

**The regulation of fibre-based telecommunications services and networks  
in New Zealand: a review and recommendations for the future**

**A report for the Commerce Commission  
by Richard Feasey**

**20 February 2025<sup>1</sup>**

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<sup>1</sup> This report was completed before the Commission published its Open Letter initiating a review of the regulatory regime for fibre broadband services on 27 March 2025.

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## *Purpose of this report*

1. I have been asked by the Commerce Commission (the Commission) to undertake a wide ranging review of the regulatory regime that governs the provision of fibre-based services and networks in New Zealand and to consider how different parts interact with each other, how they might interact in future and what changes might be considered and implemented by the Commission and/or the Government in order to improve it. I have been told to disregard certain matters, most notably the regulation of copper-based services, and to make certain assumptions, such as that the decommissioning of the copper network will be completed by Chorus by the end of 2026. My detailed instructions are attached as Annex 1 to this report.
2. The views presented in this report are entirely my own and should not be attributed to the Commission or any organisation with whom I am associated. I have almost 35 years' experience of regulation in telecommunications, having worked for and advised telecommunications operators and regulators around the world. I am currently a Senior Adviser to the Centre for Regulation in Europe and an Inquiry Chair at the Competition and Markets Authority in the United Kingdom. Further details of my CV are attached as Annex 2 to this report.

## *Timing and context for this review*

3. It is appropriate that the Commission undertake a review of the regulation of fibre-based services and networks now. Most regulatory authorities for telecommunications conduct some form of strategic review<sup>2</sup> from time to time to ensure that the regulatory regime takes proper account of changes in market conditions, technology or objectives for the sector, as well as whether modifications are required in light of experience of applying the existing regime or experience of regulation elsewhere in the world. A lot of day to day regulatory activity relates to specific projects. A wider strategic review provides an opportunity to stand back and consider how well the pieces fit together and what their cumulative effects might be.
4. The regulatory regime in New Zealand for fibre-based services and networks has been in place for almost 15 years and both the industry and the regulatory regime have seen considerable changes during that period. The market for fibre-based services has been evolving with the Ultra Fast

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<sup>2</sup> In the UK Ofcom has undertaken two strategic reviews since it was established in 2003 (see <https://www.ofcom.org.uk/phones-and-broadband/telecoms-infrastructure/conclusions-strategic-review-digital-Communications/>). The European Commission made significant revisions to the regulatory framework in 2018 and is undertaking a further review at present (<https://ec.europa.eu/newsroom/dae/redirection/document/102533>)

Broadband or UFB build programme completed at the end of 2022 and the decommissioning of the copper network by Chorus due to complete in 2026. The majority of New Zealand households now have access to fibre networks and most of those have a fibre connection<sup>3</sup>. The Local Fibre Companies or LFCs are likely to focus more upon maintaining their networks and to spend less on new network expansion in the next period, although I later discuss whether and how the fibre footprint might be extended into areas where fibre is not available today.

5. The dynamics of competition between Retail Service Providers or RSPs in the retail market for fibre services is also likely to shift from the acquisition of customers that are moving from copper to UFB networks to switching fibre users between one RSP and another. Recent years have seen the emergence of new technologies, most notably 4G Fixed Wireless Access (FWA) in urban areas, with 5G FWA expected to be widely available in the next few years. The emergence of cellular FWA (or other substitute technologies) were not envisaged 15 years ago but could have important implications for the future regulation of fibre networks if FWA were to be or to become a significant competitive constraint on the fibre services supplied by the LFCs. At the same time, any competitive constraint that might have previously been associated with copper-based services will end when Chorus completes the copper decommissioning programme in 2026.
6. The regulatory regime in New Zealand has transitioned from a contracts-based system, in which the conduct of the LFCs was governed by a combination of UFC contracts between the LFCs and Government and undertakings given by the LFCs and codified in Deeds, to a more conventional regulatory framework that is overseen by the Commission under Part 6 of the Telecommunications Act 2001 ('the Act'). The first period in which the Commission regulated Chorus' prices and the quality of its services under the Price Quality or PQ regime started on 1 January 2022 and ended on 31 December 2024. The Commission finalised the PQ regime that will be applied to Chorus for the period 2025-28 in December 2024. The PQ regime is itself based upon the application of a set of Input Methodologies or IMs which are subject to review every 7 years, with the next review due before October 2027. Since the 2025-28 regime is already operative I consider in this report whether and how the PQ regime should be applied after 2028.
7. The anchor service regime which formed part of the original UFB contracts has also been incorporated into the regulatory framework overseen by the Commission. The Commission considered whether to revisit this aspect of the regime as part of its recent deregulation review consideration. This follows a unilateral decision by Chorus (and other LFCs) to move customers off the 100 Mb/s anchor service, first onto a 300 Mb/s service and then, from June 2025, a 500

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<sup>3</sup> Around 87% of households have access to a fibre network and 75% of those have fibre connections.

Mb/s service, neither of which are directly subject to price cap regulation<sup>4</sup>. One of the purposes of the anchor service regime was to facilitate the migration of households from copper to fibre-based services without their being disadvantaged in the process. This migration is already substantially complete and will end once the copper network is decommissioned in 2026. This raises questions about the long term purpose of anchor service regulation which I address in this report.

8. When considering the overall functioning of the regulatory framework, it is also important not to ignore the role of the Information Disclosure or ID requirements and geographically consistent pricing rules, as well as an aspect of the regime – the Fibre Deeds – which has remained undisturbed by the transition from the contracts-based regime to regulation under Part 6. I consider these later in this report,
9. The original policy of the New Zealand Government for fibre-based services and networks was intended to balance the need to give investors (which included the Government itself as a provider of debt and equity finance to LFCs) a degree of predictability and assurance of financial returns alongside a wish to maximise the scope of competition and minimise the need for regulation over the longer term. The Government decided to do this by avoiding fibre network duplication or overbuild by the LFCs whilst at the same time seeking to ensure that end users would benefit from competition between RSPs in the downstream retail market. This has resulted in a structurally separated or disintegrated supply chain for fibre services in New Zealand in which RSPs do not own, build or operate the fibre networks over which they offer services to retail customers and LFCs, which own and operate networks, cannot participate directly in the retail markets. This led the previously vertically integrated incumbent operator, Telecom New Zealand, to separate its network and retail businesses so as to be able to participate in the UFB programme.
10. The Government's approach to intermediary markets between the Layer 1 network and the retail market was less settled. It had originally envisaged that LFCs should focus on the construction of the Layer 1 fibre network and that others, including RSPs, would compete in the provision of both Layer 2 and downstream retail services. However, the Government was persuaded that this approach would undermine the investment case for LFCs, as well as risking distortion of competition in the retail market (if some RSPs were able to provide their own Layer 2 services but others were not). The Government therefore decided that RSPs and others should be able to supply Layer 2 point to point services from the outset (being services which are used to provide connections for business customers and mobile backhaul) but that the LFCs should retain exclusive rights to supply Layer 2 point to multipoint services (used to provide connections to domestic households) for a period of 10 years until 2020.

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<sup>4</sup> Other than as contributing to the revenues which Chorus is allowed to earn under the PQ revenue cap

11. I provide this very brief overview of Government policy to make two points that are significant for the rest of this report. The first is that it reminds us that telecommunications regulation and markets are both highly path dependent and that decisions taken in the past will constrain the choices available today or in the future. In this report I focus on changes to the regulatory framework that I think are appropriate to the circumstances in which the Commission finds itself today or which I expect in the future.
12. Second, whilst I refer from time to time to developments in the regulation of fibre-based networks and services in other parts of the world there are such fundamental differences in the approach taken in New Zealand compared to other Governments that such comparisons are often of limited value. Governments in the United Kingdom and Europe did not require the vertically integrated incumbent operators to structurally separate their businesses as Telecom New Zealand did. This means that regulation of fibre networks and services in those other markets relies much more heavily upon behavioural remedies and constant oversight by the regulator (rather than structural change) to drive the right behaviours. Governments elsewhere have also relied more heavily on private capital to finance the construction of fibre networks and limited their own financial exposure to grants subsidising fibre networks in rural areas which would not otherwise be built by private firms. This has meant that the finance and regulatory functions of Government have been kept strictly separate in those other countries whereas in New Zealand until recently the UFB contracts (and Ministers) have performed pseudo-regulatory functions alongside the regulatory functions being performed by the Commission. It has also meant that privately financed fibre network operators have been left free to compete with and overbuild each other in the United Kingdom and Europe, with most of the focus of regulation in recent years being directed at actively encouraging them to do so.
13. I have not been asked and do not in this report provide a comparative assessment of the relative merits of the different approaches taken to the regulation of fibre-based networks and services by Governments in New Zealand or elsewhere in the world. Every approach has its own merits and involves its own trade offs. The differences described above mean that outcomes that might be achieved or be achievable in the United Kingdom or Europe may not be achievable or appropriate in New Zealand - and vice versa.

*Structure and approach of this report*

14. I have structured this report into three Sections. In Section 1 I consider the scope of competition for fibre networks and services (including competitive constraints on fibre that might be imposed

by other technologies) in New Zealand today and offer an assessment of outcomes and prospects. I then discuss what additional actions might be taken by the Commission or by the Government to expand the scope of competition. When doing so, I assume that the overriding purpose of the regulatory regime will continue to be ‘to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand’<sup>5</sup>.

15. In Section 2 I adopt my conclusions from Section 1 about the expected scope of competition in fibre-based services and networks in New Zealand and address the requirement for regulation in light of these expectations.
16. In section 3 I integrate the two sets of recommendations and provide the Commission with a ‘roadmap’ of the various actions which I recommend it takes.
17. Others are better qualified than me to consider the way in which any particular recommendation might best be implemented. Some will require changes to primary or secondary legislation and I generally note where I think this is the case. I have not assessed whether certain recommendations might be deemed inappropriate on political or any other grounds.

### *Section 1: The scope of competition in the provision of fibre-networks and services*

#### *Competition in the retail market for fibre broadband services*

18. The competitive landscape for fibre services and networks that we see in New Zealand today is the result of decisions taken almost 15 years ago when the Government was developing its UFB initiative. The decision to provide financial assistance to support the widespread deployment of fibre networks was not a particularly distinctive feature of the New Zealand Government’s approach but the requirement that financial assistance be conditional upon the recipients not participating in the retail market for fibre broadband services was. It induced the previously vertically integrated incumbent operator to separate into the network (Chorus) and retail (Spark) businesses we see today. This had two important effects. First, it removed many of the concerns about self-preferencing by Chorus in favour of Spark which might otherwise have distorted competition or deterred entry by other RSPs. Second, it ensured that participation in the retail

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<sup>5</sup> Section 18 of the Act, defining the purpose of Parts 2 and 3, at <https://www.legislation.govt.nz/act/public/2001/0103/latest/DLM124968.html>. I note that the purpose of Part 6 is framed in Section 162 as being to promote ‘promoting outcomes that are consistent with outcomes produced in workably competitive markets’. I take this to mean the Government wants competition where appropriate and regulation that mimics workably competitive market outcomes where not.

market for broadband fibre services by an RSP did not depend upon it owning its own fibre network, lowering entry barriers in the process.

19. The structure of the retail market for broadband services, which are predominantly the sale of fibre services to households and businesses in urban areas, suggests that it would be workably competitive. There are over 60 RSPs<sup>6</sup>. Spark has the largest share nationally, at 36% of connections in urban areas, with One NZ and 2degrees having around 20% each and a range of smaller providers between 1 and 10%<sup>7</sup>. The retail broadband market share of former incumbent operators in Europe is typically around 40% today<sup>8</sup>. BT's share in the UK is 36%<sup>9</sup>. The Commission suggests that there is some differentiation between RSPs in terms of prices although I think price differentiation is likely to be more challenging in a market in which all RSPs are purchasing wholesale inputs from the same supplier on the same terms<sup>10</sup>. Switching may also be easier and competition more intense in a market in which all RSPs resell the same LFC connection and customers can transfer from one RSP to another without the RSP having to install a new termination point inside the premises before the switch is made. The data indicates that 12% of broadband customers had switched between RSPs over the previous 12 months for the period June to December 2023<sup>11</sup>. During the prior 12 month period I estimate that around 7% of broadband households migrated from copper to fibre networks, which I would expect to be a point at which many households might consider whether to also change their service provider<sup>12</sup>. That would still leave a significant number of households that already had a fibre connection and then switched their service provider. These figures compare with broadband switching rates in the UK, where around 10% of households switch annually<sup>13</sup>.

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<sup>6</sup> Footnote 34 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf)

<sup>7</sup> Ibid, fig 5

<sup>8</sup> <https://ec.europa.eu/newsroom/dae/redirection/document/88766>, fig 20

<sup>9</sup> <https://www.ofcom.org.uk/siteassets/resources/documents/research-and-data/telecoms-research/telecoms-data-updates/telecoms-data-update-q1-2024.pdf?v=373205>

<sup>10</sup> p.69 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf). I note that many large RSPs in New Zealand seek to differentiate by bundling their fibre services with non-fibre services such as mobile or energy services.

<sup>11</sup> Slide 19 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0028/348157/Telecommunications-Consumer-Satisfaction-Monitoring-Report-July-December-2023.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0028/348157/Telecommunications-Consumer-Satisfaction-Monitoring-Report-July-December-2023.pdf)

<sup>12</sup> Derived from slide 4,

<https://assets.ctfassets.net/7urik9yedtc/5SHEZKMcR51rFgSQ76jOdAW/5ac859f42f9ccc37f3a1296dd4750ecf/corus-financial-results-full-year-fy23-02-investor-presentation.pdf>

<sup>13</sup> <https://www.which.co.uk/policy-and-insight/article/why-are-consumers-not-switching-their-broadband-and-mobile-providers-aUrmD1s8wyDI>

20. The Commission reports that retail prices for broadband in New Zealand are in line with or lower than OECD averages<sup>14</sup> and that levels have been broadly flat in recent years<sup>15</sup>. The gap between retail and wholesale prices of fibre services shows that RSPs are earning gross margins in the region of 30% on fibre services, which may be somewhat lower than margins earned by comparable businesses in the UK.<sup>16</sup> The larger RSPs in New Zealand all appear to have achieved sustainable scale. There do not appear to be significant legal, financial or other barriers to entry. Overall, there is nothing in the data that would suggest to me that competition in the retail market is not functioning workably or that New Zealand households or businesses are experiencing poor outcomes in terms of the services they are getting. I am not aware of anything to suggest that this situation is likely to change in the foreseeable future.

*Competitive constraint provided by FWA*

21. An important issue for the future of the regulatory regime for fibre in New Zealand is the competitive constraint that FWA imposes on Chorus and the other LFCs today or might be expected to impose in the foreseeable future<sup>17</sup>. If it were thought that the conduct of Chorus and LFCs would be sufficiently constrained by the threat of RSPs switching their retail customers from fibre to FWA then changes to the regulatory regime of the kind I discuss in this report would be a moot point.
22. The competitive constraint on the LFCs will be an indirect rather than direct one. That is because the mobile operators do not offer an FWA Layer 2 service to other RSPs. These are the services that would be a direct substitute for the Layer 2 fibre service of the LFCs. Rather, the competitive constraint on the LFCs arises indirectly from the threat that if they were to raise the price of Layer 2 fibre services the RSPs would pass the price increase onto their end users and this would then induce a critical mass of those end users to switch to an FWA service. This would then render the increase in the price of the Layer 2 fibre service unprofitable for the LFC. The significance of the constraint from FWA therefore depends in part upon the extent to which RSPs would decide to pass through or to absorb any increase in the cost of Layer 2 services and the way in which those end customers, or a proportion of them, would respond to an increase in the retail price. My

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<sup>14</sup> p.74-5 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf)

<sup>15</sup> Ibid p.72

<sup>16</sup> For example, Talk Talk, a UK RSP, reported a gross margin of circa 50% in 2020/1 (before it was taken private), see [https://www.talktalkgroup.com/uploads/cta-card-images/2021\\_-\\_Talk\\_Talk\\_Telecoms\\_Group\\_Limited\\_Annual\\_Report\\_2021\\_%281%29.pdf](https://www.talktalkgroup.com/uploads/cta-card-images/2021_-_Talk_Talk_Telecoms_Group_Limited_Annual_Report_2021_%281%29.pdf)

<sup>17</sup> My focus here is on cellular FWA. I understand some Wireless Internet Service Providers or WISPs supply customers in rural areas, but as noted earlier my focus is urban areas.

assumption, given competition between RSPs which I discussed earlier, is that most of the cost increase would be passed through to end customers.

23. I note that Chorus refers to FWA as being ‘direct’ constraint on low speed LFC fibre services<sup>18</sup>. I think that is to mischaracterise it for the reasons just given but it may explain why Chorus do not, in my view, give sufficient attention to the position and incentives of the RSPs in their analysis. Chorus also describe the constraint from low speed fibre services on high speed fibre services as being an ‘indirect’ constraint, which I think is correct. In this case the claim is that the retail price of lower speed fibre services (which is itself indirectly constrained by FWA) will serve to indirectly constrain the wholesale price which LFCs might otherwise charge for higher speed fibre services which are themselves indirectly constrained by FWA.
24. Cellular FWA connections account for about 15% of households within UFB areas today<sup>19</sup>. The Commission has suggested that these FWA customers, most of whom are served today with a 4G connection, have often previously been copper and HFC customers rather than fibre customers - although I note that some LFCs have disputed this<sup>20</sup>. It is significant because it is less disruptive for the end user to install a new FWA connection than to install a new fibre connection. The latter generally requires a visit from a technician to drill through the walls and run cables along skirting boards whereas the former requires the customer to plug in a wireless modem which they receive in the post. Householders who wish to avoid such disruption or users who are renting properties or expect to move in the near future are likely to be attracted to FWA for these reasons. The key question for the competitive constraint in the future will not, however, be whether households that are migrating from copper prefer FWA or fibre when they do so. It will be whether households that have already decided to install fibre (as around 75% of households passed by fibre networks have and as more will have done once copper is decommissioned in 2026) would switch to FWA if presented with a significant increase in the price of their existing fibre connection. Importantly, these are households for whom the disruption of installing the fibre connection is already a sunk cost.
25. Chorus and LFCs have introduced a lower speed (50 Mb/s) fibre product for customers who they say would otherwise be attracted to lower price FWA services and who may be less concerned

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<sup>18</sup> See figure 2 p.14 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0020/362621/Chorus-submission-on-draft-decision-deregulation-review-24-September-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0020/362621/Chorus-submission-on-draft-decision-deregulation-review-24-September-2024.pdf)

<sup>19</sup> Figure 6 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf)

<sup>20</sup> [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0027/362628/Tuatahi-submission-on-draft-decision-deregulation-review-24-September-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0027/362628/Tuatahi-submission-on-draft-decision-deregulation-review-24-September-2024.pdf), and para 3.114 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

about headline speeds or latency than other customers<sup>21</sup>. This might suggest that – the issues around the initial installation aside - the scope of the competitive constraint provided by FWA on fibre is limited by differences in the technical performance of FWA technology compared to fibre. If so then I consider this gap will narrow as 5G technology is deployed more extensively, meaning that FWA could, in theory, become a more significant competitive constraint on fibre in the future than it is today. In the meantime, submissions to the Commission from or on behalf of LFCs have argued that even if FWA services only represent a credible substitute for a sub-set of households who attach less importance to headline speeds or latency the pricing constraint will extend to other higher speed fibre services via a chain of substitution. On this view, if Chorus attempted to raise prices for higher speed fibre services it would find that a critical mass of RSPs and their end users will migrate to lower speed fibre services, the price of which will be constrained by FWA. If the number switching is large enough then the LFC will conclude that it is unprofitable to raise prices of either higher speed services (because of the risk of losses to lower speed services) or (because of the risk of losses to FWA) lower speed fibre services.

26. This is a conventional ‘demand side’ analysis of the indirect constraint provided by FWA on fibre services and the direct constraints between fibre services of different speeds. It would be appropriate if FWA and fibre services were each being supplied by independent vertically integrated network operators<sup>22</sup>. There will be two questions to answer in these circumstances. The first is whether a critical mass of end users will switch from fibre to FWA if LFCs were to raise their fibre prices significantly above workably competitive levels. I note that submissions by LFCs and their advisers during the recent deregulation review consideration contain switching data and cross elasticity estimates which respond to this question but which have been redacted.<sup>23</sup> I also note that the Commission appears to have attached limited weight to these calculations in its final decision on the deregulation review on the basis that current prices for fibre services may already be above the competitive level (reflecting transitory features of the PQ regime, and in particular the depreciation of the Financial Loss Allowance) and because of the well known challenges involved in obtaining reliable elasticity estimates.

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<sup>21</sup> Para 3.85 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0025/362149/Fibre-fixed-line-access-service-deregulation-draft-decision-27-August-2024-5242543.1.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0025/362149/Fibre-fixed-line-access-service-deregulation-draft-decision-27-August-2024-5242543.1.pdf). Chorus has announced that the entry level 50Mb/s product will be upgraded to 100 Mb/s in June 2025 without any change in price, see <https://company.chorus.co.nz/media/releases/chorus-set-to-boost-fibre-plans-for-over-700-000-kiwi-homes>

<sup>22</sup> I note that when Ofcom or European regulators have undertaken such assessments, they have not found FWA to be a material competitive constraint but I also recognise that FWA is less extensive in those markets than in New Zealand.

<sup>23</sup> See para 3.152 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

27. There is then the further and separate question of whether or not substitutability between the corresponding retail services within the fibre portfolio will be sufficient for any fibre prices that are constrained by FWA to constrain other prices via the chain of substitution. I note that in its decision the Commission concluded that it was ‘not persuaded that there is sufficient degree of substitutability for customers to consider switching in sufficient volumes to act as a material competitive constraint across their product portfolio’<sup>24</sup>.
28. Each of these questions would need to be considered separately and it is quite possible to conclude either that FWA constrains some Layer 2 fibre prices but not all or that the prices charged by RSPs for fibre services influence each other but that none of them are constrained by FWA. Both conditions would need to hold for the Commission to fully withdraw the PQ regime as the LFCs suggest it should. If only the former condition were met then the PQ regime for regulating prices would need to be rescoped to exclude the constrained Layer 2 products but retain the others. I mention this because it is not clear to me that such a reduced scope PQ regime would lead to Chorus having any greater freedom to determine how it sets its relative prices or recovers its fixed costs or that it would simplify or reduce the costs for either the Commission or Chorus of applying the PQ regime. If anything, I think the opposite could be the result.
29. However, I do not consider these issues further because the distinctive features of the New Zealand market which I referred to earlier lead me to think this sort of ‘demand side’ analysis is inappropriate in this instance. That is because we do not have two competing vertically integrated firms in New Zealand. Instead the largest RSPs (Spark, One NZ and 2degrees following its merger with Vocus) that are reselling the fibre connections are also the providers of the FWA services which utilise capacity on cellular networks which they own and which they otherwise use to serve their mobile customers. An RSP therefore has a choice (within the constraints of the demand side considerations discussed above and the availability of cellular coverage) of whether to serve a particular customer using an FWA connection which they self-supply over their own cellular network or whether to use a fibre connection which they will purchase from an LFC. This choice will be determined by a comparison of the incremental costs of serving the customer using either technology, and the opportunity costs of doing so.
30. If mobile customers are not fully utilising the cellular network capacity that has been deployed by the RSP then the incremental cost of redirecting that unutilised cellular network capacity to serve fixed broadband customers using FWA will be trivial. The RSP will compare these costs with the costs it would otherwise incur to purchase fibre connections from an LFC and I expect that in

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<sup>24</sup> para 3.157 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

these circumstances it will always choose FWA over fibre. However, if mobile customers (or mobile and FWA customers) are already fully utilising all the available cellular network capacity or are expected to do so in the near future then the relevant comparison for the RSP will be the incremental costs of building additional cellular capacity to serve FWA customers alongside its mobile customers compared to the costs of purchasing a fibre connection from the LFC. My understanding is that the incremental per connection costs of upgrading cellular networks to support additional FWA demand will normally be very substantially higher than the cost of purchasing a fibre connection from an LFC<sup>25</sup>. If that is correct then I expect the RSP will choose fibre over FWA in these circumstances.

31. In addition to comparing the incremental costs of different options, the RSP will also consider opportunity costs. If an RSP utilises cellular network capacity to serve FWA customers then it cannot use that capacity to provide services to its mobile customers. This will not be a concern if the RSP has unutilised cellular capacity and demand from mobile customers can be fully met. However, if additional network capacity is required to meet additional mobile customer demand it may be more profitable for the RSP to convert FWA capacity into mobile capacity before building additional cellular network capacity. This would involve, first, reallocating any unutilised capacity from FWA to mobile services and so ceasing to sell or offer new FWA subscriptions in a particular area and, second, potentially migrating existing FWA customers to a fibre connection by offering pricing and other inducements. The latter is more straightforward when the same RSP controls the pricing of both services. I understand some RSPs are in fact already ceasing sales of new FWA (but not fibre) connections at particular locations and I would expect a lack or anticipated lack of unutilised cellular network capacity for mobile customers to be a reason for this.
32. All of this is really to say no more than that the fundamental economics and purpose of a fibre network, once deployed, make it a superior means of delivering large volumes of data to and from fixed locations than cellular networks which have been designed to perform a quite different set of functions<sup>26</sup>. It means that, on the one hand, the workably competitive price which LFCs can

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<sup>25</sup> I understand that some capacity can be added at very low cost if an operator has unutilised carriers in the same frequency, but that as soon as additional antennae or sites are required, the costs increase very significantly. I note that some respondents to the Commission's draft deregulation decision suggest that the long run marginal costs of expanding capacity on cellular networks is low and that barriers to expansion must therefore be low (e.g. Frontier Economics p.12 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0022/362623/Frontier-Economics-reasonable-grounds-analysis-24-September-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0022/362623/Frontier-Economics-reasonable-grounds-analysis-24-September-2024.pdf)). I think this conflates two points. I agree there are few barriers to expansion other than cost (although planning rules for new cellular sites might be a factor) but I think long run (as opposed to short run) marginal costs of expansion in cellular networks are high.

<sup>26</sup> This might change with 6G but the fundamental point is that cellular networks are costly because they are designed to provide seamless connectivity through the air to multiple devices that move around. This is and likely always will be more complex and so more costly than providing an equivalent broadband connection to the single fixed location.

sustain in a world in which the cellular network has no unutilised capacity will be just below the incremental cost of adding cellular capacity. I expect this to be much higher than any regulated price required to recover the LFC's costs of providing a fibre connection. Conversely, a workably competitive price for an LFC in a world in which the cellular network otherwise has unutilised capacity will be close to zero. In neither case will the FWA price be providing a meaningful competitive constraint on the prices for fibre that could be charged by the LFC.

33. I do not think this conclusion depends upon any particular assumption about how much unutilised capacity will be available to the RSPs or will be used for FWA<sup>27</sup>. If it is a lot, then the share of customers served by FWA at close to zero incremental cost will be correspondingly greater<sup>28</sup>. If a little, the FWA share will be correspondingly less. But the pricing constraint represented by FWA on the prices charged by the LFCs will be similar in either case. This suggests FWA retail market shares – which are relied upon as evidence of the strength of competitive constraint in many of the submissions made to the Commission by the LFCs - is a misleading or at least an incomplete indicator under the circumstances I have described.
34. It might be asked why, if my analysis is accepted, Chorus and other LFCs did launch a lower cost Fibre 50 product which they say was done to respond to FWA competition? I would reply that, first, some RSPs do not own cellular networks and so the Fibre 50 service might allow those RSPs to compete against other RSPs for customers that might otherwise choose FWA. The Vocus merger with 2degrees in 2022 suggests that there is commercial advantage for an RSP in being able to offer both fibre and FWA services rather than relying on solely the LFCs. RSPs that lack this optionality may therefore be at a competitive disadvantage but LFCs have incentives to ensure those RSPs remain competitive. Second, and probably more importantly, the Fibre 50 service may have been required to accelerate the rate of migration from copper to fibre-based services. Households that have continued to use copper-based services despite fibre being available for several years may be prepared to switch to lower price lower speed (50 Mb/s) fibre connections when they would otherwise not switch to higher price higher speed (100-300 Mb/s) services. Accelerating the rate of migration from copper is clearly in Chorus' financial interest if the costs of maintaining the copper network are reduced or eliminated as a result<sup>29</sup>. I therefore consider it would be commercially rational for Chorus to offer a Fibre 50-type service (or its

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<sup>27</sup> This will depend on expected changes in demand from the RSP's mobile customers and existing FWA connections and upon changes in supply as the RSP upgrades the cellular network (e.g. from 4G to 5G or by increasing cell density or adding spectrum)

<sup>28</sup> The upper limit for FWA may be moderated by the demand side considerations I discussed earlier (i.e. how many households regard FWA as an acceptable substitute for fibre)

<sup>29</sup> I note that Chorus added 31k Fibre 50 connections between FY23 and FY24 or almost 70% of all residential net additions, slide 8 at [https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor\\_Presentation\\_-\\_FY24\\_results.pdf](https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor_Presentation_-_FY24_results.pdf)

successors) to reduce the number of residual copper connections and to do this irrespective of whether it faces a material competitive constraint from FWA or not<sup>30</sup>.

35. I have read the submissions of LFCs and their advisers responding to the Commission's draft decision not to undertake a full deregulation review. Most of these submissions (as does the Commission's own final decision paper) do not account for the incentives of RSPs that own and operate cellular networks to utilise spare cellular capacity for FWA services, or their ability to influence end users' willingness to take FWA rather than fibre services. I remain of the view that the market behaviour we see today is primarily a consequence of the incentive and ability of large RSPs to minimise their costs of serving fixed broadband customers, and that their decisions on whether to use FWA or LFC fibre to do so will depend primarily upon how much excess cellular capacity they have available at any given location at any given point in time.
36. I recognise that some large RSPs have said they will increase the absolute number and proportion of households served using FWA in the coming years<sup>31</sup>. I view that as being consistent with RSPs targeting those households that remain connected to the copper network and who are likely to attach less value to the benefits of fibre technology (or more value to the disruption costs) than households that have already migrated to fibre. It is also consistent with RSPs deploying new 5G networks during this period and expectations that those networks will have significant unutilised capacity which can be absorbed by FWA whilst 5G mobile applications and devices take time to scale up. If 5G disappoints, then FWA will be a sensible hedge that will ensure that cellular capacity does not remain idle. If 5G demand meets or exceeds expectations then customers acquired using FWA can later be migrated to fibre connections. I note that when Spark forecast the proportion of fixed broadband customers that it expects to serve with FWA in future it did not suggest that it depends in any way upon the pricing of Layer 2 fibre services that it can purchase from Chorus.
37. I therefore conclude that FWA is likely to continue to impose a relatively weak constraint upon LFC fibre prices for the foreseeable future.

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<sup>30</sup> I have noted that in June 2025 Chorus will replace the 50 Mb/s entry level Home Fibre Starter plan with a 100 Mb/s plan at the same price. This has two effects (a) it will make fibre connections more attractive relative to FWA to retail customers who are still on the copper network and (b) it will make FWA connections relatively less attractive to RSPs to the extent that each connection absorbs more unutilised capacity. I think this is consistent with my analysis. If FWA were a pricing constraint then I might expect Chorus to reduce prices rather than increase speed (I noted earlier than Chorus in fact increased the price of the entry level product in January 2025 by 8.7%).

<sup>31</sup> Slide 25 at [https://investors.sparknz.co.nz/FormBuilder/\\_Resource/\\_module/gXbeer80tkeL4nEaF-kwFA/Spark\\_FY24-26\\_Strategy\\_FINAL.pdf](https://investors.sparknz.co.nz/FormBuilder/_Resource/_module/gXbeer80tkeL4nEaF-kwFA/Spark_FY24-26_Strategy_FINAL.pdf).

## Recommendation

38. This means I agree with the Commission's recent decision not to undertake a deregulation review in relation to the bitstream PON services for the reasons I have been discussing above<sup>32</sup>. In Section 2 I recommend that the next PQ period be extended to up to 8 years. That would mean any findings of a further deregulation review would not be implemented until 2036. That is a long time for an industry in which competitive conditions can change quickly. I therefore recommend that the Commission include a review of competitive constraints on bitstream PON services as a part of its assessment to decide the duration of the third PQ period after 2028 and I include this recommendation in the roadmap in Section 3<sup>33</sup>.
39. I would make these recommendations irrespective of the legal standard of proof for 'reasonable grounds' which I understand the Commission is required to apply when considering whether or not to embark on a deregulation review. I discuss the implementation of the PQ regime later and make a number of recommendations which are intended to simplify aspects of it and to reduce costs going forward. Chorus and others assert in their submissions on the draft deregulation decision that the PQ regime currently imposes significant costs on consumers but I have not found evidence in their submissions or elsewhere to substantiate these claims.

### *Measures to enhance competition in the retail fibre broadband market*

40. Having largely discounted the competitive constraint on retail fibre services that might be provided by FWA, I consider other ways in which competition in the retail market might be enhanced. One possibility would involve lifting the existing prohibitions on Chorus and the other LFCs participating in the retail market.
41. This is ultimately a matter for Government rather than the Commission as it would require legislative change, at least as far as the treatment of Chorus is concerned<sup>34</sup>. I understand that the other LFCs are prohibited from participating in the retail market through their constitutions, over which the Government exercises control via its non-voting share in each LFC. There is provision

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<sup>32</sup> I agree with the Commission's decision to conduct a deregulation review of voice services provided over fibre networks for the reasons (primarily the competitive constraint from mobile voice services) given in the final decision.

<sup>33</sup> I recognise current legislation requires the Commission to first consider whether there are reasonable grounds for undertaking a review before it actually does so. This introduces a risk of delay or unnecessary duplication, although it also allows the Commission to focus on those markets where the prospects of deregulation are greatest. Assuming a significant proportion of markets will be deregulated in the forthcoming review, I suspect it would be more efficient thereafter for the Commission to be required to undertake a single review of those that remain. This would first require legislative change.

<sup>34</sup> The prohibition is Section 69R of the Act

for the other LFCs to request an exemption from the Minister in order to serve retail customers but I understand permission has not been sought. I understand there is provision in the Act for Chorus to seek permission from the Commission to enter the retail fibre broadband market but that such permission has also not been sought<sup>35</sup>.

42. I note that the Ministry published a consultation paper in May 2024 in which it sought views on changes that would expand the scope of activities which the other LFCs are able to engage in, although it has ruled out ‘any changes that allow the other LFCs to retail or supply telecommunications services to end users (a restriction that Chorus is also subject to), given the importance of the split between wholesaling and retailing fibre services to the regulatory regime’<sup>36</sup>

### **Recommendation**

43. I would not recommend allowing the LFCs to participate in the retail market for a number of reasons. First, I have concluded that the retail market in the absence of LFC participation appears to be workably competitive and is likely to remain so. Any benefits to consumers of additional entry are therefore likely to be modest. Second, if LFCs were allowed to participate in the retail market then I think it likely they would do so via the acquisition of an existing RSP rather than through organic growth. Assuming such a vertical merger were approved by the Commission, as I would expect it to be, it would represent a change in ownership rather than any change in underlying retail market structure or competitive conditions. It is possible that a merger of this kind would generate efficiencies which would then enhance competition between the vertically integrated firm and the other RSPs but (without having undertaken any detailed analysis) I would expect any impact to be modest. I have seen no evidence that arrangements between the LFCs and RSPs generate significant additional costs which would be avoided by a vertically integrated firm or that, more generally, retail outcomes in New Zealand have been adversely affected by the current industry structure. The trend in telecommunications globally is towards increasing disaggregation as regards asset ownership, partly because network virtualisation and other technologies enable it and partly because it is a means of improving returns on some assets and allowing different investors to own different classes of assets<sup>37</sup>. Vertical reintegration between LFCs and RSPs would involve New Zealand moving in the opposite direction.

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<sup>35</sup> Section 69SA of the Act

<sup>36</sup> <https://www.mbie.govt.nz/assets/enhancing-telecommunications-regulatory-and-funding-frameworks-discussion-document.pdf>, p.30

<sup>37</sup> The well known example is the spin out of tower assets by mobile operators, but in the European fibre market PE investors like Macquarie and KKR are also splitting vertically integrated operators such as TDC in Denmark and Telecom Italia in Italy.

44. I would also expect vertical reintegration to introduce incentives for LFCs to self-preference or discriminate in favour of their affiliated RSP. Experience in other markets (and in New Zealand prior to the UFB programme) is that such conduct can have a significant and adverse effect upon competition in the downstream retail market. To avoid this would require the Commission to rigorously enforce and potentially supplement the non-discrimination provisions of the Fibre Deeds (which I explain in Section 2 I consider deficient in any event). In my view the benefits of allowing LFCs to participate in the retail fibre broadband market would have to be very significant to justify these additional costs and risks.
45. My recommendation not to allow the LFCs to participate in the retail broadband market does not depend upon expectations that the competitive constraints that might be imposed by other technologies such as FWA, which I have discussed above or otherwise discounted<sup>38</sup>, will strengthen. My expectation is that these constraints, whether considered individually or in aggregate, will remain limited. I have not identified any regulatory measures which would alter this. The footprint of HFC networks is not expanding in Europe or anywhere else and HFC operators seeking to expand their network coverage are deploying fibre instead. I argued earlier that the ability of RSPs to substitute FWA connections for fibre is determined principally by the amount of unutilised capacity in their cellular networks. This is determined by, amongst other things, the availability of new spectrum for mobile operators. But I would not recommend that spectrum policy in New Zealand is motivated by FWA services or used as a means to introduce more competition into the fixed broadband market.
46. I therefore expect that the primary competitive constraint upon an RSP that provides fibre broadband services in the retail market will remain another RSP that is doing the same. There already appear to be sufficient RSPs of sufficient scale to ensure workable competition in broadband services for the foreseeable future. The disintegrated industry structure in New Zealand means that barriers to entry and switching costs for fibre households are likely to be lower than elsewhere the world, which contributes to competition.

#### *Fibre network expansion*

47. The position and outlook for competition in fibre services upstream of the retail market is different. The original invitation from the Government to participate in the UFB programme

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<sup>38</sup> I have excluded low orbit satellite such as Starlink as a constraint in urban areas in the foreseeable future, although I recognise it is used to provide broadband services in rural areas where fibre is not available. I also ignore HFC networks, which serve less than 2% of broadband connections and is confined to Christchurch, Wellington and Kapiti.

specified the geographic scope of the networks which the LFCs would be contracted to build<sup>39</sup>. The Government thereby avoided any overlaps and restricted fibre networks to geographic areas which it was prepared to finance. Fewer than 0.3% of households have a choice of LFC fibre networks today as a result<sup>40</sup>. Although not legally prohibited from deploying fibre networks outside of the UFB footprint, the LFCs were almost exclusively focussed on delivering of the UFB programme until it completed at the end of 2022. The important question is what LFCs will or ought to be encouraged to do in the future.

48. The most straightforward case of fibre network expansion would involve an LFC extending its fibre network beyond the existing UFB geographic footprint into areas which no LFC currently serves. An example of this is the announcement from Chorus in February 2024 that it will extend its fibre network to a further 10,000 households in areas close to but beyond its existing UFB footprint. This was its first new fibre network investment to be announced since the completion of the UFB programme at the end of 2022<sup>41</sup>.
49. The relatively small scale of this project is reflected in the additional capex (valued at only \$13 million in the second PQ period<sup>42</sup>) which the Commission has agreed Chorus should be allowed to recover<sup>43</sup>. I understand that Chorus had previously proposed a network expansion budget of around \$200 million (to serve around 40,000 additional households) but that it withdrew it prior to the Commission making its draft decision on allowable expenditure for the second PQ period<sup>44</sup>.
50. Although I am not privy to all the details, this episode feels unsatisfactory. It may be that Chorus had reason to revisit the assumptions in its original business case and would not have made the investment irrespective of the Commission's conclusions on the \$200 million proposal. Or it may be that it was testing the process. But it may also be that there was a large discrepancy between the appetite for investment risk or the assumptions about how investments should be recovered on the part of Chorus' management and shareholders on the one hand and on the part of the Commission on the other.
51. One reason for this may be that the current IMs do not contain a very clear or detailed methodology for how the Commission should assess a capex proposal relating to network

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<sup>39</sup> <https://www.crowninfrastructure.govt.nz/media/4824/invitation-to-participate.pdf>

<sup>40</sup> 6,248 households, para 3.82 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0025/362149/Fibre-fixed-line-access-service-deregulation-draft-decision-27-August-2024-5242543.1.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0025/362149/Fibre-fixed-line-access-service-deregulation-draft-decision-27-August-2024-5242543.1.pdf).

<sup>41</sup> <https://company.chorus.co.nz/media/releases/chorus-extends-fibre-to-10-000-homes-and-businesses>

<sup>42</sup> Total capex for this expansion is forecast at \$37 million, some of which was incurred in the first PQ period.

<sup>43</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf)

<sup>44</sup> p.71 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0017/350117/Chorus27-expenditure-allowances-for-the-second-regulatory-period-2025-2028-draft-decisions-reasons.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0017/350117/Chorus27-expenditure-allowances-for-the-second-regulatory-period-2025-2028-draft-decisions-reasons.pdf)

expansion<sup>45</sup>. The Commission was applying what guidance it had to assess network expansion proposals for the first time in this case<sup>46</sup>. The Commission assessed an economic model which Chorus submitted, both in terms of inputs (costs, take up etc) and outputs (payback period etc)<sup>47</sup>. This required it to take a view on the level of investments a prudent operator might be expected to make to ensure that they would be efficiently incurred. The Commission also appeared concerned that allowing Chorus to include its expenditure within the PQ regime would confer it a competitive advantage relative to other LFCs or operators that might also wish to deploy their fibre networks to the same households in the same area<sup>48</sup>.

52. Assessing whether costs will be efficiently incurred is relatively straightforward but the question remains about how much of those costs should be included in the allowance and how those costs might then be recovered. Expanding the fibre network into rural areas to any great degree (i.e. much further than is currently being proposed) will inevitably require Chorus to incur greater per household capital costs than the average incurred for its existing network. If Chorus is to recover those costs then – provided the geographically consistent pricing rule still applies - RSPs and their end user customers will be asked to pay more. This means the Commission will have to decide how much the revenue allowance (and hence prices) should be allowed to increase and, implicitly, how far Chorus is allowed to expand its fibre network footprint. If the Commission’s position were to be that prices paid by others should not increase at all then it should apply what Chorus refers to as the IRIC test to ensure that the incremental expenditure (IC) is that which can be supported by the incremental revenue (IR) which will be earned at the prevailing national prices. This will limit the scope for fibre network expansion to areas where incremental costs are similar to or below the existing average network costs<sup>49</sup>.

53. In deciding what the appropriate balance between higher prices and more extensive fibre coverage should be, the Commission appears to have adopted a benchmark of a workably competitive market in which ‘prudent operators’ participate. This approach is suitable for assessing whether

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<sup>45</sup> Section 3.6.1 in the IM at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf)

<sup>46</sup> I understand the Commission had previously used the same framework to assess proposals for RSP incentive payments.

<sup>47</sup> p. 75 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0017/350117/Chorus27-expenditure-allowances-for-the-second-regulatory-period-2025-2028-draft-decisions-reasons.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0017/350117/Chorus27-expenditure-allowances-for-the-second-regulatory-period-2025-2028-draft-decisions-reasons.pdf)

<sup>48</sup> Ibid, para 5.36. I think the competitive considerations are actually more nuanced. Chorus has a larger existing user base from which to recover incremental new built capex costs under the geographically consistent pricing rule but may also be at a competitive disadvantage if other LFCs can deploy capex without being subject to scrutiny under the PQ regime and so gain first mover advantages (e.g. due to high costs of switching between fibre networks). In Europe and the UK incumbent operators have adopted different strategies when faced with competing fibre network build. Some have sought to pre-empt or overbuild their competitors but others have decided to co-operate and share investments.

<sup>49</sup> p. 20 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf)

costs will be efficiently incurred but it does not address the distributional issues that are central to this debate. I return to distributional issues and measures later in this Section but they relate here to the extent to which groups of consumers at different locations are or should be expected to pay different prices for the same service, reflecting differences in the cost of providing them, and, if not, the magnitude of any subsidies that would have to flow from consumers in lower cost locations to support provision to those in higher cost locations.

54. I think it will prove difficult for the Commission to avoid these issues if Chorus were to propose spending a lot more than \$13 million of capex to expand the fibre network into much higher cost areas<sup>50</sup>. In such a case the Commission would have to define where the fibre network boundary should lie and, in consequence, how much the proposed capex budget should be accepted and how much rejected. The issue here is not (primarily) whether costs are incurred efficiently but who should meet them. I note that Chorus cites research undertaken by Kantor which it says provides ‘strong evidence that our existing end-user base would accept a degree of higher costs for rural fibre roll out’<sup>51</sup>. That may be the case in relation to a submission for capex to expand the UFB footprint from 87% to 89% of premises, which Chorus estimates would add less than a dollar to the monthly subscription of every fibre customer<sup>52</sup>. However, costs for fibre connections increase exponentially as population density declines. Chorus estimates that the cost per connection at the 95<sup>th</sup> coverage percentile is 5x the cost at the 90<sup>th</sup> percentile<sup>53</sup>. It is far from clear whether the generality of existing fibre users in New Zealand would accept the uplift in prices required to achieve 95% fibre network coverage, as Chorus has recently proposed should be the Government’s objective<sup>54</sup>.

55. An alternative approach would involve removing the expansion capex from the PQ regime altogether and allowing Chorus to recover it from rural customers in whatever way it thought appropriate<sup>55</sup>. The LFC’s willingness to expand the network will then be constrained by the

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<sup>50</sup> Put another way, the Commission is not taking much of a risk in approving \$13 million of capex within a base capex envelope of \$850 million. But if the proposal had been \$250 million, would the Commission’s decision still have been to allow \$13 million or something more than \$13 million but less than \$250 million?

<sup>51</sup> p.17 [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf)

<sup>52</sup> This is presented as Chorus’ ‘current plan’ in the submission and would provide fibre coverage to an additional 41,000 premises and extend fibre coverage to 89.3% of premises at an additional monthly cost per fibre connection of \$0.98, *ibid* p.15

<sup>53</sup> *Ibid* fig 15.1, p.9

<sup>54</sup> <https://www.deloitte.com/content/dam/assets-zone1/nz/en/docs/services/financial-advisory/2024/deloitte-unleashing-fibre-future-of-digital-fibre-infrastructure.pdf>

<sup>55</sup> I have also considered whether allowing the LFCs to vertically integrate and retail fibre services themselves in the area outside the existing UFB footprint (but not inside it) would affect their incentives to expand the network. My conclusion is that it would not make a material difference given the relatively small size of the addressable market and the costs involved in implementing such arrangements.

willingness of those customers to pay higher prices for fibre connections (and by the extent to which those prices might be constrained by competition from other technologies such as low earth orbit satellites).

56. The difficulty with this approach is that after 80-90% of premises have been covered, we know that the costs of building fibre connections to the remaining premises increases exponentially whilst the willingness and ability of the customers to pay does not. This means that the amount of additional fibre network coverage that can be obtained without some element of subsidy from the generality of users will be quite modest. I do not know whether Chorus have modelled the connection costs implied by extending coverage beyond 90%<sup>56</sup> or what proportion of households would be willing to pay them. In the United Kingdom, households are required to meet the costs of any broadband connection that costs more than £3,400 to install. BT has estimated that there are around 66,000 such premises in the UK. Ofcom's modelling suggests that, at best, only one tenth (6,200) of those would be willing to meet the additional cost (above £3,400) of being connected to a fibre network<sup>57</sup>. The remainder would remain unserved. This is why, in most of the countries I am familiar with, the expansion of fibre networks into higher cost rural areas has either been supported by the regulator or Government allowing for the recovery of the additional costs from the generality of fibre users or, when the willingness of those users to pay is thought likely to be exhausted or close to exhaustion, by meeting the additional costs directly from public funds. The evidence is that it is only by distributing the additional costs across as wide a tax base as possible and by subsidising individual connections that the additional costs of extending fibre to rural areas to any significant degree can be met<sup>58</sup>.

57. Under the existing PQ regime, the Commission would be left to decide how much higher these costs can be and who should contribute to them. However, I consider that it is for the Government, not the Commission, to decide how far the fibre network in New Zealand should extend in future, just as they did when defining the scope of the UFB1, UFB2 and UFB2+ programmes in the past. One approach to this would involve the Government specifying (or

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<sup>56</sup> Chorus say 'the breakeven wholesale price for the proposed PQP2 investment at a 70% uptake would be CCI [ ] per connection per month, which is lower than the wholesale price for fibre that Chorus would charge under the currently proposed price path.' but the PQP2 investment referred to here is very modest. The breakeven wholesale price to support much more ambitious coverage plans will likely to well above the PQ price. p.13 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf)

<sup>57</sup> Fig 3.2, p.19 at <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/222060-approach-to-high-excess-costs-under-the-broadband-universal-service/associated-documents/statement-high-excess-costs-under-broadband-uso.pdf?v=327120>

<sup>58</sup> Some European operators have argued that even this is insufficient and that others, such as global Big Tech firms, should also be required to contribute to these costs.

providing what in the UK is called a ‘strategic steer’<sup>59</sup>) the extent to which geographically consistent prices for fibre might be allowed to increase in order to expand network coverage beyond current levels. The Commission could then assess any proposals from Chorus for fibre network expansion to ensure that it would incur the costs efficiently (and thereby ensure that customers obtained as much coverage as possible for the additional outlay) and that the level of cost was such that the resulting prices for RSPs and their end users would remain within the Government’s expectations. Alternatively, if the Government considered that there could be circumstances in which Chorus ought to be allowed to depart from its geographically consistent pricing obligations in order to obtain greater fibre network coverage without impacting the prices paid by users within the existing UFB footprint then it should explain to the Commission what those circumstances are and by how much prices might diverge.

## **Recommendation**

58. Drawing on the lessons from the recent PQ expenditure review, I recommend that the Commission consults on the approach it should adopt in future for assessing proposals from Chorus (or other LFCS if they fall within the PQ regime) for network expansion capex. This should include consulting with Government to ensure that Ministers fully understand the implications of different approaches. Once the appropriate approach has been decided it should be reflected in changes to the IMs and, potentially, legislative changes to Section 201 of the Act.

### *Overbuild expansion*

59. Network expansion could also involve an LFC overbuilding a fibre network that had already been deployed by another LFC under the UFB programme. I find nothing in the Act or constitution of the company that would prevent Chorus from doing this. If it did so, then I understand the fibre services supplied over that network would not be subject to the PQ regime (i.e. would be treated for regulatory purposes in the same way that the other LFCs are currently treated)<sup>60</sup>. I understand Chorus already deploys fibre networks outside its own UFB footprint to new housing developments which no other LFC has deployed fibre to. Chorus may compete with the other LFCs for the contract with the developer to deploy this network but I do not regard it as overbuild since, once built, the RSPs will depend on Chorus to offer fibre services to those households<sup>61</sup>. I am also aware that a number of unregulated or non-LFC fibre networks have been built in recent years but my understanding is that these tend to be constructed by fixed wireless providers or

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<sup>59</sup> [https://assets.publishing.service.gov.uk/media/60016add8fa8f55f6156b4a4/SSP\\_-\\_as\\_designated\\_by\\_S\\_of\\_S\\_\\_V2.pdf](https://assets.publishing.service.gov.uk/media/60016add8fa8f55f6156b4a4/SSP_-_as_designated_by_S_of_S__V2.pdf)

<sup>60</sup> <https://legislation.govt.nz/regulation/public/2019/0275/latest/whole.html>, part 6

<sup>61</sup> I view this as a bidding market in which firms compete for the market rather than in the market.

WISPs in rural communities which are not (and which are unlikely) to be served by the LFCs themselves. I also note that Chorus supplies point to point fibre facilities outside of its existing UFB footprint.

60. Before I turn to consider the prospects of (point to multipoint) fibre network overbuild in New Zealand, it is worth mentioning the debate over the future regulation of fibre networks in Europe. The question which has arisen there is when and whether the overbuild of fibre networks might allow for deregulation of Layer 2 and even Layer 1 fibre services. The current view, reaffirmed by the European Commission in the Gigabit Recommendation of 2024, is that the presence of one or more alternative infrastructures (which typically means another fibre or HFC network) may provide a sufficient competitive constraint to allow for the removal of wholesale price controls of the kind which the Commission applies under the PQ regime<sup>62</sup>. This means that many fibre network operators in Europe are not subject to any form of revenue allowance or price control (other than with respect to an anchor service), although they are still subject to ex ante economic replicability tests which I discuss later in this section. Recently the European Commission has gone further and suggested that the presence of two independent networks might be sufficient to allow for the complete withdrawal of all forms of ex ante regulation, including economic replicability tests and anchor services regulation<sup>63</sup>. Whether or when this will happen remains to be seen<sup>64</sup>.
61. What is clear is that we have seen substantial overbuild of fibre networks in urban areas in the United Kingdom and parts of Europe. Ofcom predicts that in 2026 5% of UK households will be covered by 4 or more gigabit networks (including HFC) and 40% of households by 3 or more networks<sup>65</sup>. Analysys Mason have calculated ‘overbuild ratios’ in which a single network has a ratio of 1, two networks 2 and so on. These are nationally averaged figures so combine areas in which there is duplication with areas where there may be no duplication or no fibre networks at all. Markets such as the UK, Germany or Italy have relatively low overbuild ratios (of 1.2, 1.1 and 0.95 respectively for 2023), reflecting relatively low levels of fibre network deployment. However, Spain has much more extensive fibre network coverage and a national overbuild ratio of 2.4. Portugal has 1.9. Both countries have around 45% HFC coverage, which means Spain has the equivalent of 2 fibre networks serving every household and a further HFC network serving almost half of them<sup>66</sup>.

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<sup>62</sup> <https://ec.europa.eu/newsroom/dae/redirection/document/101928>, para 38

<sup>63</sup> <https://ec.europa.eu/newsroom/dae/redirection/document/102533>, p.32-33

<sup>64</sup> A new European Digital Networks Act is promised later in 2025.

<sup>65</sup> [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0030/269652/Connected-Nations-Planned-Network-Deployments-2023.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0030/269652/Connected-Nations-Planned-Network-Deployments-2023.pdf), table 3.1

<sup>66</sup> Analysys Mason 2023, fig 3.2, p.7 at

62. I see no reason why some degree of fibre network overbuild should not be feasible in New Zealand even in the absence of changes to the existing regulatory framework. However, I also think there are reasons to doubt that the prospects for fibre overbuild in New Zealand are anything like as promising as we have seen in Europe or the UK.
63. The most immediate reason for this is that the owners of the existing UFB networks have benefited from financial assistance from the Government which I assume would not be available to those seeking to overbuild the LFCs on a strictly commercial basis. This has implications for the market prices which LFCs currently charge and which, in the case of Chorus, are constrained by the revenue allowances that are determined by the Commission under the PQ regime. The existing regime has involved the Government providing funding on a long term basis to cover financial losses that would otherwise arise as the LFCs deploy their networks and RSPs sign up new fibre customers. Commercial investors are unlikely to be willing to provide funding on the same terms as the Government<sup>67</sup> and may expect cashflows to build more quickly than allowed by the revenue constraints to which Chorus is subject and to which, indirectly, any LFC or non-regulated fibre network competing with them would also be subject<sup>68</sup>.
64. Second, the demand side risks faced by an LFC venturing into another UFB network footprint will be much higher than those envisaged when the UFB programme was designed. RSPs will already be hosted on the fibre network of the incumbent LFC and with fibre adoption in New Zealand already above 75%, a significant proportion of the addressable retail market will already be connected to that LFC network. I consider it unlikely that any RSP would consider migrating existing retail fibre customers from one network to another as that would require a new fibre and termination point to be installed at the property, something which customers are unlikely to be willing to accept or accept without substantial offsetting benefits. This means that the market opportunity for a competing LFC is likely limited to less than 25% of the market, which is close to what is generally regarded as the minimum share required for a viable fibre network investment. By the time a competitor had actually deployed a fibre network, the Chorus copper

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<https://applications.crtc.gc.ca/DocWebBroker/OpenDocument.aspx?DMID=4400762>

<sup>67</sup> The PQ regime recognises the ‘benefit of Crown funding’ as a negative revenue allowance, reflecting that assets have been acquired with Crown funds that have not yet been repaid. These consist of equity securities on which dividends are payable on an increasing proportion of securities after 2025 and which may be redeemed for cash at the issue price or for Chorus shares and debt securities which pay no interest, are unsecured, and will be redeemed at the issue price from 2025 onwards, see slides 19 and 39 at

[https://assets.ctfassets.net/7urik9yedtqc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor\\_Presentation\\_-\\_FY24\\_results.pdf](https://assets.ctfassets.net/7urik9yedtqc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor_Presentation_-_FY24_results.pdf)

<sup>68</sup> Assuming overbuild by another LFC is not sufficient to trigger the removal of the PQ regime, in which case the only constraint on the operators will be each other.

network is likely to have been decommissioned and the market opportunity will have reduced yet further.

65. The demand side risks that arise from competitive entry will also be a consideration for the Government itself, as it may alter the assumptions on which the repayment of funds are currently based. This might prompt the Government to intervene if it thought that extensive overbuild activity threatened the capacity of an LFC to adhere to its Crown finance repayment schedules. Conversely if the Government acts to encourage overbuild of LFC networks then private investors in the LFCs might also litigate on grounds that their legitimate expectations had been breached.
66. The extent of overbuild in Europe or the UK may also not be very relevant to New Zealand. Overbuild has generally occurred in Europe in urban areas for which no firm receives public funds and where the costs of deploying networks and connecting households are significantly lower than the national average. Governments in Europe do provide public subsidies for fibre network deployment (although normally in the form of grants rather than equity or debt securities) but, as noted earlier, they do so only for rural areas where the costs of deploying any fibre network is higher than the average and would normally otherwise be prohibitive. Once these subsidised networks have been deployed it is very unusual for any other operator to overbuild them. The situation in New Zealand is not analogous because public funds do not take the form of grants and because they have been used to finance network deployment across a wide range of communities without regard to whether or not some of these might have otherwise have been served with fibre on a strictly commercial basis. The situation is also different because overbuild in Europe often occurs at a time when several firms are deploying fibre networks in the same area and are competing to be the first to migrate customers from the copper network to fibre. No firm has a incumbency advantage at that point, whereas any entrant in New Zealand will now face an existing LFC network which will already have all the RSPs and the majority of retail fibre customers connected to it.
67. For these reasons I think there must remain considerable uncertainty about whether and to what extent the overbuild of existing UFB fibre networks would be a viable commercial proposition in New Zealand. There has been virtually none to date. In absence of any legal barriers that would prevent overbuild (such as might be imposed by the Government in order to protect its existing investments) I think it should be left to the LFCs themselves to answer this question.
68. If there were to be significant overbuild or competition to serve new developments outside of the existing UFB area then it would raise the question as to how these networks should be regulated. As noted earlier, the current position is that the fibre services that Chorus provides outside its

UFB footprint are subject to ID obligations but not to the PQ regime. I do not think this is correct. First, the networks that serve new developments will, once built, be monopoly suppliers in the same way that the network within the UFB area is a monopoly network. I see no reason why they should be regulated differently. Second, I do not think the question of whether the PQ regime should apply to networks which overbuild an existing LFC network should be pre-determined by legislation or where they are built. It seems to me that a deregulation review is the better place to address this question.

## **Recommendation**

69. I recommend that Ministers amend legislation to expand the designation under section 226 of the Act so that the presumption is that all of Chorus' fibre networks and services are subject to the PQ regime, irrespective of whether they are built outside of the Chorus UFB area or not and irrespective of whether they overbuild another LFC network or not. This presumption would be overridden if, following a deregulation review, the Commission concluded that PQ regulation should be withdrawn because there was or would be workable competition in fibre services in those areas.

### *Access to ducts and poles*

70. There is a further question of whether the Commission should take regulatory action that might lower the costs of deploying rival fibre networks within existing UFB footprints and thereby improve the prospects for overbuild. In Europe and the UK fibre network overbuild has been closely associated with changes to the regulatory framework which have required the copper network operator to provide access on regulated terms to its existing Layer 1 civil engineering assets, including ducts and poles. On some estimates this can reduce the costs and length of time required for new entrants to deploy fibre networks by 40-50%<sup>69</sup>.

71. Again, there is some uncertainty about the relevance of this approach to New Zealand. First, the effect of requiring regulated access to civil engineering assets depends a good deal on the physical characteristics and condition of those assets. Operators in some countries have deployed large diameter ducts which have space into which competitors can easily insert their own fibres and micro-ducts. Others have highly congested or damaged ducts which either do not allow the insertion of additional micro-ducts or which require costly remedial work before they can do so.

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<sup>69</sup> <https://op.europa.eu/en/publication-detail/-/publication/7823c241-7a7d-11e8-ac6a-01aa75ed71a1/language-en>, p.18 and 28

The strength and condition of poles also varies widely between and within different countries. I have no information on the condition of duct or pole infrastructure in New Zealand or their suitability for sharing.

72. Second, I assume that the most likely form of overbuild would involve Chorus extending its fibre network into areas in which the other LFCs have already deployed networks. If so, I assume that Chorus will have retained at least some of the civil engineering infrastructure that is currently or which had previously been used to support the copper network in those areas. I do not know whether Chorus plans to decommission or sell these assets following the closure of the copper network but I assume that maintaining them in a safe condition would involve incurring costs without earning corresponding revenues once the copper network has been decommissioned. Assuming the assets remain in place in the other LFC footprints then Chorus would be able to use them to support a fibre network without requiring any intervention on the part of the Commission and without requiring access to civil engineering infrastructure used by the other LFCs<sup>70</sup>. The alternative scenario would involve the other LFCs deploying fibre networks within the Chorus UFB footprint or within each other's footprints, other non-regulated fibre networks extending their activities from rural to urban areas, or completely new entrants. Introducing competition within the other LFC footprints, which represent only 27% of all fibre households under the UFB programme, would be of less significance than the entry of other LFCs or third parties into the Chorus UFB footprint which represents the remaining 73%. Providing the other LFCs (or another third party) with regulated access to Chorus' civil engineering assets might facilitate such entry.
73. I am not well placed to judge whether regulated access to Chorus' civil engineering assets would induce the other LFCs, the non-regulated fibre network operators or anyone else to attempt to compete with Chorus by overbuilding some or all of the Chorus UFB fibre network. It appears to me that at least some of the other LFCs and most of the non-regulated fibre network operators are likely to lack the financial resources to do so. Even if they had the resources they would face the risks of overbuilding which I discussed earlier and which I consider to be significant. Building and operating a competitive fibre network is quite different, and may require different sources of finance and shareholders, compared to building and operating a regulated utility infrastructure<sup>71</sup>. The other LFCs might also fear that overbuilding Chorus will prompt retaliatory action with

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<sup>70</sup> My understanding of whether the other LFCs use these assets is incomplete, but I note that the Commission reports that UltraFast Networks has leased access to poles owned by a variety of third parties (including Chorus) to support its fibre network, footnote 4, at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0018/111087/Fibre-9A-study-report-17-December-018.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0018/111087/Fibre-9A-study-report-17-December-018.pdf)

<sup>71</sup> This would be particularly so if the other LFCs were unable to exploit economies of scope which they can obtain from other assets they own inside their existing UFB areas (e.g. energy networks or existing customer bases)

Chorus then overbuilding their networks. If LFCs were to depend upon regulated access to Chorus' civil engineering assets they would have to be confident that the Commission would be able to specify and enforce Chorus' obligations effectively. Experience from Europe suggests that it can take some time for a regulator to establish a well functioning access regime for these types of civil engineering assets and that their owners have and will pursue plenty of opportunities to frustrate the process in the meantime.

## **Recommendation**

74. I would not recommend that the Commission consider introducing requirements for Chorus or the other LFCs to provide access on regulated terms to their civil engineering assets unless it were to become apparent that there was a serious interest from credible investors to engage in extensive overbuild activities, which I do not expect. I say this recognising that overbuild of fibre networks would offer the greatest degree of competition (in Europe it has become known as the 'gold standard'<sup>72</sup>) throughout the fibre value chain and would likely offer the best prospect for deregulation of fibre networks and services in the longer term.

### *The position of the other LFCs*

75. If the other LFCs are not to provide a competitive constraint upon Chorus or upon each other by overbuilding, then I think some questions should be asked about their purpose and long term future. I recognise that it was important for the Government to have a number of credible participants in the original UFB allocation process to ensure that Telecom New Zealand submitted a competitive bid and the Government had a degree of leverage in the negotiations which followed. If the Government expected to repeat the exercise in the future and to allocate further financial support to extend fibre networks into rural areas then retaining the existing LFC industry structure might be important.

76. On the other hand, the existing structure also makes the application of the regulatory regime more challenging once the copper network is decommissioned in 2026. At this point the market position of the other LFCs, as monopoly providers of fibre services to RSPs in their respective geographic areas, will be no different from the market position occupied by Chorus. However their current regulatory treatment is significantly different from that of Chorus. The PQ regime applies only to Chorus and not the other LFCs and, as noted earlier, other provisions are implemented against

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<sup>72</sup> Attributed to Professor Martin Cave, see <https://link.springer.com/article/10.1007/s11151-019-09686-6#citeas>

Chorus via legislation and decisions of the Commission under Part 6 whereas for the other LFCs they are implemented through the constitution and decisions by the Government as shareholder<sup>73</sup>.

77. The practical consequences of this are difficult to discern although in my view the competitive constraint imposed on the other LFCs by Chorus' copper services will already be very limited, not least because I understand that in the unlikely event that any customer wished to switch from a fibre connection to a copper connection today they would find they were unable to do so because RSPs no longer sell copper services in most fibre areas. The conduct of the other LFCs is, in my view, already largely unconstrained by either competition or regulation.
78. I note that the prices and quality of fibre services provided by the other LFCs nonetheless appear similar to those of Chorus and that for some aspects of quality the performance of the other LFCs may be superior<sup>74</sup>. However, only 2 years have passed during which the other LFCs would be able to diverge from Chorus as prior to 2022 all the LFCs were governed by the terms of their UFB contracts with the Government. The other LFCs have ID obligations which allow the Commission to benchmark their prices and performance against that of Chorus, but it is not clear to me how the Commission would intervene if it were to conclude that their prices or performance were unsatisfactory. The other LFCs have existing contractual obligations to RSP customers but I explain later in Section 2 why I am sceptical that any of these factors provide effective constraints on prices over the longer term.
79. Another reason to be concerned about this is that I think it unlikely that any divergence in pricing between Chorus and the other LFCs would be apparent to end users. My understanding is that most RSPs offer and advertise their retail fibre services nationally using prices which are the same irrespective of whether the underlying LFC provider is Chorus and another LFC. In such a case, any increase in the wholesale prices charged by a smaller LFC would be absorbed into the nationally averaged costs which the RSPs will use as a basis for setting their retail prices rather than being reflected in higher retail prices for those customers living in the area served by the particular LFC that has raised prices. This will mean that any demand response to the increase in prices by an individual LFC will be muted and the resulting increase in retail prices will likely be attributed by end customers to the RSP rather than to the LFC. In such circumstances price increases are likely to be profitable and to involve relatively little risk to the other LFCs (beyond the risk that they prompt the Government to extend the PQ regime to the other LFCs in response).

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<sup>73</sup> I noted earlier that the Ministry has consulted on proposals to better align the treatment of Chorus and the other LFCs, see p.32 at <https://www.mbie.govt.nz/assets/enhancing-telecommunications-regulatory-and-funding-frameworks-discussion-document.pdf>. I understand no conclusions have been published to date.

<sup>74</sup> Figure 17 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0033/361959/2023-Telecommunications-Monitoring-Report-15-August-2024.pdf)

## Recommendation

80. I recommend that the PQ regime be extended to the other LFCs to avoid the pricing risks outlined above. I explain further what I recommend extending the PQ regime to other LFCs might involve in Section 2 of this report.
81. One difficulty with a recommendation to extend the PQ regime to the other LFCs is that they are much smaller but the costs of implementing the PQ regime for both the other LFCs and for the Commission are unlikely to be much less than the costs of applying the regime to Chorus<sup>75</sup>. I make some recommendations when discussing the PQ regime in Section 2 which are intended to address this concern. However, another way to avoid it would be if the other LFCs and Chorus were to merge or consolidate their networks so that there was a single regulated fibre network provider in New Zealand. If, as discussed earlier, the other LFCs would not otherwise overbuild Chorus or each other and are not required to introduce competitive tension into future Government UFB tenders then no competition would be lost from the merger of these entities or their assets<sup>76</sup>. The justification for such a merger should not be that it would allow the Commission to cost effectively extend the PQ regime even though it would be an important consequence. Rather the justification should be an industrial one, namely that the other LFCs are unable and unlikely to operate at an efficient scale and that fibre network costs and wholesale prices would be lower and services would be better if they were supplied by a single, consolidated entity<sup>77</sup>.
82. I recognise that LFC industry structure is, in the first instance, a commercial matter for Chorus, its shareholders and the other LFCs and their shareholders. Nonetheless, I think the Commission or Government might wish to signal in advance their willingness to support should such a merger be proposed.

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<sup>75</sup> This decision was taken as part of the Telecommunications (New Regulatory Framework) Amendment Act 2018. The link to the review which explains the Government's reasoning is not working but I note that the disclosure statement indicated that the Commission could recommend to Government that the PQ regime be extended to the other LFCs.

<sup>76</sup> Aside for competition to deploy fibre in new housing developments, which I do not think is sufficient grounds to reject the idea.

<sup>77</sup> I have not assessed the relative costs and efficiency of the different LFCs, although I note that the Commission's ID data suggests that Enable and Northpower earned a return on investment in 2022 and 2023 that was both substantially in excess of their WACC and substantially higher than Chorus, at <https://comcom.govt.nz/regulated-industries/fibre/regulated-fibre-provider-performance-and-data/fibre-performance-visualisations>. This may be a transitory phenomenon or it may suggest consolidation is less likely in the near term. However, it also strengthens the argument for extending some form of PQ regulation to the other LFCs to ensure that their consumers share in the benefit from any superior performance on their part.

*Competition in the provision of Layer 2 or bitstream services*

83. In this section so far I have recommended that the Commission does not seek to extend competition into upstream fibre markets by adopting policies intended to support fibre network overbuild of the kind that have been pursued in Europe or the United Kingdom. I recognise that this will narrow the future scope for competition in upstream markets and limit opportunities for deregulation. I have also said that I do not expect competition downstream from other technologies like FWA to impose significant constraints upon the fibre services that the LFCs supply.
84. The Commission does, however, have other opportunities to extend competition in upstream markets which were anticipated by the Government when it designed the regulatory regime for fibre. The Government's initial intention at that time had been that the scope of the LFC monopoly would be limited to the provision of Layer 1 or passive fibre services, and that third parties including RSPs would use these to provide Layer 2 and/or retail fibre services on a competitive basis. The original position was that LFCs would also, with permission, be able to provide Layer 2 services themselves but would be under no obligation to do so. In the event, the Government concluded that LFCs should retain a monopoly over the provision of some Layer 2 point to multi-point services for a period of 10 years until 2020 but not over point to point services.
85. It is important at this stage to consider what might be achieved from requiring LFCs to offer Layer 1 services which can function as inputs to Layer 2 services. One possibility is that a new category of specialist Layer 2 service providers emerge to purchase Layer 1 inputs from the LFCs, add their own active equipment and associated processes for ordering and provisioning services, and then compete with the LFCs in the provision of Layer 2 services to RSPs who will use them to retail services to end users. This model has been discussed in the UK and elsewhere when RSPs have needed to work with a number of different fibre networks, each with different ordering or provisioning processes for Layer 2 services, in order to offer retail services on a national basis. In such circumstances there may be a commercial opportunity for an intermediary to add value by managing all the different Layer 1 providers and providing a single set of standardised Layer 2 services to the RSPs. However, in my experience the added value of this is quite modest and the commercial opportunities similarly limited (particularly if RSPs have already established supply arrangements with all the LFCs).
86. Another scenario is that RSPs themselves will take the opportunity to 'climb the ladder of investment' by substituting their own active equipment for that of the LFCs and self-provide

Layer 2 services. This involves vertical integration on the part of RSPs rather than intermediation by some third party. The benefits of Layer 2 self-provision are generally considered to be that RSPs will have greater ability to differentiate their retail services from each other and exercise control over a greater part of their operations and cost structure. This is, however, not also without additional costs and complexity. The viability of self-provision of Layer 2 services may vary as between RSPs or as between different geographic locations. In general terms, substituting self-provided Layer 2 services for Layer 2 services supplied by an LFC is likely to increase the ratio of fixed to variable costs that an RSP incurs. I discuss the implications of this for PONFAS in more detail later in this section.

87. I make these points to introduce the possibility that the Government's original expectations for competition in the provision of Layer 2 services may prove to have been misplaced. That is to say that the commercial benefits or competitive advantages which RSPs might expect to obtain from self-providing Layer 2 services may not be sufficient to outweigh the additional complexity and costs associated with self-provision. Opportunities for differentiation in the provision of fibre-based services to households may also be quite limited, may be achieved by the RSP using the LFC's existing portfolio of Layer 2 services without the need to self-provide active equipment, or may focus on customer service or other aspects of the retail experience (such a bundling with other services) that have nothing to do with the Layer 2 service itself. This means that a finding that RSPs have not chosen to purchase Layer 1 inputs from the LFCs to date should not automatically lead to the conclusion that the regulatory regime governing Layer 1 services is deficient or needs to be changed. That is possible, but it may also be that the Layer 1 inputs have been mis-specified or that, under the conditions which prevail for the supply of Layer 2 services by the LFCs in New Zealand today, there is just no reasonable commercial case for an RSP to self-provide Layer 2 services.

#### *Pricing of Layer 1 inputs*

88. With these cautionary points made, I consider issues arising in relation to each of the Layer 1 inputs which LFCs are required to provide: DFAS and PONFAS. Before doing this I want to highlight some issues relating to the regulation of prices of Layer 1 services generally.

89. I understand the current approach to setting the prices of Layer 1 services is that the Minister, advised by the Commission, can specify by means of secondary legislation a specific price limit or price cap. Under section 228 of the Act if the Commission has not recommended a particular price limit for DFAS (which it could not do until the second PQ period commenced in January 2025) the Minister would adopt the existing price from the UFB contract that was agreed many

years previously and apply an annual CPI adjustment, which I understand is the position currently<sup>78</sup>. Similar provisions (although not identical) apply to the setting of prices for PONFAS under section 229 of the Act.

90. I recommend several changes to these arrangements. First, I think the pricing decisions should rest with the Commission not the Minister. I worry that the involvement of the Minister in the process introduces an additional lobbying opportunity for interested parties without contributing any additional technical expertise. I do not regard the setting of Layer 1 price limits as requiring the exercise of political judgment in the way that I think distributional questions should properly be matters for the Government rather than the Commission. Nor do I see why Layer 1 pricing decisions should be subject to parliamentary scrutiny or require secondary legislation to implement.
91. Second, I do not see why the Commission was expected to undertake a review of Layer 1 terms and prices only after the next PQ period has commenced. There is no way to avoid this now, but in future I recommend that the Commission should undertake a review prior to the commencement of each PQ period with a view to implementing changes to price limits at the same time, and for the same duration, as any changes to the PQ revenue allowance.
92. I would agree that a RAB-based approach to the setting of prices which the Commission favours is appropriate for Layer 1 inputs and is also the approach recommended by the European Commission when setting regulated prices of civil engineering assets<sup>79</sup>. Chorus does not require pricing flexibility for Layer 1 inputs as it does for Layer 2 services because the same Layer 1 input will be used to support a range of different Layer 2 outputs at different prices and with different capabilities which respond to different user demands. The only circumstances under which my view might change on this would be if the Commission were to require regulated access to ducts and poles, in which case I think the future of DFAS and PONFAS would need to be reconsidered, or if the Commission concluded, following a deregulation review, that competition in the Layer 2 market would be workably competitive absent regulation (e.g. due to extensive network overbuild). I do not recommend the former and do not consider the latter likely.
93. However the more important issue, in my view, will not be the absolute level of Layer 1 input prices but the size of the margin between the prices of the Layer 1 inputs and the corresponding Layer 2 services<sup>80</sup>. I recognise that the EOI provisions in the Fibre Deeds anticipate this concern and that the Commission issued guidance on the application of these provisions in 2020 which

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<sup>78</sup> <https://www.legislation.govt.nz/regulation/public/2021/0259/latest/LMS539649.html>

<sup>79</sup> p. 12-13, at <https://ec.europa.eu/newsroom/dae/redirection/document/101928>

<sup>80</sup> <https://ec.europa.eu/newsroom/dae/redirection/document/101925>

included a quite extensive discussion of how an Economic Replicability Test or ERT might be applied<sup>81</sup>. The Chorus Fibre Deed also contains a Schedule which provides some guidance on how the equivalence of input requirement is to be applied to the pricing of the DFAS service<sup>82</sup>. However, that guidance is not detailed or specific and the Fibre Deeds are not well suited as an enforcement tool against margin squeeze for reasons which I expand upon when discussing the Fibre Deeds in Section 2 of this report.

## **Recommendation**

94. I recommend that the setting of price limits or caps for Layer 1 services by the Minister under secondary legislation ceases and that the Commission is instead required to review and set prices that are cost based at every PQ review. Later I recommend that the PQ period be extended to up to 8 years and I think the review of Layer 1 prices should align with this. I also recommend that the PQ regime be extended to the other LFCs and I consider that the pricing of their Layer 1 inputs should be treated in the same way as I propose for Chorus.

## *DFAS*

95. The original restrictions on RSPs or others being able to offer or self-supply Layer 2 services did not apply to point to point connections which are used to provide connections to larger businesses and backhaul in cellular and other telecommunications networks. Accordingly, Chorus has been obliged to offer a Layer 1 point to point Direct Fibre Access Service or DFAS since 2010 on terms that were initially specified in the UFB contract with the Government but transitioned in 2022 to the Part 6 regulatory regime administered by the Commission. The other LFCs were required, under their respective Fibre Deeds, to offer DFAS and PONFAS from 2020 on an EOI basis but are not subject to pricing limits under the Part 6 regime<sup>83</sup> (although I understand they may be subject to a Standard Terms Determination under Part 2 of the Act).

96. I am advised by Commission staff that today DFAS is primarily used by RSPs for backhaul connections to cellular sites and that there have been no complaints about terms or prices to, or investigations by, the Commission into compliance with the Deed. I understand that some RSPs may choose to purchase non-regulated point to point Layer 1 services that are similar but not

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<sup>81</sup> [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0027/225972/Equivalence-and-non-discrimination-guidance-30-September-2020.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0027/225972/Equivalence-and-non-discrimination-guidance-30-September-2020.pdf), para 3.36-

<sup>82</sup> <https://www.crowninfrastructure.govt.nz/wp-content/uploads/2018/07/Fibre-open-access-deed-amended-2014.pdf>, p.26

<sup>83</sup> E.g para 6.2 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0024/90483/Enable-Fibre-Deed-for-UFB1.PDF](https://comcom.govt.nz/_data/assets/pdf_file/0024/90483/Enable-Fibre-Deed-for-UFB1.PDF) and Annex 1

identical to DFAS in specification and price. Assuming the RSPs retain the option to purchase the regulated DFAS input I assume they are better off if they choose to purchase another service instead. The impact of regulation in these circumstances may not be fully reflected in the number of connections or the revenues associated with the regulated DFAS service itself.

97. The Commission has recently concluded in its final decision that it should undertake a deregulation review of point to point fibre services in non-Chorus areas but not to do so in relation to areas where Chorus is the UFB provider<sup>84</sup>. This is primarily because Chorus supplies point to point fibre services in other LFC areas using its own network. The Commission did not specifically discuss take up of DFAS, or whether or how this might have contributed to competition in the provision of Layer 2 point to point fibre services.
98. In comparison with the UK or Europe - and relying on the structure of the market rather than any assessment of outcomes such as prices, quality or switching rates - my assessment would be that competition in the provision of Layer 2 or retail point to point connections in New Zealand appears relatively limited, at least in major urban areas. This may reflect differences in the size of the market opportunity – Auckland has an active labour force of around 900,000 compared to London’s 4.8 million<sup>85</sup>. Many fibre networks in the UK or Europe were originally designed and built to meet the needs of corporate users in the central business district and/or to connect local area networks in different cities together. The consequence of this is that regulators in the UK and Europe have been able to deregulate point to point services, including Layer 1 inputs, earlier than point to multi-point services that are required to serve the consumer market, but that they have normally done so on a highly localised or city by city basis<sup>86</sup>.

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<sup>84</sup> Para 3.200 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

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[https://ecoprofile.infometrics.co.nz/auckland/Employment#:~:text=Employment%20in%20Auckland%20measured%20972%2C299.in%20New%20Zealand%20\(2.4%25\)](https://ecoprofile.infometrics.co.nz/auckland/Employment#:~:text=Employment%20in%20Auckland%20measured%20972%2C299.in%20New%20Zealand%20(2.4%25)) and

<https://www.nomisweb.co.uk/reports/lmp/gor/2013265927/report.aspx#tabnrhi>

<sup>86</sup> For example, Ofcom defines distinct geographic markets for leased lines as the City of London, which is deregulated and in which BT faces competition from an average of 5.1 networks, ‘High Network Reach Areas’, mainly large regional cities, in which BT faces competition from an average of 2.4, ‘Area 2’ in which it averages 0.9 network competitors and Area 3 in which it largely retains a monopoly, see p.158 at <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/185028-promoting-investment-and-competition-in-fibre-networks--wholesale-fixed-telecoms-market-review-2021-26/associated-documents/wftmr-statement-volume-2-market-analysis.pdf?v=326139>

## Recommendation

99. The Commission has recently decided to review whether to deregulate point to point services in non-Chorus areas, primarily on the basis of the competitive constraint provided by Chorus (using its own network) and by other networks. I have no objection to this (particularly since the Commission's own evidence on competitive conditions in these markets appears to be rather limited at present) and I assume that a potential consequence of this review is that the obligations on the other LFCs to offer DFAS could be withdrawn. However, a question remains about the future regulation of point to point services, including DFAS, in the Chorus UFB areas. I understand that this is excluded from the forthcoming deregulation review in which the Commission says, for the other LFC areas 'we will investigate whether more granular geographic markets exist'<sup>87</sup>. I would recommend that the Commission apply a similarly 'granular' approach to Chorus UFB areas at the next deregulation review, consistent with the approach taken to point to point market deregulation by regulators elsewhere in the world.

### *Passive Optical Network Access Service or PONFAS*

100. The Government had also expected competition in the provision of Layer 2 point to multi-point wholesale fibre services to develop after the period of LFC exclusivity ended in 2020. It intended that this be accomplished through an obligation for LFCs to supply the corresponding Layer 1 point to multipoint input known as Passive Optical Network Fibre Access Service or PONFAS<sup>88</sup>. The price and other terms on which PONFAS was to be supplied were initially agreed in the UFB contract and were intended to apply until January 2025, since when the Commission can review the terms on which PONFAS is supplied and recommend that the Minister adopt prices or terms which diverge from those in the UFB contract.

101. I understand that there has been very limited use of PONFAS to date<sup>89</sup>. The Commission investigated the non-price terms on which Chorus offered PONFAS to third parties and their

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<sup>87</sup> Para 3.183 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

<sup>88</sup> Later dates apply to PONFAS over network built under the UFB2 programme, but I ignore this for the purpose of this report.

<sup>89</sup> Chorus has recently told the Commission it only has one customer for PONFAS and 'is under the impression there will not be any material future uptake', para 3.203 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

compliance with the Fibre Deed and informed Chorus in April 2023 that it had decided not to progress the investigation further and did not intend to take enforcement action<sup>90</sup>.

102. I understand that two of the largest RSPs, Vodafone and Vocus, had established a JV in 2018 specifically with the intention of ‘unbundling’ the Chorus network by substituting PONFAS for the Layer 2 bitstream services which they or other RSPs would otherwise use to serve their domestic retail customers<sup>91</sup>. I would expect the rationale for establishing a JV between firms who are otherwise competitors to reflect the economic challenges of unbundling networks which require an RSP (or anyone else attempting it) to incur substantial upfront fixed costs<sup>92</sup>. These fixed costs will be a significant proportion of total costs if unbundling occurs on a highly disaggregated basis, as appears to be the case with Chorus’ implementation of PONFAS<sup>93</sup>. In such an environment, an individual RSP will only have its own retail customers to connect to its PONFAS service, whereas Chorus’ own equivalent Layer 1 services were provisioned to serve 100% of the retail demand for fibre (in Chorus UFB areas) for the 10 years during which Chorus was granted exclusivity for point to multipoint services.

103. A JV between RSPs would increase the level of aggregation of demand (compared to each individual RSP) but unless all RSPs in the market were to join together and migrate all of their Layer 2 connections away from Chorus, the economics for any entrant will always be inferior to the economics which Chorus faced when rolling out its own Layer 1 infrastructure. It will be uneconomic for any RSP or JV of RSPs to order PONFAS at locations where only a small proportion of the ports may ever be utilised. This will mean that a competing Layer 2 point to multipoint provider will only ever be able to substitute for a subset of the Layer 2 connections which Chorus provides using its own equivalent Layer 1 infrastructure, and likely a relatively small subset. Thus, any RSP that aspires to offer broadband retail services on a national basis would need to continue to rely upon Chorus for Layer 2 services even if they were to use PONFAS to substitute their own Layer 2 services at the subset of locations where it was economically feasible to do so.

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<sup>90</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0020/315452/Chorus-Limited-PONFAS-Investigation-28-April-2023.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0020/315452/Chorus-Limited-PONFAS-Investigation-28-April-2023.pdf)

<sup>91</sup> <https://media.one.nz/article/vocus-group-and-vodafone-announce-joint-venture-accelerate-fibre-innovation>

<sup>92</sup> This is because the RSP must incur the costs of installing a splitter and provisioning feeder fibre before it connects end customers. I understand splitters typically contain 16 ports, so a significant amount of capacity is likely to remain unutilised at any given time. The larger the end customer base served (assuming demand is evenly distributed across the network) the lower the proportion of total network capacity that I expect will be unutilised at any given point in time.

<sup>93</sup> I understand that the Chorus’ network contains some 22,000 Fibre Flexibility Points at which a user of PONFAS would be able to install splitters.

104. I think this has several consequences. First, it suggests RSPs will need to ‘multi-home’ on both Chorus and non-Chorus Layer 2 platforms, rather than being able to switch all of their customers away from Chorus. Multi-homing adds complexity to business operations and, in this case, will offer limited benefits<sup>94</sup>. Second, the size of any benefits obtained by an RSP from using PONFAS to self-supply (or from switching from Chorus to another Layer 2 supplier) will be a function of the number of locations at which unbundling is a viable proposition. If an RSP has a highly distributed retail customer base and a low national market share then this number could be very low. Larger RSPs, or those with more geographically concentrated customer footprints, ought to be able to obtain greater benefits from PONFAS.

105. I am not in a position to determine whether and what extent the prices at which PONFAS is offered today would have enabled a competitor such as the Vodafone/Vocus JV to offer a Layer 2 point to multipoint service, nor the proportion of fibre connections for which it would have been able to compete. However, the absence of any significant take up of PONFAS to date and the disillusion of the Vodafone/Vocus JV in 2023 suggests either that existing prices (relative to the prices Chorus charges RSPs for its Layer 2 services) have had an exclusionary effect and/or that the benefits for RSPs of self-providing Layer 2 services are insufficient to justify the complexity and extra costs of doing so<sup>95</sup>. In this context it is worth recalling that an important objective in enabling RSPs to self-provide Layer 2 services using PONFAS was the expectation that this would allow for greater service differentiation in the retail market. However, I am not convinced that significant opportunities for service differentiation exist in the residential market for fibre broadband services, either in New Zealand or anywhere else<sup>96</sup>.

106. Even if PONFAS were to be more successful in future I would expect its competitive impact to be quite limited. The challenge for the Commission, were it to find itself having to oversee the application of an Economic Replicability Test for point to multipoint services, would be to determine what assumptions to adopt and how far the scope of competition in Layer 2 services might be expected to extend as a result.

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<sup>94</sup> Multi-homing in this context means the RSP will rely on Chorus at some FFPs and another supplier or self-supply at other FFPs. The services are therefore better viewed as complements than substitutes and threat to switch connections away at FFPs where there is insufficient demand to support competition will not be a credible threat or a constraint on Chorus.

<sup>95</sup> Chorus has recently told the Commission it only has one customer for PONFAS and ‘is under the impression there will not be any material future uptake’, para 3.203 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

<sup>96</sup> I note that Chorus have made a similar points in submissions to the Commission (the Skeens McDonell report cited at para 101 of [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0020/362621/Chorus-submission-on-draft-decision-deregulation-review-24-September-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0020/362621/Chorus-submission-on-draft-decision-deregulation-review-24-September-2024.pdf)

107. There is one further issue to consider. This is whether there are other actions – aside from considering potential exclusionary effects from pricing<sup>97</sup> – that the Commission could take that would achieve the objectives which the Government had in mind when it decided that LFCs should be obliged to supply PONFAS after 2020. One option might be to change the technical specification of the point to multipoint service which LFCs must provide to provide some or all of the benefits of PONFAS but on economic terms that are more conducive to take up by the RSPs<sup>98</sup>.

108. I am not well qualified to advise on technical matters, but in broad terms I see three potential lines of inquiry:

- a. Whether the existing PONFAS technical specification should be altered to allow greater service differentiation or otherwise to address barriers to competition arising from the existing specification. This might start with the Commission revisiting the requests which Chorus received when it consulted potential users of PONFAS about their requirements for the service in 2018. For example, I understand that some respondents at that time wanted to install their own splitters and others wanted to directly manage the contractors who were installing splitters and fibre on behalf of Chorus. Others wanted to take over unutilised feeder fibre which Chorus may have pre-provisioned but was not using, or to be able to take over the Chorus ONT at the customer premises rather than having to install their own or pay Chorus to do so<sup>99</sup>.
- b. Whether competition and RSPs in the retail broadband market would be better served by Chorus being required to provide a hybrid Layer1/2 ‘virtually unbundled’ point to multipoint fibre service of the kind that is generally required in the United Kingdom or Europe, rather than the PONFAS inputs provided today but which were agreed with the Government many years ago<sup>100</sup>. This might allow greater opportunities for service differentiation than Chorus’ existing portfolio of Layer 2 point to multipoint fibre services

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<sup>97</sup> To be clear, I am not suggesting that Chorus’ current pricing of PONFAS and Layer 2 services are exclusionary, either in intent or effect and I have said earlier that I am in no position to attempt this assessment.

<sup>98</sup> At this point I cannot imagine any circumstances under which PONFAS would be taken up by a third party that was not already a large RSP or collective of RSPs.

<sup>99</sup> <https://sp.chorus.co.nz/download-file/107>, p.9-

<sup>100</sup> Although there are different implementations in different countries, reflecting different fibre network architectures, the core features of Virtual Unbundled Local Access are or VULA are: (a) That the Point of Interconnection occurred at the first Ethernet switch, which was generally in the local exchange; (b) The connection was service agnostic and so does not limit the retail services which can be provided by the reseller (c) The connection was uncontended (d) Resellers could control quality of service parameters in order to differentiate their retail services from those of the incumbent ILEC; and (e) Resellers controlled and provided the customer premises equipment.

See Ofcom [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0020/112475/wla-statement-vol-1.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0020/112475/wla-statement-vol-1.pdf), para 7.79.

but without the complexity and multi-homing challenges for RSPs that I think arise with PONFAS (because it may also allow for a more linear pricing structure).

- c. Whether Wave Division Multiplexing or WDM technologies could be used to require Chorus or other LFCs to assign individual wavelengths over shared fibres to different RSPs. As I understand it, this would allow RSPs to self-provide Layer 2 services to serve retail customers using feeder fibre and individual connections which Chorus would have already provisioned to support its own Layer 2 service. I would expect this both to lower overall costs by reducing duplication of feeder fibres and to change the structure of prices. Although I understand that Chorus' existing GPON network already supports XGS-PON and I expect will continue to be upgraded in future, I am in no position to assess the additional costs which Chorus might need to incur to provide a WDM point to multipoint access service to RSPs. I am aware there has been discussion elsewhere in the world of WDM-based fibre access services since at least 2010<sup>101</sup> and WDM technologies are used extensively in core fibre networks and for point to point services. I also understand that Northpoint trailed an NGPON2 overlay which it said could assign different wavelengths to different RSPs back in 2017<sup>102</sup> but I note that it does not appear to be selling wavelengths to RSPs today. I am not aware of any other regulator having required the provision of wavelengths over the point to multipoint fibre access network. This leads me to suspect that the virtual unbundled service described in the previous paragraph may prove to be a more practical and lower risk approach.

## **Recommendation**

109. I have considered the issues arising from PONFAS whilst having regard to my recommendations and conclusions on other issues. I have already said that I do not recommend that the Commission or Government attempt to expand competition by taking measures to encourage LFCs or others to overbuild each other and that I do not expect this to happen to any significant extent in New Zealand. I have said I do not expect technologies such as FWA to provide a significant competitive constraint upon the LFCs and that the impact of DFAS in expanding the scope of competition is difficult to assess but likely quite limited. That leaves PONFAS as likely the only remaining means of injecting competition into the provision of Layer 2 point to multipoint services on which all RSPs and most households currently rely for their fibre services.

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<sup>101</sup> See, for example, [https://www.vodafone.com/sites/default/files/2020-09/public\\_policy\\_series\\_13.pdf](https://www.vodafone.com/sites/default/files/2020-09/public_policy_series_13.pdf)

<sup>102</sup> <https://www.calix.com/press-release/2017/02/calix-and-northpower-fibre-showcase-worlds-first-multi-wavelength.html>

110. In these circumstances I think it would be very difficult for the Commission not to further consider whether PONFAS, or some kind of Layer 1 input with an alternative technical specification, could provide a basis for competition in the provision of Layer 2 point to multipoint services. I therefore recommend that the Commission undertakes such an investigation with a view to making recommendations to the Minister after 2025.

111. This does not mean that I think the Commission will necessarily find a technical input or a set of price or non-price terms that would achieve these objectives. It is possible - and in my view quite likely - that the Layer 2 services currently provided by Chorus sufficiently meet the needs of RSPs and align with their capabilities and other business priorities. RSPs may see better places to invest their time and resources than trying to substitute their own Layer 2 services for those which they currently purchase from Chorus or the other LFCs, particularly if they still have to rely on Chorus for national coverage, as I think they will. I have also not seen any evidence that the absence of competition in the provision of Layer 2 services has had adverse effects on competition in the retail fibre broadband market in New Zealand, a market which I have found to be workably competitive. Given this, the Commission should be prepared to conclude at the end of its investigation that no change is required or that the obligation on LFCs to provide PONFAS should simply be withdrawn altogether.

### *Section 2: Regulation of fibre-based services and networks not subject to sufficient competition*

112. In this section I consider the regulatory measures that are currently in place to constrain the conduct of the LFCs when they are not otherwise subject to sufficient competitive constraints. In Section 1 I considered various options for expanding the scope of competition in fibre-based networks and services which might, if successfully implemented, allow for some corresponding reduction or withdrawal in the scope of regulation. However, I concluded that the likelihood of expanding the scope of competition in Layer 1 by network overbuild or in Layer 2 through modifications to the PONFAS regime are limited, as is the likelihood of new technologies such as FWA providing significant competitive constraints. I also noted that any constraint on the other LFCs from copper services would disappear in 2026. I therefore proceed in this section on the basis that the competitive constraints upon the LFCs are unlikely to change very much compared to today and will remain limited. I consider whether and what changes can be made to improve the regulation of LFCs in light of that assumption. In each case I start with my understanding of the purpose and rationale of the measure in question and then go on to discuss how it has been applied by the Commission to date and what might change in future.

## *The Fibre Deeds*

113. The Fibre Deeds are a part of the original contractual arrangements that were concluded between the LFCs and the Government and take the form of undertakings given by LFCs which are enforceable by the High Court in proceedings that can be initiated by the Commission under Section 156B of the Act. They remain in place notwithstanding the transition of other aspects of the contracts-based regime to a more conventional regulatory regime. There are provisions in the Act which allow for their variation or termination by mutual agreement<sup>103</sup>.
114. The Fibre Deeds contain equivalence of input or EOI and non-discrimination obligations which are similar to those found in almost every other telecommunications regulatory regime I am familiar with. They recognise that vertically integrated firms which provide inputs to third parties whilst also competing with them in downstream markets will have the incentive and, absent legal constraints, the ability to self-preference or discriminate in favour of their own affiliate operations. The application of EOI and non-discrimination rules against vertically integrated incumbent telecommunications operators has been a central feature of telecommunications regulation in the United Kingdom and Europe for almost 40 years and occupied a similarly prominent position in New Zealand prior to the structural separation of Telecom New Zealand.
115. The prohibition on LFCs participating in the retail fibre broadband market means that the Fibre Deeds are required to bear much less weight than equivalent provisions in the United Kingdom or Europe<sup>104</sup>. The non-discrimination obligation requires that LFCs not discriminate in favour of particular RSPs whom they supply with Layer 2 services but in the absence of any common ownership or other commercial affiliations there is no obvious incentive for LFCs to favour one RSP over another. The EOI provisions do not apply as LFCs do not supply Layer 2 services to themselves. The application of the Deeds was therefore limited to Layer 1 inputs, meaning DFAS until 2020 and DFAS and PONFAS since then. Since PONFAS has yet to be used to any significant extent the Deeds apply in practical terms only to the supply of DFAS today. I explained in Section 1 that the Commission undertook an investigation into an alleged breach of the Fibre Deed in relation to the non-price terms under which Chorus was offering PONFAS but subsequently closed it.

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<sup>103</sup> Section 156AM and 156AO of the Act.

<sup>104</sup> This is illustrated by the very small number of investigations and enforcement proceedings taken by the Commission over the last 15 years relative to the dozens of such investigations and proceedings taken by Ofcom or European regulators in the same period.

116. The Commission produced extensive guidance on the application of the EOI and non-discrimination provisions in 2020<sup>105</sup>. The key parts are chapters 3 and 4. Chapter 3 discusses EOI which, in relation to non-price matters, ought to be relatively straightforward for LFCs that have designed and built their fibre businesses in the knowledge that they would have to comply with EOI obligations. The key issue, as the Commission recognises, is the application of EOI principles to pricing. The position the Commission takes in the guidelines is a familiar one. The minimum condition is that the differential between Layer 1 input prices and Layer 2 prices must allow an equally efficient operator (i.e. one facing the same costs as the LFC itself) to earn a normal margin. This is the standard competition law test for margin squeeze and the guidelines describe it as the ‘minimum downstream cost standard’. This leaves open the question of whether and when compliance with the Deeds might necessitate a departure from this minimum standard because, in the presence of economies of scale and scope, the resulting margin would still not be sufficient to enable entry into the Layer 2 market. The guidelines say that in these circumstances the LFC would have to offer a Layer 1 price that was lower than that obtained under the minimum downstream cost standard. But they do not say in what circumstances this would be the requirement nor how much lower the price would need to be to be compliant with the Deeds<sup>106</sup>. As I explain further below, I think this is a defect and that it arises because the Fibre Deeds are not well suited for applying or enforcing such regulatory obligations.

117. I consider that it will continue to be necessary for LFCs to be subject to EOI and non-discrimination obligations if they are to be required to offer Layer 1 inputs and are to continue to participate in the Layer 2 market because the incentive and ability to self-preference and exclude competitors will persist. However, I would have reservations about relying on the Fibre Deeds for this purpose because:

- a. I do not think that requiring the Commission to bring an action before the High Court under Part 4A of the Act is likely to be the most efficient or effective means by which LFC compliance with the margin squeeze rules could be enforced. This is important when the primary aim of non-discrimination and EOI rules is to reassure prospective entrants into Layer 2 markets that they will be able to compete with the LFCs on fair terms and that anti-competitive conduct will be effectively deterred. I would expect any litigation in the Court to be a lengthy process and, in the case of an allegation of margin squeeze, to

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<sup>105</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0027/225972/Equivalence-and-non-discrimination-guidance-30-September-2020.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0027/225972/Equivalence-and-non-discrimination-guidance-30-September-2020.pdf)

<sup>106</sup> The other important element of the guidelines on non-discrimination (so far as fibre networks and services are concerned) is the discussion of non-uniform pricing structures in para 4.51. This will be an important part of any assessment of Chorus’ current PONFAS prices, which involve a fixed price for the installation of feeder fibre and splitters and a variable charge for each subsequent connection.

involve complex economic modelling and expert evidence (and therefore high costs) for both sides. I also expect there to be considerable uncertainty as to how the Court will interpret the non-discrimination provisions in the Fibre Deeds, and in particular whether it is appropriate to adopt the ‘equally efficient competitor’ or the ‘as efficient competitor’ standard when undertaking the assessment (and if the latter, what assumptions to adopt)<sup>107</sup> as well as in relation to various other aspects of the calculations such as the services to be compared and the time period over which the assessment is made.

- b.* Enforcement via the High Court is also problematic in terms of the Commission’s guidelines because the Commission clearly cannot pre-empt how the Court would interpret questions such as those mentioned above. This means that both the Commission and the LFCs will have to wait until the Court produces judgements on the relevant questions. I do not think this is conducive to establishing the kind of clear and predictable rules which prospective entrants into the Layer 2 market require (but which LFCs might also benefit from). It is interesting, for example, to contrast the very detailed guidance which the Commission provides on the implementation of the PQ regime (which I discuss next in this Section) and the much more open-ended guidance which the Commission currently provides on the application of the EOI and non-discrimination aspects of the regulatory framework.
- c.* I do not think it appropriate that non-discrimination and EOI rules should be subject to mutual agreement between the regulated party and the regulator or that changes to the rules should be initiated by the regulated party (as section 156AM of the Act envisages). This leaves the Commission in the invidious position of having to interpret the existing Deeds rather than being able to simply change them to better suit the objectives that it is pursuing. I assume this reflects the Government’s concern at the time the undertaking regime was being designed to reassure investors that the rules governing the LFCs would be stable and subject to agreement with them. Even if that had been necessary in 2010, I do not think it is appropriate or necessary today.

118. This said, I have explained that the impact of the Fibre Deeds within the overall regulatory framework in New Zealand will be less significant than similar provisions in other countries and I am not convinced that shortcomings in the existing arrangements that I have identified here are responsible for the absence of competition in the provision of Layer 2 point to multipoint services.

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<sup>107</sup> The Commission discusses both in para 3.49- but does not take a definitive position.

I also do not consider the Fibre Deeds in their current form, and given their enforcement record to date, are likely to impose a significant regulatory burden on the LFCs.

## **Recommendation**

119. I have recommended that the Commission conducts a review into PONFAS to better understand the barriers to entry and whether there are changes to be made that might overcome them. I recommend deferring any changes to the Fibre Deeds until this are completed. If it were concluded that competition in Layer 2 point to multipoint services is unlikely to be viable in New Zealand (and my other conclusions were accepted) then the non-discrimination and EOI provisions would apply only to DFAS. I doubt it would worth considering changes to the Fibre Deeds in these circumstances.

120. On the other hand, if the Commission concluded that a renewed effort to extend competition to Layer 2 point to multipoint services was required or justified, then changes to the way in which non-discrimination and EOI obligations are applied and enforced would, I think, need to be part of that exercise and should be applied to point to point inputs or DFAS at the same time. This is a legal matter on which others are better placed to advise but my recommendation in those circumstances would be that the non-discrimination and EOI obligations should become directly enforceable by the Commission (with appeal rights to the High Court) and that the Commission should revise the guidelines to provide greater clarity on how it will apply those rules to DFAS and PONFAS (or whatever alternative Layer 1 inputs the Commission had concluded should be supplied).

### *The PQ regime*

#### *Revenue allowance or pricing element*

121. Unlike the Fibre Deeds, the PQ regime is part of the Part 6 regulatory regime which has replaced the previous contracts-based arrangements between the Government and the LFCs. The PQ regime recognises that LFCs which do not face significant competitive constraints will have both the incentive and ability to charge prices (I discuss quality later) which will be above those that would prevail in a workably competitive market and/or may incur and be able to recover costs which are inefficient. Although end users may provide some indirect constraint upon the level of prices which an LFC could charge, the critical importance of a broadband connection in modern society means that the willingness to pay of the majority of the population will be higher than the price they should expect to pay under workably competitive conditions. The purpose a price cap or limit, such as the revenue allowance that is applied under the PQ regime, is to

replicate some level of prices that the Commission thinks would prevail under workably competitive conditions whilst at the same time ensuring that the LFCs earn a normal return on their investments.

122. I noted earlier that the PQ regime currently applies to Chorus but not to the other LFCs. The rationale for this appears to be that the copper services provided by Chorus in areas served by the other LFCs were presumed to provide an effective or competitive direct or indirect constraint on the prices charged by the other LFCs for fibre services. I have already said that even if this had been the case in the past, it will not be the case after the copper network is decommissioned in 2026. I have also said that I do not think other technologies such as FWA will provide effective pricing constraints in the foreseeable future and I have not recommended the Commission or Government adopt measures to promote LFC overbuild. On these assumptions, some form of PQ regime will need to apply to Chorus after the next period finishes in 2028 and, in the meantime, some form of PQ regime should also apply to the other LFCs.

123. This prompts two questions:

- a. Should the existing PQ regime that is applied to Chorus be changed and, if so, in what way?
- b. Should the same regime as applies to Chorus be extended to the other LFCs and, if not, what might take its place?

124. I approach these questions by first presenting my understanding of the key features of the existing PQ regime, many of which I have seen in price control regimes elsewhere in the world. The starting point for me is that there is and will always be a significant information asymmetry between the regulated firm - Chorus in this case - and the regulator as regards the underlying costs and operation of its business. In the case of fibre services, there has also been considerable uncertainty about the willingness on the part of end users to pay for different types of new and unfamiliar fibre services and uncertainty about how those preferences may change over time. These features underpin two important aspects of the PQ regime in New Zealand. The first is that Chorus initiates the PQ review process by proposing a budget to the Commission which the Commission will then scrutinise (taking into account the report from the Independent Verifier<sup>108</sup>) and from which it may exclude expenditures which it considers inappropriate. In the first period

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<sup>108</sup> I have no strong views on the work or role of the Independent Verifier in terms of providing the Commission with an additional degree of assurance but I suspect its role would be much reduced if my recommendations are adopted.

these decisions determine, amongst other things, the starting value of the Regulated Asset Base or RAB and, in subsequent periods (such as the period 2025-28 which we have just started) they determine the value of assets to be added to the RAB (and the revaluation of assets already within the RAB). I therefore start my assessment of the implementation of the PQ regime by considering these decisions. Other aspects of the PQ regime involve the exercise of less discretion on the part of the Commission because it is required to implement a set of rules which form the IMs and which are subject to less frequent review (every 7 years)<sup>109</sup>. The IMs specify, amongst other things how and which costs are to be allocated to fibre services, how assets will be depreciated<sup>110</sup>, how the Weighted Average Cost of Capital or WACC will be computed, how operating losses incurred in past periods are to be recovered and how any ‘wash up’ of revenues arising from under or over recovery in the prior period are to be dealt with<sup>111</sup>. The Commission has some discretion in determining how the allowable revenue is to be recovered across the relevant period in order to smooth the path within the period and avoid price shocks for RSPs and their end users or sharp reductions on revenue for Chorus itself.

125. The second feature of the regime is that having determined the total revenues which Chorus is to be allowed to recover in each year over the period, Chorus is largely free to determine how it recovers those revenues from the RSPs and the structure of prices and tariff gradients which it adopts in order to do so. There are some exceptions to this because Chorus is also required to comply with the anchor service regime which I discuss next, with the prices for DFAS and PONFAS being set by the Minister and with an obligation to price on a geographically consistent basis which I also consider later. But for fibre services representing the majority of Chorus’ regulated revenues<sup>112</sup>, prices are set by Chorus and not by the Commission. Such a global price cap approach has been adopted for fibre services by regulators elsewhere in the world, including in Europe and the United Kingdom, and is the approach I would recommend.

126. I have used broad brush figures which I take from different Commission documents to assess the operation and impact of the pricing element of the PQ regime. As already noted, the starting

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<sup>109</sup> I appreciate that the Commission can and has made some changes to the IMs for the 2025-28 period and that there is still room for debate about how they are applied in any particular set of circumstances, but my point is that the impact of these changes is likely to be much less material than decisions about what expenditure or is not to be recovered.

<sup>110</sup> Although I note the IMs allow the Commission to depart from the default straight line approach and that it has done so for a sub-set of assets for 2025-28 so as to defer the recovery of some costs beyond 2028, see para X20 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf)

<sup>111</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf)

<sup>112</sup> Around 70% of Chorus’ revenues are from fibre services, most of which are regulated. I assume the proportion will be higher for the other LFCs who do not supply copper services.

point for any regime going forward will be the RAB which represents the accumulated investments inherited from prior periods. The valuation of the Chorus RAB today is of the order of \$5.5billion<sup>113</sup> with most of that expenditure having been incurred under the UFB contracts between the Government and Chorus prior to the implementation of the PQ regime. The RAB is augmented by the capital assets which Chorus is allowed to acquire over the relevant period (and reduced by disposals, of which Chorus expects to make none in 2025-28). Chorus proposed to spend around \$1.1 billion in additional capex over the 2025-28 period, of which the Commission disallowed around \$120 million or \$30 million a year, equivalent to around 0.5% of the RAB<sup>114</sup>.

127. If I examine the composition of Chorus' capex in the 2025-28 period:

- a. Around 25% is IT capex which I would expect to remain at similar levels for the foreseeable future (and which I note the Commission accepted in full in the expenditure decision),
- b. Around 30% is network maintenance and around 25% on capacity expansion, which I would also expect to remain at similar or moderately reducing levels over time<sup>115</sup> (and which the Commission also substantially accepted)
- c. The rest is comprised of two elements which I think likely to be more volatile. The first is the connection capex incurred to connect new users to the fibre network. This represents around 11% of capex but fell from around \$120 million a year in the first period 2022-25 to \$45 million a year in the second period 2025-28<sup>116</sup>. I expect it to continue to fall and then stabilise as very few users will be left to be connected to the fibre network after the decommissioning of the copper network is completed in 2026. After this new connections will primarily be those to newly built premises.

128. The second variable element, and likely the most significant once connection capex becomes minimal within the existing footprint<sup>117</sup>, is capex which Chorus proposes to incur in order to

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<sup>113</sup>

<https://assets.ctfassets.net/7urik9yedtc/3v5QCITJU9db2v3pGb0C1f/e2ed9c81239215245078428510e6896c/UBS-Australasia-Conference-2022.pdf>, slide 18

<sup>114</sup>

[https://comcom.govt.nz/\\_data/assets/pdf\\_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf), Table X2 p.7

<sup>115</sup> The rate of growth in traffic is falling in most markets in the world, with implications for future capacity capex.

<sup>116</sup>

[https://comcom.govt.nz/\\_data/assets/pdf\\_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf) table X5, p.11

<sup>117</sup> If Chorus does expand its network significantly then of course additional connection capex will be required to connect individual households to that network.

extend the geographic scope of its network. This is a part of the capex budget which the Commission is likely to exercise significant discretion over in future and for which I discussed the need for a better guidance from both Government and Commission in Section 1. Irrespective of whether those recommendations are adopted, I would expect Chorus and the other LFCs to proceed relatively cautiously with network expansion, partly due to financing constraints and partly due to the financial risks associated with deploying fibre networks in much higher cost areas. This means that I would expect the impact of network expansion capex on the overall revenue allowance to be relatively modest (unless the Government were to intervene with additional funds for a further UFB programme)<sup>118</sup>.

129. If that is correct then any of decisions by the Commission on the allowable capex costs element of the PQ regime are unlikely to have a very significant impact on prices. Most of the capex has already been incurred by Chorus and will be recovered through depreciation charges which currently run at around \$400 million a year. If the Commission intervenes to exclude assets equivalent to 0.5% of the base (see paragraph 127 above) then on a pro rata basis the impact on depreciation is only around \$2 million a year. This is equivalent to around 0.2% of allowable revenue.

130. Assuming most of the capital expenditure has already been incurred, the much more significant decisions (in terms of impact on the allowable revenue in any given period) will relate to the WACC applied to derive the allowable return on the accumulated assets of over \$5 billion. I estimate that every 1% movement in the WACC will add or subtract about \$65 million, or about 7%, from the allowable revenue. The Commission's own calculations show that changes to the risk free rate component of the model can have significant impacts (19% between 2024 and 2025) on allowable revenue<sup>119</sup>. I note that certain parameters of the model, specifically those relating to the equity risk premium or ERP, the market risk premium and the debt/equity ratio or leverage are specified in the IMs and so I assume are not matters on which the Commission can currently exercise any discretion (I recommend later that this should change). The debt premium and risk free rates are computed by the Commission having regard to prevailing market conditions and the methodology that is specified in the IMs<sup>120</sup>.

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<sup>118</sup> I note that Chorus have estimated the additional cost of extending fibre to 95% of households at \$2-2.5 billion, p.9 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0012/350130/Chorus-revised-Fibre-Frontier-chapter-5-February-2024.pdf). If the Government decided that an aggressive UFB programme to extend to 95% was required then the impact on the revenue allowance would clearly be much more significant.

<sup>119</sup> Fig 1.1 p15 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf)

<sup>120</sup> Para 3.5.2- at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/273655/fibre-input-methodologies-determination-2020-consolidated-as-of-6-march-2024.pdf)

131. In my experience it is both appropriate and inevitable that there be some debate about the appropriate WACC and that regulators exercise a degree of judgement in this, recognising that future capital and equity market conditions are difficult to predict<sup>121</sup>. In any capital intensive or network industry, regulatory decisions on the value of the WACC will have a significant impact on the level of allowable revenue and hence upon prices. I expect that to remain the case for the Commission for the foreseeable future. I do not have any specific recommendations on how the Commission approach this task other than to note that it is unclear why some parameters for the model should be hard coded into the IMs whilst others are calculated each time by the Commission in accordance with a methodology that is specified in the IM. I understand this may mirror the approach which the Commission applies in other sectors, such as electricity, and there may be benefits in adopting a consistent approach across different sectors<sup>122</sup>. My own preference would still be to have all parameters for the WACC model sourced by the Commission itself at the beginning of each PQ period rather than any being hard coded in the IMs. The calculation could be done in accordance with methodologies which are specified in the IMs and these methodologies could be consistently applied by the Commission across regulated sectors (where appropriate).

132. Whilst capital costs represent around 80% of allowable revenues (with depreciation around two thirds of that, but reducing over time), the remaining 20% or so is operating expenditure. This is, in my experience, an area where the exercise of discretion by regulators can sometimes have a significant impact if the regulated firm is thought to be running its operations inefficiently. I note that the Commission has generally allowed around 95% of the opex claimed by Chorus for the relevant period in its final decisions thus far, with the most significant exclusions relating to corporate overheads<sup>123</sup>. This would suggest that the Commission does not see major or structural inefficiencies in the Chorus business as it operates today or is expected to operate in the next period. However, the greater room for judgement when assessing operating expenses is revealed by the Commission's decision, following submissions from Chorus, to increase the opex allowance from \$607 million to \$700 million or 13% between the draft and final expenditure decisions for the 2025-28 period, whereas the base capital allowance increased from \$815 million to \$847 million or only 4% and connection capex remained essentially unchanged. This suggests

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<sup>121</sup> The European Commission was sufficiently concerned about differences in the WACC values computed by different telecoms regulators that it commissioned a report by Brattle and subsequently issued a Notice intended to introduce greater consistency in methodology and parameters, see <https://ec.europa.eu/newsroom/dae/redirection/document/62833> and <http://dx.publications.europa.eu/10.2759/84741>

<sup>122</sup> This is attempted in the United Kingdom by the various economic regulators who have together developed guidance on how they approach WACC modelling, see [https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance\\_22.03.23.pdf](https://ukrn.org.uk/app/uploads/2023/03/CoC-guidance_22.03.23.pdf)

<sup>123</sup> Table X4 and X5, at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0021/362118/b7dcb2ff7427818e1d959d69b5f3f3b32651c890.pdf)

that the Commission thought when preparing the draft decision that there were inefficiencies in Chorus' operations but had changed its view when issuing the final expenditure decision<sup>124</sup>.

133. The net result of this is that the Commission has expected Chorus to consistently spend around \$175 million every year in operating expenses since the start of the first PQ period in 2022 and Chorus has itself had similar expectations. I see no reason why Chorus' operating expenditure should not remain at similar levels for the foreseeable future.

134. Overall, this very high level analysis suggests that the most important decisions which the Commission is likely to make under the PQ regime as currently applied are those relating to parameter values for the WACC and any additional capex proposals which Chorus might submit to extend its fibre network. Other capex and opex costs are likely to remain relatively stable.

135. To illustrate and crudely quantify the impact of the existing PQ review process I would note that:

- a. For the 2025-8 review Chorus originally sought total expenses or totex of \$2.1 billion, reduced to \$1.898 billion once it withdrew its additional capex proposals.
- b. In its final expenditure decision for 2025-8 the Commission has allowed a totex budget of \$1.722, which is about 9% lower than Chorus' original proposal (excluding the withdrawn expansion capex).
- c. In the 2022-25 review, Chorus originally sought \$1.465 million in totex and the Commission allowed \$1.318, which was about 10% lower<sup>125</sup>.
- d. The gap between Chorus' expenditure proposals and the final position of the Commission has remained of about the same significance (~10%) in both PQ reviews to date.

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<sup>124</sup> Chorus' submissions following the draft decision were directed at this point and sought to demonstrate that Chorus was already efficient. This stage of the PQ review appears to have attracted the greatest interest from stakeholders which is consistent with my experience that decisions about opex are viewed as being an element of the price control over which regulators have greater discretion and which can therefore be influenced, see [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0025/353455/Chorus-Submission-on-draft-expenditure-decision-for-PQP2-16-May-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0025/353455/Chorus-Submission-on-draft-expenditure-decision-for-PQP2-16-May-2024.pdf),

<sup>125</sup> [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0027/255762/Stakeholder-briefing-for-Fibre-price-quality-and-information-disclosure-draft-decisions-27-May-2021.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0027/255762/Stakeholder-briefing-for-Fibre-price-quality-and-information-disclosure-draft-decisions-27-May-2021.pdf) slide 9 and [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0026/273545/Stakeholder-Briefing-for-Fibre-price-quality-and-information-disclosure-final-decisions-16-December-2021.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0026/273545/Stakeholder-Briefing-for-Fibre-price-quality-and-information-disclosure-final-decisions-16-December-2021.pdf), slide 10

- e. These reductions in totex have translated into ~5% reduction in the revenue allowance (relative to the figure if Chorus' initial proposals had been uncritically accepted by the Commission)<sup>126</sup> which equates to around \$40-50 million of revenue p.a..

136. Overall, this suggests to me that the Commission's review of Chorus' expenditure proposals has had a material impact (reducing by ~5%) upon the revenue that Chorus is allowed to recover under the PQ regime but that the impact in each of the first two PQ periods has been of a similar order of magnitude. Over time, the information asymmetry between Chorus and the Commission may narrow but I have not seen any reason to expect the difference between what Chorus might propose and what the Commission might accept to change materially from one period to the next (admittedly on a sample of two). If that is so, then there may be ways to achieve the same or similar outcomes in a simpler and less costly manner in future, as I explain below.

137. Chorus argues that the PQ regime has proven to be a non-binding constraint in any event because Chorus has failed to fully recover the revenue allowance in recent years and has accumulated a wash up allowance of \$167 million as at the end of December 2024<sup>127</sup>. Chorus claims that this is evidence of the strength of the competitive pricing constraints which it already faces and which prevent it from fully recovering the revenues which the Commission allows it. The Commission has developed a different view, suggesting that there are two specific features of the PQ pricing regime which would lead it to expect Chorus to under recover revenue in certain periods. One of these is the difference between the price increases which Chorus is able to implement by reference to lagged CPI figures (under the anchor pricing regime but also by having regard to customer expectations which are driven by recent experience) and the forward looking inflation forecasts that are used to determine the revenue allowance under the PQ regime<sup>128</sup>. This discrepancy will be reflected in the wash up and is likely to be more significant in periods of price volatility such as we have recently experienced. The other is the impact of the Financial Loss Allowance, which increases the allowable revenue until it has been fully depreciated and the wash up, which reflects under-recovery in prior periods. The Commission estimates that the combined effect of these adjustments is to increase the revenue allowance in 2025 by 24% relative to the position if the FLA, titled depreciation and washup allowance were excluded<sup>129</sup>. The Commission argues (and I agree) that in a workably competitive market prices will not be set with regard to costs which have been incurred in the provision of services in prior periods and so the relevant

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<sup>126</sup> A reduction of \$176m for 2025-28 on a revenue allowance of \$3,492 bn.

<sup>127</sup> Table 3.1 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf)

<sup>128</sup> Para 3.153 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0029/363872/Fibre-fixed-line-access-service-deregulation-final-decision-19-December-2024.pdf)

<sup>129</sup> Ibid, para 3.141

competitive benchmark against which to compare Chorus' prices could be significantly lower than that implied by the current revenue allowance. The key question – which is unknown and unknowable today – is when, whether and to what extent the revenue allowance will in future impose a constraint upon Chorus' pricing (i.e. forcing them to reduce prices relative to today) once some or all of these adjustments have worked through the system.

138. I also note that the Commission has been devoting considerable attention to the phasing of the recovery of allowed revenues (as opposed to their quantum), recognising that Chorus faces some uncertainty with respect to demand for its services and the Commission is keen to avoid price shocks. In the 2025-28 period these have been addressed by making adjustments to the depreciation profile (the tilted approach shifts \$256 million of depreciation out beyond 2028 and so partially offsets the FLA depreciation of \$525 million in the period<sup>130</sup>) and smoothing revenues by reallocating them between years. For the 2025-28 period, the latter has shifted around \$50 million of revenue between years<sup>131</sup>, which equates to around 5% of allowable revenue in a given year. I also note, however, that differences within the period are relatively modest in comparison with the change between one period and the next, with the allowable revenues for 2025, the first year of the second period, being 21% higher than those in 2024, the last year of the first PQ period. The primary driver of this increase (15%) has been the change in interest rates, which I would not normally expect to change to such a degree (assuming that we return to less volatile times at some point in the future)<sup>132</sup>, and the wash up allowance, which I would expect to reduce over time for the reasons discussed above. The Commission notes that although the increase in the revenue allowance between 2024 and 2025 suggests that Chorus could raise prices significantly whilst remaining in compliance, it has in fact chosen to raise prices in 2025 only by between 3% and 10%<sup>133</sup>.

139. I think it is difficult to draw firm conclusions about these aspects of the operation of the PQ regime to date. At first sight a jump of more than 20% in allowable revenues between the end of one PQ period and the next is disconcerting. But it seems to reflect various idiosyncratic factors which are unlikely to repeat in future or which will have less impact. The Commission has powers

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<sup>130</sup> Para 3.60 and 3.63 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf)

<sup>131</sup> Table 3.3 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf). The \$50m figure is an approximate value of the redistribution as figures are expressed in nominal terms and vary over the 4 year period.

<sup>132</sup> Fig X1 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf)

<sup>133</sup> Ibid, X35 I suspect Chorus would cite this as further evidence of the competitive constraints to which it is already subject and the Commission would consider that prices ought to be substantially lower than those implied by the revenue allowance.

to smooth revenues between as well within PQ periods but decided not to exercise them for the 2025-28 period and expects demand growth to absorb some of the increase<sup>134</sup>. I have no reason to doubt the Commission's confidence that price volatility can be avoided under the existing arrangements and Chorus' pricing behaviour at the beginning of 2025 would seem to support this conclusion.

140. Given all this, I have considered whether changes to the PQ regime, as it has been applied to Chorus, might be merited and what form those changes might take. One view is that both Chorus and the Commission have already sunk significant resources into developing the PQ and ID regimes that we see today, various issues that arose in the first PQ period have been resolved for the second and subsequent periods and so the costs of continuing to apply the same methodology and process to set revenue allowances in future PQ periods will be relatively modest or at least manageable. I have also said that it may still be premature to draw firm conclusions about certain aspects of the regime.

141. If change is nonetheless sought, then I recommend the Commission consider the following (this list is not intended to be exhaustive or mutually exclusive):

- a. The Commission could extend the duration of the regulatory period from 4 years to, say, 8 years in order to reduce the administrative costs of the regime for both itself and for Chorus. This would be justified if the key cost inputs are likely to remain relatively stable in the foreseeable future and Chorus appears able to forecast them with a reasonable degree of confidence<sup>135</sup>. It would also allow Chorus more time to achieve any operating efficiencies (notwithstanding my assessment that the Commission thinks Chorus is already a reasonably efficient operator)<sup>136</sup>. Section 207 of the Act currently specifies that the regulatory period (following the first period of 3 years) should be between 3 and 5 years. Implementing this recommendation would therefore require a change to the Act.
- b. The Commission could, in the next review, index forward opex and maintenance capex based on the outturn values in the 2025-28 period (or annual averages across the period) rather than requiring Chorus to develop a new budget from the ground up and the Commission (and the Independent Verifier) undertaking a detailed or line by line

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<sup>134</sup> Para 3.64 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf)

<sup>135</sup> In a more volatile interest rate environment, the risk free rate and WACC could be updated mid-period.

<sup>136</sup> These are the reasons given in the Commission's decision to adopt a 4 year period for 2025-8, see para 3.3 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0018/301077/Duration-of-the-second-regulatory-period-for-ChorusE28099-price-quality-path-Draft-decision-Reasons-paper.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0018/301077/Duration-of-the-second-regulatory-period-for-ChorusE28099-price-quality-path-Draft-decision-Reasons-paper.pdf)

appraisal of it. This would allow the Commission and Chorus to focus their attention on the subset of variables which were likely to be more uncertain and more significant, such as expansion capex and WACC parameters, as well as the range of other issues that arise when implementing a RAB or other aspects of the PQ regime (such as smoothing and wash up)<sup>137</sup>. This recommendation is, however, based on two assumptions. The first is that the opex expenditure that the Commission has adopted for the 2025-28 period has already been subject to extensive and detailed scrutiny and that the marginal benefits of undertaking a further review a few years later are unlikely to be very great, whereas the costs of doing so are quite significant. The second assumption is that this approach is more appropriate for a business such as Chorus which is now and will in future be operating in a steady state rather than being in the midst of a fundamental business transformation, as was the case during the UFB construction phase. This approach would require changes to the IMs to allow the Commission, at its discretion, to apply the indexation approach to certain lines of expenditure instead of requiring a new budget proposal from Chorus. I might also allow Chorus to request that the Commission assess a new budget on the grounds that indexation would not properly capture the volatility of some or all aspects of its business or the associated operating costs. This would need to recognise the risk that Chorus might seek to cherry pick some line items whilst indexing others. If the Commission itself were to decide that indexation was no longer appropriate then it should be able to revert to the standard IM approach and require Chorus to make a submission on that expenditure item which it would then assess. Overall, I see the trade offs as being between the time and costs of assessing each line item on the one hand, the likely gains of doing so (itself partly a function of how effective the Commission's scrutiny has been to date), and risk of error in either direction if a less burdensome approach, such as indexing, were to be employed instead.

142. It is possible to imagine more radical changes to the entire RAB/building blocks methodology which would require a more fundamental revision of the IMs. I do not recommend such radical change for several reasons. First, the credibility of the regulatory framework in New Zealand rests to a significant degree on the expectations of investors that the regime will allow them to recover their investments on a predictable and long term basis. The 7 year review cycle for the IMs was intended to contribute to this, and the Commission repeatedly emphasises in its decisions the importance of real financial capital maintenance, or the ex ante expectation of investors that they

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<sup>137</sup> I recognise that, to some degree, the Commission will already prioritise certain items over others in its assessment of Chorus' budget submissions (and that it may rely more upon the Independent Verifier for some). My recommendation is that it is even more focussed in future.

will be able to earn a normal return on assets. A radical departure from the existing approach without obvious justification would risk undermining those expectations, as well as likely exposing the Commission and Government to a risk of legal challenge. Second, although establishing the PQ regime and implementing it in the first and second periods is likely to have imposed significant costs in terms of time and resources on both Chorus and the Commission<sup>138</sup>, these costs are now sunk and subsequent reviews ought to be less costly. Adopting a completely different approach or set of methodologies at this point would require these costs to be written off and additional costs to be incurred. In my view there would need to be significant benefits or advantages before doing this.

143. In the meantime, I consider the more urgent matter to be how the prices of the other LFCs are to be constrained. I discussed this in Section 1 when considering the future of the other LFCs and the possibility of the Commission or Government encouraging consolidation. I noted that if the other LFCs were consolidated into Chorus then these questions could be avoided and the PQ regime would apply to a single LFC regulated entity. But I also recognised that the Government or Commission may see merit in preserving the existing LFC industry structure to support competition for new Government build contracts or encourage overbuild by LFCs of each other's existing UFB networks and that in any event mergers between the LFCs will ultimately be a matter for the management and shareholders of the companies concerned.

144. If the other LFCs remain in their current form then I think the costs of applying the existing PQ regime to them as it is applied to Chorus are likely to be disproportionate. I say this on the understanding that Chorus' fibre network passes about 75% of the 1.6 million UFB footprint households, which leaves around 400,000 for the other three LFCs combined. I understand Tuatahi passes around 190,000 of these, leaving 185,000 or so households to Enable and around 25,000 to Northpower<sup>139</sup>. Were these numbers being considered in Europe or the United Kingdom then I would regard at least Enable and Northpower as subscale and candidates for consolidation<sup>140</sup>. I think it would be difficult to justify imposing the costs associated with the existing PQ regime on companies of this size.

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<sup>138</sup> In my experience, given the information asymmetries and confidentiality of sensitive business information, third parties play a relatively marginal role in price control reviews.

<sup>139</sup> Figures provided to me by Commission staff

<sup>140</sup> Networks passing 500,000 households in the UK are generally regarded as subscale, see <https://www.netomnia.com/news/netomnia-and-brsk-merger/>; <https://www.freedomfibre.com/post/freedom-fibre-looks-to-the-future-after-the-successful-completion-of-the-vx-fibre-uk-merger>; <https://www.fibre-systems.com/article/two-uk-altnets-consolidate-optimise-uk-fibre-deployment-opportunities>

## Recommendation

145. I have already suggested an alternative and I think lower cost approach to the PQ regime as it might be applied to Chorus. But even if this recommendation is followed I would still consider it too burdensome for the other LFCs. Something even simpler is required in my view. My recommendation is that this is achieved by using the Chorus revenue allowance (excluding wash ups and possibly with adjustments to the FLA) as a benchmark to set the revenue allowance of the other LFCs on a pro rata basis. Each LFC would then be required to comply with their respective revenue allowance, with wash ups applied as required. It should then be open to any of the other LFCs to seek to justify a higher allowance, but with the burden of proof resting heavily upon them. The Commission would be required to consider and consult upon any submissions it received from the other LFCs, and to make its determinations in the same way that it makes determinations on expenditure and other matters following submissions from Chorus under the existing PQ process.
146. I recognise that there are some risks or trade offs associated with this approach. One is that the other LFCs will seek to cherry pick by requesting a higher allowance for costs which exceed those determined for Chorus but accepting the Chorus figures for costs which may actually be lower. Were the Commission to accept these requests and not to examine the other cost items (which I do not propose they should) then the other LFCs would, overall, be in a position to recover excess revenues and earn supernormal profits. However, the only way I see to avoid this risk is to undertake a full line by line assessment of the kind required under the existing PQ process, with all the costs that implies. I do not think this risk can be avoided but consider that any adverse consequences from it are likely to be small given the size of the firms involved.
147. The advantage of my recommended approach is to some extent the converse of this risk – the other LFCs will only engage with the Commission on matters where they perceive the potential benefits in terms of higher revenue allowances outweighing the costs of regulatory engagement. The regulated firms will not take the Commission's own costs fully into account but, by selectively addressing only issues of significance, will reduce them overall. My approach starts from the assumption that the costs embodied in the Chorus revenue allowance will represent those of an efficient operator and that had the Commission undertaken the same detailed expenditure review with the other LFCs then it would have come to similar conclusions as it has come to with Chorus. It is then for the other LFCs to demonstrate to the Commission why that is not a safe assumption to adopt. I recognise that it is possible that the much smaller LFCs will be unable to match the economies of scale and scope that Chorus obtains, although I have noted that prices

charged do not reveal any significant differences between Chorus and the other LFCs to date. The other LFCs may enjoy some economies of scope which Chorus does not<sup>141</sup>.

148. In summary, my recommendations for the PQ regime are as follows<sup>142</sup>:

- a. As a first priority, the Commission should prepare to implement a modified PQ regime to apply to the other LFCs from 2026 or as early as possible thereafter. This would involve setting a revenue allowance that is benchmarked against the Chorus revenue allowance (with appropriate adjustments) for each year until 2028. The other LFCs should be able to request that the revenue allowance derived by the Commission be adjusted on the grounds that the LFC in question will or should incur higher costs than Chorus. The burden of proof will rest with the LFC to demonstrate the size of those costs and explain the reasons for them to the Commission's satisfaction, with the Commission applying the same standard of assessment as it applies to its consideration of Chorus' submissions. To the extent that this recommendation can be implemented without changes to the IMs or to the Act or other legislation, then the Commission can proceed. If changes are required which cannot be achieved in time for the new arrangements to be consulted upon and implemented before 2026, then the Commission should consider what can be implemented by that date or consider temporary safeguards (such as CPI caps on existing prices of the other LFCs) to protect RSPs and their end users until the recommended arrangements can be put in place.
- b. The Commission should aim to simplify and improve the application of the PQ regime to Chorus after 2028 by considering several changes:
  - i. The Commission could extend the RAB approach by indexing forward the maintenance capex and operating expenditure for the period after 2028 (rather than requiring Chorus to make separate budget submissions or the Commission to appraise every line item in each review). This - together with the RAB that rolls forward the accumulated asset base from one regulatory period to the next - would allow the Commission to streamline its assessment and focus on the smaller number of variables over which the Commission can exercise discretion

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<sup>141</sup> It has been suggested to me, for example, that the other LFC networks may serve areas with greater housing density than Chorus, which may allow their average per household costs to be lower.

<sup>142</sup> I note that Chorus included a slide entitled 'Pathway to simplification' in its 2024 Investor Day presentation, but the slide does not provide detail of what Chorus envisages by this, see slide 65 at <https://assets.ctfassets.net/7urik9yedtqc/7CX3EHrHpsiftuUux1dkok/19a917f066ee91faf05b0430e7f4c2f1/chorus-investor-day-2024-presentation.pdf>

and which are likely to have the greatest impact on the overall allowance (in my view the new capital additions and the overall return of capital). As with the recommendation for other LFCs, it should be open to Chorus to seek to demonstrate that a particular cost item will not remain constant in real terms (or increase in line with historic trends) and should instead be adjusted upwards and for the Commission to make a determination following an assessment. It would also be open to the Commission to require Chorus to make a submission in relation to any particular item if the Commission had reasonable grounds to expect that the indexation approach would be inappropriate for it.

- ii. The relevant period in which the PQ regime would apply should be extended beyond 5 years. The Commission would need to consult and consider what the appropriate period should be (following changes to the Act to enable it to do so), but I recommend it consider 8 years as a starting point<sup>143</sup>.
- iii. As part of the review of the IMs which is required to be completed by 2027, I recommend that the Commission retain the methodology for calculating and applying the WACC in the PQ regime but removes all references in the IMs to specific parameter values. These should instead be determined each time the Commission sets the WACC. This change could be alongside my earlier proposal that the IMs be amended to provide clearer guidance on how the Commission will assess proposals for additional capex for network expansion, following a consultation by the Commission on this topic, and other changes to the IMs that are required to implement the other changes to the PQ regime, including changes in relation to minimum quality standards which I discuss next.

### *Minimum quality standards*

149. The PQ regime includes provisions for the Commission to set minimum quality standards. These are required to ensure that Chorus does not earn excessive returns under a revenue allowance by simply reducing expenditure in ways which will have adverse consequences for quality. The PQ regime is of course intended to incentivise Chorus to reduce costs where it is

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<sup>143</sup> I note that section 204 of the Act is intended to provide investors with assurance that the revenue allowance will not be adjusted mid-period, except under exceptional circumstances. If the length of the period is extended as I propose it may be necessary to revisit this provision, recognising that the longer the regulatory period the greater the uncertainty and risk of error, particularly with regard to matters such as cost of capital.

efficient to do so and to retain the financial rewards that result - but not at the expense of degrading quality to unacceptable levels.

150. Regulators in Europe and the United Kingdom have also been concerned about quality or the non-price terms on which services are supplied. However, the distinctive features of the New Zealand market create a different set of incentives. In Europe and the United Kingdom the primary concern is that a vertically integrated firm will selectively degrade the quality of services that it supplies to downstream rivals, relative to the quality of services it supplies to its own affiliate - and that this discriminatory or self-preferencing behaviour will be difficult to detect. EOI is the remedy that has been adopted to address this, on the basis that it will ensure that if quality of inputs does degrade then this will affect the supplier's affiliate in the same way and to the same extent as it affects its competitors. It was originally assumed that this would be a sufficient deterrent to prevent any degradation of quality, although in practice that has not always proven to be the case<sup>144</sup>.

151. The Commission may rely upon EOI and the Fibre Deeds to incentivise Chorus to sustain quality in the provision of Layer 1 inputs but this is clearly not relevant to the Layer 2 services which RSPs currently purchase since Chorus does not participate in the retail market or consume Layer 2 services itself. For these Layer 2 services, I therefore see no alternative to the detailed specification of minimum service standards of the kind which the Commission has adopted under the PQ regime<sup>145</sup>. I note that the UFB contracts between Chorus and the RSPs include SLAs and provisions for financial compensation but I also note that the Commission has found that in some instances these have not been sufficient to ensure adequate quality of service. The Commission considered whether to expand the scope of the quality aspect of the PQ regime in the second period - beyond the availability and utilisation standards that are required by the IMs - and included a standard for the rescheduling of appointments in its draft decision. However it decided not to pursue this in its final PQ decision.

152. I do not have any recommendations on the quality standards which the Commission has adopted for the 2025-28 PQ period, although I note that they appear intended to ensure that Chorus sustains its current performance rather than requiring material improvements<sup>146</sup>.

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<sup>144</sup> The evolution of QoS regulation in the UK is described at para 5.24 at <https://www.ofcom.org.uk/siteassets/resources/documents/phones-telecoms-and-internet/information-for-industry/digital-comms-review/dcr-statement.pdf?v=332995>

<sup>145</sup> I explain my scepticism about the role of anchor products in safeguarding quality later in this Section.

<sup>146</sup> The Commission describes this as setting 'threshold levels that represent the performance that end-users have come to expect', para 4.59 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0031/363748/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-final-determination-Reasons-paper-13-December-2024.pdf)

153. I have considered how the quality of service element of the PQ regime may interact with other aspects of the framework on which I have made recommendations. The most obvious of these is that I have recommended extending the pricing element of the PQ regime to the other LFCs as soon as possible. For the same reasons, I recommend extending the quality element of the PQ regime to the other LFCs and preferably at the same time.
154. I have also recommended that the duration of the PQ period be lengthened to up to 8 years but I recognise that concerns about quality of service can and often do arise more frequently than this (particularly given that only two aspects of quality are subject to standards under the PQ regime for the 2025-28 period). This prompts a question as to whether the quality standards in the PQ regime should be subject to more frequent review than the pricing or revenue allowance elements and whether the sequencing of price and quality reviews should be decoupled.
155. I recognise that there is an argument for decisions on allowable expenditure and decisions on quality standards to be taken together, since Chorus' ability to meet a particular quality standard may depend upon the resources available to it. I would attach more weight to this argument if the Commission were seeking to achieve a significant improvement in Chorus' performance, relative to the position today but have already noted that the Commission is not intending to do this. I have not seen evidence that RSPs or their end users are particularly dissatisfied with Chorus' current performance or quality<sup>147</sup>.
156. It is difficult to draw inferences from the consumer tracking survey which the Commission undertakes since the end user experience is affected both by Chorus' performance and that of the RSPs. I note that 'pricing' is the main issue on which consumers would like to see improvement, and that 'reliability', which may be closest to the minimum quality standards applied under the PQ regime, scores relatively low<sup>148</sup>. Even if the Commission was expecting to use the PQ regime to raise quality, the relationship between quality standards and expenditure allowances would, in my view, be very difficult for the Commission to determine. I also do not see many synergies between the process to determine the allowable revenue and the process of setting minimum quality standards. This means that, on balance, I do not think it is necessary or particularly useful for the quality standards and expenditure allowances to be reviewed at the same time and I would

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<sup>147</sup> I understand RSPs were dissatisfied with Chorus' provisioning performance but the Commission concluded in its final decision that it has improved and that this is reflected in improving (end) customer satisfaction, see *ibid* para 4.285

<sup>148</sup> Slide 18 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0021/362217/Insights-HQ-Telco-Sat-Jan-Jun24-Summary-Presentation.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0021/362217/Insights-HQ-Telco-Sat-Jan-Jun24-Summary-Presentation.pdf)

attach more importance to the need for the Commission to be able to address concerns about quality as and when they arise rather than having to wait for the expiry of the PQ pricing period.

## **Recommendation**

157. Assuming my recommendation to extend the duration of PQ period for pricing is pursued then I recommend that it be decoupled from the review of quality standards to allow the latter to be undertaken more frequently. I assume this would require legislative changes to Section 207 of the Act.
158. Under the existing IM framework, the Commission is required to specify minimum quality standards for availability and performance<sup>149</sup> and may, at its discretion, specify standards for a number of other quality measures which are specified in the IMs. This would have provided investors and Chorus' management with some assurance as to which activities might be subject to minimum standards and which would not. Although I see considerable merit in using the IMs to specify key aspects of the methodologies to be used to determine costs and revenues, I do not think the same arguments apply to quality standards. In my view it is more difficult to predict where as well as when concerns about quality might arise.
159. I therefore recommend that the Commission's ability to specify and apply new minimum quality standards is not limited to those contained in a list in the IMs. Taken together, my recommendations are intended to give the Commission greater flexibility in deciding both when to review quality standards and what standards to adopt and enforce.

### *Distributional issues*

160. In this next section I discuss two features of the New Zealand regulatory framework for fibre services and networks which I consider are primarily concerned with distributional questions (i.e. how the costs and benefits of fibre services should be distributed amongst different groups in the population). I have explained that the PQ regime is deliberately intended to allow Chorus freedom in setting prices for fibre services. Absent other measures, this could result in a structure of prices that could have adverse distributional effects, for example because a part of the population would be unable to access fibre services. An important objective of the Government's UFB programme was that access to fibre networks and services should be widespread.

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<sup>149</sup> Under part 3.6.1 of the IMs

## *Anchor services*

161. According to section 208(7) of the Act, anchor services in New Zealand are intended to fulfil two statutory purposes. The first is to provide an entry-level fibre product at a reasonable price to ensure that no end user is made worse off by the transition from copper to fibre-based services<sup>150</sup>. The second is to act as a pricing (and perhaps quality<sup>151</sup>) constraint upon other fibre services.
162. The Minister specified two anchor services in the Telecommunications (Regulated Fibre Services) Regulations 2021<sup>152</sup>, a voice service (which I ignore in this report) and a fibre broadband service with a minimum download speed of 100 Mb/s and a monthly price of \$47.87/month, adjusted annually for CPI. The Act requires that the Minister adopt the price limit already agreed in the UFB contract between the LFC and the Government if the declaration is made before the implementation of the PQ regime in 2022<sup>153</sup>. Thereafter, the Commission can recommend changes to both the specification and the price of the anchor service, with the price expected to be ‘cost-based’.
163. The anchor service’s function as an entry-level product at a price that enables widespread adoption of fibre connections presupposes that the regulated firm might otherwise charge prices which would inhibit adoption or restrict output. In the early stages of fibre network deployment it is likely, in my experience, for this to be the case as LFCs seek to preserve a ‘pricing premium’ over existing copper services for early adopters of fibre services who have a higher than average willingness and ability to pay. In these circumstances an anchor service may serve an important purpose. I note that in 2021 around 70% of all fibre connections were represented by the 100 Mb/s anchor service, which suggests that the anchor service provided a gateway from copper to fibre for many households<sup>154</sup>. As discussed further below, this situation changed so that only 16% of households were still on the anchor service in 2022 after Chorus upgraded all the existing 100 Mb/s connections to a 300 Mb/s service at no additional cost to the RSPs.

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<sup>150</sup> <https://plumconsulting.co.uk/anchor-product-regulation-retrospective-and-prospective/#>

<sup>151</sup> I focus here on price. The Commission has referred to anchor products in sustaining Chorus’ quality in its assessment of quality standards in the PQ regime. The role of anchor products in a non-price context is not something that I have considered before, but I would be sceptical. Consumers are unlikely to know in advance whether switching from one fibre product to another will improve the quality of their experience and may find it difficult to assess even after they have done so.

<sup>152</sup> <https://www.legislation.govt.nz/regulation/public/2021/0259/latest/LMS539649.html>

<sup>153</sup> Section 208 of the Act

<sup>154</sup> Fig 2 p.25 at [https://comcom.govt.nz/\\_data/assets/pdf\\_file/0028/318907/2022-Annual-Telecommunications-Monitoring-Report-15-June-2023.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0028/318907/2022-Annual-Telecommunications-Monitoring-Report-15-June-2023.pdf)

164. With over 75% of households who can obtain a fibre connection already connected to a fibre network, I think the anchor service regime has largely served its purpose as a gateway between the copper and fibre regimes. The question is then whether these arrangements should continue into the future and, if so, what form they should take.
165. In my experience any pricing premium for new technologies is likely to be competed away once the early adopters have been connected to the network. Operators will then adjust their prices and portfolio to expand take up amongst those with a lower willingness and ability to pay. This makes commercial sense for businesses that have incurred high fixed and common costs which they need to recover across as large a user base as possible. I noted in Section 1 that Chorus had introduced, on its own initiative, a Home Fibre Starter or 50 Mb/s entry level service at prices substantially below the regulated anchor service price<sup>155</sup>. I suggested this made commercial sense as the market for fibre matures irrespective of whether or not you think Chorus faces pricing pressure from FWA. I said that Chorus' incentive is not only to set prices that maximise revenues overall but also to enable the rapid decommissioning of the copper network<sup>156</sup>. I interpret Chorus' decision to cut its quality adjusted prices for the Home Fibre Starter offer (by increasing the speed from 50 to 100 Mb/s from June 2025) as further evidence of its efforts to accelerate the number and rate at which households migrate from the copper to the fibre network<sup>157</sup>.
166. I therefore consider that the rationale for having a regulated entry-level fibre product once the copper network has been decommissioned is weak and certainly weaker than before decommissioning. That said, I would not want to exclude the possibility that the Government will want the regulatory framework to ensure that an affordable fibre service is always available on terms that address any residual distributional concerns that may arise. We do not yet know how many households in New Zealand will refuse to migrate from a copper to fibre connection on current terms, but if this group proves to be significant then I can imagine the Government wanting to take action to help them migrate. The anchor service regime would provide the Commission with the means to do so.

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<sup>155</sup> <https://sp.chorus.co.nz/product-offer/home-fibre-starter-50>

<sup>156</sup> On the figures I have analysed the business case for fibre for UK or European incumbent operators like BT is driven primarily by reductions in labour and other maintenance costs because the fibre network is much more reliable than the copper network, rather than by any assumption that they will be able to extract higher revenues from households for their fibre broadband connections.

<sup>157</sup> I note Chorus' management is explicitly saying as much. Slide 26 of their 2024 Full Year Results Presentation says the strategy is to 'focus on fibre penetration over ARPU; ... develop new propositions for under penetrated market segments', at [https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor\\_Presentation\\_-\\_FY24\\_results.pdf](https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor_Presentation_-_FY24_results.pdf)

167. In the United Kingdom and Europe low price tariffs of this kind are increasingly referred to as ‘social tariffs’ and are considered part of a wider set of universal service or subsidy arrangements<sup>158</sup> (consideration of which in the New Zealand context is beyond the scope of this report<sup>159</sup>). For this reason, I would not want to exclude the possibility that the Government might expect an anchor service to be priced at a level that is below ‘cost’ (recognising that defining what the cost of a individual fibre service is will to some extent be a question of how the Commission decides common costs should be allocated). For this reason, I would recommend that the reference currently in the Act to the need for the price of the anchor service be ‘cost based’ is removed.

168. I have not seen evidence to suggest that the existing anchor service regime has materially inhibited Chorus’ ability to comply with the revenue allowance under the PQ regime or its ability to determine or change the prices of fibre services in the rest of its portfolio in response to demand<sup>160</sup>. Chorus has claimed in submissions that the current anchor service regime affects its ability to expand its fibre network footprint further but I have not seen that claim substantiated. In any event, I have already explained in Section 1 that there are complex distributional trade offs to made between a regime that is designed to facilitate greater fibre network coverage and a regime that is designed to maximise adoption and that these are trade offs which politicians and Governments, rather than the Commission, are best placed to make.

169. The second function of the anchor service is, as the term implies, to anchor the bottom of the tariff gradient on which the prices of other fibre services will be located. In theory the anchor service price will then constrain the prices of all the other fibre services. In such a case any additional pricing constraints, such as the revenue allowance which the Commission imposes on Chorus under the PQ regime, might appear unnecessary. The regulatory framework in Europe does contemplate that price controls on fibre services could be removed if a regulatory authority concluded that the anchor service represented a sufficient pricing constraint in itself<sup>161</sup>. I am not, however, aware of any European regulator that has relied upon an anchor service as sufficient grounds for removing price controls from other fibre services or on the portfolio as a whole. Where price controls have been removed by regulators in Europe or the UK it is has been justified

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<sup>158</sup> See for example, the list at <https://www.ofcom.org.uk/phones-and-broadband/saving-money/social-tariffs/>

<sup>159</sup> My understanding is that the Government considers the anchor service regime sufficient to ensure that households can obtain access to a fibre broadband connection on affordable terms. However, it may be that a subsidised service is required to fulfil this objective, in which case some kind of subsidy regime will be required. The TSO is the obvious one.

<sup>160</sup> Although I have noted earlier, according to the Commission, different approaches to lagged CPI indicators and inflation forecasts partly explain the discrepancy that currently exists between Chorus’ prices and the revenue allowance.

<sup>161</sup> Gigabit Recommendation, paragraphs 38-45 at <https://ec.europa.eu/newsroom/dae/redirection/document/101928>

on the basis that it is another HFC or fibre network, rather than the regulated anchor service, that constrains the prices being charged.

170. I have nonetheless considered whether the Commission might withdraw the PQ regime and rely only upon anchor services to serve as a pricing constraint. It might be argued that this is already the de facto position given that Chorus has been unable to fully recover the revenues allowed under the PQ regime in the last few years. However, I have already noted that there may be other explanations for this and it may be a transitory phenomenon. I have also suggested that Chorus' fibre pricing strategy during the period prior to copper decommissioning is aimed at accelerating migration to fibre and so may not reflect the approach to pricing it would take after the copper network has been decommissioned. The Commission will have some insight into Chorus' pricing after copper decommissioning before it prepares for the next PQ pricing regime after 2028 (but there is also a risk that Chorus' pricing behaviour will be distorted if it thinks that it will influence the Commission's approach to the next period).

171. I think there are several potential approaches to using an anchor service price constraint in the absence of the PQ regime. One would follow the existing approach of setting a price cap for a particular LFC fibre service on the basis that it will then constrain the prices of all other services. If the only purpose of the anchor service is to constrain prices and no longer to serve as an entry level service then the question will be which is the best service to represent the anchor product, since it no longer needs to be the lowest speed service. I think there is an argument to selecting a service that is in the middle of the portfolio which would 'pull down' the prices of the higher speed services (relative to the prices the LFC would charge absent any form of regulation) and might 'push down' the prices of lower speed services. However, I am cautious about the latter assumption because the minimal differences in incremental costs of providing fibre services at different speeds means I would not expect lower speed prices to be heavily discounted relative to the anchor service price<sup>162</sup>. If that is correct then it would imply that an anchor service in the middle of the portfolio might work to constrain prices for higher speed services but might leave lower speed or quality services at prices some way above the workably competitive level.

172. There is also a general question about how effective any anchor service pricing constraint will be. As I explained in Section 1, the constraint on the LFC is often described as an indirect rather than direct one because it arises from the threat of an end customer switching to a competitively priced lower speed service in response to any attempt to increase wholesale prices for higher speed services above the workably competitive level. It therefore relies, firstly, upon the

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<sup>162</sup> Ignoring other considerations, such as an incentive to accelerate migration from copper to fibre connections.

assumption that changes made by an LFC to a wholesale price charged to RSPs will be reflected in changes to the retail prices RSPs charge end users, which I have already said I think is a reasonable assumption. However, it further relies upon the chain of substitution working such that a price increase for any retail service in the portfolio will be constrained to a workably competitive level by the price of an anchor service, even if the anchor service is at the other end of the tariff gradient (i.e. one service is the highest priced service and the other the lowest priced). The theory is that the anchor service will constrain the price of the next service along the chain because end users would switch to the anchor service in the event of a significant increase in the wholesale and retail price of the adjacent service (i.e. the service the price of which is higher than, but closest to, the price of the anchor service). The price of the service that is adjacent to that service will in turn be constrained by it, which is in turn constrained by the anchor service. And so on all the way along the chain. In this way, the anchor service will constrain every other service because each will constrain the service that is adjacent to it. Provided the anchor service is itself set at a workably competitive level then, the theory goes, every other service in the chain should also be set at a similarly competitive level.

173. This is all fine in theory but if the constraint is only partial then it will weaken as the number of links in the chain increases and/or if there are any breakages in the chain (i.e. because some services are not regarded as substitutable by end users and so they would not switch between them in response to changes in prices). In these circumstances the constraint may be limited to some services but not to others. LFCs may have incentives and ability to influence the strength of the constraint, for example by raising switching costs or by withdrawing services which are close substitutes to each other and introducing features that make other services difficult to compare or unlikely to be regarded as substitutes by consumers. The resulting strength of any pricing constraints are ultimately empirical questions but, based on my experience, I would not recommend the Commission assume that the pricing constraints will necessarily operate as suggested by the theory and I do not expect that they would.

174. An approach which partially addresses this concern is to pick a lower speed service as the anchor service and rely upon it pulling down the prices of all the higher speed services to levels we might expect in a workably competitive market. This may reduce the risk of lower speed service prices being too high, but the longer chain of substitution between the regulated price and the higher speed prices may increase the risk of the prices of the higher services being too high for the reasons already described. It may simply not be possible to identify a single anchor service that will effectively constrain all prices in the portfolio.

175. A response to this concern could be to adopt more than one anchor service of different speeds<sup>163</sup>. This would increase the strength of the pricing constraint which anchor services impose on the prices of the other fibre services. However, it also risks undermining the fundamental rationale for anchor service pricing, which is to allow the regulated firm maximum freedom and flexibility in setting its prices and determining how it will recover its fixed and common costs. The more anchor services are introduced, the more inflexible the pricing regime will become and the greater the risk that the regulator will impose prices which distort the market. In my view, an anchor pricing regime with multiple anchor services would likely prove more burdensome for the LFCs than the existing PQ regime. I would therefore not recommend it.

176. Another option might be to apply the anchor service cap to whichever service is most popular amongst end users at any particular point in time. This would ensure that the end users on that tariff are protected but would also reflect a concern that the anchor service approach may not be very effective in protecting users on other tariffs for the reasons already discussed. The Commission has previously said that the anchor service does not need to be the most popular service<sup>164</sup> and if it were confident that the anchor service regime would constrain prices as the theory supposes then I agree it ought to be indifferent as to whether the pricing cap applies to the most popular service or not. If the Commission is not confident of this then the anchor service cap will offer at best only limited protection to those users who are not subscribed to the most popular tariff. I note that Chorus currently reports that it has 64% of households connected to the 300 Mb/s service<sup>165</sup> and that 14% of business users are connected to a 300 Mb/s service. However, that leaves the other 35/86% and I see no reason to assume that these percentages would remain the same in future as customer preferences and services in the portfolio change. It is possible that LFCs could design portfolios in which customers are relatively evenly distributed between services, such that the most popular service had much less than 50% of all users. The changes in customer distributions between services could also be quite rapid, as shown by the fact that over 70% of households in New Zealand had a 100 Mb/s connection in 2021 but only 16% had one a year later.

177. The Commission might seek to mitigate the effects of LFCs shifting customers between different services to evade the constraints of the anchor service price cap by changing the identity

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<sup>163</sup> I note the Minister has already declared two anchor services and that Section 227 of the Act does not appear to limit the number of anchor services that can exist. I am not aware of any European regulator that has adopted more than one anchor service.

<sup>164</sup> para 5.41 at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf)

<sup>165</sup> Slide 8 at [https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor\\_Presentation\\_-\\_FY24\\_results.pdf](https://assets.ctfassets.net/7urik9yedtc/nzx-doc-425562/3efb98692c0ee5bba39a2bce4fb571fc/Investor_Presentation_-_FY24_results.pdf). I understand that Chorus has recently decided to upgrade the 300 Mb/s to 500 Mb/s without any change in price.

of the anchor service in response. There is provision in the Act and in regulations for the Commission and Minister to make such changes but I expect it would take time to do so. To address this the Commission could impose obligations on the LFCs to provide it with sufficient advance notice of changes to prices to enable the Commission to devise price caps for other services in advance and apply them as soon as the new service displaced the existing anchor service as the most popular service. However this is complex to administer and would inhibit the LFC's ability to respond rapidly to changes in the market. It might be difficult to predict in advance which service will emerge as the most popular and services may not remain the most popular for very long, meaning that the title of 'most popular' may jump from one service to another on a regular basis.

178. I am not confident that any of the variants of the anchor service regime just discussed would act as a sufficient or effective pricing constraint on the LFCs or would ensure that prices across the portfolio would remain at workably competitive levels. I have said it is an empirical matter, but I also think it is one that would be difficult for the Commission to assess. I think withdrawing the pricing element of the PQ regime and relying only on anchor services would involve considerable risk for the Commission and for end users. It might also be a decision that was difficult to reverse later if the constraints proved to be less effective than anticipated.

179. I have identified some measures that could be taken to address these concerns, either by multiplying the number of anchor services within the portfolio or by targeting the price caps at the most popular services. Both would reduce the adverse effects if the pricing constraint were otherwise insufficient but neither would entirely eliminate them. Adding more anchor services undermines the flexibility of the pricing regime, which I regard as an important feature of it. Targeting the most popular service is challenging to implement and vulnerable to strategic behaviour by the LFCs.

180. If the costs associated with the PQ regime had not already been incurred by the Commission and by Chorus or if there were evidence that the global revenue allowance approach of the PQ regime was distorting the market in some way then I could see a case for giving serious consideration to anchor service regulation without a PQ regime. However, I have not seen any evidence from Chorus that the PQ regime is distorting prices (Chorus argues instead that it is non-binding constraint) or that it is imposing unreasonable costs upon it. If the Commission were to explore this further I would recommend that it retain the revenue allowance after 2028 at a level that operates as a safeguard cap rather than a binding constraint (although arguably this is what it is already doing for reasons already discussed). This approach would allow the Commission to observe how prices actually operate under the constraints of an anchor service regime for a

reasonable period of time before deciding whether or not the additional safeguard of a revenue allowance under the PQ regime can be dispensed with altogether.

## **Recommendation**

181. My recommendation is that the anchor product regime is retained and viewed by the Commission and the Government as being a form of ‘social tariff’ (which need not be cost-based) but that the Commission takes no action to change existing arrangements, including the specification and price of the broadband anchor service, in the immediate future. I would regard the regime as being dormant but capable of being reactivated by the Commission if necessary (e.g. if, following the completion of decommissioning in 2026, the Government decided that too many households had yet to migrate to the fibre network and that the barrier to doing so was the price of entry-level fibre services).
182. In contrast to my recommendation to remove responsibility for Layer 1 input pricing from Ministers, I see much greater merit in the Minister rather than the Commission exercising decisionmaking powers over the specification and price of the anchor service. This is because decisions of this kind respond to distributional or fairness rather than economic efficiency or competition considerations. The former are properly the concern of politicians whereas the latter are in my view better assigned to specialist regulatory bodies like the Commission.
183. I do not recommend the Commission view the anchor service as sufficient to support the withdrawal of the pricing element of the PQ regime in the foreseeable future, although it could implement the pricing element of the PQ regime after 2028 in a way which would allow it to observe the effects of an anchor pricing regime that was intended to constrain overall revenues.
184. I note that my recommendations appear broadly in line with the Commission’s recent thinking following its consideration of whether or not to conduct a review of anchor services<sup>166</sup>.

### *Geographically consistent pricing*

185. Chorus is currently subject to a requirement to engage in geographically consistent pricing of fibre services. I understand the other LFCs are not<sup>167</sup>.

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<sup>166</sup> Para 5.27- at [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0028/358912/Chorus27-price-quality-path-for-the-second-regulatory-period-2025-2028-draft-decision-Reasons-paper.pdf)

<sup>167</sup> The much more limited geographic scope of the fibre networks of the other LFCs makes such a requirement less meaningful, although if prices were to diverge between Chorus and the other LFCs (as I discussed in Section 1) the current LFC industry structure would mean that households using other LFC networks may be

186. I think geographically consistent pricing rules can also serve two functions. First, they may reflect distributional concerns that householders should not be subjected to price discrimination on the basis of where they live. The Commission's guidance makes it clear that it takes this position<sup>168</sup>. The need for regulation arises from the assumption that, absent such rules, Chorus might be both incentivized and able to charge geographically distinct prices to reflect differences in the underlying costs of providing networks and services in different areas or differences in the willingness to pay on the part of households, or both. This point was considered in my discussion of proposals to expand the footprint of fibre networks in Section 1 of this report.

187. Second, these rules are often applied in Europe to prevent regulated firms from meeting the threat of network overbuild or competition by charging or threatening to charge lower prices in geographic areas where entry occurs and higher prices in areas where entry will not occur. Geographically consistent pricing is therefore a means of reducing the risk of exclusionary behaviour and promoting competition. I have discussed the prospects for competition, both in terms of network overbuild and in terms of Layer 2 competition via the provision of Layer 1 inputs in Section 1 of this report. I do not recommend measures to promote overbuild and do not think it is likely to occur in New Zealand. I do recommend further investigation of competition in the provision of Layer 2 services and explain, in relation to PONFAS, that Layer 2 point to multipoint competition is likely to be limited to geographic locations where RSPs have sufficient density of connections to support the fixed costs of implementing PONFAS. I have emphasised that I regard this as being attributable to the structure of prices charged for PONFAS and not because of any illegal conduct or pricing inconsistency on Chorus' part (i.e. the geographic variation in the scope competition in Layer 2 services I expect would arise even assuming Chorus charges the same prices throughout its network footprint). That said I think there is some risk that removing the geographically consistent pricing requirement would compound the challenges which prospective entrants into the Layer 2 point to multipoint services market already face. I am not suggesting this would provide sufficient reason in itself to retain the geographically consistent

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paying different prices than those using Chorus' network for the same service, and to be doing so by virtue of their location. The consolidation of the LFCs, which I discuss in Section 1, would alleviate this issue. Alternatively, my recommendation earlier in Section 2 that the revenue allowance for the other LFCs under the PQ regime be benchmarked to the Chorus revenue allowance may go some way towards retaining a degree of pricing alignment between Chorus and the other LFCs, although it would not guarantee it. There is no reason, in my view, why end customers who are served over the networks of other LFCs should be subject to different conditions or protections relative to the customers served over the Chorus network.

<sup>168</sup> [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0035/266939/Geographically-consistent-pricing-Guidance-on-our-approach-to-section-201-of-the-Telecommunications-Act-30-September-2021.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0035/266939/Geographically-consistent-pricing-Guidance-on-our-approach-to-section-201-of-the-Telecommunications-Act-30-September-2021.pdf)

pricing obligation but I consider it a secondary consideration alongside the primary rationale, which I have said is to address distributional concerns<sup>169</sup>.

188. My recommendation is that the geographically consistent pricing requirement is maintained, as a general principle, for the foreseeable future. I explained in Section 1 why I do not think this will limit expansion of the fibre footprint to any significant degree and why any significant network expansion is likely to require consistent (but higher) prices across the entire base of fibre customers.

### *Information Disclosure*

189. The final component of the regulatory framework for fibre-based networks and services which I consider in this report are the ID requirements. These are now specified by the Commission and apply to all LFCs (unlike the PQ regime, which currently applies only to Chorus). I understand that the LFCs had various reporting obligations under the UFC contracts with the Government prior to the transition to the Part 6 regulatory regime.

190. In my view the primary role of the ID requirements is to assist the Commission in the enforcement and administration of the regulatory regime, including the price and quality elements of the PQ regime. This suggests that the information requirements should follow from decisions about how the PQ regime is to operate. If the changes to the PQ regime that I have recommended elsewhere in this report were adopted then I expect this would have implications for the information that is required to be disclosed but I have not sought to identify exactly what they might be.

191. I note that the implementation of ID regime by the LFCs is a staged process which is not yet complete and I understand that the Commission and the LFCs are still refining some of the data formats and methodologies. Once implementation is completed in 2025 and the requirements have stabilised I would not expect the continuation of these requirements to impose significant ongoing costs on the LFCs. I therefore would not recommend significant changes are made to the ID obligations beyond anything that is required to ensure the effective application of the various changes to the PQ regime which I recommend.

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<sup>169</sup> If, following the reviews I recommend for DFAS and PONFAS, the Commission were to conclude that Layer 2 competition is not required or feasible in New Zealand then the primary rationale would be the only basis for retaining the geographically consistent pricing requirement.

192. I recognise that the ID requirements may sometimes be thought to fulfil other purposes. First, information disclosure may provide information which assists customers in bargaining with suppliers or in enforcing their commercial contracts against them. I do not attach weight to the former in relation to RSPs and LFCs because the ability to exercise bargaining power relies upon the customer having alternative options. For the reasons explained in Section 1, I do not expect the RSPs to have many if any alternative options when bargaining with LFCs in the foreseeable future. Second, disclosure obligations may constrain the conduct of a regulated firm because they fear adverse reputational consequences. However, again, if customers have no alternative sources of supply then poor quality or high prices, whether or not they are made visible, will be difficult to avoid. I have also explained in Section 1 why price increases by LFCs are unlikely to be visible to end customers (who will blame their RSP) and why the effects of increases by an individual LFC may be muted when retail prices are set by RSPs on a nationally averaged basis.

193. Thirdly, disclosure obligations by similarly situated firms may allow the regulator to benchmark performance and engage in yardstick regulation, by which the performance of one firm is used to assess and regulate the performance of another. The Commission did some benchmarking against the other LFCs when assessing Chorus' performance in provisioning connections and it publishes data derived from ID reports which compares the performance of all the LFCs against each other as well as over time for various metrics<sup>170</sup>. This shows how information disclosure can assist the regulator in formulating new regulations as well as in detecting breaches of existing regulations.

194. I recognise that the benchmarking aspect of the ID regime would be lost if my recommendation (in Section 1) to support the consolidation of the LFCs were to prove effective but I do not consider that the opportunity to compare the performance of Chorus with that of other LFCs is sufficient reason to preserve the existing LFC market structure.

### *Section 3: Roadmap to implement the recommendations in this report*

195. In this Section I draw together and sequence the various recommendations which I have made in Sections 1 and 2 of this report to provide the Commission with a roadmap of the changes I recommend. It is difficult to predict how long it would take to implement some of these recommendations and any timeframes should be regarded as illustrative only. I start with the steps I consider are most urgent and important or on which other actions depend. I cross reference the

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<sup>170</sup> <https://comcom.govt.nz/regulated-industries/fibre/regulated-fibre-provider-performance-and-data/fibre-performance-visualisations#financials---return-on-investment-roi>

paragraphs in the report where the recommendation is discussed in more detail and I have highlighted in bold the actions which I think can be taken by the Commission itself and underlined legislative or other changes that I think require action by the Government.

*Recommended actions or decisions within the next 12 months*

196. A number of actions should be taken in relation to the regulation of the other LFCs (and Chorus outside of the UFB area):

- a. The Government should amend the Act to ensure that the other (non-Chorus) LFCs are subject to the same regulatory regime that is applied to Chorus. This will ensure consistent regulatory treatment of firms which could in future be competitors to each other whilst still allowing the Commission to have regard to relevant differences in their circumstances when undertaking a deregulation review. [see para 76-83]
- b. The Government should amend the Act to ensure that fibre networks which any LFC deploys outside of its UFB footprint will be subject to the same regulatory regime (including the PQ regime) as fibre networks inside the UFB area, with any relevant differences being considered by the Commission as part of a subsequent deregulation review. [para 70]
- c. **The Commission should implement a simplified PQ revenue allowance regime for the other LFCs at the earliest opportunity, to expire in 2028 and to align with Chorus' PQ period thereafter.** [para 63-67]
- d. **To implement this the Commission should consult on the pricing element of the PQ regime that would be applied to the other LFCs. It should propose that the Chorus revenue allowance (excluding wash ups and adjustments to the FLA) for 2025-28 is used to set the allowance of the other LFCs on a pro rata basis. It should be open to each LFC to submit proposals, with proof, that individual items should not be benchmarked but valued on some other basis. The Commission would consider these in the same way and applying the same standard of proof as it does for proposals from Chorus under the PQ regime** [para 146-8].

197. **The Commission should undertake a consultation (including with Government) on its future approach to assessing proposals from LFCs for fibre network expansion and inclusion of the associated capex within the PQ regime.** [para 51-59]

198. The Government should provide guidance to the Commission and industry on how much geographically consistent prices for fibre services could be allowed to increase by in order to support further fibre network expansion and/or how much fibre network expansion it considers should be supported by increases in end user prices. [para 58]

199. **The Commission and Government** should indicate whether or not they would oppose the consolidation of Chorus and the other LFCs into a single corporate entity if the shareholders of those companies wished to pursue that course. [para 82-83]

*Actions to be taken in the 2025-26 time period*

200. **The Commission should consult to better understand barriers to competition in the provision of Layer 2 point to multipoint services, RSP demand for Layer 1 inputs and whether the existing Layer 1 input, PONFAS, should be modified in light of this.** [para 106-112]

201. **If the Commission concludes that competition in Layer 2 point to multipoint services is feasible and the benefits would be material:**

a. Changes to pricing of Layer 1 inputs:

i. The Government should amend the Act so that the Minister ceases to be responsible for setting price limits (or other terms) for Layer 1 inputs, with the Commission instead being responsible for setting costs based prices for both DFAS and PONFAS for all LFCs.[para 91-92]

ii. **The Commission should then review and reset the prices for DFAS and PONFAS, normally to apply from the commencement of each PQ period** [para 92].

b. Changes to the Fibre Deeds

- i. The Government should amend the Act to enable the Commission to adopt and directly enforce EOI and non-discrimination obligations rather than being required to bring an action before the High Court. Decisions by the Commission would be subject to appeal to the Court. [para 118]
  - ii. **The Commission should produce new guidelines explaining how it will apply the Economic Replicability Test to each Layer 1 service, including guidance as to the structure of prices** [para 117 and 121]
  - iii. **The Commission should make consequential changes to the ID regime to enable it to monitor compliance with the ERT**
- c. Changes to the technical specification of PONFAS:
- i. **The Commission should consider whether to allow RSPs to install their own splitters, replacing PONFAS with a new virtually unbundled or VULA service or a WDM-based point to multipoint service.** [para 109]

202. **If the Commission concludes that competition in Layer 2 point to multipoint services is not feasible:**

- a. The Government should withdraw the declaration made under Section 229 of the Act. [para 112]
- b. **The Commission should complete the deregulation review for point to point services provided by the other LFCs and retain the existing regulatory arrangements for DFAS provided by Chorus but not otherwise undertake any further review or make changes at this stage.** [para 100]

203. The Government (following consultation with the Commission) should clarify the purpose of the anchor service regulation (as being a ‘social tariff’ to ensure that households can obtain an affordable fibre connection) and amend the Act so that the pricing of anchor services need not be ‘cost based’. However, the Government should make no changes to existing anchor service arrangements - unless and until it became concerned about the inability of households to migrate to fibre connections, in which case it should ask the Commission to make recommendations. [para 182-4]

204. **The Commission should prepare for the PQ regime that is to apply to all LFCs after 2028. This should involve:**

- a. Following the Commission completing the deregulation review of voice, point to point, transport and colocation services, the Government should amend the Act so that subsequent deregulation reviews can be undertaken by the Commission without it having to first find ‘reasonable grounds’ for doing so
- b. **The Commission should then undertake a deregulation review of Bitstream PON services to determine whether the pricing element of the PQ regime should apply after 2028. [para 38] Whilst doing this, the Commission should also undertake a deregulation review of point to point services in Chorus’ UFB areas. [para 100]**
- c. **If the Commission concludes that there are sufficient competitive constraints on Bitstream PON services then it should withdraw the PQ regime from Chorus and/or the other LFCs (in some or all areas, as applicable) in 2028<sup>171</sup>.**
- d. **If (as I expect) the Commission concludes that there are not sufficient competitive constraints on Bitstream PON services provided by any LFC in any area to withdraw the PQ regime then it should proceed as follows:**
- e. Changes to the IMs:
  - i. **The Commission should remove the WACC parameter values (MRP, equity beta and leverage ratio) from the IMs and instead compute them for each PQ period. [para 132 and 149]**

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<sup>171</sup> I recognise that prior to further consideration of a deregulation review of Bitstream PON, as I recommend, the Commission will have undertaken deregulation reviews of markets for voice, point to point, transport and co-location services. If the Commission were to conclude that these services should be removed from the PQ regime, it would leave Bitstream PON/Layer 2, PONFAS and connection services (and potentially point to point and transport services in certain geographic areas) under the PQ regime. Given the negligible take up of PONFAS to date, I find it difficult to envisage that the Commission would conclude that Bitstream PON should be deregulated on the basis that PONFAS ensured its competitive supply. I also find it difficult to envisage that connection services would not be deregulated if Bitstream PON were to be deregulated (in my view, connection services would be better regarded as segment of the Bitstream PON market than a discrete market).

- ii. **The list of potential minimum quality standards in the IMs should become illustrative, with the Commission being able to adopt other standards if it considers it necessary and appropriate to do so [para 159-60]**
  - iii. **The conclusions of the review (see para 197 above) on how the Commission will assess proposals for capex to expand fibre networks should also be reflected in changes to the IMs**
  - iv. **Depending upon how the Commission decides to calculate the Chorus revenue allowance and those of the other LFCs (see (g) and (h) below) then the Commission should make changes to the IMs to enable and reflect this**
- f. Duration of next PQ period
  - i. The Government should change the Act to allow the Commission to adopt a PQ period of up to 10 years instead of 5 and to allow the Commission to decouple the duration of the pricing element of the PQ regime from the duration of the quality/minimum standards element [para 142, 149, 155-8]
  - ii. **The Commission should consult upon and decide the duration of the price element of the PQ regime beyond 2028. It should consider adopting a longer duration of upto 8 years. If adopted, there should be provision to allow the Commission to reopen the PQ regime mid-period in exceptional circumstances.**
  - iii. **The Commission should consult upon and decide the duration of the quality element of the PQ regime. This should be no more than 4 years (again with provision to reopen mid-period in exceptional circumstances). [para 157]**
- g. Calculation of the Chorus revenue allowance:
  - i. **Instead of requiring new submissions from Chorus the Commission should index forward most of the outturn totex for the 2025-28 period and focus its attention on the new capital additions, the WACC and other aspects such as smoothing. It should be open to Chorus to propose, with proof, that a particular expenditure item should be adjusted upwards and for the Commission to make a determination to do so following an assessment. It**

**should also be open to the Commission to require Chorus to make a submission in relation to any particular item if the Commission had reasonable grounds to consider that the indexation approach would be inappropriate to apply to that item. [para 142]**

h. Calculation of the other LFCs revenue allowance:

**i. Having determined the allowable revenue for Chorus, the Commission should determine the allowable revenues for the other LFCs from 2028 using the same methodology as it applied to the other LFCs for the first PQ period 2026-8 [see para 146-8].**

*Annex 1: My instructions in preparing this report:*

- Develop and articulate how the fibre regime (and its many moving parts) is intended to work (policy), and how it works in practice (data/evidence) as a collective whole.
- Provide a critique of the fibre regime through the lens of the wider telco market dynamics, developments, and outcomes (investment, consumer etc).
- Identify priority areas to increase the effectiveness and efficiency of the fibre regime with accompanying, actionable recommendations for the Reviews.

Our goal in requesting this guidance is that it enables us to undertake the the various upcoming reviews required of us under Part 6 of the Telecommunications Act 2001 (Act) to ensure:

- the fibre regime is right-sized, more effective, and better tailored to current and future market conditions; and as a result; and
- telco consumers benefit, either directly through improved price/quality of fibre broadband, or indirectly through improved supply of wholesale network inputs for competing networks (e.g. Mobile Access, ICABS).

*Annex 2: CV*

**Inquiry Chair at Competition and Markets Authority** since October 2017

Panel Member since October 2017 and Inquiry Chair since April 2021. Merger inquiries chaired include *Hutchison/Cellnex*, *Sika/MBCC*, *Viasat/Inmarsat*, *Broadcom/VMware*, *GXO/Wincanton*. Regulatory appeals chaired include *Utilita/Ofgem*, *Castle Water/Ofwat*.

**Senior Adviser to the Centre on Regulation in Europe (CERRE)** since April 2017.

Co-author of numerous reports on digital policy and telecommunications regulation, including State Aid for broadband, global network resilience and forthcoming European Digital Networks Act.

**Director of Fronfraith Ltd** since June 2013

Consulting advice, reports and expert testimony including, inter alia:

- the International Centre for Settlement of Investment Disputes in relation to a financial claim by United Group B.V against the Republic of Serbia (2023-4)
- the Australian Competition and Consumer Commission (ACCC) (for Telstra) in relation to a proposed telecommunications network and spectrum sharing agreement between Telstra and TPG (2022)
- the ACCC (for Vodafone) in relation to the merger of Vodafone Hutchison Australia and TPG (2019) and the domestic mobile roaming inquiry (2016-17)
- Irish High Court (for Eircom) in relation to a dispute between Eircom, a telecommunication operator and Comreg in relation to the application of Financial Penalty Provisions (2018);
- Canadian Radio-communication and Telecommunications Commission (for Rogers) in relation to the proposed regulation in the Canadian wireless industry (2014-2020)

***Previous employment:***

**Senior Adviser to the UK Payment Systems Regulator**, May 2020 to May 2021.

**Commissioner at the National Infrastructure Commission for Wales**, October 2017 to September 2021.

**Senior Adviser to Frontier Economics Ltd**, 2013 to 2017

**Senior Adviser to Wiley Rein LLP**, 2015 to 2017.

**Member of the Advisory Board of Gigaclear plc**, 2014 to 2017

**Special Adviser to the House of Lords EU Internal Market Sub-Committee**, 2015 to 2016

**Group Director of Public Policy at Vodafone plc**, 2001 to 2013