



# **Submission on the IM Review 2023**

Process and Issues Paper

1. This is Vector's submission to the Commerce Commission's (Commission) *Part 4 Input Methodologies (IM) Review 2023: Process and Issues Paper* (the Paper).
2. This IM review comes at a crucial time in the context of New Zealand's transition to a net zero economy and in terms of network transformation to manage a more complex energy system.
3. In May 2022, the Government published its first three Emissions Budgets (2022–2025, 2026–2030, 2031–2035). It also published its Emissions Reductions Plan (ERP) setting out the pathway to meet its first Emissions Budget (2022-2025) and to put New Zealand on track to meet future emissions budgets. The Government is intending to deliver its Energy Strategy by the end of 2024 and its Gas Transition Plan by 2023.
4. This IM review will set the rules and processes for Part 4 regulation for the next 7 years. It will also shape – at least - the next two Default Price-Quality Path (DPP) resets for Electricity Distribution Businesses (EDBs). The correct regulatory settings must be in place at this IM review to enable regulated businesses to deliver the transition needed to meet the net carbon zero by 2050 target.
5. The energy transition is presenting challenges for regulators and businesses. However, getting the regulatory settings right will unlock significant benefits for consumers. As increasingly recognised in both New Zealand and internationally:

*“The decarbonisation journey is not just driving clean energy but is reshaping the whole market design.*

*This is an exciting ‘tipping point’ for electricity where the old- fashioned market design is being truly challenged by a new market designed from the bottom up and facilitated by the digital revolution.*

*If captured, these benefits should drive a faster trajectory for decarbonisation, reduce the overall consumer bill, and fully modernise the sector.”<sup>1</sup>*

6. This is not a business as usual review. The Commission must be focussed on the energy transition and it must approach this with an open mind and with urgency. Producing the right regulatory settings this IM review will unlock significant value for consumers by enabling smarter, more flexible and more resilient networks at lower cost to consumers in the long term. This requires regulated businesses, particularly EDBs, to have sufficient cashflow to support current investment needs.
7. In the current context, getting things wrong is not an option.

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<sup>1</sup> Dr Laura Sandys, Dr Jeff Hardy, Adrian Rhodes and Professor Richard Green, *Redesigning Regulation: Powering from the Future* (2018) available: <http://www.challenging-ideas.com/redesigning-regulation-powering-from-the-future/>

## Top 5 priorities for this IM review

8. The crucial challenge for this IM review is to ensure regulated businesses – particularly EDBs – have sufficient cashflow to support the required investment to deliver the transformation of the energy sector and the transition to net zero. The regulatory framework currently does not provide sufficient up-front cashflow which is undermining the Part 4 purpose.
9. Significant upfront investment is required to deliver the transformation of the energy sector and net zero transition. Regulated businesses cannot innovate or invest at optimal levels if they do not have sufficient cashflow. This will prevent dynamic efficiency gains in the sector, and accordingly, the ability of regulated businesses to share the benefits of these gains with consumers. This issue will cause significant harm to consumers in the long-term if left unaddressed in this IM review.
10. We consider the top 5 priorities for this IM review are:

Issue	Vector recommendation
<b>1. Engagement model</b>	<p>The process could be radically improved by providing more opportunity for conversation, open dialogue, exploration and fresh thinking/challenge between the Commission, regulated businesses, consumers and other stakeholders. This is urgently needed to solve the broad range of complex regulatory challenges in the context of energy sector transformation and the transition to net zero.</p>
<b>2. WACC percentile to support investment</b>	<p>The key issue in determining Weighted Average Cost of Capital (WACC) settings this IM review is to ensure it provides sufficient incentives for investment to support the transformation of the energy sector and the transition to net zero.</p> <p>We recommend the WACC move to a higher percentile. This would better support the Part 4 purpose as the asymmetric consequences to consumers of under-investment have increased significantly since the IMs were enacted (and since the 2016 IM review) in the context of the need for investment to support electrification and, for the GDB, to avoid a disorderly gas transition.</p>
<b>3. Form of control</b>	<p><b>EDB – 10% annual limit on forecast revenue from prices</b></p> <p>The current EDB IM allows the Commission to specify a limit on the annual maximum percentage increase in forecast revenue from prices. In DPP3, the Commission specified a 10% limit on increases to forecast revenue from prices increase per year. This limit includes transmission costs along with the EDB's own cost recovery.</p> <p>The current inflationary environment and Transpower's projected cost increases could potentially see the 10% limit consumed by transmission charges over that of the EDB's own charges.</p>

	<p>This has the potential to severely compromise an EDBs ability to invest as this problem grows and unrecovered costs would start to add up. This could cause significant harm to consumers in the long term.</p> <p>We recommend amending the EDB IM to implement a limit that is net of pass-through and recoverable costs. This would better support the Part 4 purpose by maintaining the ability of EDBs to invest.</p> <p><b>Gas Distribution Business (GDB) – revenue cap</b></p> <p>We consider it critical the GDB form of control moves to a revenue cap. There is no justification to retain the current form of control, the weighted average price cap (WAPC). Our understanding is this was an issue parked by the Commission during the recent gas reset for express consideration in the IMs review.</p> <p>There is significant quantity forecast risk in the current environment which provides a strong disincentive for efficient investment.</p> <p>Uncertainty around connection and volume growth is, to a large extent, driven by government policy and consumer response to achieving net zero. This is outside the control of the GDB.</p> <p>The policy intent behind the WAPC – to provide the GDB an incentive to grow connections and volume – is clearly no longer relevant or appropriate in the transition to net zero.</p> <p>We note this approach is inconsistent with the approach to the Gas Transmission Business (GTB). We can see no justification for the GTB and GDBs to have different forms of control.</p> <p>The Commission should amend the IM to implement a revenue cap for GDBs. This would better promote the Part 4 purpose by removing the current disincentive for efficient investment. It would also better promote the ERP and net zero target by removing the incentive to grow gas connections and volumes.</p>
<p><b>4. RAB indexation</b></p>	<p>We consider the current IM approach of indexing the Regulatory Asset Base (RAB) to inflation must be amended this IM review. The back-loaded cashflow profile is creating significant difficulty for regulated business to finance their investment programmes.</p> <p>We recommend the Commission amend the IM to provide EDBs and GPBs the ability to choose the indexation profile most appropriate for their circumstances. The Commission has already taken this approach in the Airports IM.</p>

	<p>If the Commission declines to amend the IM to allow EDBs to remove indexation, we recommend the Commission amend the Transpower IMs to index Transpower's RAB. The policy intent behind Transpower's un-indexed RAB, to support significant upcoming investment, equally applies to EDBs. There is no justification to maintain separate approaches between EDBs and Transpower.</p>
<p><b>5. Financeability</b></p>	<p>The Commission should amend the IMs to introduce a financeability test. These are common practice by regulators internationally.</p> <p>Amending the IMs to introduce financeability testing would better support the Part 4 purpose by ensuring regulated businesses can finance their networks efficiently. This would ensure consumers are able to benefit from needed investments and greater efficiency by ensuring regulated businesses can invest at the optimum time rather than when cashflows permit investment. It would also support the ability of regulated businesses to obtain debt finance on favourable terms, thereby keeping the cost of debt low.</p>

## The engagement model needs to change

11. A 'business as usual' IM review process and engagement model is not sufficient to deal with complex regulatory challenges faced by stakeholders and the Commission in the context of the transformation of the energy sector and the transition to net zero. The process could be radically improved by more conversation, open dialogue, exploration and fresh thinking/challenge between the Commission, regulated businesses, consumers and other stakeholders. In the current context this is not only warranted but urgently needed.
12. The formal written submission process is not enough to canvass and debate the broad range of issues that need to be addressed during this review. As recognised in the Paper, significant expenditure and investment is required for the transition to net zero and this must be managed in a way that does not compromise consumer welfare (both in terms of minimising costs and avoiding downside risk from underinvestment). There is significantly more scope for engagement with regulated parties and stakeholders. Vector would support efforts by the Commission to directly engage beyond written consultation papers and submissions.
13. The current macroeconomic environment has added further complexity to this IM review. As the Paper notes, the current high and rising levels of inflation have not been experienced for decades in New Zealand and recent outturn inflation has been significantly higher than forecast levels.
14. In addition, regulated businesses face significant commercial pressures that must be addressed in this IM review. This includes a funding approach under the DPP that looks at

historic expenditure during a time of rapid transformation and imposes an arbitrary cap, debt funding issues arising from the regulatory approach of providing cash flows insufficient to pay the nominal cost of debt and increased costs. For EDBs, this includes increased transmission costs that compromise EDBs ability to recover their own costs.

15. Accordingly, a more involved process is needed for this IM review, including workshops and other forums to facilitate real and ongoing dialogue between the Commission, regulated businesses and other stakeholders.
16. By way of contrast, Ofgem – in its RIIO-ED2 price control - set up and led five working groups to tease out the upcoming issues facing the industry. The working groups covered the overall approach to RIIO-ED2, outputs, incentives and cost assessment. Ofgem, the network companies and other key stakeholders met over seventy (70) times in the lead up to business plans being submitted, showcasing a real appetite to engage directly and at a working level, to understand the issues in order to respond adequately in their setting of the RIIO-ED2 sector specific methodology.
17. There are no obvious answers to the challenges presented by the energy transition and these issues cut across business sectors and regulator remits. More conversation is needed for the Commission and stakeholders to find solutions that deliver an equitable and efficient outcome for all.
18. Vector is happy to assist with facilitating stakeholder workshops and other forums for discussion. We consider this is critical for the success of the IM review.

#### Issues beyond the IMs

19. We consider this IM review should also provide an opportunity to discuss issues and opportunities in the regime more broadly. For example, the approach to expenditure forecasting is normally set during the DPP, however, it is intertwined with issues for the IM review and is critical to ensure regulated businesses have sufficient ability to invest to deliver the transformation of the energy sector.
20. Another issue that would benefit from more discussion is that fact that existing land and property RAB asset values are entirely out of step with their market value. This requires consideration of appropriate regulatory incentives. Particularly in the current cashflow constrained environment, rational economic behaviour would suggest such assets should be considered for sale or sold and leased back.

#### Prices

21. We consider it necessary to acknowledge that funding increased electrification will inevitably involve network price increases for consumers in the short term. While neither the Commission nor industry should take this lightly and all stakeholders should work to

minimise price increases as much as possible, some increase is unavoidable to deliver the energy transition given the large-scale investment needed.

22. It is important to bear in mind the impact on the consumers overall “energy wallet” when considering network price increases. For example, enabling the widespread uptake of Electric Vehicles (EV) will likely increase network costs while dramatically reducing the amount consumers spend on petrol.

23. The Energy Efficiency and Conservation Authority’s (EECA) website provides the following comparison between the cost of an EV versus petrol vehicle:<sup>2</sup>

<b>ELECTRIC VEHICLE RUNNING COST CALCULATIONS</b>			
These calculations are provided by EECA (Energy Efficiency and Conservation Authority) - eecca.govt.nz			
<b>EV EQUIVALENT PRICE OF PETROL</b>			
	EV Home Charge: Off-Peak Rate	EV Home Charge: Average Rate	Public Charge
<b>Electric vehicle</b>			
Effective charging losses	15%	15%	0%
Electricity consumption kWh/100 km	22.81	22.81	22.81
Electricity price \$/kWh	0.15	0.29	0.63
<b>EV cost per 100 km \$</b>			
Electricity	3.93	7.63	14.28
Road User Charge	-	-	-
Total	3.93	7.63	14.28
<b>Petrol vehicle fuel consumption litres/100km</b>	9.50	9.50	9.50
<b>EV equivalent price of petrol c/litre</b>	<b>41</b>	<b>80</b>	<b>150</b>

The electricity distribution sector warrants equal focus to the transmission sector

24. We urge the Commission to remain equally focussed on EDBs as it is on Transpower.

25. We note the Paper included a chapter devoted solely to Transpower issues and investment uncertainty (chapter 8). While technical aspects of the Transpower and EDB IMs differ, the issues raised apply equally to EDBs and should also be considered in an EDB context. We were surprised to see such focus on investment certainty for Transpower with little recognition that EDBs too face considerable investment in the face of demand uncertainty. We note the combined capex spend by EDBs is very high relative to Transpower.

26. To emphasise this point, we have provided a 10-year comparison of Vector and Transpower’s forecast capex.

**Table 1: 10-year comparison of Vector and Transpower forecast capex<sup>3</sup>**

<sup>2</sup> Available: <https://genless.govt.nz/for-everyone/on-the-move/consider-electric-vehicles/why-buy-an-ev/>

<sup>3</sup> Table 1 figures are rounded the nearest \$m, and Transpower’s figures are uplifted to 2021 prices for a like for like comparison

\$m	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
Vector	399	342	290	304	331	328	302	302	330	306	3,234
Non-Exempt EDBs (including Vector)	1,180	1,092	975	1,060	1,080	1,078	1,060	1,039	1,067	1,023	10,654
Transpower	344	331	306	356	399	381	409	378	447	462	3,813

(Source: Vector and Non-Exempt EDB 2022 AMPs and Transpower 2021 AMP)

27. Similarly, Table 6 in the Paper maps issues raised by stakeholders to the Part 4 regime. The issues identified for the electricity transmission sector (such as the Commission’s stance on situations where action to reduce carbon emissions may incur additional costs but are supported by consumers) should also be considered for EDBs.

## Data and digitalisation

28. As stakeholders have previously raised, digitalisation and data are key enablers of the transition to net zero. For example, in our feedback to the Decarbonisation workshop we said:

*“The transition required to decarbonise the sector cannot happen without transformation. Vector believes that the following components are essential on this journey:*

- ✓ *Digitalisation - instrumental in enabling consumer participation in the market not least through unlocking demand-side value and thereby the market power of consumers;*
- ✓ *Data – access to data is halting progress towards visibility of the low voltage network (crucial to the EV revolution). Data can optimise network operations, increase efficiency, customer insights, and better understand network utilisation and forecasting demand [...].”*

29. And in our Open Letter response we recommended that the Commission:

- *“takes stock of how far the energy system’s digitalisation journeys have progressed internationally;*
- *puts digitalisation front and centre of their agenda for the IM review;*
- *and ensures EDBs are adequately funded to support the digitalisation journey.”*

30. We note the Paper contains very little discussion around digitalisation or data to achieve a smarter, more flexible grid for the benefit of consumers. This surprises us given how much attention this topic is getting in overseas regulatory reviews. The Commission should expressly consider how best to promote digitalisation and access to data during this IM review and should openly acknowledge (like other regulators) the critical enabling role such investment will have on the sector’s transformation and enabling new services and greater electrification by customers.



31. We refer the Commission to the successful work carried out by the Energy Data Taskforce in the United Kingdom, and their report *A Strategy for a Modern Digitalised Energy System*<sup>4</sup> which aims to provide a set of recommendations that will support the delivery of an energy system unlocking the benefits of decarbonisation and decentralisation through better use of data. The Taskforce *“believes that digitalisation releases value, opportunity and resilience, enabling decarbonisation and decentralisation to be delivered at optimal cost for the benefit of consumers”*.
32. Supporting digitalisation and greater use of data will better promote the Part 4 purpose, in particular by promoting greater dynamic efficiency. We recommend the Commission consider the following IM mechanisms to achieve this –
- Providing greater flexibility between opex and capex to ensure regulated businesses can invest in digital solutions over traditional network build where this is more efficient.
  - More flexibility in the regime to allow investment where costs were foreseeable but not robustly verifiable during the AMP period or the time the price-path was set. This could include contingent allowances, better use-of pass-through and recoverable costs and better use of re-openers.
  - Providing explicit incentives to support digitalisation and the efficient use of data.

## Incentive mechanisms to improve efficiency for EDBs

33. This IM review should consider whether the Incremental Rolling Incentive Scheme (IRIS) is working as intended and whether other incentive mechanisms could better support the Part 4 purpose.
34. Most critically, there is currently insufficient focus on incentivising dynamic efficiency. The current incentive mechanisms are designed to encourage cost savings during the regulatory period. While this is important, an incentive mechanism that expressly targeted dynamic efficiency gains would have a much greater impact in promoting the long-term benefit of consumers.
35. We consider the current expenditure incentive mechanisms have the following issues:
- IRIS does not incentivise suppliers to make investments where savings will only materialise in later regulatory periods nor investments that share costs and benefits across the value chain. This is a missed opportunity to better incentivise dynamic efficiency. Consumers would enjoy vastly more benefits from improvements to dynamic efficiency than cost savings in a particular regulatory period.

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<sup>4</sup> Energy Data Taskforce, *A Strategy for a Modern Digitalised Energy System*, available:<https://esc-production-2021.s3.eu-west-2.amazonaws.com/2021/07/Catapult-Energy-Data-Taskforce-Report-A4-v4AW-Digital.pdf>

- IRIS penalties can deter expenditure that would benefit consumers but that was not foreseen during the AMP period and so has not been included in the allowances. There needs to be more in-period flexibility around unforeseen expenditure to address this. For example, enabling new large connections that drive system wide decarbonisation (e.g. electric bus and ferry charging) currently requires a 100% capital contribution from the customer. This could be seen as a barrier for customers wanting to electrify their processes. Vector could consider co-funding these connection costs if the incentives were right to do so. At present the risk of IRIS penalties coupled with back-ended cashflows due to indexation, and lower than expected returns due to CPI forecasting errors are all barriers to a possible co-funding model.
  - There needs to be more flexibility between opex and capex expenditure. While the opex and capex IRIS retention rates are currently the same, opex and capex expenditure allowances are not substitutable. This could incentivise the wrong investments (e.g. where an opex solution is more efficient but would incur IRIS penalties).
  - The IRIS punishes EDBs for cost increases that are not within their control. This will be exacerbated by the current inflationary environment.
  - There are no incentives for outputs and outcomes that customers value (other than cost) such as improved customer service, decarbonisation or innovation.
  - Better use of flexibility services and avoided cost for consumers are particular areas that should be incentivised.
  - A mechanism to incentivise investments that would lower costs at a whole system level would better support the long-term benefits of consumers than a focus on costs solely at the distribution level.
  - Similarly, express incentives for networks to share costs and collaborate with networks and with other stakeholders are needed.
36. The issues with the current incentive arrangements result in disincentives for expenditure that would better support efficiency (particularly dynamic efficiency) and therefore lower costs for consumers in the long term. This undermines the Part 4 purpose.
37. It is also a missed opportunity for a regulatory framework to better support the Part 4 purpose through providing more incentives for outputs that consumers value and to better support the net zero target by encouraging activity to support decarbonisation.
38. Accordingly, to better support the Part 4 purpose, the Commission should consider amending the IMs to:
- Allow capex and opex to be substituted in the IRIS.
  - Exempt particular categories of expenditure from the IRIS such as decarbonisation expenditure or customer connection expenditure.
  - Introduce incentive mechanisms to target dynamic efficiency and innovation.
  - Introduce incentive mechanisms to better encourage the use of flexibility services and promote the potential for customers to avoided costs

- Introduce incentive mechanisms to support EDBs to consider non wire alternatives. It is worth considering greater compensation for risks that suppliers bear in using non wire alternatives as markets for these products and services develop.
  - Introduce mechanisms to support cost and benefit sharing and collaboration between networks and other participants in the sector.
  - Introduce incentive mechanisms to encourage investments that would lower costs at a whole system level.
39. The Commission should take note of some of regulatory tools used overseas to enhance customer centric outcomes and promote more agile regulation. For example, in their Draft Determinations for RIIO-ED2, Ofgem has agreed to a financial Distribution System Operator (DSO) incentive to drive distributors to develop and use their network, considering flexible and smart alternatives to network reinforcement more efficiently.
40. Ofgem has also implemented a whole system focussed re-opener – the Coordinated Adjustment Mechanism - which allows distributors to re-open their price-paths to support reallocation of project revenues and responsibilities to the network best placed to deliver relevant projects. Ofgem expects distributors to use a 'Whole System Cost-Benefit Analysis' framework to support their applications.
41. The AER has implemented schemes to incentivise efficient investment into non-network options. Its demand management incentive scheme provides network providers with financial incentives for undertaking demand management activities rather than traditional build.
42. We note a WACC uplift for certain types of investment (for example, enabling decarbonisation or distributed energy resources) could also be considered as an incentive mechanism.

### Innovation

43. The current IM framework does not sufficiently incentivise innovation. This has been widely acknowledged by a number of stakeholders. Better incentives for innovation are needed to promote the long-term benefits of consumers, particularly in terms of achieving better dynamic efficiency to deliver lower costs and a smarter network in the long term.
44. We highlight comments made by Audrey Zibelman, the vice president of Tapestry, X's Electric Grid Moonshot, when she recently spoke to Ofgem and other regulators part of the Regulatory Energy Transition Accelerator:

*“utilities, relative to other industries, spend very, very little on R&D. And I think that it's problematic in a time with rapid technological change. And so, one area where I think we can exploit as regulators is not just allowing utilities to spend money on research and development or innovative tech, but actually requiring them to do so. So long as they can demonstrate it is designed to improve economic outcomes to consumers because part of*

*our challenge in this industry is that technology is moving so quickly, utilities have actually been fairly slow to adopt new technologies and part of it is that there is regulatory risk [...] I would suggest we should encourage utilities to experiment with new tech so we can get it to market faster.”<sup>5</sup>*

45. Overseas regulators have recognised that supporting innovation is fundamental to the role of an economic regulator, particularly in during a period of transition in the sector. For example:

- Ofgem has provided distributors with a Network Innovation Allowance since 2013. In the current price control, the Network Innovation Allowance provides funding for innovation projects that have the potential to address consumer vulnerability and/or deliver longer-term financial and environmental benefits for consumers, which they would not otherwise undertake within the price control.
- Ofgem has also implemented a Strategic Innovation Fund for the Electricity System Operator, Electricity and Gas Transmission, and Electricity and Gas Distribution sectors. This is intended to support ambitious projects with the potential to accelerate the transition to net zero.
- The AER’s demand innovation allowance mechanism provides networks with funding for research and development into innovative demand management solutions.
- The AER has established a customer service incentive scheme designed to incentivise EDBs to engage with customers and provide customer service in line with customer preferences.
- The AER is currently finalising its approach to regulatory sandboxing which is intended to enable the trial of new and innovative products and services. This has three components: An innovation enquiry service that provides guidance on the regulatory settings, a trial waiver that allows the AER to waive specified rules for trial projects; and a trial rule process that allows the AEMC to temporarily change existing rules or introduce new rules to enable a trial.
- Energy regulators in Europe, the UK, Canada and Singapore have also introduced regulatory sandboxes to accelerate innovation and highlight changes needed in the regulatory framework as the energy sector transforms.

46. We consider the Commission must urgently “catch up” in the area of innovation. It has so far placed insufficient weight on the obligation to provide suppliers incentives to innovate under s52A(1)(a).

47. The introduction of the innovation project allowance as part of EDB DPP3 was an overly tentative first step by the Commission to introduce an express incentive for innovation. However, in practice this allowance is too small to support innovation in any impactful way.

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<sup>5</sup> Audrey Zibelman, *Accelerating the energy transition through international collaboration – a conversation between Audrey Zibelman and energy regulators* (21 June 2022), available: <https://www.iea.org/events/accelerating-the-energy-transition-through-international-collaboration-a-conversation-between-audrey-zibelman-and-energy-regulators>

48. We recommend the Commission amend the IMs to:

- Update the innovation project allowance to have more impact; and
- Introduce express incentives for innovation and other outcomes valued by customers in line with approaches by overseas regulators. Introduce express incentives to support cost sharing and collaboration between networks and with other stakeholders.

49. This would better support the Part 4 purpose by promoting innovation by regulated businesses to both lower costs over the long term and support network evolution. Support for innovation is critical in the current environment. As recognised overseas, regulators have an express role to play in promoting innovation to deliver the transformation of the energy sector for the long-term benefit of consumers.

50. It is worth noting that a key incentive for businesses in competitive markets to pursue innovation – is the potential to make excessive profits, at least in the short term – this is absent in regulated markets. However, it is regulated markets that need to innovate to deliver the energy transition. Accordingly, the Commission must play an active role in fostering innovation to discharge its obligations under Part 4. Approaching these incentives solely through the lens of a cost discipline is not enough in the current context.

## Form of control

### The EDB limit on forecast revenue from prices increases should be net of pass-through and recoverable costs

51. The current EDB IM allows the Commission to specify a limit on the annual maximum percentage increase in forecast revenue from prices. In DPP3, the Commission specified a 10% limit on increases to forecast revenue from prices per year. This cap includes “passed through” transmission costs along with the EDB’s own costs.

52. We appreciate that the limit is intended to protect consumers from price shock. However, the design does not take into account the commercial realities faced by EDBs, nor the potential for the current inflationary environment to see the 10% limit consumed by transmission charges over that of the EDB’s own charges.

53. Transmission charges are projected to rise significantly, and inflation is rising. Transmission costs will take up a significant portion of the 10% limit and will compromise EDBs ability to recover their own costs. This issue is likely to get worse over time due to significant investment programmes for both EDBs and Transpower, rising inflation, and as Transmission Pricing Methodology (TPM) structural changes (e.g. beneficiary pays) flow through transmission pricing.

54. At the time the Commission's 10% limit was established, high inflation was not envisaged nor was there clarity on how TPM structural prices change would impact on individual EDBs.
55. The current 10% limit has the potential to severely compromise EDB ability to invest as this problem grows and unrecovered costs start to add up. This could cause significant harm to consumers in the long term.
56. In determining Aurora's Customised Price-Quality Path (CPP), the Commission excluded transmission costs from Aurora's limit. This treatment should apply to all EDBs.
57. We also note IRIS incentive adjustments are recovered as recoverable costs. This means the 10% limit could undermine the incentives intended by the IRIS mechanisms if EDBs are not confident that they will be able to recover their IRIS incentive adjustment.
58. Accordingly, we recommend the Commission amend the EDB IM to implement a limit on increases to forecast revenue from prices that is net of pass-through and recoverable costs. This would better support the Part 4 purpose by maintaining the ability of EDBs to invest. It cannot be the case that EDBs' ability to fund investment are put behind those of Transpower.
59. We also consider the cap on the extent of revenue increases should be determined on a real basis.

#### The GDB should move to a revenue cap

60. We consider it critical the GDB form of control move to a revenue cap. There is no justification to retain the WAPC as the current form of control. Our understanding is this was an issue parked by the Commission during the recent gas reset for express consideration in the IMs review.
61. GDBs currently face a heightened risk of asset stranding. It is clear from the ERP that New Zealand's transition to net zero will see a reduced role for reticulated natural gas. However, incentives for investment are still necessary to avoid the costs of a disorderly gas transition and the potential remains for a transition to 'clean gases' such as hydrogen.

#### Quantity forecast risk under the GDB revenue cap

62. As Vector raised in our gas DPP3 submission, quantity forecasting risk has increased significantly since the last IM review. Most notably, future gas demand depends to a large extent on government policy and consumer response to achieving net zero which continues to develop.

63. This is even more the case now the government has decided against implementing the Climate Change Commission's recommendation to ban new gas connections which would have provided a clear signal on gas demand growth.
64. It is difficult to predict how consumers will react to government climate policy, and climate change more broadly, in terms of demand for gas and connection to gas networks. We note the Government Investment in Decarbonising Industry (GIDI) fund will provide opportunities for larger gas consumers to transition from gas where this would otherwise have been unviable. This makes predicting future use significantly more difficult.
65. We consider this presents significant quantity forecast risk. This creates a disincentive to efficient investment as it reduces GDB confidence in their ability to recover costs, given the risk of over forecasting.
66. We note Vector's 2022 AMP volume forecast is significantly different to the Commission's forecast used in DPP3.

The policy intent of the WAPC for GDBs is no longer relevant or appropriate

67. The WAPC is designed to encourage the regulated business to pursue connections and drive greater volumes. This incentive is not appropriate in the current environment. If the asset stranding risk materialises, newer consumers will be forced to pay for a redundant asset which they could have avoided (versus legacy consumers who could not avoid this risk). Moreover, this incentive entirely undermines the ERP and the net zero target which sees a reduced role for natural gas.
68. In the 2016 IM review, the Commission stated its policy intent in retaining the WAPC for GDBs: "*Our main reason for maintaining the WAPC is the incentive it provides for GDBs to pursue new gas connections and grow throughput.*"<sup>6</sup>
69. The Commission also considered that, "*unlike for EDBs, we do not have any significant concerns about continuing to use CPRG forecasting for GDBs*" and "*unlike for EDBs, we do not think the WAPC creates concerns about tariff restructuring or efficient pricing for GDBs.*"<sup>7</sup>
70. Vector advocated the Commission change the form of control to a revenue cap during the DPP3 reset. The Commission declined, stating: "*We continue to consider that, even in the current environment where there is potentially more uncertainty, that GDBs are best placed*

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<sup>6</sup> Commerce Commission, *Input Methodologies Review Decisions, Topic Paper 1: Form of Control and RAB Indexation for EDBs, GPBs and Transpower* (December 2016) at 221

<sup>7</sup> Ibid at 216

*to manage the within period demand risk and still have incentives to maintain their customer base.”<sup>8</sup>*

71. The Commission did not discuss the incentive to grow connections created by the WAPC in its DPP3 decision. This may have been due to a perception that Vector’s advocacy for a revenue cap was largely focussed on volume risk.
72. However, it is clear the policy intent to provide an incentive to grow connections is no longer relevant or appropriate given GDBs face an increased risk of asset stranding and it undermines the pathway to net zero set out in the ERP.
73. Furthermore, connection growth is now largely dependent on factors outside the control of GDBs i.e. government policy and consumer response to climate change).
74. We also note this approach is inconsistent with the approach to the GTB. We can see no justification for the GTB and GDBs to have different forms of control.
75. Accordingly, amending the IM to change the GDB form of control to a revenue cap will promote the Part 4 purpose more effectively because it will avoid disincentives to efficient investment arising from significant quantity forecast risk.
76. Amending the IMs to change the GDB form of control will also better promote the ERP and net zero target without detrimentally impacting the Part 4 purpose by removing a now inappropriate incentive for GDBs to pursue connection growth.

## **RAB indexation and inflation forecasting**

77. The current IM approach of indexing the RAB to inflation should be amended this IM review. The back-loaded cashflow profile risks creating significant difficulty for regulated business to finance their investment programmes at a time when these investments are essential for meeting Government mandated climate targets and transforming networks through digitalisation to deliver long term value to consumers.
78. Vector has already taken significant action to mitigate this issue, including moving to 100% capital contributions for customer connection growth. However, resolving the cashflow issue is not within the control of regulated businesses. The IMs must be amended to ensure regulated businesses have sufficient cashflow to undertake efficient expenditure for the long-term benefit of consumers. In the current context, where significant upfront expenditure is required for the transformation of the energy sector and climate change adaptation, the existing IM risks jeopardising the delivery of the needed energy transformation. This would cause significant harm to consumers.

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<sup>8</sup> Commerce Commission, *Default Price-Quality Paths for Gas Pipeline Businesses from 1 October 2022: Final Reasons Paper* (31 May 2022) at E38



79. We recognise different regulated businesses have different investments needs, access to further equity, and funding approaches. Accordingly, we recommend the Commission amend the IMs to provide regulated businesses the ability to choose the indexation profile (indexed or not indexed) most appropriate for their network investment circumstances. The Commission has already taken this approach in the Airports IM.
80. The current macroeconomic environment of rising inflation has not changed our view that the RAB should be un-indexed to support financeability and the large-scale investment currently needed. The Paper states the current and rising levels of inflation, “*highlights the benefit of the protection to inflation risk that our approach to RAB indexation provides.*” We consider this does not outweigh the detrimental impact the cashflow profile has on efficient investment.
81. Despite rising inflation (and therefore potential inflation risk), the long-term benefits of consumers are better served by providing regulated businesses the opportunity to select an un-indexed cashflow profile. In the current environment, insufficient investment could have catastrophic consequences. We consider there is no option but to amend the IMs to better ensure regulated business have sufficient cashflow to fund investment.
82. We note that, given the scale of the issue and the likelihood it impacts multiple regulated businesses, a CPP is not an appropriate option to deal with the cashflow profile. Providing an option in the IM to allow regulated businesses to choose their appropriate cashflow profile would be a less administratively burdensome and therefore lower cost option than dealing with multiple CPPs on this issue.

#### EDB RAB indexation

83. For EDBs, a significant programme of expenditure is needed to fund increased electrification and the energy transition.
84. The ability of EDBs to make necessary investments is undermined by the backloaded cashflow profile created by the current IM settings that index the RAB to inflation.
85. Unlike EDBs, Transpower maintains a front-loaded cashflow profile through an un-indexed RAB. We understand the policy intent behind this decision was that Transpower had a significant upcoming investment programme, so a front-loaded cashflow profile was appropriate to support investment.
86. This is identical to the situation many EDBs are now faced with. The policy intent to provide a front loaded cashflow profile to support investment needs also applies to EDBs. It is not reasonable for the Commission to apply this policy for Transpower but not EDBs.

87. We also note airports can determine their indexation approach under the airport IM. This approach would also be appropriate for EDBs to ensure they have an appropriate cashflow profile for their particular circumstances.
88. Amending the IM to enable EDBs to choose whether their RAB is indexed or un-indexed would better promote the Part 4 purpose by:
- Maintaining incentives to innovate and invest by providing sufficient cashflow for EDBs to finance and undertake efficient investment;
  - This would support EDB efficiency, particularly dynamic efficiency and, accordingly, allow EDBs to share the benefits of efficiency gains with consumers;
  - It would better support EDBs to improve network resiliency in the face of climate change and to deliver further outputs that consumers value and now expect; and
  - Fund necessary investment in an NPV=0 way. This ensures there is no concern around EDBs ability to extract excessive profits
89. To inform the debate on indexation we believe it would be useful for the Commission to clearly set out how it historically reached this view in the context of not indexing Transpower's RAB. The decision-making criteria used by the Commission to determine Transpower's un-indexed cashflow profile and/or provide airports with the flexibility to determine the appropriate indexation approach, is an important starting point for an informed review of this important area.

#### Transpower RAB indexation

90. We can see no justification for the current position where Transpower and EDBs have separate cashflow profiles (and inflation risk) due to the differing treatment of RAB indexation.
91. If the Commission is not willing to amend the EDB IM to remove RAB indexation, it should amend the Transpower IM to index Transpower's RAB to inflation. This would provide EDBs and Transpower with the same cashflow profile.
92. The current IM settings mean Transpower costs can undermine the ability of EDBs to make efficient investments. EDBs cannot increase prices by more than 10% per year, including pass-through and recoverable costs, as further discussed from paragraph 51.
93. This means Transpower cost increases can prevent EDBs from being able to recover their own costs. If EDBs cannot recover their own costs through prices (due to increased pass-through costs from transmission charges) they will face significant difficulty funding necessary investment.
94. Accordingly, amending the Transpower IM bring Transpower's RAB indexation in line with EDBs could better support the Part 4 purpose by mitigating the impact of Transpower costs on EDBs ability to invest.

95. We consider the benefit of promoting Part 4 would outweigh any additional complexity or cost involved in changing the Transpower IM.

#### GDB RAB indexation

96. GDBs face heightened asset stranding risk. However, it is still necessary for GDBs to invest in their networks to maintain safety and quality. The Government has confirmed its commitment to an orderly transition for reticulated natural gas and its commitment to the potential for clean gases such as hydrogen.

97. If investors are not confident their capital will be returned, they will not be willing to invest. Similarly, GDB directors may find it difficult to approve new investment if they are not confident this capital will be returned. The Commission recognised this issue in the GDB DPP3 decision and introduced a mechanism to accelerate depreciation to maintain investment incentives in line with the Part 4 purpose.

98. However, this is undermined by current IM settings that index the RAB to inflation. This serves to inflate the scale of asset stranding risk and therefore materially detracts from GPB incentives to invest.

99. Amending the GDB IM to remove RAB indexation will therefore better promote the Part 4 purpose by maintaining the incentive to invest in a safe and efficient network during time of heightened asset stranding risk. This mechanism is NPV=0 so cannot raise any concerns around GPBs making excessive profits.

#### Cost of debt issue

100. It remains an issue that interest costs for EDBs and GDBs are nominal, but these businesses must fund the payment of those interest costs through real cashflows. This creates a timing mismatch between debt related inflation costs and regulatory compensation. The IMs compensate for the inflation component of debt costs via higher future revenues spread over a period of 50+ years (and less than half of inflation related interest costs are compensated within the first 20 years after inflation occurs). By contrast, EDBs must pay debt holders for 100% of inflation related debt costs by the final maturity date of the debt instrument.

101. This issue must be addressed at this IM review. EDBs have a large investment programme which for many businesses will require debt funding. The cash-flow mismatch created by the current approach to the funding of interest payments undermines the ability of EDBs and GDBs to manage their cash flows effectively and therefore undermines their ability to invest. While this is a cashflow mismatch rather than present value mismatch, there are limits to the ability of an EDB to fund new borrowing to pay current interest costs. This is especially true where there are other pressures placed on its credit metrics such as the back-ended cashflow profile.

102. Furthermore, the current approach requires equity investors to solely bear inflation risk. This further compromises the ability of EDBs to invest (and therefore compromises the Part 4 purpose), particularly in an environment of scarce capital.
103. We consider the Commission should amend the IMs to allow regulated suppliers to choose the appropriate approach for indexation. However, if it decides against this, the Commission should at least un-index the debt funded portion of the RAB (i.e. a hybrid approach). This would better support the Part 4 purpose by alleviating the current constraint on EDBs and GDBs ability to fund debt efficiently to support investment.
104. We consider un-indexing the RAB (or at least the debt funded portion) is the only option to solve this issue under the current WACC formula.
105. Issuing CPI-indexed (or floating) debt is not an option. Issuing CPI indexed debt (even if it could be issued at the same expected cost as nominal debt) would increase rather than reduce the risk of mismatch between cost and IM compensation. This is because borrowing using CPI indexed debt would create a trailing average real cost of debt for the EDB while the IMs compensate based on an estimate of the prevailing real risk-free rate immediately prior to the start of the DPP.
106. Furthermore, the above reasoning assumes an EDB could issue CPI-indexed debt at the same expected cost as nominal debt. This would not be the case in practice. If an EDB issued CPI-indexed debt, this would likely be very expensive.
107. The market for CPI-indexed debt in New Zealand is small, with a Bloomberg search identifying only eight such bonds in its database.<sup>9</sup> Six of these bonds were issued by Government, with one issued by Transpower and one by Kāinga Ora (both AA rated 100% owned government entities). In the small number of cases where an entity does issue CPI indexed debt, the expected nominal cost of CPI indexed bonds has been materially higher than for nominal bonds issued by the same issuer with the same maturity. No privately owned corporation in New Zealand has ever issued CPI indexed bonds.
108. Accordingly, issuing CPI-indexed debt would not be a rational approach for an EDB. It would increase cost and risk, without solving (and likely exacerbating) the mismatch between cost and compensation.

#### Embedded cost of debt approach

109. The only alternative we can see to un-indexing (at least) the debt-funded portion of the RAB would be to provide actual debt costs i.e. to determine the cost of debt as either the interest rate actually paid (or expected to be paid) by the individual EDB on issued bonds. This approach is termed the embedded cost of debt and is used by some regulators internationally. For example, the US Federal Energy Regulatory Commission, the US

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<sup>9</sup> Bloomberg's SRCH function

Surface and Transportation Board, and the Dutch Authority for Consumers and Markets all use an embedded cost of debt approach.

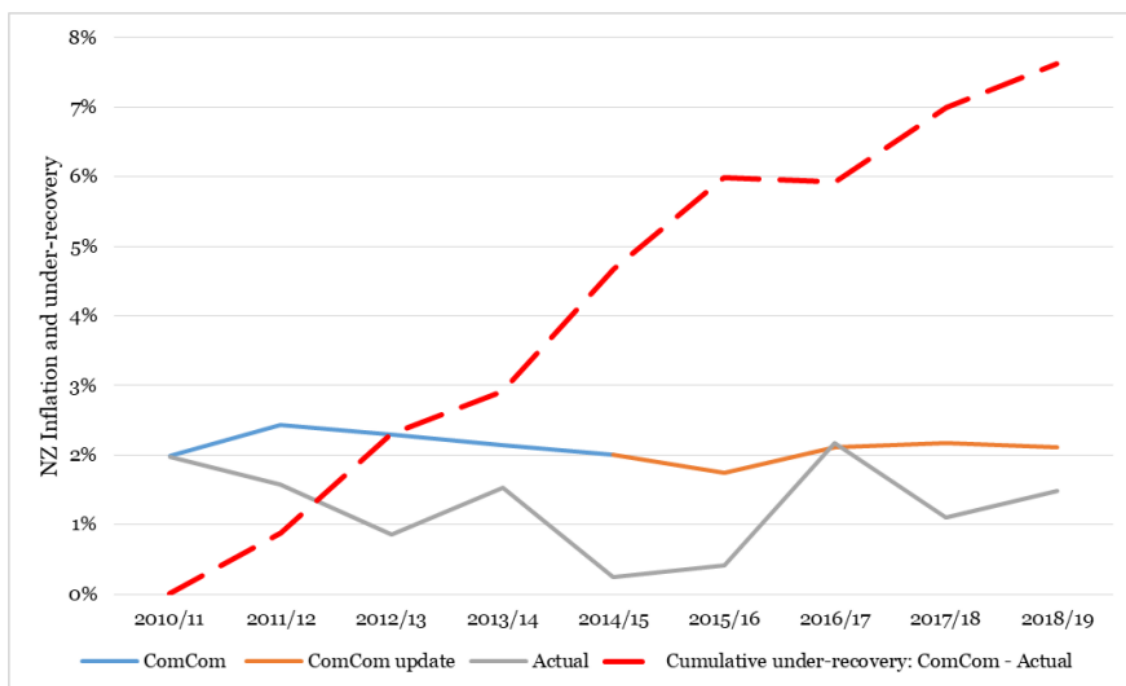
110. We recommend the Commission consider moving to an embedded cost of debt approach. This would better support the Part 4 purpose by removing the cost of debt issue and better supporting EDB financeability. However, we note un-indexing the RAB would likely be less complex than changing the approach to determining the cost of debt.

Inflation forecasting error

111. The current methodology for estimating inflation led the Commission to persistently over-forecast inflation over previous regulatory periods. CEG’s analysis for Vector in 2019 found this resulted in forced losses on EDB’s of around 0.85% of the RAB per year with equity investors bearing a higher nominal percentage loss (as they bear the loss of the debt funded portion of the RAB).<sup>10</sup>

112. CEG provided the following graph illustrating the impact of inflation forecast errors from 2011 – 2019:<sup>11</sup>

**Figure 1-3: IM inflation forecasts, actual inflation, and cumulative under-recovery**



<sup>10</sup> CEG, *Dealing with negative real risk free rates* (July 2019) available: [https://comcom.govt.nz/\\_\\_data/assets/pdf\\_file/0017/160163/CEG-on-behalf-of-Vector-Submission-on-IM-amendments-for-DPP-and-IPP-5-July-2019.pdf](https://comcom.govt.nz/__data/assets/pdf_file/0017/160163/CEG-on-behalf-of-Vector-Submission-on-IM-amendments-for-DPP-and-IPP-5-July-2019.pdf)

<sup>11</sup> Ibid

113. We recommend the Commission review its methodology to forecast inflation. We consider a market-based methodology would produce a more credible forecast. The current approach undermines the Part 4 purpose by producing a disincentive to investment. Along with years of losses already produced, there is every reason for regulated businesses and their investors to expect continued inflation forecast error given the persistent under-forecast produced by the methodology thereby undermining investment confidence.
114. Furthermore, in the current environment of rising inflation, there is increased risk of the Commission under-forecasting inflation resulting in overpayment by consumers. We consider the long-term benefit of consumers is best promoted by a methodology that produces the most accurate inflation forecast possible.

## **Cost of capital (WACC)**

115. The key issue in determining WACC settings this IM review is to ensure it provides sufficient incentives for investment to support the transformation of the energy sector, the transition to net zero and the necessary adaption required to prepare for physical changes expected from climate change.
116. The Commission's long-standing economic principles recognise that there are asymmetric consequences to consumers, in the long-term, of under-investment versus over-investment. This principle maintains incentives to invest at a quality that consumers demand in line with the Part 4 purpose.
117. The asymmetric consequences to consumers of under-investment have increased significantly since the IMs were enacted (and since the 2016 IM review) in the context of the need for investment to support electrification.
118. Furthermore, the need for the Commission to promote dynamic efficiency through the Part 4 purpose is crucial in the context of the upcoming expenditure necessary to deliver the net zero transition and necessary investment associated with climate change adaptation.
119. Accordingly, these principles should be the primary considerations for the Commission in determining the WACC settings. Consumers will face significant harm if the regulatory settings fail to promote adequate investment. If regulated suppliers do not make the right investments now, long-run costs to consumers may be significantly higher than they would otherwise have been. In a worst-case scenario, failure to make appropriate investments now could result in networks that are not able to support electrification and the transition to net zero with wider economy-wide issues and costs.

## A higher WACC percentile is needed in the current environment

120. The operating environment for regulated business has changed significantly since the WACC percentile was set in 2014. The consequences of underinvestment are now much greater than 2014.

121. We note the Commission adopted the 67<sup>th</sup> percentile due to the perceived significant potential costs to consumers of major supply outages that could result from underinvestment. The Commission did not suggest that there would be an ‘investment strike’ if it inadvertently set the WACC below its ‘true level’.<sup>12</sup> Rather, it recognised that other subtler avenues are available to EDBs to cut back on spending that may not be easily observable.<sup>13</sup>

122. The Commission’s concern was that this might culminate in major supply failures. Oxera estimated the potential annual cost of severe outage events as being between \$1bn and \$3bn.<sup>14</sup> The magnitude of those costs, coupled with the foreseeable possibility that they might arise, caused the Commission to conclude that it was in consumers’ interests to pay an ‘insurance premium’ by setting the WACC above the midpoint.

123. This logic still holds. However, in the current environment – where EDBs are facing the prospect of making significant *new* investments as the economy electrifies - the potential costs of getting these investments wrong would be even more significant. Accordingly, a higher WACC percentile is needed to support efficient investment to promote the long-term benefits of consumers in line with the Part 4 purpose.

124. Along with increased demand, electricity networks will be required to manage increased complexity as distributed energy resources become increasingly crucial to the supply of electricity. There is now greater potential for new and innovative technologies to play a role in network management. This will require networks to transform, including through increased digitalisation. Again, this will require significant investment. If networks fail to innovate now, it is likely consumers will be burdened with a more expensive and less efficient network in the long term.

125. Electrification of the of the economy is a key pillar of the transition to Net Zero. This will increase the cost of outages as the New Zealand economy becomes increasingly

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<sup>12</sup> Indeed, it recognised that regulatory mechanisms such as requirements to produce Asset Management Plans and the regulatory quality standards would be likely to preclude such a response.

<sup>13</sup> Such as neglecting to replace ageing assets in a timely fashion, increasing the probability of failure, allowing utilisation of existing assets to increase to levels that heighten the probability of failure before investing in new capacity, choosing to invest in inefficiently small-scale projects to alleviate capacity constraints, etc.

<sup>14</sup> Oxera, *Input methodologies, Review of the ‘75<sup>th</sup> percentile’ approach, Prepared for the New Zealand Commerce Commission (23 June 2014)* p.72.

dependent on electricity. At the same time, climate change will present increased challenges for network resiliency (for example, through an increase in severe weather events). If left unaddressed due to sub-optimal investment, consumers would see increased outages at a time the cost of these outages had increased.

126. For the GDB, it is necessary to maintain incentives to invest to avoid the costs of a disorderly gas transition.

127. We consider these circumstances necessitate the move to a higher WACC percentile to support the long-term benefit of consumers.

#### Other WACC parameters

128. We have not provided substantive comments on other WACC parameters in this submission.

129. We note we do not consider the TARMP should be recalculated this IM review, given it was recently updated for the GPB DPP3 decision.

## **Financeability**

130. The Commission should amend the IMs to expressly introduce financeability testing to ensure regulated businesses have adequate cashflows that enable them to raise finance on good terms.

131. Financeability tests are common internationally, including in Great Britain. The AER is consulting on introducing financeability testing as part of its Rate of Return Instrument 2022.<sup>15</sup>

132. We note that the regulatory framework is designed to provide return on and of capital over the long term. However, there is still a risk regulated suppliers face cash constraints in the short term. This is directly relevant in the current environment where cashflows are constrained by the back-ended cashflow profile from RAB indexation, significant upcoming investment requirements and rising costs.

133. Introducing a financeability test would better support the Part 4 purpose by ensuring regulated businesses can finance their networks efficiently. This would ensure consumers are able to benefit from needed investments and greater efficiency by ensuring regulated businesses can invest at the optimum time rather than when cashflows permit investment. It would also support the ability of regulated businesses to obtain debt finance on favourable terms, thereby keeping the cost of debt low.

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<sup>15</sup> AER, *Rate of Return: Term of the rate of return & Rate of return and cashflows in a low interest rate environment – final working paper* (September 2021).



## CPPs and in-period adjustments to price-path quality paths

### Expenditure forecasting

134. We consider there are significant limitations to the current approach of forecasting future expenditure based on historic expenditure. This approach was adopted during a period that assumed a “steady state” where past expenditure could reasonably predict future needs. This is not the case today. Accordingly, we consider the overall approach to expenditure forecasting needs to be reconsidered.
135. While we recognise expenditure forecasting has historically been a DPP issue, we recommend the Commission should consider these issues now to ensure the next DPP provide appropriate expenditure allowances and how IMs may be amended to better support and provide market confidence on the Commission’s approach to forward expenditure allowances. Similarly, these issues are intertwined with the IM framework so there may be opportunities to address some issues by amending the IMs.
136. In particular, the DPP should allow better flexibility between opex and capex. This is becoming increasingly critical as networks digitise.
137. The opex step change criteria have resulted in significant uncertainty as there is little guidance on what information, in practice, a regulated business must provide to obtain a step change. In a regime designed to promote greater certainty, this has been a source of frustration for regulated suppliers as the Commission has sought to accept or reject expenditures sought on an ad-hoc basis with limited to no published criteria that regulated suppliers can utilise in making such cases. The 2020 DPP decisions around no increased cost allowances for data or cyber security costs are two clear examples where the regime simply leads to a de facto position of the Commission being unwilling to provide a step change in costs despite the clear societal and enabling role of both categories of expenditure.
138. We recommend ahead of the next DPP reset the Commission publishes guidelines on the information and clear guidance as to what it requires to assess an opex step change and how it will assess these step changes.
139. We consider regulatory certainty would be better promoted by an IM that set out the Commission’s approach to setting expenditure allowances and step changes.

## Flexibility and uncertainty mechanisms

140. It is critical that more is done to promote in-period flexibility. We recommend the Commission address the following issues with existing flexibility mechanisms (re-opener provisions and CPPs) this IM review –

- Currently some re-opener provisions are limited to capex only. We consider all re-opener provisions should be neutral as to whether opex or capex (or a mixture of the two) is provided to ensure regulated businesses are able to adopt the most efficient solutions.
- Expenditure must reach a minimum threshold (e.g. 1% of Maximum Allowed Revenue (MAR)) before a re-opener can be sought. This does not address situations where various unforeseen projects or programmes that cumulatively would reach the threshold are needed during a regulatory period.
- The use of re-openers adds administrative cost and burden to both the regulated business and supplier. It is likely regulated businesses will need to seek re-openers more frequently in future. This may create an unmanageable burden for the Commission and lead to uncertainty for suppliers.
- The use of CPPs – including more use of single issue CPPs – raise similar issues around administrative costs. CPPs impose significant administrative burden for the regulated business and the Commission. As above, it is foreseeable that more regulated businesses will need to seek CPPs in future. This risks creating an unmanageable workload for the Commission and unmanageable uncertainty for regulated businesses.

141. These issues deter efficient expenditure and therefore undermine the Part 4 purpose.

142. To better support the flexibility needed in the regime, we recommend the Commission:

- Amend the re-opener provisions in the IM to be neutral as whether expenditure is opex, capex or a mixture of both (and implement all new re-openers as revenue neutral).
- Consider amending the IM to provide contingent allowances for expenditure reasonably expected (but not certain) during the period. For example, the Commission could provide a certain amount of expenditure to deal with e.g. EV connections with access to the allowance triggered only once sufficient EV connections were seeking access to the network.
- We also recommend the Commission consider other re-openers for expenditure that may not be provided in the price-path. We note Ofgem's RIIO-ED2 Draft Determination has outlined specific re-openers for each of the following areas: Net Zero, Digitalisation, DSO, and Cyber Resilience. These are a strong indication of the areas that could well necessitate a reopener and Vector encourages these be considered also in the New Zealand context.
- Amend the IMs to make better use of pass-through and recoverable costs. This should include allowing more ex post costs to be passed-through (in line with the approach the IM currently takes for gains and losses on disposed assets). Both cyber security

costs and data costs are two prime examples of areas that are rapidly changing and/or where efficient costs are being established. We also consider all legislative, regulatory and government policy driven costs would be appropriate to be included as pass-through costs.

143. These changes would better promote the Part 4 purpose by removing existing disincentives to existing efficient expenditure. The introduction of contingent allowances as an alternate to re-openers or CPPs would also remove cost and complexity from the regime and administrative burden on the Commission (as recently observed in the delayed Unison reopener decision).

## Information Disclosure (ID)

144. Along with the IMs, this review provides an opportunity to consider ID changes that could support the objective of reducing compliance costs and complexity.

### Asset Management Plans (AMPs)

145. We recommend the Commission amend the ID Determination to remove the requirement for directors to certify AMP updates each year. This would support the IM review objective of removing significant compliance costs without detrimentally affecting the Part 4 purpose.

146. Obtaining annual directors' certification for AMP updates imposes significant workload and time constraint for regulated businesses. This is not commensurate with any benefits produced by annual director certification of the AMP update.

147. We consider applying the director's certification solely to the full AMP that will be used for a DPP reset would provide the same comfort around the contents of the AMP while significantly reducing the compliance burden for regulated businesses. AMPs could still be updated annually on an EDBs website but only the DPP relevant AMP would be director certified.

### Software as a Service (SaaS)

148. We also note the increasing importance of SaaS has some implications for ID and how it should be interpreted. For EDBs and GDBs, SaaS is captured as 'non-network' spend. However, SaaS expenditure now, and increasingly, encompasses expenditure on critical aspects of the network.

149. Accordingly, this SaaS expenditure could lead to rising non-network expenditure that could be mistaken for inefficient overheads. Whereas, in reality, SaaS and other digital expenditure is critical to ensure an efficient future network.

## The Commission's overview of market outcomes

### Commission analysis of efficiency

150. Attachment A of the Paper provides analysis by the Commission into EDB efficiency. The Commission states this analysis found, "*indications that, overall, EDBs' opex productivity has steadily declined over the 2002-2018 period*" and that "*The evidence before us suggests that innovation activity occurs, but it has not yet clearly resulted in improved consumer outcomes in the form of higher productivity or measured service quality improvements.*"
151. We note the Commission's analysis is partial and, as acknowledged by the Commission, cannot be used to make any conclusions about efficiency.
152. We do not consider the inferences drawn around EDB efficiency were appropriate to make given limitations with the analysis.
153. In particular, we would argue that revenue growth should not be looked at in nominal terms, but rather in real terms. The Commission also focusses on aggregate revenue whilst ignoring the increase in customer numbers and demand on the network. And when the Commission refers to prices the analysis points to revenue per connection taking into account connection growth but not demand per connection. Instead the relevant metric the Commission should adopt is real revenue per customer per kWh.
154. The Commission's analysis found, in aggregate, EDBs' annual revenue grew by 53% in nominal terms between 2008 and 2020 and that, on a per customer basis, it increased by 38%.
155. However, using the relevant metrics described above produces the following values based on the information used by the Commission:
- Revenue per connection per energy: 4.5%
  - Revenue per connection per demand: 6.5%
156. We do not consider it reasonable for the Commission to emphasise 53% nominal revenue growth but ignore the 4.5% / 6.5% revenue growth in real terms.
157. We also noted the Commission's statement that, "*consumers have on average experienced an increase in price since 2008. This increase in price has been significantly higher than inflation.*" This is predicated on the 15% revenue growth per connection.
158. However, again, the best simple approximation is real growth per customer per unit of energy/demand at each customer (4.5% / 6.5%). Properly defined to reflect the actual services consumed, price growth was very similar to inflation (no more than 0.5% pa above inflation). This is notable given downward pressure on CPI in this period and that

infrastructure industries all had producer price indices growing at more than inflation over this period.

159. We note the evidence from Statistics NZ discussed from paragraphs 10.43 to 10.47 includes electricity generation and gas water and wastewater rather than being lines company specific. This is not relevant to measuring lines company productivity.

160. We also consider the international evidence discussed in paragraph 10.48 to 10.51 does not support the conclusions drawn. For example, the working paper discussed at paragraph 10.48 estimated network productivity growth in Great Britain to be around 1% per annum from 1990 to 2019. However, the Commission's analysis considered 2008 to 2020. Over this period (2007/08 to 2019) the working paper estimated -3.1% per annum TFP growth.

#### EDB outputs have changed since the regime was enacted

161. The analysis does not take into account changes to the operating environment for EDBs since Part 4 was enacted nor that EDBs have improved delivery of outputs necessary to manage a modern distribution network (but not included in the outputs considered by the Commission).

162. Identifying productivity growth (or decline) depends on the outputs measured. If relevant factors driving opex are not accounted for, it will appear productivity is declining. As NERA's report for the ENA (and cited by the Commission in its analysis) noted:

*"In a framework like the DPP where opex is forecast in a mechanistic way, the productivity assumption is capturing any effect on opex not driven by changes in line length, ICPs or input prices. Given the simplicity of the model, it should not be surprising that there are other factors that drive opex which the model does not explain. Because of this, in our view, the productivity assumption should be re-labelled the "residual opex factor", Reframing the opex partial factor productivity assumption in this way should make clear that a negative assumption is not necessarily an assumption of negative productivity."<sup>16</sup>*

163. EDB opex over this period has been driven by delivery of various outputs that reflect the changing operating environment and improvements to network management. These have not been captured in the Commission's analysis. This includes the development of a much smarter digitalised network, a more flexible network and safer work practises. It also reflects a more complex operating environment, including obligations under the *Health and Safety at Work Act 2015*, resource and environmental consent and management obligations and more complexity in traffic management.

164. Given the limitations in the analysis, inferences should not have been drawn on EDB productivity. We are concerned this could distract focus from key issues in the IM review.

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<sup>16</sup> NERA "Opex Partial Factor Productivity for DPP3 - Electricity Network Association" (18 July 2019), page vi

We note the Commission already undertakes summary analysis of ID which would be a better forum to consider this issue.

## Appendix A: summary of Vector recommendations

Topic	Vector recommendations
<b>The Commission's engagement model needs to change</b>	<p>We consider the process to date and as set out in the Paper could be radically improved by providing more opportunity for conversation between the Commission, regulated businesses and other stakeholders.</p> <p>This IM review must canvass a broad range of critical issues that go beyond business as usual. More conversation is needed to find solutions that deliver equitable and efficient outcomes for all.</p> <p>Vector is happy to assist with facilitating stakeholder workshops and other forums for discussion. We consider this is critical for the success of the IM review.</p>
<b>Data and digitalisation</b>	<p>As stakeholders have previously raised, digitalisation and data are key enablers of the transition to net zero.</p> <p>We note the Paper contains very little discussion around digitalisation or data to achieve a smarter, more flexible grid. This surprises us given how much attention this topic is getting in overseas regulatory reviews. The Commission should expressly consider how best to promote to digitalisation and access to data during this IM review.</p> <p>We recommend the Commission consider the following IM mechanisms to achieve this –</p> <ul style="list-style-type: none"> <li>• Providing greater flexibility between opex and capex to ensure regulated businesses can invest in digital solutions over traditional network build where this is more efficient.</li> <li>• More flexibility in the regime to allow investment where costs were foreseeable but not robustly verifiable during the AMP period or the time the price-path was set. This could include contingent allowances, better use-of pass-through and recoverable costs and better use of re-openers.</li> <li>• Providing explicit incentives to support digitalisation and the efficient use of data.</li> </ul>
<b>Incentive mechanisms to improve efficiency</b>	<p>This IM review should consider whether the Incremental Rolling Incentive Scheme (IRIS) is working as intended and whether other incentive mechanisms could better support the Part 4 purpose.</p>

We consider the current expenditure incentive mechanisms under the current framework have the following deficiencies:

- IRIS does not incentivise suppliers to make investments where savings will only materialise in later regulatory periods nor investments that share costs and benefits across the value chain. This is a missed opportunity to better incentivise dynamic efficiency. Consumers would enjoy vastly more benefits from improved dynamic efficiency than cost savings in a particular regulatory period.
- Express incentives for networks to share costs and collaborate between networks and with other stakeholders are necessary.
- IRIS penalties can deter expenditure that would benefit consumers but that was not foreseen during the AMP period and so has not been included in the allowances. There needs to be more in-period flexibility around unforeseen expenditure to address this.
- There needs to be more flexibility between opex and capex expenditure. While the opex and capex retention rates are currently the same, opex and capex expenditure allowances are not substitutable. This could incentivise the wrong investments (e.g. where an opex solution is more efficient but would incur IRIS penalties).
- There are no incentives for outputs that customers value (other than cost) such as improved customer service, decarbonisation or innovation.
- Better use of flexibility services and avoided cost for consumers are particular areas that should be incentivised.

Accordingly, to better support the Part 4 purpose, the Commission should consider amending the IMs to –

- Allow capex and opex to be substituted in the IRIS.
- Exempt particular categories of expenditure from the IRIS such as decarbonisation expenditure or customer connection expenditure.
- Introduce incentive mechanisms to target dynamic efficiency and innovation.
- Introduce incentive mechanisms to better encourage the use of flexibility services and promote the potential for customers to avoided costs
- Introduce mechanisms to support cost and benefit sharing and collaboration between networks and other participants in the sector.
- Introduce incentive mechanisms to encourage investments that would lower costs at a whole system level.



<b>Innovation</b>	<p>The current IM framework does not sufficiently incentivise innovation. We consider this has been widely acknowledged by a number of stakeholders. Better incentives for innovation are needed to promote the long-term benefits of consumers, particularly in terms of achieving better dynamic efficiency to deliver lower costs and a smarter, more resilient networks in the long term.</p> <p>We consider the Commission must urgently “catch up” in the area of innovation. It has so far placed insufficient weight on the obligation to provide suppliers incentive to innovate under s52A(1)(a).</p> <p>We recommend the Commission amend the IMs to –</p> <ul style="list-style-type: none"> <li>• Update the innovation project allowance to have more impact; and</li> <li>• Introduce express incentives for innovation and other outcomes valued by consumers in line with approaches by overseas regulators.</li> </ul> <p>This would better support the Part 4 purpose by promoting innovation by regulated businesses to both lower costs over the long term and support network evolution. Support for innovation is critical in the current environment. As recognised overseas, regulators have an express role to play in promoting innovation to deliver the transformation of the energy sector for the long-term benefit of consumers.</p>
<b>Form of control</b>	<p><u>EDB – limit on annual maximum percentage increase on forecast revenue from prices should be net of pass-through and recoverable costs</u></p> <p>The current EDB IM allows the Commission to specify a limit on the annual maximum percentage increase in forecast revenue from prices. The Commission specified a 10% annual limit in DPP3. This cap includes transmission costs along with the EDB’s own cost recovery.</p> <p>We appreciate that the limit is intended to protect consumers from price shock. However, the design does not take into account the commercial realities faced by EDBs, nor the potential for the current inflationary environment to see such a 10% limit consumed by transmission charges over that of the EDB’s own charges. This has the potential to severely compromise an EDBs ability to invest as this problem grows and unrecovered costs would start to add up. This could cause significant harm to consumers in the long term.</p> <p>Accordingly, we recommend the Commission amend the EDB IM to implement a limit that is net of pass-through and recoverable costs. This would better support the Part 4 purpose by maintaining the ability of EDBs to invest.</p> <p><u>GDB – should move to a revenue cap</u></p>

	<p>We consider it critical the GDB form of control moves to a revenue cap. There is no justification to retain the current form of control, the WAPC. Our understanding is this was an issue parked by the Commission during the recent gas reset for express consideration in the IMs review.</p> <p>There is significant quantity forecast risk in the current environment which provides a strong disincentive for efficient investment.</p> <p>Uncertainty around connection and volume growth is, to a large extent, driven by government policy and consumer response to achieving net zero. This is outside the control of the GDB.</p> <p>The policy intent behind the WAPC – to provide the GDB an incentive to grow connections and volume – is clearly no longer relevant or appropriate in the transition to net zero.</p> <p>We note this approach is inconsistent with the approach to the GTB We can see no justification for the GTB and GDBs to have different forms of control.</p> <p>The Commission should amend the IM to implement a revenue cap for GDBs. This would better promote the Part 4 purpose by removing the current disincentive for efficient investment. It would also better promote the ERP and net zero target by removing the incentive to grow gas connections and volumes.</p>
<b>RAB indexation</b>	<p>The current IM approach of indexing the RAB to inflation must be amended this IM review. The back-loaded cashflow profile is creating significant difficulty for regulated business to finance their investment programmes.</p> <p>We recommend the Commission amend the IM to provide EDBs and GPBs the ability to choose the indexation profile most appropriate for their circumstances. The Commission has already taken this approach in the Airports IM.</p> <p>If the Commission declines to amend the IM to allow EDBs to remove indexation, we recommend the Commission amend the Transpower IMs to index Transpower’s RAB. The policy intent behind Transpower’s un-indexed RAB, to support significant upcoming investment, equally applies to EDBs. There is no justification to maintain separate approaches between EDBs and Transpower.</p>
<b>Inflation forecasting methodology</b>	<p>The current methodology for estimating inflation has led the Commission to persistently over-forecast inflation over current and previous regulatory periods.</p>

	<p>We recommend the Commission review its methodology to forecast inflation. We consider a market-based methodology would produce a more credible forecast.</p> <p>The current approach undermines the Part 4 purpose by producing a disincentive for investment. Along with years of losses already produced, there is every reason for regulated businesses and their investors to expect continued inflation forecast error. Furthermore, in an environment of high inflation there is a risk inflation will be under-forecast leading to overpayment by consumers.</p> <p>We consider the Part 4 purpose is best promoted by a methodology that produces the most accurate inflation forecast possible.</p>
<b>Cost of capital</b>	<p>The key issue in determining WACC settings this IM review is to ensure it provides sufficient incentives for investment to support the transformation of the energy sector and the transition to net zero.</p> <p>We recommend the WACC move to a higher percentile. This would better support the Part 4 purpose as the asymmetric consequences to consumers of under-investment have increased significantly since the IMs were enacted (and since the 2016 IM review) in the context of the need for investment to support electrification and, for the GDB, to avoid a disorderly gas transition.</p>
<b>Financeability</b>	<p>The Commission should amend the IMs to introduce a financeability test. These are common practice by regulators internationally.</p> <p>Amending the IMs to introduce a financeability testing would better support the Part 4 purpose by ensuring regulated businesses can finance their networks efficiently. This would ensure consumers are able to benefit from needed investments and greater efficiency by ensuring regulated businesses can invest at the optimum time rather than when cashflows permit investment. It would also support the ability of regulated businesses to obtain debt finance on favourable terms, thereby keeping the cost of debt low.</p>
<b>CPP's and in-period adjustments to price-paths</b>	<p>There are significant limitations to the current approach of forecasting future expenditure based on historic expenditure. We consider the overall approach to expenditure forecasting needs to be reconsidered.</p> <p>To better support the flexibility needed in the regime, we recommend the Commission:</p>

	<ul style="list-style-type: none"> <li>• Amend the re-opener provisions in the IM to be neutral as whether expenditure is opex, capex or a mixture of both (and implement all new re-openers as neutral between opex and capex).</li> <li>• Consider amending the IMs to provide contingent allowances for expenditure reasonably expected (but not certain) during the period. For example, the Commission could provide a certain amount of expenditure to deal with e.g. EV connections, with access to an increased expenditure allowance triggered only once sufficient EV connections were seeking access to the network.</li> <li>• We also recommend the Commission consider other re-openers for expenditure that may not be provided in the price-path. We note Ofgem’s RII0—ED2 Draft Determination has outlined specific reopeners for each of the following areas: Net Zero, Digitalisation, DSO, and Cyber Resilience. These are a strong indication of the areas that could well necessitate a reopener and Vector encourages that these are considered in the New Zealand context.</li> <li>• Amend the IMs to make better use of pass-through and recoverable costs. This should include allowing more ex post costs to be passed-through (in line with the approach the IM currently takes for gains and losses on disposed assets). Cyber-security and data are examples of areas where efficient costs are being established. We also consider all legislative, regulatory and government policy driven costs would be appropriate to be included as pass-through costs.</li> </ul> <p>These changes would better promote the Part 4 purpose by removing existing disincentives for efficient expenditure.</p>
<p><b>Information disclosure – Asset Management Plans</b></p>	<p>We recommend the Commission amend the ID Determination to remove the requirement for directors to certify AMP updates each year. This would support the IM review objective of removing significant compliance costs without detrimentally affecting the Part 4 purpose.</p> <p>We consider applying the director’s certification solely to the full AMP would provide the same comfort around the contents of the AMP while significantly reducing the compliance burden for regulated businesses.</p>
<p><b>Commission’s overview of market outcomes</b></p>	<p>The Commission’s analysis of EDB productivity provided in Attachment A is flawed and should not have been used to draw inferences about EDB productivity.</p> <p>We would argue that revenue growth should not be looked at in nominal terms, but rather in real terms. The Commission also focusses on aggregate revenue</p>

whilst ignoring the increase in customer numbers and demand on the network. And when it refers to prices the Commission's analysis points to revenue per connection taking into account connection growth but not demand per connection. Instead the relevant metric the Commission should adopt is real revenue per customer per energy delivered.

The Commission's efficiency analyses also ignore other outputs delivered by EDBs. Since 2013 EDBs, with growing customer numbers have delivered more energy, more capacity and seen higher demand while their line charge revenues have decreased. They have also been developing a much smarter, digitalised grid, and a more flexible and safer network.