



vector

creating a new energy future

GAS PIPELINE BUSINESS RESET

Vector owns and operates a reticulated gas distribution network business in the Auckland region which is approximately 6,800 kilometres in length serving 116,000 customers

This submission highlights Vector's view on the key issues requiring the attention of the Commerce Commission when resetting GPB DPP

Resetting
prices for the
2022-2027
period

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1. Executive summary

1. This is Vector's submission to the Commerce Commission's (Commission's) Process and Issues Paper (the Issues Paper) for the resetting of the Gas Pipeline Business (GPB) Default Price-Quality Path (DPP).
2. The Commission's Issues Paper touches upon the direction indicated by the Climate Change Commission (CCC) for New Zealand to achieve Net Zero carbon emissions by 2050 (Net Zero 2050). The Net Zero 2050 transition is significant for GPBs. It needs to change how economic regulation is applied to the sector. We strongly encourage the Commission not to defer or abdicate its role with setting the new appropriate price/revenue level for GPBs. This is because merely rolling over current prices/revenues without accounting for Net Zero 2050 will prolong the uncertainty for GPBs. Vector is firmly of the view the next reset should be used to re-orient the direction for investment return and recovery. We recommend the Commission set prices for the next DPP which:
 - Bring forward capital recovery by accelerating depreciation of the RAB – by bringing down the weighted life of the RAB (early action at this reset will address how often this parameter will need to be adjusted)
 - Remove the impact on investment recovery of RAB indexation
 - Adopt a suitable ex-ante allowance for investment risk – related to actions bring forward capital recovery and
 - Adjust the assumptions around technical asset lives.
3. More importantly, the DPP3 price path needs to set the long-run trajectory for sustainable pricing going forward. GPBs, stakeholders and the Commission will need to work together to devise a new framework.

The resetting of the DPP for GPBs should not be considered a business as usual reset – and the IMs need to be re-assessed so they can be fit-for purpose for the Net Zero 2050 context

4. The GPB DPP3 2022-2027 provides a significant challenge for the Commission to set a price/revenue path consistent with the expectations of the Part 4 Commerce Act (the Act) purpose. Net Zero 2050 has direct consequences for the utilisation of GPB assets. Not recognising this change will undermine the credibility of the prices/revenue path set. The changes needed for Net Zero 2050 are immense and the upcoming DPP needs to be

considered in that context. Not taking the initiative to respond to the Net Zero 2050 and not making decisions will magnify and worsen the uncertainty for GPBs and consumers.

5. The IMs and the building block cost framework may not provide the appropriate longterm price setting framework to manage price and demand changes. However, the DPP3 period must be harnessed to best set the long-run pricing direction and trajectory.
6. The Input Methodologies (IMs) used to set DPPs/CPPs have been developed with the expectation of service utilisation remaining stable or increasing over extended periods of time. Even the most recent 2016 IM review did not consider the implications of Net Zero 2050 for GPBs. In that regard, the principles of financial capital maintenance (FCM) and normal commercial return have been devised to return invested capital over extended periods reflecting stable or growing asset utilisation. FCM is the cornerstone principle of Part 4. The FCM expectation has encouraged investors (both debt and equity) to provide capital to regulated businesses. This has assisted with effective asset stewardship so that suppliers can continue to make timely investments in the regulated service.
7. Net Zero 2050 changes the forecast utilisation of GPB networks. It requires the Commission to re-orient its path for investment return so that it continues to provide a reasonable expectation for FCM. The least regrets approach to manage the uncertain environment for demand is to tilt forward the recovery so that more investment is being recovered earlier. This will ensure changes to the price level are occurring in periods where utilisation of the asset is more certain.
8. This is especially important as GPBs will still be required to make investments for the integrity of their systems even at lower levels of utilisation. If GPB company directors are unable rely on the expectation of FCM holding for investment for their fiduciary responsibilities, they are likely to be reluctant to approve capital investment projects. Such uncertainty means investments may not be made and the system or parts of the system could be abruptly and prematurely retired and unavailable for consumers. This type of asset stewardship approach is not in consumers' interests.

Net Zero 2050 is a relevant consideration for the next DPP

9. The foremost challenge is to recognise the impact of Net Zero 2050 for the natural gas sector. It significantly impacts GPBs in our transportation role. The obligation for public officials to consider the relevance of the legislated commitment to Net Zero 2050 applies to the Commission in its role with resetting of the GPB DPP.
10. Failing to effectively consider the impact Net Zero 2050 would be omitting a directly relevant consideration for the resetting of the DPP. Net Zero 2050 significantly re-orientes the required trajectory for managing the principles of FCM and Net Present Value Zero (NPV=0) for asset

investment. Therefore, it directly affects how the Commission should be applying its section 52A criteria for meeting the long-term benefit of consumers (LTBC) when setting DPPs/CPPs.

11. The Commission articulates two pathways for GPBs – a wind-down scenario or a re-purposed network scenario. Both scenarios contemplate a significantly different gas transportation system from today. More importantly, both scenarios have risk that significant portions of today's network will not be needed before the economic recovery of the regulated asset base (RAB) of today has occurred.
12. On the balance of probability, Net Zero 2050 has a material impact on the economic regulation of GPBs. Failing to consider the impact this has on setting prices/revenues for the next five years will undermine any GPB DPP Final Decision. The Commission will have failed to account for a directly relevant consideration. Chapman Tripp's legal advice to Vector – provided with this submission suggests a GPB DPP set without regard to Net Zero 2050 would be disregarding a directly relevant consideration.

Rollover of prices or a starting price adjustment for current and projected profitability

13. The Commission has indicated it may adopt the never used before lever in the Act of rolling forward current prices rather than resetting prices based on current and projected profitability. This would be a deferral or non-decision about the new efficient price/revenue level for GPBs.
14. Whilst Vector had suggested this could be possible in the current circumstances of GPBs, we believe it would be a sub-optimal outcome for the LTBC. Any assessment of current and projected profitability must be based on a time horizon longer than a five-year control period. A starting price adjustment (SPA) under section 53P(3)(b) for a DPP/CPP must consider the economic lifetime of recovery. Otherwise the SPA will not be a fair projection of current and future profitability.
15. A rollover of prices would defer any judgement on current and projected profitability of GPB suppliers on the part of the Commission. This approach to the DPP will significantly increase the level of uncertainty in the sector for the next five years. A rollover will substantially increase uncertainty for asset management. It will undermine the tools asset managers need to make decisions – including timely investment for asset integrity. This is not in the LTBC.
16. A key element of the LTBC is a responsibility for the Commission to preserve both the interests of today's system users and users of the system overtime. Should the Commission elect to rollover current prices then it should be clear that it has not undertaken an assessment of what price level for GPBs is appropriate today in the context of Net Zero 2050. The Commission must also be mindful that any deferral for its decision based on uncertainty around Net Zero 2050 will be undermining the Part 4 purpose. In this regard, the Court of Appeal noted:

The reference [in section 52A] to “promoting outcomes produced in competitive markets” assists in placing the concept of certainty in its proper context. Participants in competitive markets generally face conditions of considerable uncertainty: that is the nature of competition. In the present context, while Parliament undoubtedly saw certainty as being important, particularly in terms of encouraging investment, it was not identified as the predominant consideration.¹

The LTBC needs to be reconsidered in the context of Net Zero 2050

17. The Part 4 purpose requires the Commission to set a price level to target FCM and NPV=0. These principles have been confirmed by the High Court as the North Star for balancing the different elements of the LTBC.² FCM and NPV=0 provide the balance of protecting consumers from prices inclusive of monopoly rents and providing suppliers with the confidence to make efficient investments for the provision of their regulated service. This is the regulatory bargain which has underpinned infrastructure regulation and capital investment.
18. In the context of Net Zero 2050 there is a greater risk the settings that currently apply from DPP2 and settled in the IM review from 2016 will exacerbate the risk of partial capital recovery. This includes the assumptions around the recovery of the existing RAB, new investment (in particular the standard asset lives and average age assumptions) and the model of delayed inflation compensation via RAB indexation. Continuing with these elements, risks breaching the principle of FCM and NPV=0 in the context of Net Zero 2050.
19. Given Net Zero 2050 is changing the economic lifetime for investment recovery for GPBs, it is incumbent on the Commission to reconsider its application of FCM to the new context. Net Zero 2050 makes it economically imprudent for suppliers to contemplate investment in system assets which have recovery timeframes based on 70-80-year technical lives compounded by asset indexation. The most important issue for the Commission to consider for the forthcoming DPP is how to re-orient the investment recovery pathway in recognition of the legislated commitment to Net Zero 2050.
20. The significance of this matter requires greater attention and we strongly encourage the Commission to set up a stakeholder workshop on addressing the risk of maintaining confidence in capital recovery to reflect the implications of Net Zero 2050. This issue has broader implications than the GPB sector and is important for the model of economic regulation for infrastructure in Part 4 and more broadly.

¹ *Vector Ltd. v. Commerce Commission* [2012] NZCA 220

² *Wellington International Airport Ors v Commerce Commission* [2013] NZHC 3289

Ex-ante compensation or Accelerated Depreciation to preserve confidence with FCM

21. The Commission has suggested that it may provide an incremental allowance in the DPP cashflow on top of its cost of capital estimate for ex-ante compensation used in either a rollover of prices or an SPA to address a heightened risk for investment. There is no discussion of the quantum of the premium needed to address the heightened risk.
22. For any ex-ante lever to be effective it must be a fair reflection of the increased risk of FCM being breached. To this end Vector has sought to determine how a fair assessment of the additional risk could be quantified. We sought the opinion of CEG on this matter. In considering this issue CEG found there to be a relationship between the level of action to bring forward capital recovery and the level of ex-ante compensation required to address a risk of long-run stranding. More importantly, in the context of a 2050 Net Zero transition the level of ex-ante compensation required to address this specific risk of partial capital recovery settings is significant. For example, applying the same method used by the Commission to assess asset stranding as applied to Chorus – the quantum of stranding risk is much more significant.
23. Should the Commission want to apply ex-ante compensation to strengthen supplier incentives to make timely asset interventions then it will need to have a robust method to quantify the premium needed to ensure suppliers are able to retain their FCM expectation. Vector recommends the matter of ex-ante compensation needs to be discussed in a workshop on managing capital recovery.

The importance of the 2022-2027 DPP for re-orienting the path for recovery is in the LTBC – delaying important decisions comes with greater cost to customers

24. A deferral of the recovery pathway for GPBs would be a missed opportunity to maintain the equity between today's system users and users that are connected to the system overtime. The equity between users for today and across time has been recognised as a matter of managing customer vulnerability by the Australian Energy Regulator (AER). Accordingly, the AER has recognised the price of switching will be an option that is unlikely to be availed by the more vulnerable customers on system. The cost of switching away from natural gas is an option – which for a residential user could be circa eight thousand dollars.³ Therefore, managing customer equity overtime is an important element for ensuring the LTBC as the customers (especially residential customers) that will be on the network the longest will remain due to their lower means to substitute and the least ability to absorb future price increases.

³ Kainga Ora which has an active programme of retrofitting its properties from natural gas to electricity estimates the cost of the programme at \$8K per premises

25. The importance of the next five-year period cannot be underestimated. This period reflects a crucial time where actions to correct the profile of investment recovery can mitigate the impact on future price changes for customers. Failing to re-orient the path of recovery will exacerbate the inequity between users of the system of today, and the customers taking the option to switch away and the residual customers remaining dependent on the system.
26. We also note the interventions of DPP1 and DPP2 on the price/revenue level has been significant. These resets were undertaken with a different lens of current and projected profitability. Had the Commission not implemented its DPP price changes, the current inflation inclusive annual distribution network charge for an Auckland residential user would be approximately \$80 dollars more per annum than with the DPP price changes. Therefore, even with aggressive tilting of depreciation (including removing the deferred recovery of inflation) the annual Auckland residential charges could increase by less than what customers historically paid for their distribution network. This is what is needed in the current context.

Form of control, Expenditure Setting, Innovations for green gases and Quality standards

27. Vector notes the other matters raised by the Commission in its Issues Paper such as modifying the form of control, calibrating expenditures, providing funding to develop green gas re-purposing and new quality standards all are subordinate in importance to the matter of addressing the appropriate recovery pathway in light of Net Zero 2050.
28. In relation to the form of control Vector considers a revenue cap would be more suited to the current circumstance. A revenue cap form of control does limit the impact of the Commission's "volume growth" in the form of the constant price revenue growth (CPRG) effects the recovery of efficient costs. However, we recognise the effort involved with changing the form of control.
29. Accordingly, the most important matter is for the Commission to develop a path CPRG that is in line with the Net Zero 2050 trajectory for natural gas usage. The CCC has forecasted aggregate natural gas demand to fall by approximately 40 petajoules(PJ) over the DPP3 period. Given the CPRG is comprised of the expectation of future growth of real revenue from consumption changes (namely new connections and system volume – predominantly throughput) then a realistic assumption around CPRG in light of Net Zero 2050 should be sufficient for suppliers to manage the in-period demand risk.
30. However, if assumptions around CPRG are invalidated during the DPP, this could be addressed through an appropriately designed re-opener mechanism rather than dedicating resources to altering the form of control.

31. Vector considers the Commission's approach for expenditure setting are generally appropriate and fit within the low-cost context of the DPP. We appreciate the extra consideration the Commission may want to take with assessing new connection and system growth supplier capex given the heightened risk of partial capital recovery. In this context, the consideration of Net Zero 2050 should be thoroughly applied across the DPP setting process and not applied in a piecemeal or selective manner to capex efficiency. Rather, Net Zero 2050 needs to be considered for all aspects of setting the right price/revenue level. We also recognise the Commission's suggestion that suppliers should be considering all means for managing assets to limit asset investments including asset replacement. The Commission is right that prolonging the life of system assets will create more opex as more field crews will be needed to manage older fleets. However, the hazardous nature of natural gas means the extent of any substitution will need to be carefully balanced and may not be significant. The public benefit of having reliable and safe pipeline systems will mean asset replacements will still need to be undertaken. In this sense the Commission needs to recognise its broader public purpose of facilitating effective asset stewardship.
32. The Commission noted it is limited with funding the reticulation of non-natural gas through GPB assets. Given the range of issues that need to be considered for green gas reticulation (i.e. hydrogen or biomethane) such as asset investigation for chemical suitability or pipeline material replacement. We encourage the Commission to consider the enablement funding it can provide to assist with network repurposing and supply chain development.

Expert views on key matters for DPP3

33. Vector has sought expert opinions on two matters which we submit with this submission. They are from:
- 1) Chapman Tripp – providing a legal view on whether Net Zero 2050 is a relevant consideration for the setting of the 2022-2027 DPP and
 - 2) CEG – on how to quantify an ex-ante premium for WACC to account for heightened stranding risk.
34. These reports highlight the importance for the Commission to effectively consider fundamental elements in relation to the recalibration of the DPP. In addition to these reports, Vector, Powerco and Firstgas together have jointly commissioned expert reports from:
- 1) Frontier Economics, on the merits of transitioning to a nominal return in the context of Net Zero 2050 and declining utilisation

- 2) Houston Kemp, on the benefit of accelerating depreciation to manage long run price impacts and the benefit of long-run price smoothing
- 3) Oxera on how other jurisdictions, particularly in Europe with a commitment to Net Zero have dealt with the matter of declining utilisation – especially in the natural gas sector.

35. In this submission we refer to the findings in these expert reports where they are relevant to key issues.

Summary of Vector’s view on important issues for the GPB DPP

36. **Table 1** below summarises Vector’s views on the important issues requiring attention for the 2022-2027 GPB DPP3 reset.

Table 1: Summary of Vector’s view important issues for the GPB DPP3 2022-2027 DPP3 Period

<i>Issue</i>	<i>Vector view</i>
Net Zero 2050	<ul style="list-style-type: none"> □ The legislative commitment to Net Zero 2050 has direct relevance for the future utilisation and usage of GPB assets □ Net Zero 2050 has meaningful significance to the economic regulation of GPBs, this is a <u>relevant consideration</u> for all aspects of the 2022-2027 DPP □ Section 5ZN of the Climate Change Response Act is directly relevant to the application of section 52A and assessing the LTBC
Rollover or SPA	<ul style="list-style-type: none"> □ A rollover of prices – in effect deferring any decision about current and projected profitability of GPBs will increase the uncertainty for the sector □ A SPA must target FCM and NPV=0 based on the new expected economic lifetime of GPB assets – relevant IMs must be amended for the DPP given this new expectation from Net Zero 2050

<i>Issue</i>	<i>Vector view</i>
<p>Ex-ante compensation for heightened risk or bringing forward capital recovery through mechanisms such as accelerated depreciation and removing asset indexation</p>	<ul style="list-style-type: none"> □ Any recognition of additional risk in ex-ante compensation needs to quantify the additional risk for investment □ The additional ex-ante premium from the risk Net Zero 2050 has for investment is significant □ The level of additional risk is directly correlated with action to bring forward capital recovery – i.e. more levers to address capital recovery, the less of an ex-ante premium is required □ The current settings for capital recovery – namely the current weighted average life of the existing RABs forecasting recovery timelines beyond 2050, technical lives for new system assets of 45-80 years are not fit for purpose and exacerbate stranding risk given Net Zero 2050 □ The principles behind RAB indexation have less applicability in the context of Net Zero 2050 □ Capital recovery and ex-ante compensation is a matter that deserves a workshop to be conducted as early on in the process as possible □ Failing to re-orient the recovery trajectory for the 2022-2027 period will fail the LTBC □ We support the updating of the TAMRP for the reset period given the Commission and its expert's analysis on this parameter for market risk
<p>Form of control – whether to transition from WAPC or revenue cap</p>	<ul style="list-style-type: none"> □ The key requirement for addressing demand risk within the DPP is for the Commission to select a CPRG path which aligns to the forecast trajectory of the CCC

Issue	Vector view
	<ul style="list-style-type: none"> <li data-bbox="676 338 1378 421">□ The CCC is forecasting demand to decline by almost 40PJ over the next 5 years <li data-bbox="676 465 1378 689">□ A transition to a revenue cap may limit the challenge with forecasting CPRG – however we note the effort with transition may be resource intensive and could be better used to manage the more significant issues for the reset <li data-bbox="676 734 1378 817">□ A re-opener for CPRG could manage the forecasting risk for real revenue growth <li data-bbox="676 862 1378 1041">□ However, the most important element for the Commission is to align its revenue growth expectation with the forecast changes of demand expected to occur
Re-openers as managing uncertainty	<ul style="list-style-type: none"> <li data-bbox="676 1090 1378 1225">□ We consider the key issues should, to the best extent possible, be managed through the best information being used to reset prices/revenues <li data-bbox="676 1270 1378 1449">□ Re-openers provide some degree of flexibility and may be appropriate for parameters such as CPRG but should only be needed where the in-period change is unanticipated
Green gases innovation	<ul style="list-style-type: none"> <li data-bbox="676 1494 1378 1628">□ We support the Commission doing as much as it can within the constraints it has to help facilitate the transition to green gas reticulation
Expenditure setting	<ul style="list-style-type: none"> <li data-bbox="676 1673 1378 1807">□ We support the pragmatic approach to expenditure setting as fitting within the key issues for this reset and the low-cost purpose of DPP <li data-bbox="676 1852 1378 2031">□ We agree the Commission may need to apply greater scrutiny for network connection and system growth capex consistent with the implications Net Zero 2050 has for the sector

<i>Issue</i>	<i>Vector view</i>
	<ul style="list-style-type: none"> <li data-bbox="676 342 1382 712">□ We encourage the Commission to use the most up to date information about expenditure forecasts – and require GDBs to re-publish their 10-year forecasts on the basis of their developing understanding of Net Zero 2050 – this is especially relevant for Vector which has already published its 2020 Asset Management Plan which will need updating prior to the reset <li data-bbox="676 763 1382 887">□ We agree with the Commission that efforts should be made to prolong life of assets and this will require more opex for asset maintenance <li data-bbox="676 938 1382 1061">□ However, we note replacement deferrals must be considered against the public need for a safe and reliable system
Quality standards	<ul style="list-style-type: none"> <li data-bbox="676 1111 1382 1189">□ We agree the approach to de-prioritise new quality standards for the next DPP <li data-bbox="676 1240 1382 1415">□ Any decision to introduce new quality standards will need to be assessed in terms of the impact they drive for new investment and network management operating costs

2. Context

37. The GPB DPP is occurring at a pivotal time as New Zealand is embarking on the transition to Net Zero for 2050. The Commission has recognised the CCC decarbonisation pathway articulated in 2020 to achieve Net Zero 2050. This pathway envisages significant changes in the country’s energy mix. Most significantly the CCC have recommended New Zealand will need to reduce its current usage of natural gas to meet the objective of Net Zero CO2 emissions by 2050. This is a meaningful change for GPBs and our role in the sector for transporting natural gas.

38. GPBs are recognised as natural monopoly assets subject to economic regulation under Part 4 of the Commerce Act, requiring:

- Information Disclosures, which are filed annually with the Commission and publicly available; and
 - Price-Quality controls, which are set for periods of five years.
39. The 1 October 2022 – 30 September 2027 five-year DPP needs to reflect the sudden shift in the country's policy for natural gas. This change has significant consequences for responsible and efficient asset stewardship for transmission and distribution GPBs. The Commission must ensure the economic framework for price-quality controls is applied in a manner that is consistent with the Net Zero pathway but ensures asset managers can still make the best decisions for their service with certainty provided by the Part 4 framework.

3. The future scenarios for GPBs

40. The Commission note there are two identifiable future scenarios for GPBs as part of the transition to Net Zero 2050. The scenarios are for:
- The winding down of the natural gas sector – including the role of GPBs with supporting natural gas transportation or
 - The repurposing of GPBs to facilitate the transportation of non-fossil gases such as hydrogen or bio-methane.
41. Each of these scenarios presents significant shifts for the GPB transportation sector from the current operational and investment management of the service. The Commission has recognised the investigation work by Firstgas into repurposing with its *Hydrogen Feasibility Study*. The *Hydrogen Feasibility Study* illustrates how early in the development curve the sector is with making a full transition to hydrogen transportation. The Firstgas study does suggest the move from blending to full hydrogen, depending on the “best case” pathway could occur from the 2040s. More importantly, the re-purposing future relies significantly on upstream developments.
42. A repurposing future for GPBs will mean the pipelines, or parts of the current network, could be re used for the transportation of hydrogen. Hydrogen is considered the best candidate of the green gases that could be produced at scale to replace the current fossil gas extraction. The other green gases are renewable or biomethane.
43. Given how early we are in such an early stage of the innovation cycle for green gas reticulation – there is no reasonable indication about what extent green gases could displace the current natural gas extraction for a re-purposed future. Therefore, a repurposing future could still result in a significant percentage of the existing network being retired – and if unrecovered, stranded.

44. If re-purposing does not occur, then the transition to Net Zero for 2050 will require GPBs to wind-down from their role in New Zealand's energy mix. However, where repurposing does develop at greater levels, the forward tilting of capital recovery will not result in overcompensation. Rather, system transportation costs will be lower for the repurposed supply chain.

Given the high degree of uncertainty around a re-purposing future for GPBs, Vector recommends the Commission adopt a similar strategy for setting prices for the 2022-2027 period as it would in a wind-down future to meet Net Zero 2050. This is the least regrets decision most consistent with the Part 4 purpose.

4. Net Zero 2050 is a relevant consideration for the next GPB reset

45. The Commission correctly recognised the role the Climate Change Response Act (CCRA) has for official decision-making.⁴ We support the Commission having regard to the CCRA as part of its consideration for the resetting of price-paths for GPBs. The CCRA empowers the Commission to directly consider the impact of Net Zero 2050 as part of the reset process. Failing to explicitly consider Net Zero 2050 means the Commission is ignoring a directly relevant consideration for ensuring the Part 4 Commerce Act purpose is being met.

46. The Commission's Issues Paper does contemplate the impact of Net Zero 2050 in some parts of its decision-making. However, it is only considered in a piecemeal manner. Accordingly, it is more appropriate for the Commission to have explicit regard to Net Zero 2050 across all decisions needed to calibrate the GPB DPP. We see significant risk of administrative error if Net Zero 2050 is not considered as part of the new price/revenue level for DPP3.

Net Zero 2050 is a relevant consideration for the GPB and must be the key determinant in the Commission's decisions for the DPP reset.

5. The Commission's Economic Principles

47. The Commission articulates three guiding principles for balancing the LTBC as defined in section 52A when setting DPPs/CPPs. They are:

⁴ Section 5ZN of the CCRA allows public policy decision-makers to have regard to Net Zero 2050 in discharging their function

- a. Real FCM – the ex-ante expectation for suppliers to earn a risk adjusted cost of capital on investment and the ability to maintain financial capital in real terms over periods longer than a single regulatory period.
 - b. Allocation of risk – where risk is allocated between suppliers and consumers to the party that is best able to manage the risk
 - c. Asymmetric consequences between over and under investment – where under-investment in Part 4 regulated services is recognised as causing more longer-term damage to customers than over-investment.
48. DPPs/CPPs are set by the Commission using a mix of its own judgements and set rules and procedures specified in IMs for determining benchmark efficient costs, including the efficient return on investment and investment recovery. The economic principles for Part 4 are intended to reflect outcomes where the prices for the regulated service are at a level expected to prevail in a workably competitive market, and to provide investor's confidence that they can expect to earn a normal return on investment.
49. The key element of FCM is the principle of NPV=0. This has been endorsed by the High Court as providing the expectation of being able to recover over the lifetime of the assets, at least, a normal rate of return on the investment.⁵ Accordingly, the Commission's task at any reset is to make **its best estimate** of the present value of supplier costs – including funding costs for the service and to determine a revenue path directed at NPV=0 based on its clearest understanding of the economic lifetime of the service.
50. Given New Zealand's specific targeting of Net Zero 2050, the economic life of GPB assets are being brought forward from their technical operational life and current weighted RAB life. Therefore, the targeting of FCM must be based on the new economic lifetime for the network given the legislative commitment to Net Zero 2050. Selectively ignoring such a clear change to the economic life assets is in fact departing from the FCM expectation.
51. Any reset prices not reflecting New Zealand's commitment to Net Zero 2050 would fail the LTBC. We do not underestimate the significance of the changes required. If the Commission fails to fully recognise the changes to the environment for the DPP then it is must be clear that it is not setting prices to target NPV=0 and FCM.

⁵ *Wellington International Airport & Ors v Commerce Commission* [2013] NZHC 3289

Vector recommends the Commission applies its economic principles by having regard to Net Zero 2050 across all the decisions needed for setting the DPP, not doing so will be counter to the LTBC. Re-aligning the capital recovery pathway is a no-regrets move that will benefit today and future users

6. Rollover prices or determining a new starting price adjustment

52. The Commission has rightfully recognised the upcoming resetting of GPB prices is occurring at a unique time for the sector. The Commission has raised concerns about the uncertainty in its role with setting prices. In particular, the Commission notes the range of matters it must opine on for setting a new control period – such as levels forward levels of capex, opex, CPI, WACC and productivity growth. There are some elements of the bottom up building block costs of the price level that are inherently more challenging for the circumstances of GPBs and require the right level of attention from the Commission to determine their recalibration. However, we disagree with the Commission's Issues Paper that opining each of these matters is in fact more unique for the next GPB DPP than they are for determining the right price level for any other regulated service.

53. Rather, the most pressing issue for the 2022-2027 DPP is to determine whether the new price level reflects the appropriate level of capital recovery for the five year period given the commitment to Net Zero 2050. The Commission has noted:

Rolling over starting prices could help address the increased risk of economic stranding by providing more revenue than by resetting using the current IMs...⁶

54. This reasoning implies the current IMs are fit for purpose for recalibrating prices for the 2022-2027 period. The Commission should be cautious about rolling over current prices and benchmarking the alternative as an SPA using current IMs. Rather, the current IMs do need to be considered against their suitability to provide a fair expectation of FCM given Net Zero 2050.

55. The key concern for the SPA is both determining current and projected profitability for suppliers. This assessment must reasonably account for the conditions for the reset period and beyond for prices. Without any reconsideration of the long-run capital recovery profile

⁶ ComCom, *Process and Issues Paper*, p.45

of GPB assets – the Commission would be setting a new SPA knowingly violating an expectation of FCM.

56. Should the Commission roll-over current prices then it cannot proclaim it is allowing increased profits for suppliers when the reasons for doing so include a concern about long-term partial capital recovery. Rather, a rollover of prices could only be a practical solution where the Commission has conceded in the current context it cannot reasonably determine the price/revenue level to support NPV=0. This will have consequences of prolonging uncertainty for the sector.

Setting an X-factor for rolled forward prices

57. The Commission has suggested a price rollover could include an X-factor to be applied to the rolled over prices. At a principle level Vector has some reservation about the application of an X-factor. This is because an assessment involved to determine the right level of efficiency improvement for an X-factor involves the same – if not more – judgement than re-setting prices based on a “bottom up” view of supplier costs under an SPA. The only difference between an SPA and X-factor is the manner with which the new price/revenue level is passed through to customers. An SPA results in prices being reset at the new defined efficient level while an X factor remits this over time.
58. Should the Commission embark on measuring sector productivity for setting some X-factor through historical total factor productivity (TFP) assessment will be a resource intensive exercise. It will also have less relevance on a forward-looking basis. This is because GPBs, as foreshadowed by the Commission, must reconsider capital investment and operating level based on the impact of Net Zero 2050. The Commission’s Issues Paper queried recent GPB Asset Management Plan (AMP) capital investment projections, particularly for connections and network expansion, as being reasonable in the context of Net Zero 2050.
59. The most recent analysis on sector productivity for networks was a study by NERA on behalf of the Electricity Networks Association on opex productivity for electricity distribution, the partial productivity factor (PPF). The NERA study found electricity distribution opex – consistent with long-term trends in other jurisdictions – had declined. In that instance, EDBs attributed the overriding feature for the change in opex productivity was heightened compliance requirements. We expect the same drivers for EDB productivity will be shown in any analysis for GPB productivity. Given opex is only one aspect of a price recalibration, the application of an opex productivity factor is better applied as part of a starting price adjustment than as a total X factor. However, for GPBs the adoption of a PPF for opex may

not capture the conditions of the 2022-2027 reset where operating activity will be impacted by Net Zero 2050.

60. Any study will also be impacted by changes to asset stewardship as a result of Net Zero 2050. Indeed, the Commission itself suggests GPBs should actively adopt capex deferrals – particularly for asset replacement by strategies that would involve more intensive opex management approaches to the extent they are able to. This type of strategic shift will not be reflected in any TPF or PPF study. Indeed, the context of the reset period means it is not well suited to a historical productivity approach for setting prices.

Vector recommends:

- **the Commission should only resort to a rollover of current prices where it cannot undertake a bona fide assessment of current and projected profitability for recalibrating starting prices to reflect the impact of Net Zero 2050 or**
- **Should not expend resources on the setting of 'X' Factor for rolled over prices given the effort needed to make a reasonable estimate of such a parameter**

7. Threshold for making IM changes for setting DPPs/CPPs

61. The Commission has demonstrated over time that it is prepared to amend IMs in advance of setting price/revenue paths for regulated sectors. These include, *inter alia*, the WACC percentile, capex/opex IRIS incentives and, most recently, for the regulatory treatment of operating leases. Many of these changes have had a significant effect on the price/revenue level of a DPP but were found to better promote the LTBC without compromising the purpose of IMs to provide certainty to consumers and suppliers.

62. Accordingly, we agree that the framework for amending IMs prior to a DPP/CPP should be done in a manner where it is consistent with:

- the section 52A purpose of being in the long-term benefit of consumers and
- the section 52R purpose of IMs to provide certainty to suppliers and consumers about the rules and processes for setting price/revenue paths for regulated services (without compromising the section 52A).

63. We agree failing to demonstrate IM changes discharge the criteria indicate the change is inconsistent with the Act. The primacy of the section 52A purpose is clear for decisions. The Commission has added a third criteria of significantly reducing compliance costs, other

regulatory costs, or complexity (without detrimentally affecting the promotion of competition in section 52A).

64. The Commission has indicated that it would unlikely to make changes to IMs under section 52X for IMs listed in section 52T(1)(a)(i)-(iv): cost of capital; valuation of assets – including depreciation, and treatment of revaluations; allocation of common costs; and treatment of taxation. It also suggested that it would not propose changes to IMs which may impact on the role predictability plays in providing incentives for suppliers. However, recent history suggests the Commission will review fundamental IMs in advance of setting DPPs where there is reason to do so – in particular the WACC IM was reviewed before the EDB DPP2 reset in 2014.

65. Nonetheless, the Issues Paper contemplates possible changes to IMs for the following:

- Gas transmission moving from a revenue cap to a weighted average price cap (WAPC)
- Gas distribution moving from a WAPC to a revenue cap
- Correcting the tax-adjusted market risk premium (TAMRP)
- Providing ex-ante WACC compensation for heightened risk or
- Replicating the one-off adjustment to depreciation in the EDB IMs to address partial capital recovery.

66. Accordingly, the range of matters being tabled by the Commission do in fact cover fundamental IMs and have had a meaningful impact on recalibrated price/revenue levels for customers and suppliers. We recommend the criteria for changing IMs should be clearly evident across time, otherwise we support an approach to considering amendments consistent with the criteria in the Act.

67. We believe there is sufficient time for the Commission to make necessary IM changes for the next GPB DPP to provide greater confidence for capital recovery and should be prioritised for the reset. This would be consistent with the Part 4 purpose and not undermine the role of IMs for providing certainty for suppliers and consumers.

68. Vector also supports the updating of the TAMRP as proposed in the Issues Paper. We agree with conclusions of the Issues Paper and note the Commission's expert⁷ had first made this recommendation in September 2019 when reviewing this matter in the context of the Chorus IMs. Dr Lally agreed the more recent estimates of the models used to estimate the market risk for equity had suggested the return required by investors increased since the parameter was reviewed in 2015.

We recommend the Commission assess the suitability of all relevant IMs to the setting of the 2022-2027 DPP to Net Zero 2050 as the IMs especially related to capital recovery do need to be reconsidered for the price/revenue level

Predictability

69. The Commission has suggested it would consider the role predictability in prices has for providers to make their own long-term investments with certainty. Vector notes this is a new and novel approach and principle from the Commission. The Commission has generally relied on its purpose for safeguarding the LTBC and the balance of managing prices inclusive of excessive profits and supplier's incentives to invest in replacement and improved assets. The Commission summarises NPV=0 to mean:

The equivalence of the present value of revenues and present value of costs...is often referred to by the term 'NPV=0' which recognises that if this equivalence holds, then the net present value (NPV) of the revenues less the costs is zero.⁸

70. The High Court of New Zealand also clarified that when determining the present value of costs, this includes the cost of capital for investment – i.e. the return demanded by investors.

71. Accordingly, the key element for predictability is for the Commission to continue to provide the expectation that it will continue to set prices/revenues in a manner where it is targeting a price level consistent with NPV=0.

72. Predictability in the current context requires the Commission to reconsider expectations for FCM given the Net Zero 2050 commitment. Failing to make the necessary changes for the

⁷ Dr Martin Lally, Capital Financial Consultants, *Estimating the TAMRP*, 26 September 2019, p.22

⁸ ComCom, *EDB-GPB Reasons Paper December 2010*, p.44 footnote 108

reset will mean the guidance provided in *Wellington International Airport & Ors v Commerce Commission*⁹ is being departed from.

8. The Long-term benefit of consumers – requires action today

73. The transition to Net Zero 2050 presumes networks rather than growing overtime will have customers moving away from natural gas reticulation. This raises the issue about how to best manage the interests of customers for today and for the foreseeable future to Net Zero 2050. The key issue is what is the most equitable and most efficient approach for meeting the LTBC.
74. In the current circumstance, the most equitable solution for managing the LTBC, and to ensure the most appropriate efficient price level over time, is for the current user group of natural gas customers to contribute more for the network system assets of today than future GPB users. This requires the Commission to address fundamental IMs for depreciation and asset revaluation.
75. The CCC has foreshadowed New Zealand's natural gas sector will shrink over the next 29 years from circa 160 PJ to circa 30PJ by 2050 to achieve Net Zero 2050. The rate of change being forecasted by the CCC suggests for the natural gas market will shrink by 40PJ over the course of DPP3 to circa 120PJ by 2027. This is a significant contraction in the size of the market, and if no action is taken, a significant missed opportunity to bring forward RAB recovery for GPBs. The continued forecast decline in sector demand means a delay in the re-orientation of prices to the new economic life from 2027 onwards will need to be much more acute than had proactive action been taken for the 2022 reset. This is not in the LTBC.
76. The AER's recent revenue determination for the Australian Capital Territory's reticulated distribution pipeline business EVO Energy directly considered the issue of equity and fair prices for customers over time. In that decision the AER has brought forward the recovery time for some new investments for system asset classes. In making this decision AER Chief Executive Clare Savage said:

As consumers make the switch to renewable energy under the ACT Government's climate change strategy it's expected there will be less demand for gas in the ACT. This means any remaining consumers who can't or don't yet choose renewable

⁹ [2013] NZHC 3289

energy services are at risk of future bill increases because less homes and businesses can share the cost of maintaining gas network services.¹⁰

77. Accordingly, the AER has recognised its responsibility for managing price changes will help manage the magnitude of price-shocks overtime for vulnerable customers given their lower means to make substitution choices.

78. The Commission's Issues Paper does explore some levers for addressing the changing circumstances that targeting Net Zero 2050 has for GPBs for the 2022-2027 period. However, by not directly addressing the challenge of partial capital recovery – the Commission is ignoring the critical changes needed to support both the Part 4 purpose and Net Zero 2050.

9. Ex-ante allowances or accelerating depreciation

79. The Commission indicated in either a roll-forward of current prices or a starting price adjustment – it would consider providing some *ex-ante* compensation for asset stranding. The Commission does not define what would be appropriate *ex-ante* compensation for the greater risk of asset stranding. Accordingly, Vector has asked CEG to consider what level of ex-ante compensation should be considered for the additional risk Net Zero 2050 has for GPBs.

80. CEG's analysis found the more effort involved with bringing forward capital recovery, the less significant *ex-ante* compensation is needed. To test the level of ex-ante compensation that may be required, CEG applied multiple models including the Commission's Chorus stranding model (developed to address the risk wireless substitution has for fixed-fibre-line networks). CEG found the appropriate quantum of ex-ante compensation is significant reflecting the type of risk Net Zero 2050 has for New Zealand GPBs.

81. The CEG analysis also recognised the opportunity to address long-run stranding risk when aggregate demand (i.e. willingness to pay at an aggregate level) is the highest provides the best opportunity to ensure long-run FCM. Accordingly, failing to take sufficient action early limits the confidence that FCM will be maintained in the long run.

¹⁰ AER Media release EVO Energy Access Determination 2021-2026, 30 April 2021 : <https://www.aer.gov.au/news-release/aer-allows-revenue-to-support-gas-consumers-in-transition-to-renewables>

82. In the context of Net Zero 2050 any ex-ante premium is expected to be in the order of 100s of basis points. For example, CEG indicate if the Commission were not to adopt any other measure than ex-ante compensation and applied the same approach as it did for Chorus, but assuming the stranding risk in the context of Net Zero 2050, the ex-ante premium is in excess of 500bp on top of the baseline WACC.
83. Failing to address the risk of capital stranding effectively and early during periods when customer demand is at its highest will exacerbate the risk of long-run economic stranding. In addition to the Commission's model, CEG developed an alternative model for estimating the quantum of stranding compensation – more directly related to the Net Zero 2050 risk for GPBs.
84. Importantly, the CEG work highlights how restrained forward capital recovery measures will still require some form of ex-ante compensation. In the context of Net Zero 2050 decisive and significant action is required. The level of anticipated decline for the sector by Net Zero 2050 requires an aggressive tilting of the recovery profile to ensure the intervening period is optimised for asset recovery. The work also highlights the information burden for accelerating depreciation to restore confidence has much less information discovery than ascertaining the right ex-ante allowance to induce the same confidence. In effect, restoring confidence by adopting an ex-ante allowance in the context of known long-term stranding risk requires the compensation to be equivalent in terms of the expected level of stranding.
85. For example, the Commission's proposal of replicating the EDB IMs accelerated depreciation which allowed a "one-off" limited alteration of the depreciation profile – would not provide a meaningful change to obviate the need for the ex-ante measures being considered by the Commission.
86. The work by CEG highlights several matters:
- The level of ex-ante compensation for stranding risk is directly influenced by the effort to bring forward capital recovery to manage a known capital stranding risk
 - The quantum of ex-ante compensation required to address the risks from Net Zero 2050 is significant – especially if no complementary measures are adopted to bring forward capital recovery
 - Customer demand and willingness to pay today presents the best opportunity to take action to mitigate the long-run risk

- Action early to manage long-run stranding risk will limit the extent to which FCM would be breached overtime
- Ex-ante compensation requires customers and GPBs to take a “bet” on the risk of stranding occurring – which again increases the likelihood of NPV=0 being breached.

Vector recommends:

- **the Commission recognise the relationship between the heightened risk for asset stranding, measures to bring forward capital recovery and ex-ante WACC compensation**
- **If the Commission fails to adopt measures to bring-forward capital recovery, then any ex-ante WACC premium should expect to be significant based on an analytical quantification of the risk**
- **Should the Commission bring forward capital recovery then the level of acceleration will determine the extent of any ex-ante allowance**

Accelerating depreciation

87. Currently, GDBs are depreciating their system and non-system assets based on an average weighted life their RAB which adjusts for investments in system assets by the classes of standard physical lives specified in Schedule A of the GDB/GTB IMs.

88. The IMs presume a symmetry between the technical life and economic life of asset classes. Given the reticulated GDB is largely an underground system the technical life for system assets have significant lengths – the remitting back of capital is done over an extended period. The current weighted life of GPB RABs reflect the long recovery profile of the system assets.

89. Accordingly, to provide greater confidence around capital recovery, the Commission must revisit its assumptions around asset lives. Revisiting the economic life of asset classes will ensure effective asset stewardship can continue for the technical needs of the system and less emphasis for decisions on the likelihood of asset stranding.

90. Further, the current weighted life of RABs and recovery profile needs addressing today and going forward. Having an acceptable profile of recovery of the RAB accounting for both the

average life and change in the average (as longer life assets – assume the remaining balance of the RAB) will require acceleration to ensure recovery can be directed for Net Zero 2050.

91. We disagree with the Commission that such a change to a fundamental IM in this context undermines the certainty of IMs. Rather, the risk of ignoring Net Zero 2050 is clear and transparent and the amendments to IMs can be clearly identified and implemented. Failing to act in the current context would undermine the LTBC.

Removing the indexation of RAB – changing the model inflation compensation

92. Vector notes a significant element of the heightened risk of partial capital recovery is the impact of delayed inflation compensation under the Commission’s target return of real FCM in supplier cashflows. Under this model, the Commission deducts expected inflation built into its efficient nominal WACC estimate from DPP/ CPP cashflows (through its forecast of expected revaluation gains). Through inductive logic of estimating a nominal WACC return *minus* forecast revaluation gains, the Commission provides an expectation of targeting a real return on investment through DPP/ CPP cashflows.
93. Inflation compensation rather than being provided as part of the nominal WACC estimate (which has within it an expected inflation view) is delivered by the annual indexation of the RAB. The indexation of the RAB by actual inflation for the year is recorded and tracked in regulatory filings. Indexation of the RAB allows inflation compensation to be provided over an extended period and has the effect of providing a more levelled profile of asset recovery over the asset’s lifetime. Indexation also has the benefit of smoothing the effect of price-shocks when assets are replaced at the end of their life. The higher level of RAB from indexation also assists businesses with attracting capital to fund asset replacement programmes as assets reach end of life.
94. The Australian Energy Regulator (AER) in an explanatory note on indexation makes the following observation:

Indexation of the RAB leads to smoother revenue recovery and therefore prices. It also significantly reduces the increases in revenues that invariably happens when assets are replaced at the end of their life.¹¹

¹¹ AER – Why do we index the regulatory asset base:

<https://www.aer.gov.au/system/files/Fact%20sheet%20-%20Indexation%20of%20the%20regulatory%20asset%20base.pdf>

95. The AER also notes indexation of the RAB leads to a somewhat higher asset valuation during the asset's lifetime and therefore a higher overall RAB value. In contrast, the removal of indexation would result in the full nominal WACC (including the implied view of expected inflation) being provided in supplier cashflows. This approach has the effect of bringing forward inflation compensation – based on an expected inflation view – through the DPP/ CPP allowance.

96. The Issues Paper suggested the removal of indexation to assist with limiting the concern of partial capital recovery would have the effect of bringing forward cashflows, but it does not consider the change in risk in the current circumstance warrants the change. Vector notes the Commission's description of the change – as being a change in risk – is a new way of describing the differences between indexation and unindexed revenues. Previously, the Commission has contrasted the process for Transpower and EDBs in the following terms:

In summary, both approaches are intended to provide EDBs and Transpower with an equivalent expectation of being able to earn at least a normal return, prior to their revenue paths being set.¹²

97. The previous view was that both an unindexed RAB and indexed RAB should be considered NPV neutral in principle. The idea that unindexed revenues have a different risk to indexed revenues suggests there would need to be compensation differences recognising the relative risk difference. However, we agree with the AER and Commission's explanation above that indexed revenues and unindexed revenues should be NPV neutral in principle.

98. The Commission has departed from its target real FCM model for setting Transpower's revenues under its Individual Price Path (IPP). In that instance, it indicated the unindexed approach was justified because of Transpower's investment programme.

99. A nominal return model would provide more confidence for suppliers to make timely investments for the integrity of the networks. It would also ensure better customer equity from new investments when network utilisation is expected to decline. Indeed, a benefit of the real return model recognised by the AER is that indexing assets ensures current and future users of assets contribute more equitably in accordance to the relative benefit they

¹² ComCom, *Transpower Individual Price Path for the Next Regulatory Control Period Issues Paper*, 7 February 2019, p 29

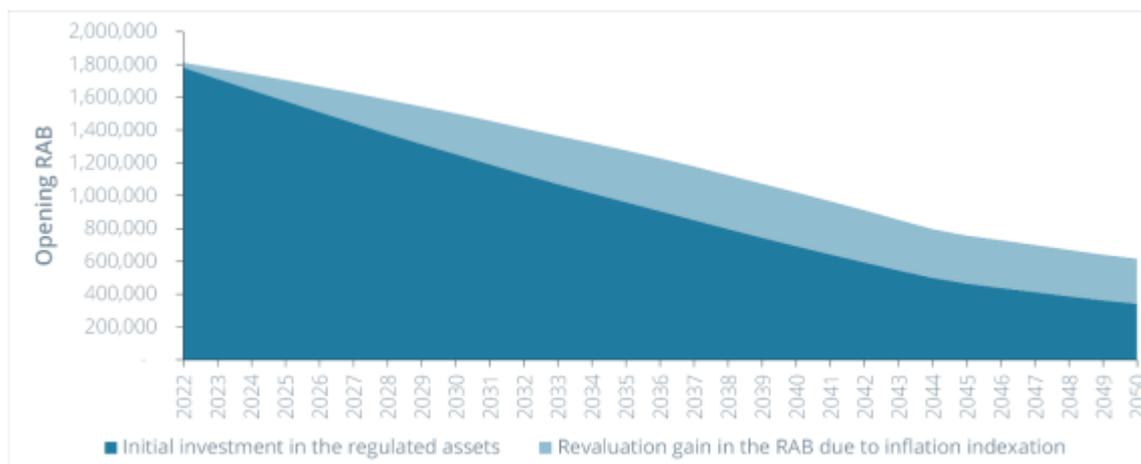
derive from assets. This may in fact be reasonable in the context of increasing or stable network utilisation overtime. However, in the context of declining utilisation indexation may exacerbate inequity between current and future users.

100. Accordingly, Vector strongly encourages the Commission to reconsider its initial logic for not considering transitioning to an unindexed return for GPBs. We see the change to an unindexed RAB and nominal return recovery pathway as:

- being more aligned with Net Zero 2050
- better reflecting customer benefit across time for the service
- More suited to an environment where investment levels and asset replacements are expected decline avoiding the impact of price-shock and funding concerns and
- limiting the impact of partial capital recovery and more compelling in the current context than the change enabled for Transpower.

101. Frontier Economics have quantified the impact RAB indexation for GPBs will have on increasing the value of the sector RAB at 2050. Adopting a presumption of inflation being 2 percent per annum, consistent with the Commission's assumption of inflation across DPPs, Frontier Economics have estimated the growth in RAB from 2022 with and without RAB indexation. Frontier Economics note indexing the RAB adds approximately 45% of unrecovered value to the GPB industry RAB from 2022. Graph 1 below shows the impact of RAB indexation to the 2022 opening sector RAB.

Graph 1: Impact of RAB indexation to the GBP 2022 Industry RAB value at 2050

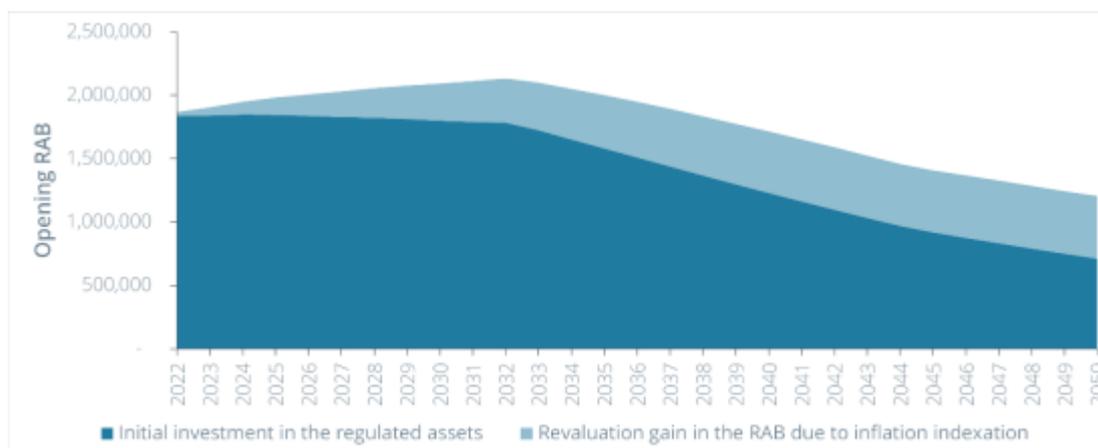


Source: Frontier Economics report for Powerco, Firstgas and Vector

102. Graph 1 shows that RAB indexation – in the context of Net Zero 2050 – will materially contribute and exacerbate the risk of partial capital recovery if it is continued to be adopted as the target return model. The forecasted impact of RAB indexation will add approximately \$275M to the value of the RAB at 2050.

103. Frontier Economics have also estimated how the industry capex programmes for the next 10 years capex would also be impacted by the continued RAB indexation. Frontier Economics have limited additional capex to the system reliability, safety and non-growth capex (excluding all customer connections and network expansion). They have undertaken this conservative assumption to limit any judgement on the prudence of such expenditure. This approach also adopts the conservative and unrealistic assumption that networks would not have any asset replacement programmes beyond 2030. **Graph 2** shows the impact of RAB Indexation will add materially to the combined industry RAB at 2050.

Graph 2: GPB Industry RAB and 10 years of system reliability, safety and non-growth capex RABs at 2050



Source: Frontier Economics report for Powerco, Firstgas and Vector

104. The Frontier Economics projection of the 2022 GPB industry RAB including the next 10-year capex programme for system reliability, safety and non-growth capex will again add materially to the value of the industry RAB at 2050. Frontier Economics forecast the impact of RAB indexation will add \$494 million to the industry RAB at 2050. This is a non-insignificant impact that could be addressed through the timing change for inflation compensation.

105. Networks will continue to need to replace assets for the foreseeable future to ensure the integrity of their systems. Therefore, it is important that the need to invest for integrity is not diminished by heightened risk of stranding.

Vector recommends the Commission adopt an unindexed RAB approach where inflation compensation is provided contemporaneously at the level of expected inflation as part of the nominal return. The timing of inflation compensation as part of the normal return would help reduce the risk of partial capital recovery, reduce inequity between customers over time and limit the exposure of GPBs to stranding risk.

10. Revenue cap v Weighted Average Price Cap

106. The Commission indicated it would consider making changes to amend the form of control for GDBs from a WAPC to a revenue cap. The Commission notes a revenue cap transitions the risk of DPP/CPP demand from the customer to the supplier. This is because under a revenue cap the supplier can rebalance the actual revenue from one period to the next. Under

a WAPC the Commission is required to determine a path of expected real revenue growth— i.e. revenue from volume changes over the DPP/CPG period.

107. Vector considers the key difference between a WAPC and revenue cap is the responsibility of forecasting the volume path to recover efficient costs. In a WAPC the Commission undertakes the responsibility for forecasting demand changes over the controlled period in its CPG. While in a revenue cap, it is the supplier which forecasts the volume needed to target the Commission's estimate of forecast efficient costs.

108. Overall Vector considers a revenue cap or WAPC should enable the recovery of the same level of efficient costs where the demand path is a reasonable estimate of expected volume change over the period. The challenge with WAPC regulation historically has been the Commission's forecasts of CPG. Vector notes in the current circumstance there is even greater risk of the Commission's forecasts of real revenue growth being misaligned with actual demand.

109. The Commission describes a revenue cap as passing the demand risk from the supplier to the customer. In this sense, the opportunity for suppliers to rebalance actual revenue from one period to the next in a revenue cap relies on the fact the change in demand was temporary and able to be rebalanced across years. We do not see a revenue cap providing better insulation from demand risk where this rebalancing cannot occur from one year-to-the-next.

110. In contrast, a key risk of a WAPC is that an unnaturally high demand forecast set for the price cap encourages suppliers to adopt policies (such as connection and pricing) to meet the volume projections embedded within the WAPC starting price.

111. Vector considers the key issue for the WAPC is determining a volume path that is fitting within the new context. Where the volume path is a reasonable expectation of real revenue changes within the period then the outcomes from a WAPC and revenue cap should be immaterial. There may be some merit with a re-opener that can manage unexpected changes to demand. We support a re-opener to manage that risk in the current context.

112. Given the level of IM changes required to implement the EDB form of control change— the Commission is best directed at managing more pressing issues for the next DPP reset around FCM certainty and long-run capital recovery.

Vector recommends the most important matter for the WAPC is for the Commission to adopt a CPRG forecast which is consistent with the current expectations for the GPB sector based on the transition to Net Zero 2050.

We support efforts to consider a revenue cap form of control but recommend the Commission prioritise the topic of long-term capital recovery as the focus for the DPP reset.

11. Starting price adjustment (SPA)

113. The obligation to consider the impact Net Zero 2050 means there are critical decisions for the Commission to make to determine the right price level for GPBs for the forthcoming 2022-2027 DPP. Net Zero 2050 has changed assumptions around the longevity of reticulated natural gas for New Zealand. This means a new investment recovery pathway is needed for the Commission to ensure principles such as NPV=0 and financial capital maintenance are sustained. We see a change to the price level as necessary for demonstrating the Commission's commitment to setting prices that are in the LTBC.

114. More importantly, given the higher likelihood of a projected decline in consumption and demand for reticulated natural gas overtime. It is important for the new DPP to ensure the current base of reticulated gas users can contribute an equitable share to the recovery of the system. Any delay with re-orienting the recovery pathway will exacerbate the inequity between users that rescind their natural gas connection early relative to customers that do not switch away.

115. We agree with the AER's concerns around managing equity overtime. The AER rightfully note natural gas customers who do not switch early are likely to be more vulnerable and have less financial capacity to absorb the impact of future price increases that will be necessary

116. Further, the cost of delay in present value terms for managing the risk of partial capital recovery is much more significant the longer the delay.

12. Customers have paid more for gas transportation historically

117. Vector notes the impact of Part 4 regulation to the sector over the past decade has had a material effect on the price/revenue level from the sector. The Commission's setting of DPPs in 2013 and 2017 has materially reduced the price of GPB services over the decade. DPP1

reduced both gas distribution and transmission costs by 33% - with gas distributors required to reduce charges by 10%.

118. The Commission’s 2017 reset also had a similar effect on prices. In the DPP2 reset period gas distributors were on average required to reduce charges by 15% while Firstgas also was required to required to reduce its charges for gas transmission services by 10%.

119. These resets were undertaken by the Commission with its best effort of forecasting current and projected profitability of GPBs. In the current context, where partial capital recovery is heightened by Net Zero 2050 it is important not to continue to apply the same lens as was adopted for the previous resets.

120. Rather, Vector suggests the Commission must recognise an increase in the price/revenue level for GPBs is what is required to provide confidence of FCM in the current context. Importantly, our analysis indicates an increase to the level to support continued confidence in FCM requires the Commission to consider quite a significant acceleration of depreciation and to stop the indexation of the RAB to limit the level of stranding risk for suppliers.

121. We recognise a price/revenue level increase is a difficult decision. However, we note in the absence of resets the prices/revenues would be significantly higher than the current price/revenue level. Table 1 provides a comparison of annual residential charges based on Vector’s current prices, pre 2012 prices updated and the impact of a price increase which is our forecast of impact of indexation removed and bringing forward depreciation which could meaningfully help address the stranding risk from Net Zero 2050 – this is likely to be at least a 25%-30% price increase.

Table 1: Vector estimates of annual residential charges current and pre-2012 and our estimate of the required price increase (with RAB indexation removed and accelerated depreciation) for residential customers in Auckland

<i>Current annual Auckland residential charge</i>	<i>Pre 2012 annual Auckland residential charge updated by inflation</i>	<i>Impact of a circa 25%-30% price increase in annual Auckland residential charge</i>
\$258	\$342	\$320-\$330

122. Table 1 highlights that a significant shift to the recovery pathway from the 2022-2027 DPP reset to help address the long-run stranding risk could translate to a dollar per week increase for Auckland residential users.

Innovation for repurposing networks to green gases

123. The Commission indicated it may have only limited ability to approve funding sought by GPBs for alternative reticulation of green gases to be included within a new reset price path. The Commission notes its mandate under Part 4 is confined to the reticulation of natural gas. The possible transition to green hydrogen does have several milestones which could still fit within the mandate to regulate the reticulation of natural gas pipelines. We support the Commission taking a constructive approach to its role with supporting the innovation for hydrogen blending. For example, the upgrading of reticulated pipeline materials to limit embrittlement from blended hydrogen are types of activity that could be supported within the current definitions.

Vector recommends the Commission considers the range of innovative activities within the current legislative construct to support the transition to green hydrogen. Innovation support will help ensure the option for repurposing can be fully explored and realised.

13. Expenditure setting

124. The Commission is proposing to adopt a business-as-usual variance test for assessing expenditure forecasts of suppliers when calibrating capex and opex levels for the DPP reset. This approach has the benefit of being transparent and efficient. It also provides certainty for suppliers as it largely replicates the process from DPP2.

There was a high level of uncertainty with expenditure forecasting for the 2020 asset management plan

125. The Commission's expenditure setting process for the DPP should recognise the greater challenges with producing 10-year forecasts of opex and capex given the challenge Net Zero 2050 is having for long-term planning. The uncertainty with gas demand and policy changes warrant the Commission using the most current information available for it to set the new DPP. Accordingly, Vector is proposing to update our 10-year capex and opex forecasts by the end of the 2021 calendar as we get more detail around the Net Zero. We encourage the Commission to use this information for its DPP setting process.

126. We strongly encourage the Commission to take the step of seeking more up to date forecasts of capex and opex for its expenditure setting process. Under the Commission's current process timeframe, the calibration of the DPP3 final decision will involve using

expenditure forecasts that are over 12 months old for its final decision. This may result in the final decision adopting expenditures for suppliers that are out-of-step with their investment and operational programme.

Vector recommends the Commission adopt a step in its process for GPBs to update their AMP 10-year forecasts to reflect the new environment following the recommendations of the CCC which would form the basis of expenditure scrutiny for the reset DPP.

Expenditure setting – connections and growth capex

127. The Commission has intimated that it may depart from its historical approach for establishing the efficient level of connections and system growth capex. This approach is being driven by its recognition of the changing environment for GPBs and the impact Net Zero 2050 will have on the incentive for future customer connections and system growth. We support the explicit recognition of Net Zero 2050 into this element but suggest consideration of the broader policy environment must inform the whole DPP setting process and not piecemeal elements.

Vector supports the greater scrutiny of connections and system growth capex because of the policy direction of Net Zero 2050. However, we believe Net Zero 2050 is a relevant consideration for all decisions relevant to the setting of the DPP.

Expenditure setting opex

128. The Commission is proposing to set opex by reference to a base- (if necessary) step-trend approach for the setting of the opex allowance. Vector considers this to be a practical step for setting the opex. The benefit of the base-year approach is that we are using the most current view of the GDB's operating cost level for setting the opex base line.

129. Vector notes the effort involved with a more granular approach would detract from the effort needed to manage the substantive issues relevant for the reset period. We recommend the Business-As-Usual variance test appropriately specified so it can apply to new expenditures such as cyber-security management.

A higher operating level will be needed to maintain asset integrity to avoid replacement

130. We agree with the Commission that going forward GPBs will need to consider strategies for prolonging the life of their system assets before undertaking replacement projects. This

strategy will be more resource intensive as a higher volume of qualified technicians will be needed for maintenance and repair work on aging asset fleets. The hazard leaking gas pipes present to the community also require more resourcing for field crews. Opex resourcing will be needed going forward to conduct preventative maintenance with more frequent work to survey for leaks and reactive maintenance crews to respond to emergencies.

131. However, we note the extent of opportunities must be assessed against the public benefit and safety for deferring asset replacements. Therefore, we encourage the Commission to the importance of re-aligning its FCM expectation as suppliers will need to consider the trade-offs of investment and safety for asset replacements. This is because in many circumstances the most prudent asset management decision would be to replace deteriorating assets. However, if the Commission does not align its FCM expectation it will compromise the optimal asset stewardship approach where suppliers have not had to balance the benefit of safe and reliable service for investment with stranding risk.

Managing CO2 emissions from GDBs

132. Vector is also proposing to increase the level of network surveying on our reticulated system to help limit the level of CO2 emissions from our network assets. We are proposing to double the volume of network surveying for the network to ensure we have earlier detection of gas leaks which will have a significant benefit for reducing network CO2 emissions. As our asset fleets increase in age to limit CO2 emissions this surveying intensity will need to again increase overtime to manage gains in CO2 leaks.

133. Our republished AMP opex forecast will forecast the impact the cost this effort will have on our network opex.

14. Setting quality standards

134. The Commission has proposed not to prioritise new quality standards as part of this reset. Vector considers this to be a practical approach. Any new quality standard will require an assessment as to how the new standard will change network management processes and costs for operation or alter network investment. Given the high consequences of breaching a quality standard – we recommend any new quality standard must be accompanied by an assessment of the resourcing and effort involved for meeting compliance.