127,700	2.677	61.040
Dunedin	118,500	2.484	63.524
Palmerston North	88,100	1.847	65.371
Nelson	63,700	1.335	66.706
Rotorua	57,500	1.205	67.911
Whangarei	53,200	1.115	69.026
New Plymouth	52,300	1.096	70.122
Invercargill	45,700	0.958	71.080
Kapiti	45,100	0.945	72.026
Wanganui	38,500	0.807	72.833
Gisborne	34,800	0.729	73.562
Blenheim	31,000	0.650	74.212
Pukekohe	30,900	0.648	74.860
Timaru	26,600	0.558	75.417
Taupo	22,900	0.480	75.897
Masterton	19,800	0.415	76.312
Whakatane	19,400	0.407	76.719
Levin	19,300	0.405	77.123
Ashburton	17,800	0.373	77.496
Feilding	14,950	0.313	77.810
Rangiora	13,750	0.288	78.098
Queenstown	13,100	0.275	78.373
Tokoroa	12,200	0.256	78.628
Oamaru	11,650	0.244	78.873
Hawera	10,500	0.220	79.093
Waiheke Island	10,000	0.210	79.302
Waiuku	9,730	0.204	79.506
Greymouth	9,490	0.199	79.705
Total	3,802,570	79.706	79.705

¹⁸ Based on Statistics NZ medium forecast projections. Total population for New Zealand is projected to be 4,770,800 in 2021.

¹⁹ Includes North Auckland, West Auckland, Central Auckland, South Auckland and Pukekohe.

²⁰ Includes Wellington area, Upper Hutt, Lower Hutt and Porirua.

10. Shareholders agreement

80. The shareholders agreement²¹ will be a contract between CFH and the selected partner for each LFC that is to be established.
81. It is an agreement documenting the partners' relationship as shareholders of the LFC, and governs both the overall parameters of the arrangement and the specific detail of the agreed commercial venture via the LFC.
82. A model shareholders' agreement will form the basis of negotiations. Certain key matters will be 'set in stone' and common to all shareholder agreements entered into by CFH, while some specific content in each shareholder agreement will reflect the outcome of the selection process and the specific proposal agreed with each partner.
83. The enforceability of the commitments entered into by the partner and CFH, for example, ensuring the agreed coverage target is met, is an important issue for the government. Mechanisms to ensure this will be:
- CFH capital contributions tied to delivery of certain milestones by the partner and/or the LFC, and to continued capital contributions by the partner; and
 - normal contractual remedies will apply.
84. The shareholders' agreement will also provide for CFH to introduce new partners if and when the original partner(s) is unable or unwilling to meet the agreed objectives or commit to further roll-out. This will be subject to negotiation.
85. Standard joint venture provisions will apply, for example:
- CFH's consent will be required for any sale or assignment of shares by the partner, and vice versa; and
 - CFH will have the first right of refusal on any sale of shares by the partner, and vice versa.
86. Other aspects of the commercial arrangements, such as network build, may need to be dealt with by way of related agreements between CFH and the partner, and between the LFC and the shareholders. Further detail will be included in the ITP documentation.

11. Regulatory arrangements

87. The draft proposal of 31 March 2009 did not envisage the government making any specific steps affecting LFCs' regulatory operating environment. LFCs will be subject to the telecommunications regulatory regime established by the *Telecommunications Act 2001* and the *Commerce Act 1986*.

Short-to-medium term regulatory uncertainty is reasonably low

88. Taking into account the comments in submissions on the draft proposal, it is apparent that there is an element of regulatory uncertainty facing LFC investors. However, on balance, the government has concluded that the risk of price and/or non-price

²¹ Alternative contractual arrangements will also be considered as required.

regulation being introduced in relation to services provided by LFCs is reasonably low in the short-to-medium term.

89. This conclusion is supported by the fact that the government is putting in place up-front design arrangements for LFCs that are intended to give ex-ante effect to many of the regulatory treatments that are current best practice in the communications sector. These include the restriction on retailing, retail ownership, requirements to provide specified open access products, and equivalence and transparency obligations.
90. The government does not consider that up-front price regulation is necessary or desirable. Instead, prospective partners will be required to set out their proposed prices for products, which they will be required to commit to. This requirement, in combination with ongoing independence, equivalence and transparency requirements, is likely to impose a level of discipline that is appropriate for nascent LFC businesses.

Section 19A statement of economic policy

91. In order to provide some comfort to investors in LFCs, the government will transmit a statement of economic policy to the Commerce Commission pursuant to section 19A of the *Telecommunications Act 2001*.
92. This is a non-binding statement that the Commission must take into account, among other factors, when making decisions under the *Telecommunications Act 2001*.
93. The following draft text indicates the likely content of such a statement:

"It is the economic policy of the government that decisions relating to the regulation of telecommunications services provided on ultra-fast broadband access infrastructure should take into account the risks to investors inherent in providing such services and deploying such infrastructure, and promote efficient and timely investment at the deepest levels of infrastructure, in addition to promoting competition for the long-term benefit of end-users of telecommunications services in New Zealand."

Commerce Commission

94. In addition, the Commerce Commission is considering what steps it could appropriately take in support of providing regulatory certainty to potential LFC investors. Such steps could include, for example, promulgation of a statement of regulatory principles relating to LFC networks.
95. Some submitters expressed concern about the effect of the existing regulatory framework for electricity lines companies (applying under the *Commerce Act 2001*) and specifically the impact that the framework might have on the incentives of lines companies to invest in broadband businesses. The government understands this concern, but does not consider that it is appropriate to pre-judge the outcomes of the Commerce Commission's current work on input methodologies²² for price regulated businesses. In reaching this view, the government notes that the input methodologies *"must not unduly deter investment by a supplier of regulated goods or services in the provision of other goods or services."*²³

²² Particularly cost allocation methodologies for shared infrastructure.

²³ Commerce Act 1986, Part 4, Section 53T(3).

12. Achieving national consistency and coordination

96. One of the potential disadvantages of a regional approach to deploying FTTP networks is the possibility of fragmentation and inconsistency, leading to cost inefficiencies and operational complexity for network builders, service providers, retailers and users.
97. Achieving a high degree of technical and operational consistency across New Zealand is therefore a key success factor for the UFB Initiative, and the government, CFH and industry will all have a role to play.
98. At a technical level, there is a need to develop standards (or standard approaches) for passive asset deployment, the design of the active layer (where applicable), provisioning and restoration of services, the specifications for home wiring and end-user devices. Ideally many of these standards should be developed by industry, and Ministry officials have observed positive signals that such standards are likely to emerge. However, it is important to the government and CFH that such standards are appropriate and developed in a timely manner.
99. It is also important to ensure that New Zealand's human resource capability is appropriately managed. Discussions held with potential workforce participants suggest that the UFB Initiative can be accommodated over a 10-year period through organic growth and development of existing firms. If a more rapid deployment was desired, other measures would have to be taken to develop a temporary capability. The phasing of deployment within and across different regions is likely to be required to avoid major peaks in national human resource requirements. This will involve ongoing management by CFH and its LFC partners.

13. Discretion regarding alternative arrangements

100. There will be discretion for CFH to enter into arrangements with any party for the purpose of achieving the government's objective that differ from the specific terms of the ITP, where there are clear and significant benefits that are not outweighed by the costs. This discretion is intended to provide potential partners with the opportunity to provide innovative proposals that achieve better outcomes, and to provide CFH with the authority to consider them.
101. A party that wishes CFH to consider a proposal that differs from the express requirements of the ITP must also provide a proposal that is compliant with the ITP, and describe how its proposal is superior to the compliant proposal²⁴.

14. Backhaul and international connectivity

Backhaul

102. To formulate a business case for local access fibre networks, LFCs (and their customers) are likely to need access on reasonable terms to backhaul between (and in some cases within) candidate LFC regions.
103. Currently, there are four networks in New Zealand that provide backhaul between, and more than a dozen that provide backhaul within, LFC regions. After investigation of the

²⁴ Further detail on this discretion will be included in the ITP documentation.

state of competitive access to these networks, the preliminary view has been reached that backhaul within LFC regions is unlikely to be a material problem.

104. However, obtaining access to backhaul between LFC regions at competitive prices may be a problem for LFCs operating in a number of areas, including Whangarei, New Plymouth, Gisborne, Nelson, Greymouth, Timaru, Queenstown, Oamaru, Dunedin and Invercargill.
105. This matter will be discussed in more detail in a consultation paper which is expected to be released in the near future. The consultation paper will also canvas a range of other complementary measures relevant to the UFB Initiative.

International connectivity

106. The capacity and reliability of New Zealand's international data connectivity will become increasingly important as LFCs' networks are deployed over the course of the UFB Initiative. The government has been closely monitoring market-led developments for additional international data connectivity, and has been holding discussions with a number of relevant market participants.
107. The government is encouraged by the developments in this space and does not consider that additional measures are desirable or necessary at this time.

15. Local government

108. It will be important to the success of the UFB Initiative that local government is engaged and supportive.
109. Local authorities can contribute to the UFB Initiative by:
 - making local assets and land available to be used;
 - streamlining and coordinating regulatory processes and local authority interfaces;
 - facilitating partnerships with LFC investors operating (or likely to operate) in their regions;
 - supporting the use of low-cost deployment technologies (such as micro-trenching, overhead and directional drilling) where appropriate; and
 - overall, recognising the UFB Initiative as a key strategic initiative for their region.
110. Indeed, without strong local authority support, it is unlikely that the government's objective can be fully met. It is also apparent that regulating for outcomes would be both lengthy and potentially counter-productive, meaning a collaborative approach is preferred.

16. Timetable

111. The following is an indicative timetable for UFB Initiative milestones:

Table 2: Implementation timetable

Activity/milestone	Date/timeframe
Issue ITP	In the next month
CFH operationally functional, and Board appointed	October 2009
Proposals received	December 2009
Initial partner selection process completed and contracts completed	Subject to CFH decisions, but expected to be in the June quarter of 2010
Further investment rounds conducted (if required)	As soon as practical after completion of previous round

17. Related matters

112. The government will soon announce proposals for consultation relating to:

- complementary initiatives covering access to property, access to existing passive assets, availability of backhaul, issues relating to premise wiring, and local planning and *Resource Management Act 1991* issues;
- the government's rural broadband initiative; and
- the outcome of the Telecommunications Service Obligations review.