



Further assessment of NBN Co's proposed SAU pricing arrangements



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1 Introduction

1.1 NBN Co's revised SAU variation

1. NBN Co submitted a variation to its special access undertaking (**SAU**) to the Australian Competition and Consumer Commission (**ACCC**) in March 2022 (**March Variation**). The March Variation proposed a regulatory framework for use in periodic regulatory resets (replacement modules) and a new pricing framework that will apply from 2023.
2. The ACCC is required to assess particular terms of the variation against the "reasonableness criteria" specified in Part XIC of the Competition and Consumer Act 2010 (Cth) (**CCA**). The reasonableness criteria includes promoting the long-term interests of end-users (**LTIE**), including whether the arrangements encourage the efficient use of, and investment in, infrastructure and promote competition.
3. After feedback from the ACCC and industry, NBN Co withdrew the March Variation and is now proposing a new SAU variation (**New Variation**). The New Variation includes changes to NBN Co's March Variation pricing proposal (**revised pricing positions**).
4. We have now been asked by NBN Co to:
 - a provide an overview of the revised pricing positions, which refers to NBN Co's prior pricing proposals in the March Variation, and assess and explain how NBN Co's pricing proposal addresses feedback from the ACCC and other stakeholders; and
 - b analyse the revised pricing positions, including whether the revised pricing positions should now be acceptable to the ACCC under the relevant reasonableness criteria.¹

1.2 Revised pricing positions

5. The key revisions to pricing proposed by NBN Co are (in summary form):
 - a The introduction of a weighted average price cap (**WAPC**) as the main form of price control that connects (following a transition period) regulated revenue allowances with prices, which also incorporates sub-caps on individual service types.
 - b A commitment to move all TC-4 offers to be 'AVC-only' by no later than 1 July 2026, with phased reductions in CVC pricing.
 - c Immediate reductions (compared to the March Variation) in both TC-4 AVC-only prices and in entry level TC-4 bundles (with enhanced CVC inclusions).
 - d A further set of measures to promote transparency and predictability of pricing, including:
 - i inclusion of pricing principles in the SAU to provide clarity over the matters to which NBN Co will have regard in changing or setting new prices

¹ email communication.



- ii a Statement of Pricing Intent prepared at the beginning of each regulatory cycle
 - iii a yearly SAU Tariff List and 3-year pricing roadmap
 - iv a pricing relativity mechanism, which avoids significant unforeseen year-to-year changes in how NBN Co prices across its suite of TC4 products.
- e ACCC review powers in the event that NBN Co's prices are inconsistent with its Statement of Pricing Intent or where specified TC-4 discount thresholds are met.

1.3 Previous Frontier Economics reports

6. We have submitted two reports to the ACCC relating to the potential efficiency and competition effects coming from its proposed revenue and price controls:
- Our first report (**March Report**) analysed NBN Co's proposed revenue controls and commercial constraints and explained why these would likely lead to efficient prices and promote competition.²
 - Our second report (**July Report**) provided further analysis of NBN Co's specific pricing offers in its March Variation, and how they made trade-offs between maximising the efficiency of network use and revenue adequacy that was important to promote efficient investment and competition.³
7. In both the March Report and July Report, we explained why NBN Co's proposed regulatory arrangements and prices were likely to lead to efficient pricing outcomes, facilitate recovery of efficient costs and provide for a reasonable degree of pricing certainty. This does not make the revisions now proposed by NBN Co incapable of meeting the reasonableness criteria. Rather, as we will discuss, the proposals reflect a different balance between trade-offs for NBN Co which, in our view, can also promote efficiency and competition but impose some additional risk on NBN Co.

1.4 This report

In **Section 2**, we summarise the basic trade-offs involved in NBN Co's pricing decisions, which are important to understand the choices and constraints NBN Co faces when setting its prices

In **Section 3**, we explain how NBN Co's pricing proposal addresses feedback from the ACCC and other stakeholders, and analyse the revised pricing positions, including whether the revised pricing positions should now be acceptable to the ACCC under the relevant reasonableness criteria.

² Frontier Economics, *Incentives in NBN Co's proposed SAU variation*, 21 March 2022 (**March Report**), available at: <https://tinyurl.com/4chwpe3s>.

³ Frontier Economics, *Efficiency and competition assessment of NBN Co's proposed pricing construct*, 22 July 2022 (**July Report**), available at: <https://tinyurl.com/2p9retjn>.



2 NBN Co's pricing involves trade-offs

2.1 Trade-offs between efficient investment and efficient use

8. In our July Report, we highlighted how allocative efficiency is best promoted where the price of a service reflects its marginal cost (the 'first best' pricing approach). Pricing in this way will ensure efficient use of infrastructure in the short term since it would facilitate all sales that would make a buyer and seller better off (and so maximise the sum of consumer and producer surplus).
9. However, in certain circumstances, marginal cost pricing will not encourage efficient investment in infrastructure. In particular, an access price based on the marginal cost of providing access may not always allow an efficient access provider to recover all its costs over the long term, including its previously incurred sunk costs.
10. The economic analysis in our July Report highlighted that NBN Co's prices will necessarily involve some losses of allocative efficiency compared with the 'first best' pricing approach.⁴ It is also true that reducing NBN Co's prices towards marginal costs will reduce such allocative efficiency losses, and that, conversely, the allocative efficiency losses will be larger where:
 - a NBN Co prices in ways that do not reflect the likely demand response of RSPs and end users to those prices; and
 - b NBN Co recovers larger amounts of sunk costs (which include prudently incurred costs according to the terms of the operational SAU).
11. The best feasible (or 'second best') pricing approach involves setting service prices as close to marginal costs as possible while allowing for the seller to remain financially viable by recovering efficient sunk and future costs in a way that minimises usage decisions. This may include the use of two-part tariffs and application of Ramsey pricing principles based on willingness to pay.⁵ In this way, second best prices would promote the most efficient use of the network possible while also promoting efficient investment.
12. Under a second best pricing approach, if NBN Co is to minimise the losses of allocative efficiency, it will need to pay close attention to:
 - a end user demand, which is uncertain and diverse among different types of users; and
 - b competitive pressures from alternative broadband networks (including alternative fixed networks, mobile networks and fixed wireless broadband, and satellite services).

⁴ July Report, at [41]. We explain that the first best pricing approach is not a reasonable benchmark for efficient pricing: there are inherent trade-offs relating to cost recovery under any commercially-feasible set of prices which diminish the efficiency in use of the network to increase the efficiency of investment.

⁵ July Report, at [164].



2.2 Trade-offs between efficiency and certainty for RSPs

13. In our July Report, we identified that some degree of usage-based⁶ pricing is likely to be consistent with maximising usage of the NBN under the constraint that NBN Co has an opportunity to recover its efficient costs.⁷ This is because usage based pricing, particularly on lower-speed services, can:
 - a encourage lower-usage, lower value end-users, for whom substitutability with mobile and fixed wireless services are more feasible, to connect and remain connected to the NBN; and
 - b discourage higher value, higher usage end-users from choosing lower-priced plans (that are sold without, or with lower, CVC inclusions).
14. Furthermore, usage-based prices allow for greater differentiation of services for retail service providers (**RSPs**), as such prices can support a wider array of retail prices and quality-based competition. This can stimulate competition as RSPs strive to offer new services that best meet customers' needs.
15. However, we appreciate that the ACCC and RSPs have shown a strong preference for pricing constructs that provide for RSPs to have greater certainty over the costs that they will face when using the NBN, as identified in the Working Groups:

A suitable regulatory framework would provide access seekers (i.e. retail service providers) with much more certainty over the costs that they will face when using the NBN. This will strengthen incentives for NBN Co's direct customers to invest in their own infrastructure and develop their product offerings. This would require consideration of alternative product and price constructs, particularly the application and level of volumetric charges; the role of price controls (including on specific price components); and reforms to the current practice of establishing product and pricing constructs through discounts. More robust demand forecasting would also assist in providing greater price certainty for access seekers.⁸

16. In the March Variation, NBN Co's proposals for moving towards AVC-only pricing constructs for higher speed tiers sought to enhance that cost certainty. That is, greater certainty in access prices can be achieved as the result of a greater number of end-users transitioning to higher speed tiers, and by increasing the proportion of costs recovered through fixed monthly tariffs (and so

⁶ Note here that usage based pricing can refer to either the practice of charging for bandwidth capacity (CVC), downloads (MB or GB) or download caps (MB or GB). While download caps do not charge for usage directly, in practice different download limit offers act like usage prices (e.g. a \$10 price difference between a 200GB to 400GB capped download product would give an implicit per GB price of 5 c/GB). The principle difference however would be that such products would provide for more certainty in charging.

⁷ July Report, at [105] to [107].

⁸ As per the ACCC report summarising matters arising in the working groups on 22 December 2021, p.7.



reducing or removing usage based charges) for those speed tiers. However, there are other factors relevant to price certainty, including:

- a Price controls and the frequency and size of allowed service price changes.
 - b The predictability of the price path over the medium and longer term.
 - c The use of temporary discounts rather than more permanent price reductions.
17. These matters were also addressed by NBN Co and we consider its proposals in the following sections. However, we also consider that while cost certainty for retailers is important, it should not be the dominant consideration in setting NBN Co's prices.
 18. The most obvious manifestation of the adverse effects of delivering additional certainty⁹ are that the removal of usage charges:
 - a will not produce the efficient level of network usage, assuming that the marginal cost of network usage is positive¹⁰, and
 - b hinders NBN Co's ability to recover its efficient costs.¹¹
 19. In particular, removing usage charges without any commensurate increase in access prices will reduce NBN Co's ability to recover its efficient costs. Of course, NBN Co may increase access prices to offset the reduction in revenue from usage charges. However, if NBN Co increases access prices:
 - a For lower speed products, it is very likely to lead to a greater number of lower-usage, lower value end-users substituting to mobile or fixed wireless services.
 - b For higher speed products, it is very likely to lead to end-users (particularly those that use relatively little data) 'downshifting' to a lower-priced product.
 20. We consider that the impact of such changes on NBN Co's ability to recover its efficient costs is material. In our July Report we highlighted that NBN Co's internal modelling suggested an immediate shift off CVC would reduce revenue by around 5% and even moving to AVC-only on the 50Mbps service would reduce revenue by around 4%.¹²
 21. In addition, other constraints on NBN Co's ability to respond flexibly to competition or changing users' demand (such as limits on the frequency or size of price changes) would also increase the risk of NBN Co being unable to recover efficient costs.
 22. It follows from this analysis that NBN Co must strike a balance between pricing to promoting efficient cost recovery and increasing cost certainty to RSPs.

⁹ That is, over and above the certainty provided today through existing WBA process and pricing roadmaps.

¹⁰ The marginal cost of usage may be very low in the short run in areas of NBN Co's networks that are uncongested. However, the longer run costs of usage will invariably be positive given the rapid growth in usage which is likely to require ongoing upgrades of the network to handle additional usage.

¹¹ In saying this, we recognise that the existing pricing structure would not necessarily maximise efficient usage, because usage prices are set with regard to cost recovery and maximising access as well as efficient usage. However, setting usage prices to zero produces neither efficient usage nor revenue to aid with cost recovery.

¹² July Report, Table 3.



3 Analysis of revised pricing positions

3.1 Overview

24. In this section, we summarise the overall objectives of the SAU variation with respect to pricing. We then turn to whether and how NBN Co's revised pricing positions address the concerns expressed by the ACCC and other interested parties in response to the March Variation. We then consider whether the revised pricing positions address these concerns, and whether they are consistent with the reasonableness criteria. We address each of the key revised pricing positions separately.

3.1.1 Responding to the working group outcomes

25. The ACCC's Summary of industry working group outcomes (December 2021) identified five key outcomes that it considered would help guide the development of a suitable regulatory framework.¹³ Of these outcomes, four are relevant to pricing.
26. NBN Co has communicated to us¹⁴ that an important part of the development of its existing and revised proposals has been to facilitate the five key outcomes. In **Table 1**, we highlight these outcomes and the elements of NBN Co's proposals that can produce these outcomes. We then further discuss the elements of the NBN Co proposals.

Table 1: How NBN Co addresses ACCC's key outcomes of a revised special access undertaking

ACCC outcome	Relevant NBN Co pricing provisions
<p>Opportunity to earn sufficient access revenue: A suitable regulatory framework would provide NBN Co the opportunity to earn the minimum revenues it needs to meet its legitimate financing objectives, including transitioning to an investment grade credit rating.</p>	<p>The proposed WAPC provides for an explicit link to efficient costs after a transition period, including a recovery of an ICRA sufficient to reach legitimate financial objectives.</p> <p>(Section 3.2)</p>
<p>Incentives for efficient operation and efficient use: A suitable regulatory framework would provide strong incentives on NBN Co to operate more efficiently and promote use of the NBN. This would include price controls that provide incentives for NBN Co to promote use of NBN services and to tailor products that meet demand and customers' willingness to pay.</p>	<p>A WAPC control on prices provides incentives to increase usage of the NBN above demand forecasts; re-structure prices to encourage more usage and introduce new products; and reduce costs below those forecasts by operating more efficiently.</p> <p>(Section 3.2)</p>

¹³ Section 3.1 in ACCC, *NBN Co Special Access Undertaking: Summary of industry working group outcomes December 2021*, available at: https://www.accc.gov.au/system/files/ACCC%20-%20Summary%20of%20industry%20working%20groups%20report_0.pdf

¹⁴ email communication.



ACCC outcome	Relevant NBN Co pricing provisions
<p>Protections from future price shocks: A suitable regulatory framework would protect end-users of NBN services from price shocks and from prices that track higher than needed in later years.</p>	<p>Over the longer term, NBN Co has committed to linking prices to efficient costs after a transition period. End-user price shocks are further avoided through sub-caps on increases in the prices of individual products; limitations on the frequency of price increases; restrictions on discounting; and application of a pricing relativity mechanism.</p> <p>The ACCC will also retain powers to intervene on the pricing of new products.</p> <p>(Sections 3.2, 3.3, 3.5, 3.6)</p>
<p>More cost certainty over access costs for access seekers: A suitable regulatory framework would provide access seekers (i.e. retail service providers) with much more certainty over the costs that they will face when using the NBN.</p>	<p>As well as measures to avoid price shocks (above), NBN Co proposes further commitments to provide shorter and longer term transparency of the proposed price path.</p> <p>In the shorter term there is a transition away from CVC charging, and more clarity on how NBN Co will use its pricing discretion, with the introduction of a Statement of Pricing Intent, a binding Tariff List and requirements to have regard to Pricing Principles when changing or setting new prices. A transition period to the recovery of efficient costs ensures that access costs cannot rise too quickly.</p> <p>(Sections 3.3, 3.4, 3.5, 3.6)</p>

Source: ACCC, Frontier Economics analysis

3.2 Adoption of a weighted average price cap (WAPC)

3.2.1 NBN Co proposal in the March Variation

27. In the March Variation, NBN Co proposed a revenue cap on Core Regulated Services comprising Core Services ABBRR plus a set portion of the ICRA. The revenue cap included an 'unders and overs' mechanism that allowed 50% of the annual revenue losses or gains accumulated during a regulatory period to be carried into the subsequent regulatory period (with an adjustment to compensate for the WACC). NBN Co also proposed individual price caps on new and existing product offerings for Core Services, and controls on how these maximum prices can change over time.

3.2.2 Views of the ACCC and interested parties

28. In its Consultation Paper, the ACCC noted that NBN Co's proposals provided for no¹⁵ explicit link between NBN Co's revenue or prices and its underlying costs, and therefore there was no basis for determining whether the proposed prices reflected efficient costs. Further, the ACCC

¹⁵ ACCC Consultation Paper, p.23 and 26-27.



questioned whether individual price caps may provide less pricing flexibility to respond to significant shifts in demand for different products than may be available under a weighted average price cap, and argued that a weighted average price cap control is likely to provide better incentives to promote efficient network use and lead to increased competition compared to NBN Co's hybrid price and revenue cap approach.

3.2.3 Overview of revised proposal

29. In the New Variation, NBN Co is proposing to adopt a WAPC for all NBN services with some limited exceptions (such as excluding competitive services).
30. Given that NBN Co is currently under-recovering its costs, NBN Co is proposing a transition to 'cost reflective' price levels. To achieve this, the WAPC mechanism proposed by NBN would allow basket prices to increase each year on average (on a use-it-or-lose-it basis) at:
 - a the percentage change in CPI during an initial glidepath period (i.e., before NBN is expected to first achieve its Core Services ABBRR, which is currently expected to be between FY30-32); and thereafter
 - b at a percentage which is expected to provide NBN with the opportunity to recover the sum of its forecast annual WAPC Revenue Requirement (based on allowable BBM revenues and a set amount of ICRA) over the Regulatory Cycle in present value terms.
31. If NBN under-achieves relative to the WAPC allowance, it will not be entitled to carry forward the difference into the following year. NBN Co's broad-based control is complemented with sub-caps to enhance price certainty at the individual service level. Specifically:
 - a average NBN revenue per service for an individual TC-4 Fixed Line or Fixed Wireless service or speed tier cannot increase by more than 5% or the percentage change in CPI per year (whichever is greater); and
 - b average NBN revenue on the TC-4 Fixed Line and Fixed Wireless *entry level* services (initially the 25/5 Mbps service) cannot increase by more than the percentage change in CPI per year.
 - c There is no ability for NBN Co to accumulate unused increases for sub-caps (a "use it or lose it" basis).
32. In addition, there are also limits on the frequency with which NBN Co can propose price increases. The SAU Tariff List prices will become maximum prices NBN Co can charge for the relevant financial year. NBN Co will be able to issue a new SAU Tariff List during the year with lower individual prices, but not higher individual prices.



3.2.4 Assessment - WAPC

33. It is well accepted in the academic literature on price caps that a WAPC can produce prices that are likely to promote the achievement of economic efficiency.^{16,17} In short: "The beauty of price caps is that they successfully combine incentives for cost reduction with incentives to rebalance prices towards allocative efficiency."¹⁸ The reasoning is as follows. Under a standard CPI – X formulation of a WAPC, compliance is determined by:
- a actual price changes,
 - b (past period) weighting of the price changes and
 - c forecasts of cost and demand/volumes, which feed into the determination of the X factor.
34. A firm's actual profits are determined by actual revenues (actual prices and actual volumes) and actual costs. Hence, whether NBN Co outperforms its profit forecast will depend on whether:
- a costs were lower than forecasts
 - b demand was higher than forecasts
 - c there was a change in demand mix towards higher margin services.
35. A WAPC can therefore be consistent with economic efficiency in the following ways:
- a A WAPC provides a commercial incentive for NBN Co to improve the allocative efficiency of its prices over time, to both increase demand and to restructure prices in line with changes in demand. That is because:
 - i the WAPC is linked to forecasts of costs and demand through the change in ABBRR, but revenues are not limited to the ABBRR if demand exceeds that forecast
 - ii the calculation of the weighted-average price change uses individual product price changes weighted by quantities from the preceding period. If the share of a product exceeds that of the previous period (through increased volumes), the weighted price change will be lower than the increase in revenues.

¹⁶ See sections 2.2 and 2.3 of J.J. Laffont and J. Tirole, *Competition in Telecommunications*, 2001 for a discussion of price caps (including basket or weighted-average price caps) and their efficiency properties. See also I. Vogelsang, *A 20-Year Perspective on Incentive Regulation for Public Utilities*, prepared for ACCC Regulation and Investment Conference, 2001, available at:

<https://www.accc.gov.au/system/files/Ingo%20Vogelsang%20paper%20-%20A%2020-Year%20Perspective%20on%20Incentive%20Regulation%20for%20Public%20Utilities.pdf>.

¹⁷ In our view, and notwithstanding the practical differences, the mechanisms of NBN Co's proposed hybrid price and revenue cap in the March Variation and the WAPC in the New Variation can both be consistent with producing prices that promote economic efficiency. While we accept that, in principle, revenue caps can have undesirable pricing properties (because they can reward changes in price that reduce quantities and costs), in NBN Co's circumstances where it was commercially unable increase prices and constrained by individual price caps, the only way in which it could increase its returns was to maximise quantities (i.e. set prices to increase demand over time). That is the same incentive as under a WAPC.

¹⁸ I. Vogelsang, op.cit.



- b The WAPC is tied to the proposed change in NBN Co's efficient costs in a CPI – X formulation. The incentive to cut costs below those forecast provides a link to productive efficiency.
 - c Furthermore, the operation of a WAPC can aid dynamic efficiency. NBN Co will benefit from the WAPC through growing volumes and introducing new products that consumers value at more than the costs to the NBN Co of supplying them. Moreover, both NBN Co and RSPs will benefit from the operation of price control arrangements that deliver more certainty about cost recovery and the path of prices, as this certainty promotes investment.
36. For completeness, we observe that there are four aspects of the WAPC design which may hinder the ability of NBN Co to recover its efficient costs over time.
- a The first is that the WAPC does not allow for NBN Co to recover its Core Services ABBRR for some years, with X equal to zero until such time as forecast revenues (under the X = 0 constraint) exceed forecast costs. This may hinder NBN Co's incentives to invest relative to an approach that would allow for an accounting of those losses. We understand that NBN Co is prepared to absorb the under-recovery so long as other elements of the pricing approach allow it the opportunity deliver on its (and its shareholder's) overall financial objectives.¹⁹ This approach ensures that while NBN Co has the opportunity to achieve cost-reflective pricing, this will be done over a transition period in a manner that reduces the likelihood of any price shocks to RSPs or end-users.
 - b The second is that the WAPC is defined as a 'use it or lose it' provision. Again, we understand that NBN Co is prepared to absorb such under-recoveries consistent with the preceding paragraph, and note that this will also allow NBN Co to deliver more pricing certainty to RSPs (because it could not apply multiple year CPI changes to build up in a single year price change).
 - c The third is the use of sub-caps. Such sub-caps, which are useful in protecting end-users from price shocks, will prevent NBN Co from recovering costs if those costs would otherwise exceed the sub-cap. We further discuss the specific sub-caps in section 3.2.5.
 - d A fourth factor is that the WAPC is calculated using prices in the SAU Tariff List, rather than actual discounted prices. Discounts benefit end users and while they may involve a revenue sacrifice for NBN Co, discounts allow NBN Co to better understand consumer reactions to price changes (price discovery). To the extent that NBN Co receives no credit for discounts in the WAPC, it will be less likely to offer such discounts.
37. In our opinion, it will be important for NBN Co and the ACCC to monitor the operation of the WAPC provisions to determine if the benefits of the restrictions imposed under the WAPC exceed their costs.

3.2.5 Assessment - side constraints or sub-caps

38. The role of the side-constraints or sub-caps in the WAPC is directed at protecting end users from price shocks, by which we mean significant increases in prices, particularly where those increases

¹⁹ In particular that as per clause 2G.4.2, NBN Co will have a reasonable opportunity to achieve and maintain, for the duration of the Regulatory Cycle in which that Financial Year occurs, a stand-alone investment grade credit rating with a stable outlook.



were not foreseeable or forewarned. Avoiding price shocks may provide more certainty for RSPs on access costs and so promote investment and competition between RSPs.

39. NBN Co's proposed sub-caps include:
- a a standard sub-cap of the greater of 5% or CPI and
 - b no real price increase for the entry level service.²⁰

Standard sub-cap

40. The standard cap that applies for services limits real price increases to the gap between CPI and 5%, while no real price increase is possible at 5% and real price reductions occur at a CPI of more than 5%.
41. In our view, the appropriate sub-caps should be considered in the context of market circumstances. This includes factors such as whether:
- a there are large existing distortions from efficient prices (which would favour a higher sub-cap)
 - b sub-caps might prevent cost recovery (favours a higher sub-cap)
 - c it would be costly for downstream firms to pass through or otherwise change their retail prices (favours a lower sub-cap).
42. In our view, the proposed constraint is reasonable because it balances between the second and third factors²¹ by allowing only small price increases in real terms – if at all – even though NBN Co is not forecasting to recover its allowed revenue requirement for many years. Nor is it evident that the sub-caps would create high costs for RSPs in changing their retail prices and offerings (providing that there are also other protections relating to notice periods, which are the subject of further constraints).

Entry level sub-cap

43. The sub-cap applying to entry level services is more complex to assess because the rationale for a different cap is likely to refer to equity and affordability as well as efficiency considerations. NBN Co has also received feedback from stakeholders that allowable price changes for these entry level offers should be set at a lesser amount for a given regulatory period – that is, grow at a maximum rate that is below CPI.
44. We agree that it is important that NBN Co retains accessible entry points to its network, reflecting both its broad mandate to provide affordable services, and to reflect that NBN Co's marginal costs of supplying access are low, at least in the short run. However, pricing structure decisions must also reflect both NBN Co's broader cost recovery challenges and the 'anchoring effect' of the entry level product.
45. A particular challenge for NBN Co is that, in the shorter term, the new entry level service at 25Mbps will provide effective price anchoring against other offers in NBN Co's portfolio. In

²⁰ The entry level service will be proposed and approved in each regulatory cycle. It must be a speed tier below the most popular speed tier offered by NBN Co.

²¹ We do not think the first factor is relevant as there is no evidence supporting large price distortions between price and cost at this time. This is in contrast to, for example, the price and cost of line rental charges which led to rebalancing in Australia through the early-mid 2000's. See ACCC, *Review of Price Control Arrangements*, February 2001.



particular, NBN Co needs to ensure that the wholesale price of its 50 Mbps service does not encourage RSPs and users to 'downshift' towards the 25 Mbps plan. For that to hold, the retail price difference cannot exceed the willingness to pay of users for the speed increment, i.e. the difference in valuation between a 25 Mbps service and a 50 Mbps service.

46. NBN Co's analysis of end-users willingness to pay estimates that the median user values the difference at \$13 (retail).²² This is the price premium where consumers would on average be indifferent between 25 Mbps and 50 Mbps, so that if the retail price gap between these services reduced to less than \$13²³, it would imply that more than half of end-users would be at risk of downshifting.
47. To assess this risk, consider the average usage per customer of around 340GB per month. NBN Co estimates this requires provisioned CVC of 3.05 Mbps and utilised CVC of 2.50 Mbps²⁴, and for this CVC the difference in the average combined charge between 25Mbps and 50Mbps is close to zero, or even favours the 50 Mbps product.²⁵ Given that users value the additional speed at around \$13, there is strong incentive to offer attractive retail prices for the 50 Mbps service (which is maintained so long as there is a difference between the \$13 and the additional wholesale cost of the 50 Mbps service).
48. These incentives are maintained under the proposed wholesale prices. NBN Co's figures suggest that CVC of around 2.5 Mbps will be acquired (due to the shift to utilised billing, which reduces CVC purchases by a minimum of 20%).²⁶ That suggests a wholesale charge gap of around \$6 between serving the customer with a 25 Mbps product compared with the 50 Mbps. Again, this provides incentives to charge a retail price between the \$13 median retail valuation difference and the wholesale charge difference.
49. However, as highlighted in **Table 2**, there is a material risk that the removal of CVC charging in conjunction with a tighter sub-cap on the anchor product will fundamentally favour a shift to the slower service. That will undermine NBN Co's efforts to increase quality and improve user experience to better assist with cost recovery through higher customer take-up. We observe that as overage rate reduces over time, the price differentials will expand. At \$4/Mbps overage, the difference between combined charge for the 25Mbps and 50Mbps would be more than \$10 wholesale, elevating risks that some RSPs will shift retail focus to the more affordable 25Mbps product. (To be clear, the bundle price control on the 25 Mbps will allow for some rebalancing into fixed charges, this will be insufficient to recover lost revenues for an "average" user as defined, taking average usage across all services.²⁷)

²² email communication.

²³ Expressed on a per customer, per month basis.

²⁴ email communication, figures for July 2022.

²⁵ That is, the wholesale cost of the 25 Mbps product = $\$37 + (3.05 - 1.6) * 8 = \48.60 compared with $\$45 + (3.05 - 2.65) * 8 = \48.20 for the 50 Mbps.

²⁶ email communication.

²⁷ Noting that the average CVC provisioned for users of the 25 Mbps service is 1.9 Mbps.

**Table 2:** Changes to CVC and entry level products

For average user @ 340GB/month	Current pricing (provisioned CVC)	New proposed pricing (utilised CVC)	CVC @ \$4	CVC @ 0
Estimated CVC required	3.05	2.5	2.5	2.5
25 Mbps cost to RSP	48.60	44.40	40.80	37.20
50 Mbps cost to RSP	48.20	50.00	50.00	50.00
Difference	-0.40	5.60	9.20	12.80

Source: Frontier Economics analysis of NBN Co data.

50. These effects highlight NBN Co's pricing challenge – if it allows an even larger gap to open between the entry level 25 Mbps service and the 50 Mbps service, it will create undesirable incentives. In turn, if NBN Co was forced to reduce the price of 50 Mbps services to maintain the price gap, then it would hinder attempts to offer an attractive upgrade path to 100Mbps. That is, the 25Mbps price creates strong anchoring effect on the rest of the portfolio. We would therefore expect that NBN Co will be wary of increasing the price of the 50 Mbps service by a greater percentage than the 25 Mbps service. A stricter entry level price control that proposed will therefore likely cause systematic under-recovery risk for NBN Co as it struggles to price up to the WAPC allowance.
51. To summarise this analysis:
- Under current pricing and proposed pricing, RSPs will have incentive to serve an 'average' usage customer with the 50 Mbps product²⁸ rather than the entry level 25 Mbps product. The difference between wholesale charges supports a retail price point that is less than their willingness to pay for the higher speed.
 - If the new pricing arrangements provide for a bigger difference in the RSP's cost, the price structure may no longer support retail price points with less than \$13 difference. This will create incentives for RSPs and users to migrate towards 25 Mbps products, which NBN Co will have to address through cautious pricing of the 50 Mbps product.
52. We therefore consider that a CPI cap on the entry level service is reasonable, and a more aggressive cap would pose obvious risks to NBN Co's ability to recover its costs over time due to price anchoring effects.
- Other constraints**
53. The proposed sub-caps would only allow for gradual rebalancing of prices when considered in conjunction with:
- NBN Co's proposal to allow price increases once per financial year,

²⁸ To explain further, it is not likely that an RSP will have insight into a new customer's expected use. Therefore, one would expect that RSPs would have an incentive to offer the product which delivers value to the average-usage customer, so it is important that the price structure accommodates a sensible path towards take up of higher speed products over time to match increased willingness-to-pay.



- b the requirement to publish A Statement of Pricing Intent at the beginning of each regulatory cycle, an annual SAU tariff list, and a 3-year pricing roadmap updated annually (discussed in section 3.5)
 - c the pricing relativity mechanism (discussed below) and
 - d other methods that can be used by RSPs to mitigate risks of price uncertainty, such as contracts with end-users that do not lock in prices for long periods.
54. The pricing relativity mechanism, which is a new feature responding to stakeholder feedback, offers additional certainty on access costs. The mechanism means that NBN Co will not materially change the relativity of prices for TC4 services unless those changes are clearly foreshadowed in advance via the three-year pricing roadmap that NBN Co must prepare.²⁹

Other WAPC provisions

55. The WAPC formulation is also supported by the following:
- a a pass through provision, for specified cost events approved by the ACCC.
 - b an 'excess mechanism adjustment factor', which provides for any *ex post* breach of compliance of the 5% sub-cap on TC-4 services which have a two-part price structure (i.e. in the first Regulatory Cycle) to be accounted for in a future year.³⁰
56. Both of these provisions allow for the pass through of the costs of certain unpredictable events to ensure allowance price changes are consistent with the recovery of no more than efficient cost.

3.2.6 Conclusion – WAPC and sub caps

57. The proposed WAPC is capable of supporting efficient prices and, in the longer term, recovery of NBN Co's efficient costs. The proposed side constraints strike a reasonable balance between providing for commercial flexibility for NBN Co and certainty for RSPs and end users.

3.3 A proposed path to the removal of CVC charging

3.3.1 NBN Co proposal in the March Variation

58. In the March Variation, NBN Co proposed:
- a the introduction of an AVC-only pricing construct for NBN Co ethernet TC-4 services supplied with a bandwidth profile of Home Fast (100Mbps) or higher
 - b bundled AVC/CVC offers for lower-speed NBN Co ethernet TC-4 services, and defined rules for bi-annual adjustments to the CVC inclusions over time
 - c the imposition of a \$8/Mbps CVC overage charge for the bundled AVC/CVC offers, with no right for NBN Co to increase this amount in real or nominal terms over the SAU term.

²⁹ Specifically, NBN Co will ensure that the gap between forecast and proposed prices in year 2 of three-year roadmap do not deviate by a significant amount across TC4 services so that pricing relativities are effectively maintained.

³⁰ All of these services will have to comply with the sub-cap on a forecast (ex ante) basis, but because usage is unpredictable there may be a difference between forecast and actual usage.



3.3.2 Views of the ACCC and interested parties

59. In its Consultation Paper, the ACCC provided the following preliminary observations:³¹
- a The retention of CVC charging may also result in access cost uncertainty for retailers.
 - b The level of the CVC overage charge at \$8Mbps/month appears to be above NBN Co's costs of making additional CVC capacity available to retailers.
 - a The retention of CVC charging may result in access cost escalation over time, as peak data demand continues to grow.
 - b The increase in access revenues from NBN Co's standard and more basic residential grade products would likely reduce incentives for NBN Co to develop new products, and make it harder for NBN Co to rebalance prices to encourage efficient use of the NBN.
 - c These factors are likely to force households and businesses to purchase high speed inclusions at a price that does not represent fair value to them based on their requirements.

3.3.3 Overview of revised proposal

60. In the New Variation, NBN Co is proposing to phase out CVC pricing. Specifically, NBN Co is committing to:
- a AVC-only pricing on TC-4 Bundle Offers by no later than 1 July 2026
 - b reduce CVC TC-4 Overage Charge on TC-4 Bundle Offers by at least \$1 per Mbps each financial year, starting at \$8 per Mbps in FY24, as per **Table 3**.

Table 3: NBN Co's proposed phased reduction in CVC overage charges

Date	CVC TC-4 Overage (per Mbps) Max. Regulated Price
1 July 2023	\$8.00
1 July 2024	\$7.00
1 July 2025	\$6.00
1 July 2026	\$0.00

Source: NBN Co.

61. To address cost uncertainty during the phase out period, NBN Co is also proposing sub-caps that apply to 'combined charges', by which we mean the charges for a AVC-CVC bundle on a speed tier. This effectively ensures that the per customer charge to the RSP will be capped rather than the individual AVC and CVC components. In turn, this eliminates the risks to RSPs of a significant unforeseen increase in usage (such as experienced during parts of the Covid-19 pandemic) –

³¹ ACCC Consultation Paper, p.22-25.



prices must meet an ex ante forecast of usage charges and an ex post check of actual usage – so that increases above forecast usage will be met by lower usage prices.

62. In line with the phase out of CVC charges, there will be re-balancing of AVC and CVC (TC-4) charges which make up the TC-4 Bundle Offers, which will occur within the WAPC. Re-balancing means no change in the industry average combined price (AVC fixed charge + CVC Overage). The annual price control proposed to apply to the re-balanced prices in each of these years will be governed by the WAPC and sub-caps.
63. In addition, NBN Co is also proposing to enshrine existing discounts into the SAU as bundled offers in respect of AVC TC-2 bandwidth profiles, and an Enhanced-12 (24/7) fault rectification service inclusion. The prices for these TC-2 Bundle Offers will align with the discounted monthly recurring charges that apply under the TC-2 Business Bundles Discount offered under the Wholesale Broadband Agreement currently. These cover over 99% of TC-2 services supplied. Alignment of the CVC TC-2 inclusions to the AVC TC-2 bandwidth profile means RSPs do not face variable CVC TC-2 cost uncertainty.

3.3.4 Assessment – phased CVC charging removal

64. Under the New Variation, RSPs would have lower exposure to CVC overage related charges including a removal of all such charges by 2026. This reduction and then removal of CVC pricing will increase price certainty for RSPs compared to both the status quo and the March Variation. Greater certainty of wholesale costs will make it easier for RSPs to develop retail packages to allow them to compete more effectively with other RSPs for end-users. This will help to promote competition in downstream retail markets and is a major benefit of the proposal.
65. The introduction of AVC-only pricing will, however, impose a significant financial risk on NBN Co. This financial risk arises from:
 - a the removal of usage-based revenue from end-users; and
 - b the uncertain effects of replacing usage-based with fixed charges.
66. The extent to which AVC-only pricing will promote efficiency compared with CVC-AVC pricing constructs will depend on two key factors.
 - a The first is the extent to which NBN Co can maximise network usage. As indicated in our July Report, lower-usage, lower value end-users are likely sensitive to fixed costs, and so an increase in AVC prices may result in such end-users leaving the network. A significant amount of end-user churn at the low usage level would likely damage retail competition and efficient use of the network.
 - b The second is the extent to which NBN Co can recover its efficient costs. NBN Co will need to increase access prices to offset the reduction in revenue from usage charges. If NBN Co increases access prices for lower speed products, it may lead to a greater number of lower-usage, lower value end-users substituting to mobile or fixed wireless solutions. If NBN Co increases access prices for higher speed products, it may lead end-users on those products to 'downshift' to a lower speed (at lower prices).
67. Our assessment is that the revised proposal is likely to benefit RSPs and some classes of end users, but impose greater risks on NBN Co. The ability of NBN Co to avoid further losses (compared with efficient costs) will depend on its ability to target particular types of end-users without the aid of CVC pricing, and the response of these end-users to changes in access prices.



3.4 Pricing construct changes

3.4.1 NBN Co proposal in the March Variation

68. NBN Co's pricing constructs in the March Variation are set out in the table below. NBN proposed increasing the AVC charge and reducing the CVC inclusions of both the 12 Mbps and 50 Mbps speed tiers. However, the adoption of utilised-based billing, under which RSPs are only billed for bandwidth that is utilised, will help to mitigate the impact of these changes on the effective price of these speed tier. NBN largely retained the effective price of the 25 Mbps speed tier (assuming a cost of \$8/Mbps), and proposed slight increases to the 100/20 Mbps and 250/25 Mbps services.

Table 4: NBN Co proposed pricing constructs, March Variation

AVC TC-4 bandwidth profile ⁷¹	Common Reference	Pricing Terms		
		Monthly charge	CVC inclusions (Mbps)	CVC TC-4 Overage Charge (\$/Mbps)
ELB [12/1] (capacity usage ≤ 0.1Mbps)*	Voice-only	\$12	0	\$8 (Utilised CVC)
ELB [12/1] (capacity usage > 0.1Mbps)	Entry Level Bundle	\$26	0	
FW 12 [12/1]		\$26	0	
B25 [25/5, 25/10]		\$26	0.1	
B50 [50/20] and Wireless Plus	Standard Bundles	\$50	2.45	\$0
Home Fast [100/20]	High Speed Services (AVC-only Offers)	\$60	NA	
Home Superfast [250/25]		\$70		
Home Ultrafast [up to ~1000/50]		\$80		
Premium Bundle [100/40]		\$65		
Premium Bundle [250/100]		\$100		
Premium Bundle [500/200]		\$160		
Premium Bundle [1000/400]		\$230		

Source: NBN Co.

3.4.2 Views of the ACCC and interested parties

69. The ACCC indicated that NBN Co's March Variation could be expected to result in a narrowing of reasonably-priced access products in the market. This could result from the application of assumptions regarding usage growth and individual price caps where CVC charges were retained. The ACCC argued that this could be in turn damaging to the level of retail competition and result in the supply of retail products in the market at higher prices and at speeds in excess of end customer needs. The ACCC questioned whether this would promote efficient use of the NBN and the LTIE.³²
70. The ACCC and RSPs also raised concerns about:

³² ACCC Consultation Paper, p. 24.



- a potential price shocks for existing 12 Mbps customers with the proposed increase of the fixed component of the bundle charge from \$22.5 to \$26 under the March Variation.³³
 - b increases in the price of the 50 Mbps services.
71. The ACCC's Industry Forum Summary³⁴ highlighted the concerns expressed about the rise in the minimum cost of the 50 Mbps bundle from \$45 to \$50 per month. In response, NBN Co noted that this did not consider changes in likely overage costs and that when these are considered the forecast increase could be less than the \$5 per month increase that focusing only on the minimum charge would suggest.

3.4.3 Overview of revised pricing constructs

72. As well as the changes to CVC as described in the preceding section, NBN Co has proposed changes to the 12/1 Mbps product, while increasing CVC inclusions on 25Mbps, 50Mbps and FW Plus speed tiers, and reducing the AVC-only charge for 100 Mbps and higher speeds.
73. With respect to the 12/1 product, NBN Co is proposing to reduce the charge for voice only customers (around half of the approximately 800,000 users) from \$21.90 to \$12.00 per month, and increasing the charge to 12/1 broadband users to \$24.4 (an increase of 5%). This results in a reduction on a weighted average basis of almost 20%.
74. A summary of the changes compared with the March Variation is provided in the table below. This compares:
- a Headline prices and NBN Co's yields based on provisioned CVC from May 2022
 - b The proposals in the March variation, which included a shift to utilised billing and some AVC-only products
 - c The new pricing proposals, with expected NBN Co yields based on utilised billing (i.e. actual usage of CVC) as at May 2022.

³³ ACCC Consultation paper, p.25.

³⁴ ACCC Industry Forum on NBN Co's Special Access Undertaking, August 2022.

**Table 5:** NBN Co's proposed changes to access prices (TC-4)

	Status quo (May 2022 onwards)		March Variation	New Variation		
	(A)	(B)		(C)	(D)	Effective price change, (B)→(D)
TC-4 tier	AVC and CVC inclusions	NBN Co yield @ prov CVC Mbps	Shift to utilised billing*		Yields at current usage	
12/1 voice (<0.1 Mbps CVC usage)	\$22.50 0.15 Mbps	\$21.90@0 provisioned	\$12.00 0 Mbps	\$12.00 0 Mbps	\$12.00 (0)	-45.2%
12/1 broadband	\$22.50 0.15 Mbps	\$29.80@1.1	\$26.00 0 Mbps	\$24.40 0 Mbps	\$31.40 (0.9)	5.4%
25/5 and 25/10	\$37.00 1.6 Mbps	\$39.70@1.9	\$26.00 0.1 Mbps	\$26.00 0.2 Mbps	\$37.10 (1.6)	-6.5%
50/20 and FW Plus	\$45.00 2.65 Mbps	\$48.20@3.1	\$50.00 2.45 Mbps	\$50.00 2.5 Mbps	\$50.00 (2.5)	3.7%
Home Fast (100/20)	\$58.00 4.5 Mbps	\$55.60@4.2	\$60.00 AVC only	\$55.00 AVC only	\$55.00	-1.1%
100/40	\$65.00 4.5 Mbps	\$55.40@3.3	\$65.00 AVC only	\$58.00 AVC only	\$58.00	4.7%
Home Superfast (250/25)	\$68.00 5.75 Mbps	\$61.00@4.9	\$70.00 AVC only	\$60.00 AVC only	\$60.00	-1.6%
Home Ultrafast (500-1000/50)	\$80.00 7 Mbps	\$77.80@6.7	\$80.00 AVC only	\$70.00 AVC only	\$70.00	-10.0%

Source: NBN Co. Measured values are as at July 2022.

Note: The number in brackets reflects the value of bundled CVC inclusions. (*) With utilisation based billing, NBN Co will charge CVC on the basis of actual utilisation rather than amounts provisioned by RSPs. NBN Co estimates that this reduces CVC purchases by 22-36%.

75. We understand that the 50 Mbps service has been the subject of some contention as to whether and how much prices or charges to RSPs will actually increase. However, we note that it is not valid to compare only the minimum charge as it is not representative of average or median levels of usage.³⁵ It is also necessary to account for the move to utilised billing, which means that the correct pricing or charging comparison across the customer base is between NBN Co's yields now (with CVC charged on a provisioned basis) and post price-change. Although the specific impact will vary by RSP and over time, we can provide the average effect across RSPs at a point in time (July 2022). The increase would be 3.7%, assuming that there is no plan optimisation by RSPs. That is, the change in price is given by:

$$\Delta Price_{B \rightarrow D} = (AVC_2 + (usage - inclusions) \times CVC_2) - (AVC_1 + (provisioned - inclusions) \times CVC_1) \\ = (\$50 + (2.5 - 2.5) \times \$8) - (\$45 + (3.05 - 2.65) \times \$8) = \$50 - \$48.20 = \$1.80.$$

76. The percentage change is well below current levels of inflation, with the CPI increasing by 7.3% between September 2021 and 2022.³⁶ We further note that even this calculation is likely to overstate the yield change for NBN Co / cost to the RSP, as the change in relative prices between

³⁵ See, for example: Optus, *Submission in response to NBN Co SAU Variation*, September 2022, p.5; TPG, *Discussion paper on proposed changes to NBN SAU variation*, September 2022, p.7.

³⁶ <https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release>, accessed October 2022.



the 50 Mbps and 100 Mbps products will create opportunities for RSP plan optimisation. For example:

- a Under current pricing, any 50 Mbps customer that would be expected to require more than 4.3 Mbps of CVC provisioned would be better off on a 100 Mbps plan given the expected cost to the RSP.
 - b Under the new plan pricing, any 50 Mbps customer that would be expected to use more than 3.1 Mbps of CVC would be better off on a 100 Mbps plan given the expected cost to the RSP.³⁷
77. A shift from the use of 50 Mbps plans to 100 Mbps plans may therefore result in effective reductions in RSP costs for the 50 Mbps service.

3.4.4 Assessment of revised pricing constructs

78. Whether NBN Co's proposed changes will promote efficiency will depend on the extent to which they encourage uptake of the network and allow NBN Co to recover its efficient costs.
79. It is apparent that NBN Co's revised proposal will have a number of different effects across its different customer segments, with:
- a improvements to the competitiveness of entry level pricing with a better product to bring more people on the network, including through the separation of basic connectivity consumers
 - b price reductions to improve take-up of high speed tier services to get more out of existing networks, and to optimise cost recovery via upselling of better services rather than through price increases.
80. As noted above, the effects on the 50 Mbps service are more complex but prevailing inflation means that that this service will be less expensive in real terms.³⁸
81. As we have noted in our July report and in Section 2, NBN Co faces diverse needs and willingness-to-pay in its user base, and its pricing must strike a balance between maximising network usage (through both access connections and data throughput) and cost recovery. This favours prices that are no less than marginal or incremental costs of providing the relevant services, at least in the short run, with markups on those costs that minimise consumption distortions.
82. A further question is whether the proposed charges will improve NBN Co's ability to recover its efficient costs and/or encourage efficient investment in the NBN. The net impact on NBN Co's ability to recover its efficient costs will depend on the balance of the direct revenue and change in product mix effects. Ultimately these effects are very difficult to determine, because they depend on how RSPs and end-users will respond to the benefits of higher speeds and, in particular, whether there will be a material shift towards higher-speed plans that offer more price certainty for RSPs and a better product experience for end-users. As we noted in Annex B of our July report, there is a body of evidence to support a finding that household demand for higher speeds is increasing, including international evidence and speeds offered by alternative networks

³⁷ This calculation estimates the point at the which the cost to serve the end user is the same on either plan. Given the move to utilised billing, the comparison between 4.3 Mbps provisioned and 3.1 Mbps utilised may overstate the opportunity for utilisation but given the expected difference between the two of 22-36% as reported in Table 3, a material difference between these two values remains.

³⁸ See footnote 36.



including 5G. This evidence suggests that NBN Co must be cognisant of competitive threats such as 5G networks that are able to provide high speeds, and so provide services at similar speeds at reasonable value.

83. In the medium to long term, the impact of these changes to NBN Co's ability to recover its efficient costs is uncertain, and will depend on NBN's ability to continue to maintain users on its network in the future. This will provide strong incentives for NBN Co to support growth in demand via the development of new products and services.

3.5 Mechanisms to enhance price certainty

3.5.1 NBN Co proposals in the March Variation

84. NBN Co's March Variation contained a range of measures to promote price certainty for RSPs and end-users, including commitments to individual product price controls, a re-setting of maximum regulated prices to be more reflective of current prices, and new restrictions on discounting practices.

3.5.2 Views of the ACCC and interested parties

85. The ACCC noted that regulated firms in other sectors typically give firm commitments that their pricing discretion would be exercised in an agreed upon manner including to deliver specified outcomes in the regulated market in accordance with specified pricing principles.³⁹ The ACCC questioned whether the proposed pricing measures, which do not contain any commitment by NBN Co to specified pricing principles, would be capable of delivering the outcomes that are agreed upon for each regulatory period.⁴⁰

3.5.3 Overview of revised proposal

86. NBN Co's proposed shift to a WAPC provides a long-term constraint on price increases and will help to deliver greater pricing certainty to RSPs, in conjunction with the proposed sub-caps.
87. In addition, NBN Co is committing to:
- a Include pricing principles into the SAU that apply for Module 2, to provide clarity over the matters to which NBN Co must have regard in changing or setting, to provide more predictability and certainty over NBN Co's long-term pricing intentions.
 - b Publish a Statement of Pricing Intent that will describe pricing objectives over that Regulatory Cycle.
 - c Publish an annual SAU Tariff List and a 3-year pricing roadmap, where:
 - i the SAU Tariff List will set out the Prices that would become maximum prices from 1 July of that year
 - ii The 3-year pricing roadmap will set out indicative (non-binding) prices for the second and third year.

³⁹ ACCC Consultation Paper, p.27.

⁴⁰ ACCC Consultation Paper, p.28.



- d Apply a new relativity mechanism which will prevent it from setting prices for TC-4 services that materially differ (relative to each other) from the prices published in its 3-year pricing roadmap from the year before (see paragraph 54).
88. The Statement of Pricing Intent, annual SAU Tariff List and 3-year pricing roadmap will be consistent with the pricing principles.
89. NBN proposes that when changing prices or setting new prices, NBN will have regard to:
- a the efficient costs of NBN supplying services;
 - b the objective of maximising efficient network access and usage;
 - c the objective of maintaining affordable access to its network;
 - d the objective of maintaining a diversity of offers at a reasonable price relativity;
 - e the ability of NBN's customers and end-users to manage price transitions;
 - f the outcomes of the Low-Income Forum to be established pursuant to the SAU; and
 - g the 3-year SAU pricing roadmap published most recently by NBN.
90. The prices in that annual Tariff List would become maximum Prices under the SAU for the upcoming financial year, to the extent that relevant services are covered by the SAU service descriptions (and are therefore price-regulated by the SAU). The prices in the second and third years of the pricing roadmap can be updated at 1 May the following year. NBN could issue a new SAU Tariff List during the year with lower prices, but not higher prices.

3.5.4 Assessment of pricing certainty measures

Statement of Pricing Intent and pricing principles

91. The proposed Statement of Pricing Intent in combination with pricing principles should offer more detail to RSPs on NBN Co's specific plans for pricing over a regulatory period. This will include a description of intended changes to the pricing structure of nbn offers and a description of areas of likely product innovation and development activities. These should support efficient investments by RSPs.
92. Further, the statement and pricing principles should provide some guidance as to how NBN Co is likely to make the pricing trade-offs that we discussed in Section 2 between the various dimensions of efficiency, competition, and the interests of RSPs in certainty. Further, the pricing principles permit NBN Co to identify other social or policy objectives that it is required to meet when setting prices.
93. We expect that the Statement of Pricing Intent and pricing principles will address some of the concerns raised by the ACCC and RSPs with respect to NBN Co's pricing strategies and clarity of those price strategies over time. For example:
- a In its Consultation Paper, the ACCC noted that NBN Co's application of CVC pricing would be expected to lead to 'a narrowing of reasonably priced access products in the market' that could damage retail competition.⁴¹ The pricing principles in the SAU would

⁴¹ ACCC Consultation Paper, p.24.



explicitly require NBN Co to address this by having regard to the diversity of offers at a reasonable price relativity.

- b NBN Co can explain how it has applied the principles that may require a trade-off between maximising efficient usage of the network and maintaining affordability of the network, will provide guidance to as to how similar trade offs will be made in future.

94. With respect to the principles themselves, we note that a number of the pricing principles that NBN have proposed are similar to those adopted in other regulated sectors. For instance:
- a **Electricity:** Electricity distribution networks in the National Electricity Market must have regard to the pricing principles set out in clause 6.18.5 of the National Electricity Rules. This requires electricity distribution networks to set tariffs that, amongst other things, are based on the long run marginal costs (LRMC) of providing the relevant service (and so promote efficient use of the service), reflect the efficient costs of serving customers, minimise distortions to price signals for efficient usage of the relevant service, and consider the impact on customers from changes in tariffs from the previous year.⁴²
 - b **Water:** Water regulators in Australia typically adopt pricing principles for regulated water services. For instance, in Victoria, the Essential Services Commission considers whether customers can easily understand the prices charged or the manner in which the prices are calculated, determined or otherwise regulated, prices provide customers with appropriate signals about efficient costs while avoiding price shocks where possible, and prices take into account customers' interests, including low income and vulnerable customers.⁴³ In NSW, the Independent Pricing and Regulatory Tribunal (IPART) considers a range of principles including that prices should only recover the efficient costs of providing the regulated services, reflect the cost structure of the business, and consider the impact on customers, including with respect to mitigating price shocks and ensuring affordability.⁴⁴

Conclusion

95. In conjunction with the WAPC, publishing a Statement of Pricing Intent, an annual SAU tariff list, and a 3-year pricing roadmap with a relativity mechanism should provide a high degree of pricing transparency and certainty for RSPs over the regulatory cycle. NBN Co will retain some pricing flexibility that is necessary to allow it to respond to competition and changing market dynamics, but must exercise its pricing discretion transparently and predictably.

3.6 ACCC step in power on use of discounts

3.6.1 NBN Co proposal in the March Variation

96. NBN Co's March Variation included new limits on discounting below Maximum Regulated Prices. The major change was to limit variations in revenue between discounted and undiscounted revenue to 5%. Where that 5% threshold was exceeded in a given year, NBN Co would 'ratchet down' its Maximum Regulated Prices for the following year to reduce the difference.

⁴² National Electricity Rules, cl. 6.18.5.

⁴³ ESC, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October 2016, p.33.

⁴⁴ IPART, *Guidelines for Water Agency Pricing Submissions*, November 2020, p.27-33.



3.6.2 Views of the ACCC and interested parties

97. In its Consultation Paper, the ACCC raised further concerns that the proposed restrictions on discounting would appear to allow more significant discounts to be applied where they are targeted at particular segments, are for limited duration, or are spread across acquittal periods.⁴⁵ Discounts could also be withdrawn without constraint, thereby exposing RSPs to price shocks.⁴⁶

3.6.3 Overview of revised proposal

98. In the New Variation, NBN Co has proposed retaining the discounts limits it put forward in the March Variation. However, under clause 2C.4.2 of the SAU, NBN Co has also proposed an additional protection for RSPs and end users, by allowing for the ACCC to have the power to review and rectify prices that are inconsistent with NBN Co's most recent Statement of Pricing Intent, or involve the use of discounts as the default pricing structure.⁴⁷ In these scenarios, the ACCC may provide notice to NBN Co directing it to rectify these issues, and substitute its own rectification plan if it rejects NBN Co's plan.

3.6.4 Assessment of additional ACCC power

99. In our July Report, we noted that the efficiency basis for discounting from maximum prices (as opposed to lowering the prices permanently) is that NBN Co can use the temporary lower prices to assess the effects of changes in relative prices. In addition, at face value, discounting below maximum prices is unambiguously beneficial for users, and would presumably enhance efficiency to the extent it aligns prices more closely with marginal costs. However, we accepted that historic discounting practices may have undermined price certainty.
100. With respect to issues identified by the ACCC, we remain unconvinced that NBN Co has commercial incentives to use discounts in the manner suggested by the ACCC and RSPs. That is, while NBN Co may have some ability to discount – like any firm – it is difficult to see how NBN Co could substantially benefit from creating price uncertainty through discounting in the ways proposed by the ACCC. As we discuss in Section 2, to the extent there is a trade off between certainty over prices and economic efficiency that favours flexibility in pricing then the ACCC should be wary of intervening to promote RSPs' interests at the expense of end users. This risk is heightened by the fact that NBN Co is exposed to competition and will need to monitor and change its price structure with some regularity to respond to competition.
101. Nonetheless, to the extent concerns remain about price certainty, NBN Co's proposal to allow the ACCC the power to address perceived problems caused by discounting or pricing inconsistently with the Statement of Pricing Intent should alleviate those concerns. Specifically, if discounts are perceived to have become too widespread or 'steep', meaning that NBN Co could later lift prices substantially, the ACCC could require NBN Co to amend its prices to resolve this issue and avoid the possibility of future price shocks for RSPs. We expect that this check on NBN Co's pricing discretion will enhance pricing certainty with respect to the application of discounts.

⁴⁵ ACCC Consultation Paper, p.27.

⁴⁶ *ibid.*

⁴⁷ Clause 2C.4.2 of the SAU provides that Pricing Review Events arise where NBN Co includes a Price in the Tariff List for an NBN Offer which the ACCC reasonably considers is inconsistent with NBN Co's then-current Statement of Pricing Intent; or if on average throughout a Financial Year a Discount applied to more than 50% of AVC TC-4s that were supplied under NBN Offers within that TC-4 Offer Group.



Conclusions

102. We have described NBN Co's revised pricing positions and assessed the degree to which NBN Co's proposals address the feedback from the ACCC and other stakeholders and analysed the revised pricing position against the reasonableness criteria relating to the long-term interests of end-users. This includes criteria relating to the promotion of efficient use of and investment in infrastructure (which we discuss within the context of the achievement of allocative, productive and dynamic efficiencies), and the promotion of downstream competition between RSPs.
103. In relation to the assessment of the new pricing positions, we conclude that:
- a To promote efficient pricing, NBN Co's must pay close attention to end user demand and competitive pressures from alternative broadband networks, and strike a reasonable balance between pricing to promoting efficient cost recovery and increasing cost certainty to RSPs that may enhance competition.
 - b The adoption of a WAPC will address the ACCC's feedback relating to incentives for efficient prices, but will also increase the risk of NBN Co being unable to meet its financial objectives and re-invest in its networks.
 - c The sub caps proposed by NBN Co are reasonable within the context of NBN Co's financial challenges (including its inability to recover its ABBRR in the short term), need for pricing flexibility, and the need to produce a cohesive price structure that provides a range of price points to address willingness to pay and affordability.
 - d The phased removal of CVC charging is reasonable in the context of the difficulty in managing a more rapid transition, including the lack of knowledge of the effect of NBN Co's ability to target particular types of end-users without the aid of CVC charging, and the response of these end-users to changes in access prices.
 - e The new pricing proposals on price changes are relatively modest in the light of prevailing inflation. The impact of these changes to NBN Co's ability to recover its efficient costs is uncertain, and will depend on NBN's ability to continue to maintain users on its network in the future. This will provide strong incentives for NBN Co to support growth in demand via the development of new products and services.
 - f In conjunction with the WAPC, publishing a Statement of Pricing Intent, an annual SAU tariff list, and a 3-year pricing roadmap with a relativity mechanism should provide a high degree of pricing transparency and certainty for RSPs over the regulatory cycle. NBN Co will retain some pricing flexibility that is necessary to allow it to respond to competition and changing market dynamics, but must exercise its pricing discretion transparently and predictably.
 - g The new power for the ACCC to step in on pricing provides a further check on NBN Co's pricing discretion will enhance pricing certainty with respect to the application of discounts.

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