

VODAFONE NEW ZEALAND LIMITED
SUBMISSION TO THE NEW ZEALAND COMMERCE COMMISSION



**COMMENTS ON PROCESS AND ISSUES PAPER FOR THE
UNBUNDLED COPPER LOCAL LOOP (UCLL) FINAL PRICING
PRINCIPLE**

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A Introduction

Vodafone New Zealand Limited (**Vodafone**) welcomes the opportunity to comment on the Commerce Commission's (**Commission**) *Process and issues paper for determining a TSLRIC price for Chorus' unbundled copper local loop service in accordance with the Final Pricing Principle (Issues Paper)* as well as its supplementary paper on the expiry period of the unbundled copper local loop (**UCLL**) pricing determination.

B Executive Summary

B1 The Commission has a significant and complex task before it to determine the TSLRIC price for Chorus' UCLL service. As this is the first time that the Commission will be undertaking a pricing review for copper access, it is essential that the Commission establishes a robust, comprehensive and enduring framework to ensure that the underlying purpose of the Telecommunications Act 2001 (the **Act**) is delivered.

The Commission has a wide discretion to select an approach to TSLRIC modelling

B2 While the Act provides the Commission with guidance, it is not prescriptive on the particular TSLRIC model that the Commission must apply. The approach taken by regulators internationally demonstrates a wide range of potential approaches, driven by different legislative and regulatory frameworks, objectives and timeframes. A similar plethora of approaches to TSLRIC is evident in economic literature. Put simply, there is no single concept of TSLRIC.

B3 In our view, the Commission is on the right track in selecting a bottom-up TSLRIC model, which it will develop. We also support the potential modern equivalent assets (**MEA**) identified by the Commission, and in particular the proposed fibre and fixed wireless access (**FWA**) MEA.

The Commission must choose a model that best promotes s 18 outcomes

B4 In New Zealand, the choice of TSLRIC model and the specific assumptions and parameters that underpin it must be selected in a way that supports the primary purpose of the Act. In other words, the Commission must exercise its relatively wide discretion on the TSLRIC model to ensure a model that best promotes competition in telecommunications markets for the long term benefit of end-users of telecommunications services.

B5 The Commission must select an MEA which best promotes s 18 outcomes. Frontier Economics (**Frontier**), in their independent expert report on behalf of Vodafone, Telecom and CallPlus (the **Frontier Report**) concludes that there are two sensible packages for the TSLRIC model which could satisfy this goal.

B6 In proposing approaches to modelling an MEA, Frontier's recommendations include attributes which are common to both approaches, and other aspects which are unique to the specific assets to be valued (noting that differing MEA choices will result in a different asset mix). Whatever approach is adopted by the Commission, it is critical that a consistent package of inputs – which are set with the s 18 outcome in mind – are applied.

B7 As Frontier identifies, adopting approaches that assume either no network optimisation whatsoever or a total network optimisation (scorched earth) will inevitably lead to outcomes and incentives that are fundamentally inconsistent with s 18. The Act requires a reasonable and

pragmatic approach, consistent with s 18 outcomes, to interpreting and applying TSLRIC modelling.

B8 Frontier’s proposed approach to building an appropriate TSLRIC model for the UCLL service are summarised as follows:

Overview of Frontier findings		
Common assumptions	<ol style="list-style-type: none"> 1. Develop a bottom up model, using top down information as a cross-check 2. Apply a scorched node approach, maintaining MDF location 3. The full local loop, plus other key services, should be modelled to capture economies of scope 4. The MEA should be either the existing copper-fibre network technology mix or all fibre. A performance adjustment should be applied to a fibre only MEA to produce the copper price 5. Network demand should be held relatively constant 6. The WACC approach should recognise the relationship between greater optimisation, resets and demand risk on WACC. 	
Approach for particular asset types	Re-used assets (such as ducts) under CGA / NGA	Loop assets (for copper-fibre mix or fibre MEA)
	<ol style="list-style-type: none"> 1. Assets value at ORC, adjusted for accumulated depreciation 2. Fix the adjusted asset base, and roll in efficient new capital expenditure 3. Use standard annuity depreciation 	<ol style="list-style-type: none"> 1. Assets value at ORC 2. Fix the asset valuation for as long as feasible 3. Use a tilted annuity approach for depreciation

A single, fibre and fixed wireless access MEA is most likely to promote s 18 outcomes

B9 While Vodafone supports both of the approaches put forward by Frontier in principle, we consider that a fibre plus FWA network as proposed by the Commission is likely to be the most appropriate MEA in practice. A fibre and FWA MEA should, in our view, include the common and specific elements described by Frontier, and summarised in the table above, in relation to its proposed all fibre MEA.

B10 The benefits of including FWA for rural areas in the MEA are clear. Indeed, this is the approach which has been adopted in New Zealand today (with Ultrafast Broadband and Rural Broadband initiatives). This reflects both the efficiency of FWA in rural settings, and its potential to meet rural customers’ broadband needs today and into the future.

B11 Vodafone supports the Commission’s view that the appropriate MEA should reflect a single access network. As such, demand should comprise all Chorus customers, whether they are connected to its legacy copper network or its new fibre network. We consider that other factors affecting demand (such as fixed to mobile substitution) are unlikely to have a significant impact over the period during which the final pricing principle (FPP) prices set under this determination will apply. As such, we anticipate the model broadly reflecting static demand over the regulatory period.

B12 We look forward to working with the Commission, and other interested parties, on the development of the TSLRIC model for Chorus’ UCLL (and unbundled bitstream access) services.

C Key issues

C1 Commission's proposed process for the UCLL FPP determination

Timeline

C1.1 The Commission acknowledges in its Issues Paper that this is the first time it has used the TSLRIC methodology to price a service of this complexity, and that international experience suggests that TSLRIC modelling processes can, in certain circumstances, take several years to complete.¹ This reflects the international experience with TSLRIC modelling exercises identified by the Ministry of Business, Innovation and Employment in its discussion document on the Review of the Telecommunications Act 2001 (the **Act**), which observed:²

The process of setting prices based on long-run forward-looking costs using cost models can be very time-consuming (usually several years) because complex modelling and extensive consultation are involved.

C1.2 We agree with the Commission that setting an appropriate timeline for completing this cost exercise necessarily involves the consideration of potential trade-offs.³ At its simplest, this can be distilled to a tension between achieving a result quickly (which may promote certainty in the industry) and achieving a robust and accurate result (which will ultimately better promote the purposes of regulation).

C1.3 The outcome of the Commission's FPP determination for UCLL—as will be the case for the unbundled bitstream access service (**UBA**) FPP determination—will have significant, long-lived effects on the telecommunications market in New Zealand. Accordingly, Vodafone strongly favours weighting *quality over speed*, to ensure a robust and defensible decision is reached. That is, the Commission should take the appropriate time required to reach the decision which most closely resembles the TSLRIC outcome contemplated in the Act. As observed by the Commission, international experience suggests that this dictates a multi-year programme.

C1.4 Finally, we note that that the decision-making timeline included at [22] of the Issues Paper does not provide any indicative dates beyond cross-submissions on this paper. While we broadly agree with the proposed process, it would be helpful for all industry participants for the Commission to provide more certainty as to when it expects to reach the key milestones in the decision-making process and, importantly, when it expects to issue its final determination.

Vodafone recommends

Recommendation 1 A process which favours quality decision-making over speedy decision-making should be adopted.

Recommendation 2 The Commission should provide greater clarity on the proposed timelines for the remaining consultation process (and in particular the date for its final determination).

¹ Issues Paper, at [15]–[16].

² MBIE *Review of the Telecommunications Act 2001* (August, 2013) at [18]. Similarly, we note that the last time the Commission undertook a TSLRIC modelling exercise three years elapsed between the publication of the initial paper *Interconnection Pricing Methodology* (published 5 April 2002) and the draft determination (published 11 April 2005).

³ Issues Paper, at [17].

Alignment with the UBA FPP process

- C1.5 Vodafone notes that the *Process and issues paper for determining a TSLRIC price for Chorus' unbundled bitstream access service in accordance with the Final Pricing Principle (UBA Issues Paper)* anticipates the Commission completing the UBA FPP process by 30 November 2014.⁴ In our view:
- (a) it will be challenging to achieve a robust UBA FPP determination process in the proposed timeframe, even if the UBA process can be completed in isolation (we will provide further comment on this in our response to the UBA Issues Paper);
 - (b) it will not be possible for the Commission to complete the UCLL FPP process before 30 November 2014, given the complexity of the modelling required and the unavoidable relationship between UCLL and UBA elements of analysis; and
 - (c) the UCLL and UBA processes are inherently intertwined, so we recommend that the Commission revisit its proposed target for completing the UBA FPP process so that it aligns with the UCLL FPP process.
- C1.6 Vodafone acknowledges the reasonable efforts obligation for the Commission to complete the UBA pricing review determination before 1 December 2014.⁵ However, we consider that the current circumstances mean that the Commission will not be able to discharge this obligation and it should favour a process which best promotes the purpose of s 18 of the Act (i.e., one that promotes competition in telecommunications markets for the long term benefit of end-users of telecommunications services).
- C1.7 Specifically, the UBA and UCLL FPP processes should be aligned because:
- (a) a number of key assumptions (such as in relation to cost of capital) will be common to both processes. It would not be appropriate, for example, to determine the approach of cost of capital for UBA before it was resolved for UCLL (or vice versa). As was the case in relation to the Commission's input methodologies determinations under Part 4 of the Commerce Act 1986 (which considered the common assumptions for regulatory building blocks across differing industries), it is better that the Commission aligns its determinations for these assumptions. This to avoids a need to revisit, for example, the UBA decision if there is a significant change to its thinking on a key assumption during the UCLL process;⁶
 - (b) the UCLL is the most significant input for UBA. It is appropriate the Commission finalises UBA pricing with visibility of the final UCLL pricing. Similarly, there are a significant number of shared and common costs as between the UBA and UCLL services, which supports their being modelled together;
 - (c) it may be more appropriate to employ a single MEA across both the UBA and UCLL processes; and

⁴ UBA Issues Paper at [9]. This reflects the reasonable efforts standard set out in the Telecommunications Act 2001 for the Commission to complete the UBA pricing review before that time.

⁵ Telecommunications (TSO, Broadband, and Other Matters) Amendment Act 2011, s 78(3).

⁶ We note that this rationale was reflected again in the structure of the input methodologies appeals, with Clifford J determining that all appeals (across the electricity, gas and airport services sectors) should be heard together.

- (d) section 19(b) of the Act requires the Commission to consider additional matters set out in Schedule 1 of the Act, which specifically directs the Commission to take the relativity between UBA and UCLL pricing into account when addressing the application of s 18. It is not rational to conduct this analysis when the final UCLL price is not known.

Vodafone recommends

Recommendation 3 The UBA and UCLL FPP processes should be aligned, with merged consultation and modelling where appropriate, and the decisions released simultaneously.

C2 The application of s 18

Decisions must be consistent with the s 18 purpose

- C2.1 Regulation under Part 2 of the Act is subject to, and must be applied in a manner consistent with, the purpose set out in s 18 of the Act.
- C2.2 In making a determination regarding a TSLRIC price for Chorus' UCLL service in accordance with the FPP, the Commission is explicitly instructed by s 19 of the Act to consider purpose set out in s 18 and additional matters and, having done so, to make a decision that it considers best gives, or is likely to best give, effect to the purpose set out in s 18.
- C2.3 Where the Act fully prescribes the parameters within which the Commission must exercise a statutory function, such that it has no discretion to deviate from those parameters, the Commission is entitled to assume that properly applying the Act will of itself deliver an outcome that is consistent with s 18. The Commission is only required to engage with s 18 where discretion is available. In circumstances where proper interpretation of the Act would permit the Commission to make more than one valid choice, it must decide which of those choices best gives effect to the purpose articulated in s 18. As discussed below, this FPP process reflects such circumstances.

Primary purpose is to promote competition for the long term benefit of end-users

- C2.4 The Commission's primary duty under s 18(1) of the Act is to promote competition in telecommunications markets for the long term benefit of end-users of telecommunications services.
- C2.5 In addition to this primary duty, the Commission must consider the additional matters identified in the Act:
- (a) section 18(2) of the Act: "...the efficiencies that will result, or will be likely to result, from that act or omission must be considered"; and
 - (b) section 18(2A) of the Act: "...consideration must be given to the incentives to innovate that exist for, and the risks faced by, investors in new telecommunications services that involve significant capital investment and that offer capabilities not available from established services".
- C2.6 The above additional matters inform how the Commission exercises its primary duty in s 18(1) of the Act but they do not alter or adjust it. The obligation on the Commission is to consider these matters, not to prioritise them, and any consideration of these matters must be consistent with its

primary duty in s 18(1). In other words, if consideration of any additional matter would conflict with its primary duty, then Commission must defer to and choose an outcome that maximises long term benefit to end-users of telecommunications services.

Commission has wide discretion as to the shape of TSLRIC, subject to s 18

- C2.7 As noted above, the manner and extent of the Commission's consideration of s 18 will depend, critically, on the nature of the statutory function it is performing and the extent to which discretion is available. In the present case, the Commission is required to determine the price payable for UCLL service in accordance with the applicable FPP (in this case TSLRIC).
- C2.8 We agree with the Commission's assessment that the definition of TSLRIC in the Act is broad and provides limited practical guidance on the various choices that need to be taken in undertaking the cost modelling exercise.⁷ As observed in the Issues Paper, the prescriptions for the TSLRIC model are limited to specifying that TSLRIC:
- (a) means the forward-looking costs over the long run of the total quantity of the facilities and functions that are directly attributable to, or reasonably identifiable as incremental to, the service, taking into account the service provider's provision of other telecommunications services; and
 - (b) includes a reasonable allocation of forward-looking common costs.⁸
- C2.9 Because the statute is not strictly prescriptive in this case, the Commission must make choices in deciding how to correctly construct the TSLRIC model.⁹ That is, the limited explanation of TSLRIC provided in the Act does not provide the Commission with a 'formula' according to which TSLRIC must be determined, or anything approaching one. Absent clear statutory direction as to the formula that must be used, the Commission has discretion as to how it should set a price that equates to the TSLRIC of the UCLL service.
- C2.10 We agree with the Commission's view that choice of TSLRIC model design should be guided by s 18 and informed by the outcomes that a TSLRIC price may promote.¹⁰ In exercising this discretion, the Commission is required to make a range of judgements including, potentially, decisions on:
- (a) the factors that should be considered within a calculation of TSLRIC;
 - (b) any interaction between these factors;
 - (c) any weighting of factors in light of the context in which it is making this determination, and the market context in which the service is provided; and
 - (d) the evidence that should be obtained to support assessment of each factor.
- C2.11 The particular choices that the Commission will face when conducting its TSLRIC analysis are discussed in detail in the Frontier Report.

⁷ Issues Paper at [56].

⁸ Subpart 1 of Part 1 of Schedule 1.

⁹ In this case, we note that the Commission enjoys a margin of discretion as to how these choices should be made. No error lies in choosing one of two or more available interpretations of statutory language.

¹⁰ Issues Paper at [57].

C2.12 Some of these judgements may be founded upon objective evidence, but others may be inherently subjective. In either case, where the Commission has a genuine choice and discretion is available it must ensure, in order of priority:

- (a) That all judgements that it makes promote and are consistent, individually and collectively, with the statutory function that it is discharging (i.e. determining the TSLRIC for the UCLL service). This necessarily requires the Commission to ensure that the formula it uses falls squarely within an orthodox understanding of TSLRIC methodology and supports the determination of the price that most closely equates with the TSLRIC for the UCLL service. This means that the Commission's analysis must be robust and principled. It cannot adopt an approach that is inconsistent with the definition of TSLRIC provided in the Act, or with an orthodox understanding of TSLRIC methodology (which is necessary to discharge its statutory function with reference to this definition).
- (b) Subject to the above, that all judgements it makes are consistent with s 18 of the Act. Most importantly, this means that where the Commission faces a genuine choice as to how to proceed (for example, where it has several options each of which could equally well promote determination of the TSLRIC for the UCLL service), the Commission must consider its primary duty under s 18(1) to promote competition in telecommunications markets for the long term benefit of end-users of telecommunications services. However, consideration of s 18, including matters referred to in ss 18(2) and 18(2A), cannot displace a proper analytical approach to determining TSLRIC. The Commission's consideration of s 18 matters must be reasonable in the context of an exercise that has the purpose of establish the TSLRIC of the UCLL service. Prioritising s 18 consideration above robust and principled analytical approach would subvert the statutory function to be discharged, would represent a fundamental deviation from any orthodox concept of TSLRIC pricing and would instead allow 'pure discretion' to become a basis for UCLL pricing.

C2.13 Accordingly, the Commission must apply a reasoned and robust TSLRIC model, but must do so in a manner that is consistent with s 18.

Section 19 requires "cross-check", but Commission should not double-count s 18 considerations

C2.14 Section 19 of the Act requires the Commission to ensure that the ultimate outcome of its various judgements (i.e., any recommendation, decision or determination) best gives effect to the purpose set out s 18. Where the Commission does face genuine choices that cannot be resolved on a purely analytical basis and must be decided with reference to s 18, it should be careful to ensure that it does not 'over-compensate' for s 18 considerations.¹¹

C2.15 An approach under which the Commission adjusts judgements made at individual points of analysis to account for s 18 and also makes a further 'in aggregate' adjustment is likely to skew the ultimate outcome that results, such that s 18 considerations will tend to displace the output of a robust and principled analysis.

¹¹ We note the Commission's observation at [53] of the Issues Paper that the cumulative effect of applying s 18 considerations at different stages should be considered.

Vodafone recommends

- Recommendation 4** The Commission should adopt a broad interpretation of TSLRIC, and is guided in its choices relating to the model by its primary duty under s 18(1) of the Act and the outcomes that the particular TSLRIC model will promote.
- Recommendation 5** The Commission should apply s 18 tests in determining key inputs to the TSLRIC model, and as a final cross-check for the outcomes the cost model will promote, but should be careful not to “double count” s 18 considerations.

C3 The outcomes a TSLRIC model should promote

- C3.1 In acknowledging the wide range of potential TSLRIC models that the Commission might adopt, the Issues Paper notes that the TSLRIC model design process is “guided by [s] 18 and informed by considering the outcomes that a TSLRIC model may promote”.¹²
- C3.2 Vodafone notes that the wide range of differing TSLRIC models adopted by different regulators and discussed in the literature reflects the wide ranges of outcomes which those models seek to promote. Often, as is the case with the outcomes identified by the Australian Competition and Consumer Commission in its paper of TSLRIC-based access pricing, these can be conflicting.¹³
- C3.3 We also note Frontier’s observation in its report that an application of an “extreme approach” to TSLRIC modelling will likely undermine the purposes of the Act.¹⁴
- C3.4 As such, while we agree that the outcomes identified by the Commission are a useful starting point, the essential question for the Commission should be whether the TSLRIC approach selected best promotes the purpose set out in s 18 of the Act.¹⁵

C4 Backdating

- C4.1 The date of the FPP final determination is likely to be after (and it may be as much as a year or more after) the IPP prices take effect. As such, the Issues Paper appropriately raises the question of whether the FPP prices (once determined, and if divergent) should be backdated.¹⁶
- C4.2 The Issues Paper notes that issues relating to backdating of regulatory pricing decisions were considered in by Court of Appeal in *Telecom New Zealand v. Commission and anor (Telecom v Commission)*.¹⁷ The essential question addressed in this decision was whether backdating was contemplated for the period between IPP and FPP price determinations. In this case, the Court of Appeal upheld the High Court’s finding that retrospective price adjustment (i.e., the backdating or “relating back” of a new regulated price) would not offend the common law presumption against retrospection reflected in s 7 of the Interpretation Act 1999.
- C4.3 Put simply, this authority affirms the principle that backdating is permissible, but the Commission retains the discretion as to whether it should apply to a particular process. While the Court of

¹² Issues Paper at [56].

¹³ ACCC *Access pricing principles – Telecommunications: A guide* (1997) at pp 29 – 30. See discussion in section 2.4 of the Frontier Report.

¹⁴ See discussion in section 2.3 of the Frontier Report.

¹⁵ See discussion in section C2 above.

¹⁶ Issues Paper at [38].

¹⁷ [2006] NZCA 103 (25 May 2006).

Appeal did not accept Telecom's argument that backdating was not permissible because it would be contrary to a commercial expectation or custom against retrospectivity, it did not find (or imply) that the Commission *must* apply backdating. Instead, the *Telecom v Commission* decision concludes that backdating is permissible, but not required.

C4.4 We acknowledge the following observations of the Court of Appeal:

"...if a revised price were not to relate back that would in itself result in inefficiencies. That is because the revised price must be more efficient than the initial price. Just as an initial price is more efficient than a disagreement and should therefore dictate the price for supply, so a revised price is more efficient than an initial price and for that reason should dictate the price of supply [...]"¹⁸

"...the s 18 purpose is better served by substituting the revised price for the initial price ab initio rather than only after a period of relatively less efficient pricing"¹⁹

C4.5 In our view, these observations helpfully summarise:

- (a) the efficiency benefits of the "IPP then FPP" process, which permits for a relatively speedy determination of cost-based prices, followed by a more comprehensive (and therefore accurate) and time consuming modelling process if required; and
- (b) the need for s 18 considerations to be front and centre in determining whether backdating will apply.

C4.6 The statements of the Court of Appeal do not, however, stand for the proposition that backdating is required in all cases. Instead, we agree with the position of the High Court (identified at [41] of the Issues Paper) that an alternative date could be set by the Commission under s 52. The particular approach will turn on the application of s 18 to the particular facts at hand.

Vodafone recommends

Recommendation 6 The Commission should confirm its discretion to depart from a backdating of the FPP price.

C5 Expiry of the UCLL FPP determination

Length of the regulatory control period

C5.1 Vodafone recommends that the expiry date of the UCLL FPP is set to the end of 2019, to align with the completion of the UFB project and the review of the telecommunications regulatory framework required under the Telecommunications Act 2001.

C5.2 There are a number of factors which support an expiry date of 2019:

- (a) **Completion of the UFB project:** The objective of the UFB Initiative is to accelerate the ultra-fast broadband roll-out to 75 percent of where New Zealanders live, work and study. Schools, hospitals and 90 percent of urban businesses will be connected by 2015. Urban homes and the remaining 10 percent of businesses will be connected by 2019. By definition, the completion of New Zealand's next-generation access network will

¹⁸ *Telecom v Commission* at [35].

¹⁹ *Telecom v Commission* at [44].

represent a fundamental shift in the topography of New Zealand's fixed telecommunications market.

- (b) **Scheduled Review of the Regulatory Framework:** The Minister of Communications and Information Technology has commenced the regulatory framework review under section 157AA of the Act, taking into account the market structure, technology developments and competitive conditions in the industry. This may include changes to the regulated pricing principles for fixed access. The Minister must endeavour to ensure that the review is completed no later than 31 March 2019, and the outcomes of this review are likely to have an impact on how regulation of fixed broadband services will be approached going forward.
- (c) **Widespread rollout of 4G LTE in rural areas:** The recently auctioned 700MHz digital dividend spectrum is particularly effective for the delivery of fast broadband to rural areas. The availability of 4G LTE services in rural areas will be widespread, with 700MHz spectrum having specific rollout requirements that must be achieved by 2019.²⁰
- (d) **FPP process is complex and comprehensive:** In order to complete a comprehensive and robust TSLRIC modelling calculation, the FPP project is likely to take 18 – 24 months to complete. This decision will establish the UCLL model that will be used as the basis to set prices well into the future. This process will also take significant time and resources from parties and the Commission.
- (e) **Certainty for the regulatory control period:** Providing certainty allows all parties to make efficient investment decisions in long-lived telecommunications infrastructure. This is particularly important during the course of longer term market changes with the migration from copper to fibre services.

Vodafone recommends

Recommendation 7 The FPP should not expire until the end of 2019, taking into account the significant changes to the industry (including, potentially, to the applicable regulatory framework) expected between now and then.

Price resets

- C5.3 The particular approach to price resets between regulatory periods will depend on the MEA ultimately adopted by the Commission.
- C5.4 We agree with Frontier's view, expressed in its report, that:²¹
 - (a) re-used assets should not be re-valued over time; and
 - (b) for the loop assets revaluations should be limited for as long as possible.

²⁰ Conditions of the 700MHz spectrum include a requirement to roll-out to 75% of existing rural sites or 300 rural cellsites (the lesser of the two will apply) The implementation requirement has to be met by 1st of Jan 2019. New sites does not include any sites that are being rolled out as part of other contractual agreements.

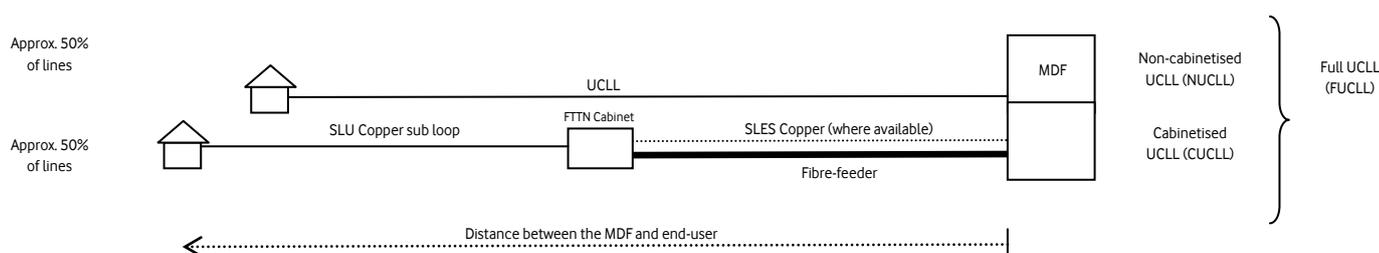
²¹ See discussion at section 4.2 of the Frontier Report.

Vodafone recommends

Recommendation 8 The Commission adopt a price reset mechanism that is appropriate to the MEA adopted.

C6 The scope of the UCLL service

C6.1 Vodafone agrees that the UCLL STD final price is limited to non-cabinetised lines (**NUCLL**), representing approximately half of Chorus' total copper lines.



C6.2 The underlying UCLL service is also a necessary underlying cost component for UBA delivered over both cabinetised and non-cabinetised loops, UCLFS, and subloops. For practical purposes, and in light of the UBA price review applications, the Commission must determine both NUCLL (to meet the UCLL price review application) and FUCLL TSLRIC prices (as an underlying input for UBA, UCLFS and SLU).

C6.3 The Commission concludes that, on the basis of TSLRIC methodology, it will determine the UCLL FPP price having regard to the FUCLL network, regardless of whether end-users are connected directly via active or passive cabinets. Inevitably, the correct application of the FPP is likely to render the practical distinction between NCULL and CUCLL largely irrelevant.

C6.4 However the Commission does not appear to have considered, in reaching its conclusion that it will use FUCLL, whether the average distance between the end-user and MDF differs materially between NUCLL and CUCLL. The average distance and distribution between end-users and the MDF will impact the TSLRIC-modelled cost and potentially the MEA network architecture deployed.

C6.5 For example, if the average distance between end-users and the MDF for NUCLL is materially shorter than CUCLL, modelling both together (FUCLL) may lead to a material difference in the TSLRIC cost for NUCLL, with the resultant risk of encouraging inefficient (or discouraging efficient) entry. These outcomes would be inconsistent with the promotion of competition under s 18 of the Act.

Vodafone recommends

Recommendation 9 The Commission should investigate whether there is a material difference in the average distance and distribution between NUCLL and CUCLL, before concluding that a TSLRIC model of FUCLL will correctly represent the TSLRIC costs for NUCLL as required under the FPP application.

C6.6 To be clear, Vodafone does not support any outcome that is unworkable and complex, and we recognise that the Commission must practically model FUCLL. However to the extent that there is a material difference, the Commission must consider whether an adjustment is required to ensure that the TSLRIC model correctly determines the price for NUCLL, as required under the UCLL pricing review.

D Fundamentals of TSLRIC

D1 Relevance of TSLRIC-based copper prices in market transitioning to NGA

- D1.1 The Issues Paper suggests that TSLRIC pricings are less reflective of market-based prices in markets that are contracting, where on-going capital investment is likely to be much lower and over-capacities may develop.²²
- D1.2 We agree with the European Commission's conclusion that modelling a single efficient NGA network for copper and NGA access will neutralise the inflationary volume effect when modelling a copper network, and allows for the progressive transfer of traffic volumes from copper to NGA with deployment of and switching to NGA.²³ As such, we support the principle (and the Commission's apparent view) that demand should be modelled for a single efficient next generation access network that includes end-users that may migrate to Chorus' fibre network.²⁴
- D1.3 A key question for the Commission will be the extent and geographic location of changes in total demand (whether over copper or fibre) for Chorus' services. Given Chorus' significant existing fibre holdings, its existing customer base being served by copper, the UFB and RBI programmes, and the largely future-proofed capability of fibre services, demand for Chorus services to provide very high speed broadband services is unlikely to materially reduce in the future.

Effect of Chorus owning and operating the majority of UFB fibre

- D1.4 Chorus has secured the contracts to build 69.4% of the UFB project (which will, in total, cover 75% of the population) by 2019.²⁵ Customers migrating from copper to fibre in these areas can be expected to migrate overwhelmingly to Chorus UFB fibre. While Chorus does face limited competition from other competing fibre networks, migration driven by the UFB can be expected to predominantly benefit Chorus. For that reason, total demand for Chorus services can be expected to decline slowly, if at all.
- D1.5 This must also be offset by increases in population driving new demand for fibre services. In particular, Auckland expects significant population growth, with Statistics New Zealand estimating that three-fifths of New Zealand's population growth between 2011 and 2031 will be in Auckland, and Auckland's population will reach almost 2 million by 2031.²⁶
- D1.6 In the 30.6% of the UFB programme that Chorus did not secure, total demand for Chorus access service may reduce more rapidly as migration to fibre services increases in those areas.²⁷ While Chorus and the LFCs face competition from competing fibre networks, it remains unclear how significant or rapid this would be because:
- (a) Chorus has existing fibre assets in those urban areas supplying business customers;

²² Commerce Commission *Process and issues paper for determining a TSLRIC price for Chorus' unbundled copper local loop service in accordance with the Final Pricing Principle*, 6 December 2013 at [75].

²³ European Commission *Commission Recommendation of 11.9.2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment*, C(2013) 5761 at p 7.

²⁴ Issues Paper at [79].

²⁵ Crown Fibre Holdings *About us* (available online, accessed 14 February 2014) at <http://www.crownfibre.govt.nz/about/>

²⁶ Statistics New Zealand *Subnational Population Projections: 2006(base)–2031* (October 2012).

²⁷ Northpower: 1.6%; Enable Networks: 15.3%; and Ultrafast Fibre: 13.7%.

- (b) the UFB objective for the first six years on priority broadband users such as businesses, schools and health services; and
- (c) Vodafone would expect Chorus to continue to compete aggressively to maintain and grow connections in these UFB areas with its own network – whether over copper or fibre assets.

Chorus network investment in RBI areas

- D1.7 The Rural Broadband Initiative (**RBI**) will deliver faster broadband to 252,000 rural households at levels of service comparable with urban areas. Chorus and Vodafone were awarded the tender to provide broadband to rural New Zealand homes and businesses. Under the agreement, 154 new cellphone towers will be built, 387 cellphone towers will be upgraded and Chorus' existing fibre network will be extended by about 3,100 kilometres.
- D1.8 RBI includes an upgrade to Chorus' copper network, enabling Chorus to deliver broadband services over Chorus' extended FTTN network.²⁸
- D1.9 Demand for broadband services in rural areas can be expected to increase as better broadband services become available.

Mobile as a complement, rather than substitute to UFB fibre

- D1.10 Uncertainty remains about the level of fixed to mobile substitution that will occur in the future, and increasing evidence suggests that mobile services will be complementary to but not a replacement for fixed broadband services in developed markets. All future services will be delivered over IP, and accordingly, today's distinction between data, voice, and other analogue services (e.g. fax) will disappear. As a result, differentiation between networks at a technical level will be speed and quality of data services, with retail innovation and differentiation occurring over the top.
- D1.11 Fibre enjoys longer term speed advantages over mobile technologies. As demand for total bandwidth grows, we expect to see an increasingly complementary world of fibre and mobile. We expect mobile services to complement rather than replace fibre services in the long term. Ultimately, fibre is a superior technology to mobile for high bandwidth, high speed applications. As such, we consider it unlikely that fixed to mobile substitution should materially affect the demand profile for the UCLL TSLRIC model.

Vodafone recommends

- Recommendation 10** A relatively static demand profile over the regulatory period should be adopted as the starting point for its TSLRIC model.
- Recommendation 11** The Commission models a single efficient network for the MEA, which includes end users that migrate to Chorus' fibre network.
- Recommendation 12** The Commission does not assume significant fixed to mobile substitution in its demand model for the UCLL TSLRIC service.

²⁸ Ministry of Business, Innovation and Employment *Information for retail service providers* (available online, accessed 14 February 2014) at: <http://www.med.govt.nz/sectors-industries/technology-communication/fast-broadband/rural-broadband-initiative/for-retail-service-providers>

D2 Choosing the correct form of the TSLRIC model

- D2.1 Vodafone supports the use of Bottom-up LRIC model. This has significant benefits over a Top-down LRIC or Hybrid TSLRIC model for the following reasons:
- (a) While a bottom-up or hybrid LRIC model is more time intensive and costly, the Commission correctly identifies that it will yield cost estimates that best reflect an efficient operator. Conversely, while top-down models are quicker and cheaper, they are less likely to reflect an efficient cost structure. As noted in section C1 above, it is essential that the final price correctly sets an efficient price, given the model will determine UCLL prices and investment decisions well into the future (both under the FPP determination and any future regulatory control).
 - (b) The Commission identifies that bottom-up models overcome potential information asymmetries existing between regulators and the supplier of services. This information asymmetry is invariably even more acute for the ability of access seekers to participate in, and review, in the development of a top down model, given information confidentiality and asymmetry.
- D2.2 Vodafone considers (as observed in the Frontier Report) that it may be prudent to conduct a “top down” validation or cross-checking exercise to support the bottom up model. In particular, this should be used to assess the shared and common costs faced by Chorus. However, it is essential that this approach appropriately addresses any inefficiencies in Chorus’ current business practices. We note the recent E&Y Australia report which estimates that “\$400m to \$450m of the funding gap could be reduced by implementing a number of revenue uplift, operating and capital expenditure savings initiatives.”²⁹ To the extent that any the Commission’s process relies on any of Chorus’ own accounting records, it is essential that those records are appropriately scrutinised and carefully adjusted for any possible cost inefficiencies.
- D2.3 Vodafone supports the Commission’s intention to develop its own TSLRIC model, and are pleased to see that the Commission has issued an RFP for consultants to develop a fully working publishable model itself.³⁰ We note that previous experience, such as with TSO cost modelling where the Commission initially requested that Telecom (at the time) develop the bottom-up model, and was subsequently required to develop the model itself, suggests that a decision up-front by the Commission to develop the TSLRIC will lead to a better quality model, in a shorter timeframe.

Vodafone recommends

Recommendation 13 A Bottom-up LRIC model, with a Top-down LRIC model used only as a cross-check should be applied.

Recommendation 14 The TSLRIC model itself should be developed by the Commission (in consultation with interested parties and with an appropriate level of external economic support, as determined by the Commission).

²⁹ Ernst & Young *Independent Assessment of Chorus’ Financial Position* (12 December 2013) at p 3.

³⁰ Government Electronic Tendering System *Commission Request for Proposal, TSLRIC price review determination for the Unbundling Copper Local Loop and Unbundled Bitstream Access services* (24 January 2014).

D3 Optimising the network in a bottom-up TSLRIC approach

- D3.1 The Commission notes at [92] of the Issues Paper that: “[t]he level of optimisation that is adopted is a trade-off between efficient and the fact that the model should reflect the ‘real world’ trade-offs and (sunk) investment decisions that have been made in building the actual network”.
- D3.2 As the Commission has observed, a wide range of approaches to network optimisation has been adopted by regulators in other jurisdictions.³¹ Generally, a scorched node or a modified scorched node approach has been adopted. As the Commission notes, this reflects an intention to achieve a realistic efficiency standard, while acknowledging (to a degree) the real-world investment decisions made by network operators.³²
- D3.3 We agree with the Commission’s preliminary comments in relation to the trade-offs between the different levels of network optimisation, and consider that a partially optimised approach (i.e., a scorched node approach) is likely to be the most appropriate. However, we refer the Commission to Frontier’s analysis, set out in its report, which identifies four key areas for optimisation as follows:³³
- (a) Re-valuation;
 - (b) Re-dimensioning;
 - (c) Re-routing of cables; and
 - (d) Re-siting (or “scorching”).

Vodafone recommends

Recommendation 15 The Commission should adopt a scorched node approach (scorching to the MDF) to optimise the network for the TSLRIC model.

D4 Revaluation windfalls or double-recovery on depreciated assets should be avoided

- D4.1 The use of a scorched node approach, as acknowledged by the Commission, is widely adopted in part because it acknowledges the real-world investment decisions of the network operator.
- D4.2 For similar reasons, regulators in other countries have also ensured that TSLRIC modelling takes the existing state of the network operators into account in setting prices.³⁴ That is, in setting TSLRIC pricing (which must be forward-looking), regulators must still consider whether the assets valued under the methodology adopted are treated as new (i.e., the investment is made instantaneously) or whether the age and state of the existing assets should be taken into account.

³¹ Issues Paper at [94].

³² Issues Paper at [94].

³³ See discussion at section 3.3.2 of the Frontier Report.

³⁴ See the discussion in section 4.1 of the Frontier Report.

D4.3 Frontier, in its report, identify two reasons for preferring an approach which takes the existing age and state of assets into account:³⁵

- (a) “[i]t provides a better reflection of the expenditures made by the access provider, and so provides some protection against the access provider being compensated for incurring costs which they in fact never did, and never will, incur”; and
- (b) “[i]t facilitates the rolling in of future capital expenditures at their forecast efficient levels, which will be the actual costs so long as those costs are shown to be prudent”.

D4.4 In particular, as discussed in the Frontier Report, the European Commission has essentially recommended the use of optimised, depreciated replacement cost (with a lock in and roll forward mechanism) for reusable legacy civil engineering assets:³⁶

*[35] In the recommended costing methodology the Regulatory Asset Base (RAB) corresponding to the reusable legacy civil engineering assets is valued as current costs, **taking account of the assets’ elapsed economic life and thus of the costs already recovered by the regulated SMP operator...** The initial RAB would then be locked in and rolled forward. (emphasis added)*

D4.5 The European approach is consistent with the principles underpinning the Commission’s assessment of the application of a “hypothetical new entrant” test when considering outcomes that would be consistent with a workably competitive market under Part 4 of the Commerce Act. There, the Commission observed (emphasis added):³⁷

*In a regulated market context, where an incumbent supplier uses long-lived specialised assets to supply services and, as a result, can supply the market over time at a lower cost than a hypothetical new entrant[] **it would be inappropriate to use the characteristics of the higher cost hypothetical new entrant as a benchmark for setting or monitoring the prices of regulated suppliers.** Doing so is not required to provide the incumbent supplier with the incentive to innovate, or to invest and operate efficiently, and could provide a windfall reward for the supplier with no consequential long-term benefits to consumers.*

D4.6 The extent to which the Commission should take into account the age and state of assets used in providing the UCLL service will depend on the particular MEA adopted. However, as a minimum, we consider that the European approach to reusable civil engineering assets (such as ducts and trenches) should be adopted as the Commission’s starting point.

³⁵ Frontier Report at p 35.

³⁶ European Commission *Commission recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment* C(2013) 5761 at p 8.

³⁷ Commerce Commission *Input methodologies (electricity and distribution and gas pipeline services) Reasons Paper* (December 2010) at [2.6.13].

Vodafone recommends

Recommendation 16 The Commission should take into account the elapsed economic life of the assets used by Chorus in providing the UCLL service to ensure that those costs are not double-recovered through the TSLRIC model.

D5 TSLRIC model should be transparent

D5.1 The Commission should ensure the model is highly transparent. The Commission should be reluctant to restrict access to the model because:

- (a) **Information asymmetry:** as identified at D2.1(b) above, there are significant information asymmetries which emerge between regulators (as well as access seekers) and the supplier of regulated services. Inevitably, the incentives of the regulator, access seekers and access providers will not be perfectly aligned. Accordingly, it is essential that there is sufficient transparency of the information which informs decision-making.
- (b) **Limited commercially confidential or competitively sensitive information:** Because Chorus is a natural monopoly provider, with very limited scope for competition, there is little commercial or competition law risk in making information available to interested parties. To the extent that any information is commercially sensitive, then the Commission has appropriate abilities to restrict information to named individuals and advisors.
- (c) **Natural justice and effective consultation:** There is significant risk that Vodafone, and other access seekers, will be unable to participate adequately in the consultation process if they are not provided with appropriate access to the information informing decision-making. This undermines the decision-making process, risking lower-quality decision-making, heightening the possibility of appeals (and their attendant affects on certainty) and exposes access seekers to pricing which does not, ultimately, reflect the cost-based pricing which is mandated by the Telecommunications Act.

Vodafone recommends

Recommendation 17 The TSLRIC model and its inputs should be transparent, with appropriate access afforded to interested parties and their advisors.

D6 Use of LFC data for MEA assessment

D6.1 Vodafone agrees that LFC data from Northpower, Enable Networks and Ultrafast Fibre may usefully inform the Commission on input costs required to deploy FTTP networks (G-PON and P2P) between end-user premises and the MDF **in their particular geographies**.

D6.2 LFC UFB networks, in contrast to Chorus' build, are predominantly greenfield fibre investments. Accordingly, they are likely to provide a useful indication of the costs for FTTP deployment in the areas they were awarded UFB contracts. However, these should not be treated as a definitive guide to efficient costs and deployment for the following reasons:

- (a) LFCs are receiving significant Government assistance to deploy these networks. It is unclear the extent of competition that occurred in the awarding of these smaller UFB contracts, several months prior to awarding the remaining (and majority) of the UFB contract to Chorus.
- (b) The LFC networks are limited in geography. The Commission correctly identifies that UFB Initiative covers areas with the highest population density, so it would be inappropriate to use these costs for rural areas. Costs between these LFC builds will also only reflect localised terrain, trenching and overhead costs, for example. For that reason, LFC costs will be informative only in those areas where they have deployed.
- (c) The full efficiency benefits of scale may not be realised with smaller LFC builds. For example, Northpower's LFC area in Whangarei represents 1.6% of the premises that will be covered by the UFB programme on completion. Input costs may be higher than an efficient, nation-wide provider may be able to achieve.
- (d) LFC costs and infrastructure reflect a build where UFB deployment and uptake is gradual. The Commission notes that "UFB pricing has been set on the assumption that take-up is gradual, where TSLRIC analysis assumes the hypothetical network is deployed and fully utilised from day one."³⁸ The UFB contracts require LFCs to deploy fibre down streets, with connection of individual households/businesses occurring over time.
- (e) As the Commission identifies, LFC networks have been optimised on a scorched node basis relative to Chorus' copper network. In fact, the LFC networks go beyond a scorched node basis to an optimised scorched node basis because of the reduced number of service handover points compared to UCLL handover points. Were the Commission to adopt a pure scorched node TSLRIC model, this additional difference would need to be accounted for in its model.
- (f) Finally, the three LFCs have different ownership structures to Chorus, as a result of ownership through community trusts, rather than being publicly listed. The incentives and wider objectives of these trusts may have wider considerations than maximising the long term returns to shareholders.

Vodafone recommends

Recommendation 18 The Commission should use LFC data as part of its TSLRIC model process, but only in relation to the particular geographies in which they cover.

³⁸ Issues Paper at [84.3].

E Determining the MEA

E1 Key features and functionality of the UCLL service

- E1.1 Vodafone agrees with the Commission's preliminary assessment of the possible characteristics of the key features and functionality of the Chorus UCLL service.
- E1.2 In our view, the Commission should be driven by s 18 considerations in assessing the specific features at the margin of the UCLL service. For example, we agree with the preliminary view that a DC path should not be a necessary requirement of the MEA.

E2 Choices for the MEA

- E2.1 The Commission's Issues Paper sets out four possible MEA candidates that meet the criteria described above:
- (a) Point-to-Point Fibre-to-the-Home (P2P FTTH); or
 - (b) G-PON Fibre to the Home (G-PON FTTH); or
 - (c) Fibre-to-the-Node (FTTN); or
 - (d) A combination of P2P FTTH and fixed wireless access (**FWA**), with the technology used in a particular geographic region (e.g. being the minimum of the cost of FTTH and FWA).
- E2.2 Vodafone agrees that these MEA access types meet the criteria described at [96] – [97] of the Commission's Issues Paper. In particular however, Vodafone refers to the Commission's identification of GPON FTTH and FWA at [115] of the Issues Paper. In our view, especially given the Commission's acknowledgement at [110] – [112] that GPON FTTH is "very similar to P2P FTTH", the Commission should also include a fifth option:
- A combination of G-PON FTTH and fixed wireless access (FWA), with the technical used in a particular geographic region e.g. being the minimum of the cost of FTTH and FWA.*
- E2.3 This option broadly reflects the approach taken by the Government to delivering NGA access in New Zealand, and so is an appropriate starting point for the UCLL FPP MEA. Specifically, we note that:
- (a) the UFB programme will deliver where FTTH, based on a combination of G-PON and P2P FTTH architecture, to 75% of New Zealand homes and businesses; and
 - (b) the RBI programme will deliver faster broadband to 252,000 rural households outside the UFB, with Vodafone providing fixed wireless access, coupled with an extension of Chorus' FTTN network.
- E2.4 Chorus and the LFCs are required to provide layer 1 access from 2019 under the UFB programme. Until that time, access is restricted to layer 2 bitstream services, and both P2P and G-PON FTTH architecture can technically be unbundled.³⁹
- E2.5 Accordingly, a combination of G-PON FTTH and FWA is a useful starting point for an MEA for the UCLL FPP process.

³⁹ See, for example, Network Strategies *Review of the Telecommunications Act 2001 – Key Issues* (13 September 2013) at pp 74-77.

E3 Selecting the MEA

- E3.1 Frontier concludes that there are two sensible packages for the TSLRIC model which are likely to give effect to the s 18 purpose. Broadly, they encapsulate an MEA based on existing copper-fibre assets or a new fibre only network. The approach taken to building the TSLRIC model (and valuing the particular assets which underpin the MEA selected) will turn on the particular approach adopted by the Commission.
- E3.2 A summary of Frontier’s proposed approach, which anticipates a copper-fibre or fibre only MEA, is as follows:

Overview of Frontier findings		
Common assumptions	<ol style="list-style-type: none"> 1. Develop a bottom up model, using top down information as a cross-check 2. Apply a scorched node approach, maintaining MDF location 3. The full local loop, plus other key services, should be modelled to capture economies of scope 4. The MEA should be either the existing copper-fibre network technology mix or all fibre. A performance adjustment should be applied to a fibre only MEA to produce the copper price 5. Network demand should be held relatively constant 6. The WACC approach should recognise the relationship between greater optimisation, resets and demand risk on WACC. 	
Approach for particular asset types	Re-used assets (such as ducts) under CGA / NGA <ol style="list-style-type: none"> 1. Assets value at ORC, adjusted for accumulated depreciation 2. Fix the adjusted asset base, and roll in efficient new capital expenditure 3. Use standard annuity depreciation 	Loop assets (for copper-fibre mix or fibre MEA) <ol style="list-style-type: none"> 1. Assets value at ORC 2. Fix the asset valuation for as long as feasible 3. Use a tilted annuity approach for depreciation

- E3.3 We note that Frontier does not specifically consider FWA as part of its analysis of potential MEA options.
- E3.4 Vodafone supports the Commission’s proposal to use a combination of fibre and FWA as the MEA in this case. As discussed in section D1 above, the RBI (or Rural Broadband Initiative) that is being deployed across New Zealand demonstrates the capability of fixed wireless solutions—both now and into the future—to deliver modern voice and broadband services to rural communities.
- E3.5 We also note that the Commission has previously considered the use of wireless in the context of TSO cost modelling, where the efficiency benefits available from use of wireless rather than copper were identified as significant. Accordingly, we consider it appropriate for FWA to be included as component of the MEA.

Vodafone recommends

Recommendation 19 An MEA based on fibre (GPON or P2P) and FWA should be preferred.

- E3.6 We note that specific decisions on the FTTP architecture (between GPON and P2P) and division between FTTP and FWA can be assessed and optimised during the model to deliver the most efficient, least cost technology and architecture.
- E3.7 Notably, as identified above, this approach mirrors ongoing network investment through the UFB and RBI programmes.

E4 Appropriately adjusting the MEA to reflect UCLL services

E4.1 As the Commission acknowledges, if a fibre MEA is selected, it will be “different and superior” to the real world copper assets which are used to deliver the UCLL services. As such, the MEA approach will need to deal with the performance difference between the legacy copper access network and the MEA access technology.

E4.2 In addressing this challenge, BEREC has noted:

Gross MEA value is what it would cost to replace an old asset with a technically up to date new one with the same service capability, allowing for any differences both in the quality of output and in operating costs. For the replacement cost valuation to be appropriate it is not necessary to expect that the asset will actually be replaced.

The new technologies are usually superior in many aspects to the older technologies in terms of functionality and efficiency. However, since MEA values are required to reflect assets of equivalent capacity and functionality, it may be necessary to make adjustments to the current purchase price and also the related operating costs – for example, the new asset may require less maintenance, less energy and less space. Other adjustments may also be required in the calculation of current costs, e.g. surplus capacity.⁴⁰

E4.3 To meet this requirement, pricing achieved using the MEA must be at least lower cost than the current cost of service provision.

E4.4 In Denmark, TERA observed that the investment required for a FTTH network would be approximately 12% higher than the investment in a copper network.⁴¹ TERA also noted that “the gap between the cost of copper and FTTH networks will probably narrow in the coming years due to the combination of the steady decrease of fibre prices and of the increase of copper cost. Indeed, the price trend for fibre is in average -%% whereas for copper it is around 3%”⁴²

E4.5 Further, as set out C2 above, s 18 considerations may lead to a more conservative approach to pricing decisions (for example, an optimised scorched node rather than scorched earth approach). However, any adjustment should be focussed on risks of regulated decisions leading to over or under recovery of forward-looking costs.

⁴⁰ ERG (BEREC) *Common Position: Guidelines for implementing the Commission's Recommendation C(2005) 2480 on Accounting Separation and Cost Accounting Systems under the regulatory framework for electronic communication.*

⁴¹ TERA Consultants *Modification and development of the LRAIC model for fixed networks 2012-2014 in Denmark - MEA Assessment: Danish Business Authority* (May 2013) at pp 20-21.

⁴² *ibid*, at p 21.

Vodafone recommends

Recommendation 20 If a fibre MEA is selected, the Commission should calculate the difference in cost between the current and MEA technologies and apply an equivalent adjustment to the MEA cost structure (i.e., the Commission should apply the approach of the Danish regulator and ensure that the lowest cost structure is applied).

E5 The MEA and the TSO obligations

E5.1 Vodafone does not consider that an inability of a particular MEA to deliver legacy TSO services (such as facsimile or low speed data services) to TSO customers should exclude it from being adopted as the MEA.

F Determining the size of the network to be modelled

- F1.1 As discussed at D1 above, Vodafone considers that the relative demand for the UCLL TSLRIC service will remain relatively static over the proposed regulatory period.
- F1.2 We agree with the Commission's starting assumption that the relevant demand for the UCLL TSLRIC analysis is the Chorus end-users at a given point in time, including users that may subsequently migrate to Chorus' fibre network during the regulatory period.⁴³
- F1.3 We consider Chorus' the appropriate footprint for the MEA comprise:
- (a) existing xDSL footprint;
 - (b) the forecast UFB footprint; and
 - (c) the RBI footprint.

Vodafone recommends

Recommendation 21 The MEA footprint should reflect an efficient nation-wide network.

⁴³ Issues Paper at [127].

G Cost allocation

- G1.1 As the Commission acknowledges, the allocation of common costs is an important regulatory challenge.⁴⁴ The UCLL services are delivered using a significant element of shared assets. As such, it is essential the Commission ensures that both economies of scale and scope are correctly accounted for in its model.
- G1.2 As Frontier observes, where costs are shared between the UCLL and other services which make use of the same assets, there are two specific issues which are particularly important to TSLRIC modelling:
- (a) how much costs are shared; and
 - (b) how those costs are shared.
- G1.3 We agree with Frontier's conclusion that, at a minimum:
- (a) a wider set of services than just the UCLL should be modelled (to enable an appropriate cost sharing exercise to be conducted);
 - (b) assets common to the current network and Chorus' NGA network (including both FTTN and fibre assets) should be considered;
 - (c) consideration should be given to either explicitly modelling the core network or further consideration given to trench sharing between the CAN and core networks; and
 - (d) consideration should be given to the extent of other kinds of sharing that might be possible, including trench and pole sharing.

Vodafone recommends

- Recommendation 22** The Commission should model a wide set of services (including NGA services) to ensure an appropriate cost sharing exercise can be conducted.
- Recommendation 23** The Commission should consider how wider network elements (such as the core network or physical assets) could be included in the cost sharing exercise.

⁴⁴ Issues Paper at [138].

H Depreciation

H1.1 As identified by the Commission, there are a number of different depreciation approaches that could be adopted. These include:

- (a) economic depreciation;
- (b) straight line depreciation; and
- (c) annuity (either standard or tilted).

H1.2 As observed by Frontier, the particular choice of depreciation approach should reflect both practical considerations and the overall approach to TSLRIC modelling adopted.⁴⁵ We refer the Commission's to Frontier's analysis on the different approaches, including at sections 4.1.2 and 4.3.3 of its report.

H1.3 Reflecting that analysis, Vodafone makes the following recommendations.

Vodafone recommends

Recommendation 24 A standard or straight line annuity approach to depreciation should apply to re-used assets (such as ducts).

Recommendation 25 A titled annuity approach (using CPI adjustments) should apply to assets valued at optimised replacement cost.

⁴⁵ Frontier Report, section 4.3.

I Cost of capital

- 11.1 Telecommunications services are inherently capital intensive services and, as the Commission acknowledges, the cost of capital is one of the most important parameters in a TSLRIC exercise.⁴⁶
- 11.2 We agree that the input methodologies process provides a useful starting point for consultation on the cost of capital for the UCLL TSLRIC model. However, we refer the Commission to Frontier's observations as to the high level differences that, at a minimum, are likely to be necessary to take into account. To summarise these, the Commission should:
- (a) take into account the fact that UCLL service and the services regulated under Part 4 (including energy transmission and distribution, gas pipelines and airport services) may have fundamentally different risk profiles to telecommunications services; and
 - (b) ensure that the approach to beta is consistent with the type of UCLL network (including, for example, the level of optimisation and the MEA selected) which is modelled.

Vodafone recommends

Recommendation 26 The Commission should consult, at proposed, on cost of capital issues in depth.

Recommendation 27 The Commission should utilise the input methodologies cost of capital analysis as a starting point for consultation, but should take into account (from the outset) the differences between the services (and risk profiles thereof) being modelled.

⁴⁶ Issues Paper at [169].

J Summary of Vodafone's recommendations

Vodafone makes the following recommendations:

Recommendation 1	A process which favours quality decision-making over speedy decision-making should be adopted.
Recommendation 2	The Commission should provide greater clarity on the proposed timelines for the remaining consultation process (and in particular the date for its final determination).
Recommendation 3	The UBA and UCLL FPP processes should be aligned, with merged consultation and modelling where appropriate, and the decisions released simultaneously.
Recommendation 4	The Commission should adopt a broad interpretation of TSLRIC, and is guided in its choices relating to the model by its primary duty under s 18(1) of the Act and the outcomes that the particular TSLRIC model will promote.
Recommendation 5	The Commission should apply s 18 tests in determining key inputs to the TSLRIC model, and as a final cross-check for the outcomes the cost model will promote, but should be careful not to “double count” s 18 considerations.
Recommendation 6	The Commission should confirm its discretion to depart from a backdating of the FPP price.
Recommendation 7	The FPP should not expire until the end of 2019, taking into account the significant changes to the industry (including, potentially, to the applicable regulatory framework) expected between now and then.
Recommendation 8	The Commission adopt a price reset mechanism that is appropriate to the MEA adopted.
Recommendation 9	The Commission should investigate whether there is a material difference in the average distance and distribution between NUCLL and CUCLL, before concluding that a TSLRIC model of FUCLL will correctly represent the TSLRIC costs for NUCLL as required under the FPP application.
Recommendation 10	A relatively static demand profile over the regulatory period should be adopted as the starting point for its TSLRIC model.
Recommendation 11	The Commission models a single efficient network for the MEA, which includes end users that migrate to Chorus' fibre network.

Recommendation 12	The Commission does not assume significant fixed to mobile substitution in its demand model for the UCLL TSLRIC service.
Recommendation 13	A Bottom-up LRIC model, with a Top-down LRIC model used only as a cross-check should be applied.
Recommendation 14	The TSLRIC model itself should be developed by the Commission (in consultation with interested parties and with an appropriate level of external economic support, as determined by the Commission).
Recommendation 15	The Commission should adopt a scorched node approach (scorching to the MDF) to optimise the network for the TSLRIC model.
Recommendation 16	The Commission should take into account the elapsed economic life of the assets used by Chorus in providing the UCLL service to ensure that those costs are not double-recovered through the TSLRIC model.
Recommendation 17	The TSLRIC model and its inputs should be transparent, with appropriate access afforded to interested parties and their advisors.
Recommendation 18	The Commission should use LFC data as part of its TSLRIC model process, but only in relation to the particular geographies in which they cover.
Recommendation 19	An MEA based on fibre (GPON or P2P) and FWA should be preferred.
Recommendation 20	If a fibre MEA is selected, the Commission should calculate the difference in cost between the current and MEA technologies and apply an equivalent adjustment to the MEA cost structure (i.e., the Commission should apply the approach of the Danish regulator and ensure that the lowest cost structure is applied).
Recommendation 21	The MEA footprint should reflect an efficient nation-wide network.
Recommendation 22	The Commission should model a wide set of services (including NGA services) to ensure an appropriate cost sharing exercise can be conducted.
Recommendation 23	The Commission should consider how wider network elements (such as the core network or physical assets) could be included in the cost sharing exercise.
Recommendation 24	A standard or straight line annuity approach to depreciation should apply to re-used assets (such as ducts).

Recommendation 25	A titled annuity approach (using CPI adjustments) should apply to assets valued at optimised replacement cost.
Recommendation 26	The Commission should consult, at proposed, on cost of capital issues in depth.
Recommendation 27	The Commission should utilise the input methodologies cost of capital analysis as a starting point for consultation, but should take into account (from the outset) the differences between the services (and risk profiles thereof) being modelled.