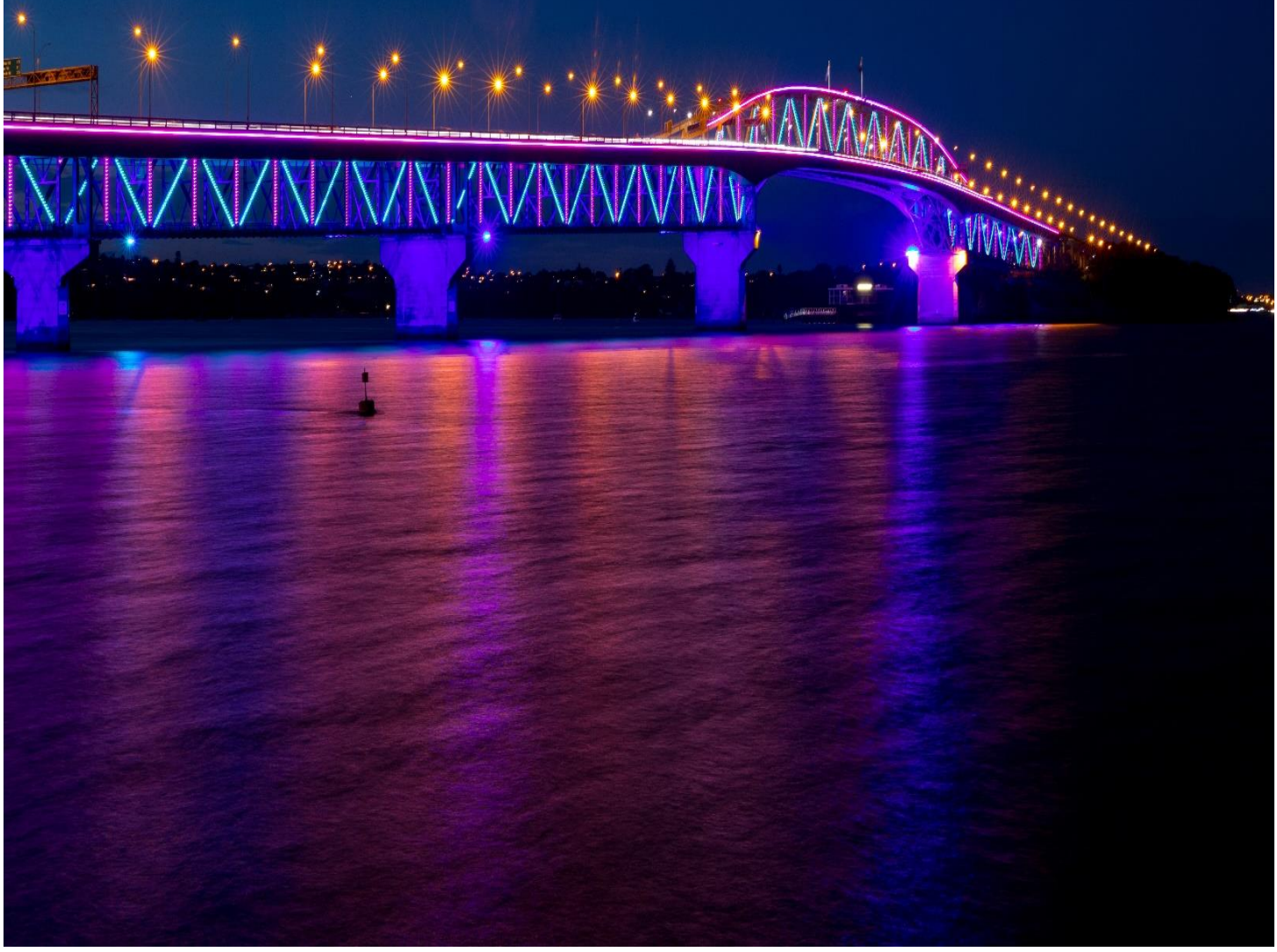
Vector Submission to the Commerce Commission's Open Letter on the Input Methodology Review, Gas Pipeline Business Reset and Information Disclosure Review



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Creating a new energy future

1. Executive summary

1. The Commerce Commission's open letter is a timely engagement with the electricity distribution business (EDB) and gas distribution business (GDB) sectors to develop its strategic direction for the upcoming reset of the Default Price-Quality Paths (Gas DPP reset) for Gas Pipeline Businesses (GPB); the upcoming Input Methodologies review (IM review).

2. In this submission we provide our views on what the energy sector will need to do support New Zealand's net zero decarbonisation challenge. The key challenge will be the transformation of the EDB to effectively meet the requirements of new loads and new customer expectations from their electricity grids.

3. We also address the future of reticulated natural gas GPBs and how asset owners will need to continue to provide effective stewardship as New Zealand transitions to net zero by 2050. Most importantly asset owners will need to continue to invest to provide a safe and dependable service for users for the foreseeable future and should continue to be able to rely on the principles of fair return and investment recovery consistent with NPV=0. At the same time the sector will need to be actively supported for the possible transition to lower emitting carbon fuels such as hydrogen. Hydrogen and biomass offer a significant opportunity for the re-purposing of significant portion of New Zealand's natural gas assets with a much smaller environmental footprint.

4. In this submission, we provide the following:

    - The regulatory challenges at play;
    - Context around the external environment facing the sector;
    - The transformation of the EDB within the regulatory framework;
    - Our views on the regulation of GPBs, in particular changes needed for the 2022-2027 GPB DPP reset.

5. The table below provides a high-level summary of our view of the key challenges, opportunities, and our proposed recommendations.

Table 1: Vector's recommendations for Part 4 regulation key challenges

Topic	Challenges/ Opportunities	Recommendations for the Commission
Decarbonisation	• Net zero direction and targets are dependent on electrification of key CO_2 emitting sectors of the economy; • Electricity networks need to shoulder the uncertainty burden and investment challenge; • Regulation needs to assist with managing uncertainty, but the current steady state framework does not respond well to uncertainty and transformation.	• Incentivise and target investment that support and enables decarbonisation; • Recognise and incentivise investment in new net zero capabilities as a better alternative to traditional network building; • Consider uncertainty mechanisms used in regulatory frameworks abroad to create more agile regulation.
The future role of gas pipeline businesses	• Uncertainty for the future role for GPBs as New Zealand transitions to net zero for 2050; • Recognising the possible alternative lower carbon uses for reticulated pipeline asset and support the government's vision of a hydrogen economy and preserves optionality given the significant undertaking of North Island gas pipeline reticulation; • Ensuring price controls continue to provide the right incentives for asset integrity and investment.	• The Commission must recognise the challenges for GPBs cannot be deferred and must be actively considered for the next 2022-2027 DPP price control for GPBs; • Recognition needs to be given to the heightened uncertainty around GPBs for assessing current and future profitability; • The emphasis for setting price controls to be directed at strengthening confidence in financial capital maintenance (FCM) for continued effective asset stewardship; • Allowing new technologies to be trials to develop lower carbon footprint uses for reticulated pipelines.
Customer-centricity	• Today's energy customers are savvier, more active and more engaged; • There are new types of customers connections such as EVs, new process heat loads and DG connections with their own requirements; • Need to weigh up customer choice, new types of services and affordability.	• The customer is better reflected in the regulatory framework way beyond just price and quality; • Consider performance-based incentives which put customers first.
Digitalisation	• Digitalisation will be key to unlocking value for customers and optimising energy systems to achieve better customer outcomes and decarbonisation objectives.	• Bring digitalisation to the forefront of the IM discussions given the lack of emphasis on new technology, enablement and non-wire alternatives to address traditional network

Topic	Challenges/ Opportunities	Recommendations for the Commission
		problems historically addressed through engineering; • Ensure the increasing role of data and analytics is appropriately reflected in the sector's future investment needs; • Leveraging all forms of data to improve capability needs to start with low voltage network visibility and the benefits which would start from leveraging smart meter data.
Resilience	• Cyber resilience risk in a more digitalised sector grows significantly; • Greater reliance on electricity networks through electrification; • Increasing resilience challenges imposed by climate change.	• Investment in cyber resilience becomes crucial to withstand external threats; • Allowances for resilience should not rely on past expenditure given climate change, new emerging trends such as cyber threats, and growing customer expectations and the new capability needed to manage digital resilience.
Innovation	• The current framework does not drive innovation in a way that can keep up with the rate of technological change; • The current framework dampens investment in innovation and therefore fails to deliver to customer expectations.	• Consider meaningful innovation funding mechanisms or increases to the innovation project allowances; • Incentivise the development of new technologies that could help with the low carbon transition and deliver value to customers.
Funding transformation	• Historically low equity returns limit the incentive to fund transformational investment; • Internal inconsistencies in the WACC IM create windfall gains between consumers and equity owners; • Out-of-step WACC inputs results in an artificially low benchmark return; • Regulation needs to deliver enhanced cashflows to support transformation, this includes eliminating errors such as inflation forecasting.	• Consider additional levers to complement the benchmark WACC to support investment transformation; • Reconsider the term of the risk-free-rate for the benchmark return to better match the profile of the underlying asset; • Adopt a full portfolio approach to setting the cost of debt to limit the volatility of the base rate (risk-free-rate) on the efficient cost of debt; • The benchmark return should ensure efficiently contracted nominal interest expenses do not cause windfall gains between consumers and shareholders;

Topic	Challenges/ Opportunities	Recommendations for the Commission
		• Financeability of capital programmes need to be part of the regulatory toolkit; • Reforming the forecast of expected inflation to limit forecast bias in the method.
Future roles	• Current framework does not look at future evolving roles of EDBs; • More customers with diverse requirements and new assets integrated on an already complex network; • History is not going to be a good predictor of what is needed for the future.	• Ensure new roles (DSO, enablers of electrification, environmental) are considered in an evolving regulatory framework; • Consider the future landscape of energy systems (not the current one) when determining which regulatory tools to use.

2. Benefits to customers and the New Zealand government's decarbonisation targets

6. We must not only consider how changes to the framework will assist the country but also how they could positively affect individual customers and businesses. The outcomes in the current regulatory framework are limited to price and reliability of service (measured in aggregate) but there is more societal value to be unlocked by leveraging EDB networks and improving capability. We believe the recommendations in this Open Letter response could drive more benefits which we have listed below.

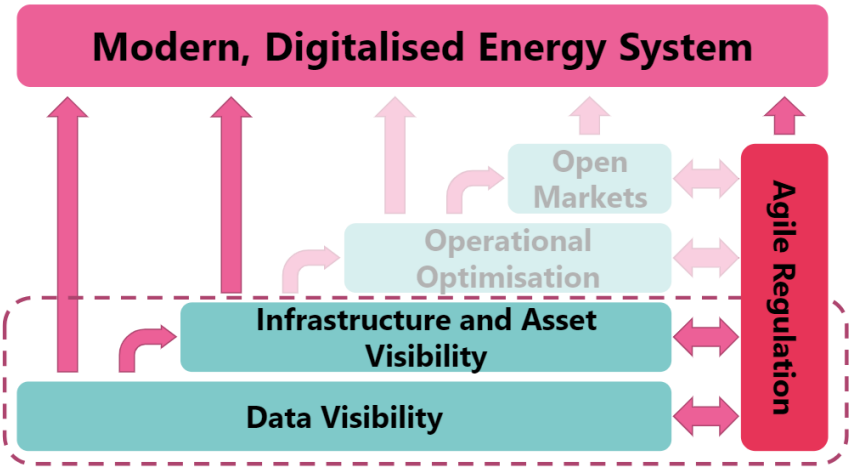
7. Enabling the path to net zero:

   - New Zealand has committed to net zero and achieving it is fundamental to managing the impact of post-industrialisation CO_2 emissions. The nature and pace of investment to electricity networks to support the economy wide emissions targets is significant. The consequences of that investment not occurring, and emissions reductions not being realised means there is greater harm from under-investment than over-investment. The costs of investing early are likely to be significantly less than not being prepared;

   - The decarbonisation lens must be applied broadly both at the enablement role networks will play but also ensuring EDB businesses apply practices to lower their carbon footprint;

- Digitalisation of the energy system is essential to deliver a stable, secure, and cost-efficient system that can unlock value in the new decarbonised, decentralised energy world being built;

- We fully endorse the UK Energy Digitalisation Taskforce's vision of a modern, digitalised energy system and believe the data, governance and platforms behind this vision will not just enable but transform the sector to facilitate our path to net zero.



8. Benefits to customers:

- A more affordable and equitable system if we make the right investment choices and therefore prioritise lower long-run total costs to the system for today and tomorrow's network user. This is even more important today while the country recovers from the economic impact of Covid-19 to ensure we "re-build right" for the next stage of economic development;

- In October 2020 Ofgem's CEO Jonathan Brearley in his keynote speech at Energy UK's annual conference confirmed ambitious plans to boost investment in local electricity grids. He outlined the need to support the growth in electric cars, small scaled renewables, storage and cleaner forms of heating for the next price control RIIO-ED2 starting in 2023:

> *"We [Ofgem] accept the need for more investment to get ourselves towards net zero, we accept that if you add on electric vehicles and think about the low carbon solutions for heat we do understand that we need more investment than in the past.[1]"*

[1] https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-vision-net-zero-future

- A more resilient and safer network with less impact during low probability but high impact events from effectively leveraging shared resilience and clearly managing digital resilience given the widespread impact from digital outages;

- Putting customers at the forefront of the industry by acknowledging their satisfaction with delivery of energy services, the timeliness of connections and a digitally enhanced customer experience throughout their energy journey;

- Customers and stakeholder engagement and data insights become invaluable, so we understand what their priorities. They drive our investments and we make the right investments at the right time.

3. Context

9. In late 2019 New Zealand passed multi-partisan climate legislation that set a target of net zero by 2050 for CO_2 emissions[2]. The following year the government promised its public sector would become carbon neutral by 2025 as it declared a climate emergency[3]. Decarbonisation of the energy sector is a key enabler of Aotearoa's path to net zero, and we see Vector playing a vital role. To deliver decarbonisation, we need a bold and collective vision of a new energy future that ensures customer choice, affordability and reliability.

10. Today's customer is persuaded by a range of considerations, beyond prices only, including comfort, security, choice, sustainability and independence. EDBs can no longer continue to consider themselves a hidden component in a convoluted supply chain. This will become even more critical as the market matures to enable multiple traders at a customer's premise, peer-to-peer trading and other new energy solutions for customers. The regulatory framework must put customers at the forefront by incentivising EDBs for the quality of their service beyond just compliance to SAIDI[4] and SAIFI[5] standards.

11. At Vector we are leading a customer driven energy transition. We see the customer journey through the lens of a digitalised world whether it be from their experience through an outage, their request for a new connection for the installation of an Electric Vehicle (EV) charger, or their

[2] https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/BILL_87861/climate-change-response-zero-carbon-amendment-bill

[3] https://www.parliament.nz/en/pb/hansard-debates/rhr/combined/HansDeb_20201202_20201202_08

[4] SAIDI (System Average Interruption Duration Index) means the average forced sustained interruption duration per connection point served per year, measured in minutes

[5] SAIFI (System Average Frequency Duration Index) means the average forced sustained interruption frequency per connection point served per year, measured in frequency per year. Connection point numbers are to be the average for the disclosure year

interest in our network asset management strategy. Digitalisation is also a core component of network transformation which facilitates emerging net zero compatible business models, markets and industry structures.

12. New Zealand must learn from international experience about resilient electricity systems. Resilience can be achieved through different means with different implications for customers. Carving out investment needs in the different segmentations of resilience could help identify these needs. Digital resilience has been neglected to date and needs to be prioritised.

13. In New Zealand's journey towards net zero, no customers should be left behind. We must ensure the investments we make today are efficient in the long-run and can leverage the opportunity provided by distributed energy resources (DER) and other emerging technologies. The trade-off between traditional reinforcement, active demand management and energy efficiency should have no distinction in the Part 4 regulatory framework. In fact, EDBs which make the difficult decision to digitalise today are doing so against the *implementation* of Part 4 by the Commission. There is currently no reward for EDBs which embark on the less travelled path of managing energy demand without relying on further investment in poles, wires and transformers.

14. Innovation is critical for how EDBs evolve and adapt to the new challenges arising from changing customer expectations, transition to net zero, digitalisation and technological developments. This is a seismic shift for a sector that has historically low investment in innovation[6]. Whilst the task of operating and maintaining reliable supplies is becoming more complex, these activities could potentially be more costly in the absence of new innovative solutions.

15. The role of the EDB is changing rapidly and will actively progress through the electrification of transport and process heat, growth of distributed generation and demand side management. We believe a decentralised approach to managing energy systems is the best way forward, and EDBs should be planning to take on the future state distribution system operator (DSO) role. As customer and stakeholder expectations evolve, we must consider the future energy system landscape which has to be enabled by an agile regulatory framework.

4. Regulatory challenges

16. New Zealand's regulatory framework has only focussed on network reliability as measured through the indices of SAIFI and SAIDI when determining the resourcing of EDB requirements as part of the price-quality trade-off. This approach is out-of-step with the investment required for the decarbonisation of New Zealand's energy systems and the growing needs and demands of customers.

[6] In 2018 only 3% of EDB's regulatory expenditure was on emerging technology Emerging technology-electricity 4.0 (comcom.govt.nz)

17. In steady state regulation where only price and narrow quality compliance as measured through SAIDI and SAIFI reign there is a significant risk the framework will simply not enable the transformation required for de-carbonisation and customer centric networks. For example, due to rate of change and uncertainty ahead, the Commission can no longer take a backward look at expenditure for setting allowances and revenues for the future. Regulation must become agile and now is the time to act with the upcoming IM review to set the scene for the future and avoid missing the opportunity to unlock the potential of new technology and distributed energy resources.

18. The incentives of the multi-year regulatory period provide minimal incentives for distributors to prioritise investments requiring longer than five years to realise efficiency gains, resulting in reduced innovation and non-traditional investment. There are insufficient incentives for distributors to prioritise investments involving sharing of costs and value across the supply chain. This deters innovation and non-traditional investment, particularly where the investment requires a distributor to incur upfront costs, has an extended period to realise savings, requires a change to operating practices and involves relying on other parties. This is particularly the case given the high risks associated with not complying with Part 4 which does not fall on other parties.

19. The other regulatory toolkit at the Commission's disposal is information disclosure (ID), the purpose of which is to ensure sufficient information is readily available to interested persons to assess whether the Part 4 purpose is being met. There needs to be careful consideration into a trend of increasing the number of disclosures required and further disaggregation of the current requirements. There is already a number of areas of overlap with Electricity Authority and Stats NZ and resource should be pooled where it is most required. However, we do believe there is merit in the exploration of targeted information disclosure. We caution against an approach of accretive requirements for annual regulatory filings. More importantly, no matter how much the Commission may try to increase its annual filing process, it cannot rely on historical disclosures to ascertain the needs of tomorrow.

20. The Commission is required to review the IMs at least once every seven years with the intention of providing certainty to the sector for how price-quality price paths and information disclosure regulation will be applied. Given the rate of change in the energy sector over the last couple of years alone, the next one is an important task that we must tackle early if we want to get it right. It is worth bearing in mind that the subsequent IM review is not scheduled until 2030. This review is critical. We would welcome regular dialogue with the Commission about the proposals in this letter in more detail both bilaterally and through workshops with stakeholders. Planning should begin now with such workshops being organised sooner rather than later. The discussions and subsequent decisions from these meetings will be crucial to ensure regulatory settings are fit for purpose.

Vector recommends the Commission shares a detailed project plan for the gas reset, IM review and the targeted ID review to ensure the scope, responsibilities and resourcing can be planned and stakeholders have the opportunity to effectively engage on the substantive issues that need to be addressed.

5. External environment

21. The pressure for decarbonisation in the energy sector are well known. In New Zealand public electricity and heat accounted for 9.9% of carbon dioxide emissions in 2018, notwithstanding the 47% of emissions from the transport sector[7] which of course will have a direct impact on capacity requirements for electricity networks.

22. While the future faces so much potential we are also in a state of uncertainty. The affordability of and anxiety over new energy technologies (such as the choice to purchase an electric vehicle) create market dilemmas over the speed at which electrification could take place. Customers across the country have more control over their energy needs and choices than ever before. We instead need regulatory decisions that focus on customer outcomes, balanced with government and business needs. A modernised objective able to better serve the energy sector. This is particularly true as rapid advances in renewable energy, digital technology and electric transport look set to only accelerate.

23. Vector believes that the government's energy objectives for renewable generation and transport electrification call for more than just tinkering with existing market and regulatory structures.

24. If the Commission's statutory regime cannot effectively enable decarbonisation and transformation, then more significant changes for Part 4 need to be considered. To deliver for the future, a new phase, and certainly new ambitions for the electricity sector calls for regulatory and policy settings with a clear decarbonisation objective able to unlock new societal value. If the Commission believes it cannot support de-carbonisation within the current framework then it must call this out and engage with officials to ensure the regulatory settings are fit to support de-carbonisation and transformation.

25. If we do not take the opportunity to design, shape and regulate the sector with a clear de-carbonisation mandate, then we are risking the opportunity to achieve de-carbonisation through

[7] Figures from NZ Stats https://www.stats.govt.nz/indicators/new-zealands-greenhouse-gas-emissions#:~:text=Gross%20emissions%20were%20mainly%20made,heat%20production%20(9.4%20percent).

electrification. This would put the Commission out-of-step with overseas regulators who are specifically addressing energy regulatory settings to support decarbonisation.

26. The rebuilding of economies as part of the COVID19 recovery will create even more pressure for countries to "rebuild" their critical infrastructure (in particular energy grids) in the right way.

27. However, the effects of the COVID19 pandemic are being acutely affected by EDBs in their day-to-day management of business as the pressures of supply bottlenecks for key physical inputs apply significant cost pressure on discharging capital programmes. For networks such as Vector such challenges occur on top of already present regional cost pressures including the extra high living costs for operating in New Zealand's most unaffordable city. We strongly encourage the Commission to recognise how regional cost inputs need to be adopted for determining nominal expenditure profiles for suppliers.

6. Transformation of the EDB

6.1 History

28. Under Part 4 the aim is to mimic the effects seen in competitive markets so that consumers benefit in the long term. Among other things, Part 4 is intended to ensure that regulated businesses have incentives to innovate, invest, and meet customers' quality demands, but are also limited in their ability to earn excessive profits.

29. Through the regulatory tools of Information Disclosure (ID) and Distribution Price-Quality Paths, the Commission has discharged its role to date with resourcing the price-quality trade-off narrowly focused on the reliability of the system as measured through the SAIDI and SAIFI indices.

30. This affords EDBs a discreet role in a linear supply chain. The framework was designed for more efficient supply of outage management. However, the decade ahead places more pressures on the energy industry than ever and now is the right time to review whether the current direction of Part 4 continues to remain appropriate. In most other sectors technology disruption has changed the competitive markets of today to the dominant business models when major micro-economic reforms were implemented in previous decades. To regulate for optimal outcomes in this context requires a different approach which centres around digitalisation and new business models.

6.2 Future

31. New Zealand customers rely on a largely traditional energy system which if left in the status quo will not transform to the challenges ahead of us. For several years Vector has been forging ahead

to create a different energy future taking into consideration the ever-evolving demands of customers, technology and society, such as:

- climate change and the need to decarbonise;
- the electrification of transport;
- consumers expecting choice and control;
- storage and usage;
- real-time information;
- all whilst continuing to provide safe, affordable and reliable energy.

32. Vector's Symphony strategy is about creating a system for customers that fits the future, delivering safe, cleaner, reliable and affordable energy solutions that are developed with customers at the centre, and which helps us navigate future uncertainty. We have embarked on this direction despite it being out-of-step with the current regulatory framework.

33. The next sections we discuss the challenges and ways in which moving away from the rigid price-path regime to a more flexible and adaptable framework. Such a framework rewards and funds EDBs to make the right choices to help New Zealand achieve its net zero objectives complements a customer centric focused EDB.

7. Funding the transformation

34. Vector notes the transformation of the EDB from its history to future state requires both consideration of new business models and opportunities but also a significant capital commitment on the part of EDBs. The current approach adopted by the Commission for setting the benchmark weighted-average cost of capital (WACC) should expressly recognise the investment challenge for EDBs to meet the transformation.

35. The Commission's approach for setting EDB revenues is to target a cost-efficient level including appropriate compensation for funding for equivalent alternative uses of capital. However, we find the Commission's current approach has shortcomings that will compromise the ability of networks to invest in the transformation needed.

36. The Commission's current WACC methodology creates significant volatility in the benchmark WACC reset at each regulatory period and under-represent investor expectations which are longer than the five-year horizon of a particular regulatory period.

7.1 Increasing capital investment for declining returns creates an investment challenge

37. The decline in the investment return for the most recent revenue allowance is contributing to an investment challenge. Scarce capital coupled with declining returns provides less incentive for

EDBs to invest in their network business when alternative investments are more attractive. This contrasts with what is needed for EDB transformation to occur as opposed to a future where EDBs were only considering "business as usual" investment. The need to increase investment for a lower return does create a financeability challenge for networks.

38. The financeability challenge is best illustrated by Vector's DPP3 allowance where a "standalone" Vector EDB business would not be able to fund the approved investment based on the WACC IM financing assumptions and meet reasonable investor return expectations.

39. The funding challenge in the current low interest rate environment has been recognised by the Australian Energy Regulator (AER) in its recently published *Rate of Return and Cashflows in a Low Interest Rate Environment*. The consultation has sought feedback on key concerns around the benchmark efficient return in the current low interest rate environment including the cashflow allowance produced by the benchmark WACC and the financeability of efficient capital programmes. The concerns raised by the AER was the result of concerns by stakeholders that the benchmark AER's Rate of Return Instrument benchmark WACC assumptions when paired with the efficient expenditures accepted by the AER could result in the modelled revenues resulting in the efficient firm posting a negative profit after tax (NPAT). This type of result would be contrary to the legitimate business interests of suppliers to not post negative profits for a set regulatory period.

40. Whilst the need for EDB transformation is clear there is significant uncertainty as to when and how transformational investments should be commissioned to meet new network demands. In this environment, the benchmark funding model needs to consider how additional levers can be adopted to unlock the benefits transformation investment can deliver and the cost benefit of being slightly early versus slightly late.

Vector recommends that the Commission:

- **adopts financeability analysis of investment to ensure there is internal consistency between the assumptions around the benchmark return and forecast capital programmes;**
- **considers additional levers including uncertainty mechanisms to support the funding and incentives for investment into transformational investment programmes.**

7.2 Reconsider the term for its risk-free rate for the WACC

41. We consider the Commission's methodology for the term of its base risk-free rate is out of step with how other regulators set their risk-free rates (RFR) for setting their benchmark return. Most other regulators adopt an approach seeking to match the profile of the underlying asset rather than seeking to match their risk-free rates with the term of the regulatory control period. For

example, Ofgem, the US Federal Energy Regulatory Commission (FERC) and the AER all adopt risk-free periods with lengths of 10-30 years giving primacy to matching the asset profile and investor expectations which are longer than single regulatory control periods. The artificially short RFR by the Commission does not reflect investor expectations in the benchmark return set by the IMs as it presumes investor horizons perfectly match regulatory control periods.

Vector recommends the Commission reconsider the term of its RFR to better match the underlying profile of the asset and matching investor expectations.

7.3 Reforming the methodology for setting debt compensation

42. Vector considers the methodology for debt compensation is out-of-step with how other regulators set their efficient return on debt. The Commission is now an outlier by adopting a primarily "on-the-day" approach to setting the cost of debt. Other regulators such as the AER made the decision to move away from the on-the-day approach given the volatility this approach has on the benchmark WACC from regulatory period to regulatory period. Accordingly, the resetting of regulatory periods has resulted in a much more stable cost of debt from regulatory resets. This contrasts with the Commission's benchmark cost of debt which resulted in a change of over 300bp from DPP2 to DPP3.

43. The most significant element of the Commission's cost of debt estimation is the narrow three-month window the Commission uses to set its base rate for its cost of debt estimation. For the DPP3 period, this averaging period resulted in the effective real risk-free rate being negative when paired with the Commission's DPP3 forecast of expected inflation. These types of swings in the efficient benchmark are material and create unnecessary volatility.

44. These types of swings to the cost of debt have even been recognised by the Commission's own financial expert in the 2016 Input Methodology Review in the context of minimising the arbitrage incentive between DPPs and Customised Price Paths. The Commission's approach departs significantly from the method adopted by other regulators such as Ofgem and the AER which presume much longer debt portfolios for the benchmark supplier.

Vector recommends the Commission reconsiders its method for setting the efficient cost of debt and select a methodology that can provide greater stability overtime.

7.4 Internal inconsistency with debt compensation

45. Related to the above concern is the internal inconsistency with the Commission's approach for providing compensation for benchmark efficient debt costs. The Input Methodologies make a range of assumptions around the benchmark firm and the type of debt issued by the firm. Each of these presumptions suggest the benchmark firm would raise capital by issuing nominal debt.

46. However, the Commission's IM methodology also adjusts the target return by deducting its forecast of expected inflation from the cash allowance provided to EDBs. This step provides a mismatch between the cash allowance for debt funding and the nominal interest expense anticipated over the regulatory period.

47. Whilst this difference does not itself breach the NPV=0 criteria, it does create the additional risk where the forecast of expected inflation exceeds actual inflation then supplier cashflows for any regulatory period do not match the inflation compensation provided for by the indexation of the RAB.

Vector recommends that the Commission urgently addresses the internal inconsistency with the assumptions for setting supplier debt cost allowances and reconsiders its approach to ensure suppliers can effectively manage their interest expense without burdening customers or equity holders.

7.5 The Commission's approach to expected inflation has persistently over-forecasted inflation and depressed cash allowances

48. In addition to the inherent challenges with the Commission's WACC methodology, its approach to inflation forecasting over DPP1 and DPP2 has had a material impact on the financial performance of EDBs with actual supplier returns being significantly below the forecasting projected at the start of the DPP periods. The continuation of this trend will significantly limit the investments networks are able to make to deliver the transformation necessary to meet the future state for EDBs.

49. The Commission's current approach is to remove its forecast of expected inflation for its target return in revenue allowances. Instead, inflation compensation is provided to EDBs through the updating of regulatory asset bases (RABs) through the annual filings of Electricity Information Disclosures. The inflation indexed RAB is then used to inform allowances set for five-year control periods. However, when the forecast of expected inflation turns out higher than actual inflation, this depresses cashflow allowances beyond the level needed to avoid the double compensation of inflation. The Commission's forecasts of expected inflation have persistently over-forecasted inflation resulting in supplier cashflows being depressed for an extended period relative to the revenues anticipated by the Commission's financial modelling.

50. The persistency in the forecasting bias appears to be driven by the Commission's inflation forecasting methodology which has shown a pre-disposition to over forecast expected inflation.

Vector recommends that the Commission urgently reconsiders its forecasting approach for estimating expected inflation given the poor performance over an extended period and impact on projected allowances and given the negative impact on investment incentives today in the context of electrification and decarbonisation.

8. Customers at the heart of the transformation

51. Vector's aim is to keep the customer at the heart of every decision we make as a business. We understand the significant role that the electricity industry has in achieving the transition to a low carbon future. Our Symphony strategy calls for a system which reduces peak loads, helps manage demand profiles, and provides customers with choice and control, while maintaining service. By focusing on network flexibility, resilience and smart technologies, we're not only easing pressure on electricity supply but also removing obstacles to transition customers to more sustainable and affordable energy options including electric transportation.

52. Vector remains committed to delivering a safe, reliable, resilient network to meet customers' needs, and we are proud of our SAIDI results for the first assessment period of DPP3. But we continue to believe that the current aggregated view of network reliability needs to be reworked towards a much more customer focused metric that better reflects customer experience. We believe the cumulative minutes of unavailability of the system is a poor proxy for customer experience.

53. As more customers become more reliant on electricity due to the new ways by which they consume energy (for e.g. charging their EV, warming their home with a heat pump or generating their own electricity through a solar PV), they are also becoming active participants in the industry. The quality and timeliness of the services provided are becoming increasingly important and we believe the quality standards within the regulatory framework should reflect these evolving customer needs.

54. Furthermore, Vector supports the CCC's Necessary Action 3 to electrify 40% of New Zealand's light vehicle fleet by 2035. As of April 2021, New Zealand has 26,723 EV or Hybrid vehicles, 41% of which are in the Auckland region[8]. Vector is playing a key role in this uptake and has extended its smart EV charging trial to include 200 EV users to understand both the impact EV adoption can have on our energy systems as well as customer behaviour and preferences. We strongly advocate that EV charging must be smart in order to minimise the impact to electricity network peaks and therefore cost to customers. We believe the Commission needs to play an active role in the delivery of smart charging infrastructure as opposed to the mixed direction on public EV charging.

55. We are concerned that EVs may result in sudden and significant changes requiring augmentation to manage local peak demand growth. We consider an unsophisticated approach to EVs may result in significant levels of physical capacity which could have been better managed with more sophisticated flexibility type investment enablement, consistent with Vector's Symphony

[8] https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/monthly-ev-statistics/

Strategy. Whilst, this may require capability being developed before demand (i.e. investing ahead of the curve) a symphony future is much more affordable in the long run then the alternative.

Vector recommends that the Commerce Commission leverages section 54Q of the Commerce Act[9] to enforce this and appropriately explores the full meaning of 54Q which has been under-utilised in the regulatory toolkit.

56. We recently commissioned FTI-CL to produce a report (attached alongside our submission) which presents how the regulatory settings could evolve given the challenges on the sector. One of the key messages from the report touches upon the growing customer expectations that are emerging, driven by technology and experience from other industries. The report suggests that the role of the EDB should transform in parallel in terms of making sure customers can expect timely delivery of their connections and be satisfied with the service delivered.

Vector recommends that the Commerce Commission considers customer outcomes by incentivising EDBs who provide timely, secure and well delivered customer service across all the possible touchpoints with end-users.

9. Affordability

57. Active demand management will unlock value and avoid planners commissioning assets to meet short half hour intervals of peak demand that remain idle and under-utilised for most of the 17 thousand half hour periods of the year. Ultimately, a deterministic planning philosophy and traditional augmentation will result in overbuilt networks and higher overall costs for customers especially in the future.

58. For Vector the ability to manage future system peak demand includes developing new capability and applying data analytics, distributed energy solutions, and the digitalisation of the network to address system peaks. However, the transformation to the future state where new capability can help with managing peak demand requires the transformational journey to begin now. We will be able to avoid unnecessary augmentation investments in traditional pole and wire solutions that will burden future generations with long-term cost recoveries.

59. The Commission's regulatory settings have a greater role to play in enabling affordability through smart network management. They need to support and fund these investments as a priority and not wait until after the fact and risk unintended outcomes.

60. As a matter of urgency, Vector considers the need for smart meter data as a key stepping-stone for better visibility, management and investment planning for low voltage (LV) networks. This

[9] https://www.legislation.govt.nz/act/public/1986/0005/latest/DLM1940054.html

data has the potential to limit unnecessary duplication in information needs, more targeted investment in information, better use of network resources. LV capability improvement as well as operational information is an essential initial step in the transformation journey.

Vector recommends that the Commission adopts regulatory tools that incentivise EDB transformation given the long-run risk of higher prices and inter-generational inequity from continuing with the steady state model for regulation. We consider the issue of data access is a key initial step in transformation which can be facilitated by the Commission with its regulatory toolkit.

10. Digitalisation

61. Evolving customer needs and expectations, centred around the use of new technology and digitalisation, is resulting in massive shifts in service industries across the world. Energy is no different, and we need to be flexible to accommodate significant changes in behaviour at scale. Vector is proud of its ongoing investment into, and development of, customer experience capabilities, we have a continuous focus on incremental improvement to communication capabilities, including self-service, proactive and inbound engagements. We are one of the few EDBs in New Zealand that has consciously held onto our outbound outage management communications with customers as we recognise the importance of the customer experience with our actions.

62. As customers adopt new energy technology to enhance and support their lives, they are becoming stakeholders and participants in the energy system, as opposed to legacy “connection points” or “behind the meter loads”. This shift demands a flexibility and preparedness from Vector to enable a customer-centric electricity distribution system and the integration of new technology in line with technology availability, desired policy outcomes, and customers’ expectations. Vector believes that these technologies deliver the most benefit when they are coordinated through a digital platform – such as our Distributed Energy Resource Management System (DERMS). The full value of digital platforms, tools, and analytics is only realised if the right data can freely and securely flow between them (such as smart meter and EV registration data).

63. The part of the network that empowers the customer is the low voltage network. This part of the network is becoming increasingly important. As a result, future network investment will increasingly shift away from higher distribution and transmission voltage levels, as consumers exercise choice and change behaviours. This will also create a new, localised electricity market as opposed to the traditional centralised generation and transmission dominated market.

64. Effective electricity network integration is a key pillar of successful EV uptake. In order to ensure customer choice and support EV uptake in New Zealand, future network investment and

integration risks need to be considered today while considering technical, regulatory, affordability and societal implications.

65. In the UK, the government (partnered with Ofgem) launched the Energy Digitalisation Taskforce on 12th May 2021 which aims to refocus the energy sector on the challenge and opportunities of digitalisation as a core component of transformation, not just an enabler and accelerate digitalisation of the energy system which enables emerging net zero compatible business models, markets and industry structures. The launch event was sponsored by the UK's Minister of State for Business, Energy and Clean Growth, Anne-Marie Trevelyan who said:

> *"Digitalisation is vital to reaching the UK's ambitious world-leading climate change target. We need a smart and flexible energy system to harness energy from low carbon sources such as the sun and wind, to power our homes, businesses and vehicles. This means technologies – from solar panels and electric vehicles, to heat pumps and batteries – will need to be smarter, sharing information with one another[10]".*

66. We urge the Commerce Commission to take stock of the work Laura Sandys CBE, chair of this taskforce is driving forward and the recommendations which will follow later this year. Her previous work on the ReCosting Energy: Powering for the Future report published in 2020 proposes that:

> *"The system will be moving from 500 players to 50 million actions and assets so whole system digitalisation will be crucial – for the security and stability of the system as well as importantly unlocking value sitting in silos and captured by analogue business models. Data is the feedstock, digitalisation is the prize and the Energy Internet is the ultimate destination".*

67. In order to help the Commission with understanding the value of both the taskforces we have submitted the slides presented at the launch event in May 2021 and the ReCosting Energy Powering for the Future report.

Vector recommends 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.**

[10] https://es.catapult.org.uk/news/energy-digitalisation-taskforce-launches/

11. Cyber resilience

68. Digital platforms that reduce the cost and improve the efficiency and effectiveness of our core network operations are becoming increasingly important. Consequently, it is becoming even more critical to ensure safe and secure connectivity. At the same time, there is a rapidly escalating threat to cyber security. Vector has invested in improving our cyber security capabilities and maturity and we will continue to do so. It is our view that allowance should be made for distribution businesses to invest in this capability, to ensure that, as the sector transforms, it does so safely and securely.

69. A recent example highlights that these are not unprecedented threats. In the United States the Colonial Pipeline was forced to shut down operations for almost a week following one of the most disruptive cyberattacks in history. The shutdown led to widespread gasoline shortages and caused temporary price spikes just recently[11]. In New Zealand only last week the Waikato District Health Board's (DHB) entire information technologies system - including phones and computers were brought down in a cyber security attack preventing elective surgeries from going ahead[12].

70. This type of event emphasises the importance of ensuring critical national infrastructure (CNI) is resilient including and therefore as part of the IM review the Commerce Commission must make allowances for cyber resilience and CNI sites if it wants to keep the network infrastructure secure from external threats. In Ofgem's final determinations for RIIO-2 National Grid Electricity Transmission were allowed £180m of expenditure over five years to protect their network from cyber and CNI threats alone[13].

71. The Commerce Commission's position on cyber security costs outlined below extracted from its decision paper for DPP3 is unsustainable as it stands and must be reviewed.

> *"We do not consider that cyber security costs meet our step change criteria. This is due to lack of information if costs are robustly verifiable and if there will be significant increases. In addition, we expect some cyber security costs to be included in our allowances as cyber security costs are usual costs for any business.[14]"*

[11] https://www.nbcnews.com/news/us-news/colonial-pipeline-returns-normal-operations-following-shutdown-n1267494

[12] https://www.nzherald.co.nz/nz/waikato-dhb-set-to-reveal-more-details-about-crippling-cyber-attack/P4XZYMK6X7LRYT5MMBPYQB2DIA/

[13] https://www.ofgem.gov.uk/system/files/docs/2021/02/final_determination_nget_annex_revised.pdf

[14] https://comcom.govt.nz/__data/assets/pdf_file/0020/191810/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2020-Final-decision-Reasons-paper-27-November-2019.PDF

72. The Commission's view on cyber resilience is out-of-step with the clear risk of digital outages. We strongly question the basis for the old-fashioned approach to digital resilience when it poses a significant risk to the digital transformation of the sector. We recommend the Commission review its previous position on digital resilience and reconsider the possible cost of a digital outage to end-users.

Vector recommends that the Commission looks at developing a cyber resilience framework which includes:

- **funding for and information disclosure of both opex and capex expenditure for cyber resilience;**
- **ensuring EDBs have cyber strategies funded through the price setting;**
- **cyber strategies are embedded in EDBs' Asset Management Plans (AMP) – redacted for confidentiality where appropriate.**

12. Innovation

73. The current input-based framework has only considered incremental service innovation. Considering the decarbonisation path Vector and the other EDBs are on we believe allowances for innovation could be greater than the current DPP setting ($150k or 0.1% of forecast allowable revenue[15]) if it wants the industry to keep up with the fast rate of technological change.

74. In the UK several Network Innovation Allowance (NIA) and Network Innovation Competition (NIC) projects delivered in DPCR5 and RIIO-ED1[16] (for e.g. Timed Connections, Active Network Management, Dynamic Asset Rating, Energy Storage) are now essential components to the Distribution System Operator (DSO) transition explained in the next section. Ensuring the allowances match potential future rewards, the Commerce Commission should consider greater Innovation Project Allowances and could mitigate any risks of funding innovation by ensuring that innovative solutions are governed through robust cost benefit analyses to ensure the "R&D" becomes "BAU".

75. We believe the innovative solutions which could enhance energy efficiency measures as an example. As noted recently in the Climate Change Commission's draft advice "the education and science and innovation systems in Aotearoa are critical for ensuring low emissions economic growth… Aotearoa's known as a country of innovators and problem solvers. Being an early

[15] https://comcom.govt.nz/__data/assets/pdf_file/0020/191810/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2020-Final-decision-Reasons-paper-27-November-2019.PDF

[16] https://smarter.energynetworks.org/annual-innovation-summary/

mover in researching new technologies and adopting existing technologies will benefit not just the climate, but the economy and wellbeing of New Zealanders"[17].

We recommend the Commission adopts more direct measures and alternative models for accelerating the rate of innovation with EDBs if it is not to be out of step with social expectations for innovation, the CCC advice and the government's clear decarbonisation agenda.

13. Non-wire alternatives as an alternative for capital augmentation investments

76. Vector considers there will increasingly be opportunities for EDBs to substitute some traditional forms of capital investment with non-wire alternatives to address network needs. NWA investment options do require EDBs to relinquish a deterministic engineering mindset for network planning and consider more creative non-network solutions for managing issues such as network constraints.

77. However, there is limited incentive under the current New Zealand framework for EDBs to seek out NWA instead of traditional network solutions such as physical reinforcement. This challenge was identified by Brattle in their report for the *ENA Incentive Mechanisms in Regulation of Electricity Distribution: Innovation and Evolving Business Models*[18]. In this report Brattle discuss a range of NWA incentives adopted regulators to encourage EDBs to adopt NWA over traditional investment.

78. In New York State – the Reforming Energy Vision (REV) pioneered the NWA as a key pillar in the reform of the State's energy system. As Brattle point out, the key objectives of REV are to:

    (a) Improve customer affordability through the better utilisation of existing assets and through demand management and avoid large capital investment;

    (b) Better the environment through the reduction of greenhouse gas emissions – and encourage cleaner energy and cleaner transportation; and

[17] https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/evidence/advice-report-DRAFT-1ST-FEB/ADVICE/CCC-ADVICE-TO-GOVT-31-JAN-2021-pdf.pdf

[18] https://comcom.govt.nz/__data/assets/pdf_file/0020/106076/Brattle-Group-on-behalf-of-ENA-Incentive-mechanisms-in-regulation-of-electricity-distribution-innovation-and-evolving-business-models-October-2018.PDF

(c) Service quality – where more resilient grids can withstand weather events and can continue to operate – at least partially – in storm/extreme conditions by leveraging distributed energy resources.

79. REV has prioritised the network alternative as the priority to its regulatory model and this approach has accelerated the adoption of renewable electricity in New York State. The ConEdison Brooklyn-Queens Demand Response Programme is a successful example how incremental incentives for NWA were instrumental to helping avoid a significant augmentation programme for the region.

Vector recommends the Commission considers the use of specific NWA incentive to specifically encourage EDBs to adopt such solutions in lieu of traditional capital investment.

14. Future roles of EDBs

80. At Vector we see the benefit of localised management of the system as it further integrates distributed energy resources and microgrids. Inevitably EDBs will take on extended roles in active network management, in directly procuring services (e.g. flexibility) and a more involved interface with Transpower to support their operation of the distribution grid. This view is supported by the joint Electricity Network Association's (ENA) Network Transformation Roadmap[19] published in 2019 (a refresh is currently being finalised). However, the current regulatory framework has no push or pull for EDBs to begin their journeys towards distribution system operators (DSO).

81. The AER is actively using its regulatory levers for the new energy transition. It recognises the first stage involves EDBs effectively connecting new distributed energy resources to the network. In this context, the latest Victorian Distribution Network Service Provider (DNSP) regulatory control period, the AER provided a specific capex allowance for the networks dedicated to the facilitation and connection of DER as part of the 2021-2026 regulatory control period.[20]

82. If we turn to the UK, Ofgem has set out three distinct roles for companies to consider in their transitions to DSOs. The roles combine innovative techniques and use of market-based solutions as alternatives to network reinforcement, as well as greater coordination with other network and system operators to achieve efficient outcomes in a whole system context.

[19] https://www.ena.org.nz/resources/publications/document/483

[20] https://www.aer.gov.au/system/files/AER%20-%20Final%20decision%20-%20CitiPower%20distribution%20determination%202021%E2%80%9326%20-%20Overview%20-%20April%202021_0.pdf

83. The UK DNOs are required by Ofgem to submit forecast expenditure relating to DSO activities and a DSO strategy in their business plans for RIIO-ED2 due in July 2021. Through the Business Plan Incentive (BPI) companies will be rewarded or penalised for the quality of their submissions. Ofgem has proposed an end of period financial incentive for the successful delivery of these strategies and companies can expect to receive *ex ante* allowances of efficient DSO related costs. This is a clear reflection of the UK government's analysis that a smarter, more flexible system could unlock savings of up to £12 billion per year by 2050 (2012 prices), compared to a system with low levels of flexibility put forward in their December 2020 'Energy white paper: Powering our net zero future'[21].

84. Once again, we refer you to the FTI-CL report we commissioned to look at the potential evolution of the New Zealand regulatory framework which considers not only the DSO role but also the Distribution System Platform (DSP). In this role, EDBs could act as enablers for market participants to connect with each other and compete on a level playing field. The report also calls out the fact that customers may increasingly expect EDBs to provide an enhanced level of information on their approach to conducting business ethically and with sensitivity towards social, cultural, economic, and environmental issues.

85. The roles of EDBs are also transforming with increasing customer focus and greater environmental obligations. EDBs are conducting far more customer and stakeholder engagement than even before in order to ensure how and where they are investing is appropriate for New Zealanders. Additionally, as net zero is top of the agenda for EDBs' networks, the Commerce Commission must enable EDBs to invest in the reduction of companies' own business carbon footprint (BCF). This is something the Commission's regulatory framework has been silent on to date.

86. In contrast, the RIIO-2 framework in the UK network companies must deliver against Environmental Action Plans (EAP) which consider Scope 1 and 2 CO2 emissions. The agreed targets form part of a reputational incentive (delivery against target) and a licence obligation (annual reporting) to ensure that companies play their part in reducing their carbon footprint. Ofgem will support the EAP initiatives through ex ante funding for Environmental Reporting in ED2.

Vector recommends the Commission looks at what other regulators have implemented to facilitate these evolving roles such as:

- **setting aside specific allowances;**

[21] https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future/energy-white-paper-powering-our-net-zero-future-accessible-html-version

- **incentivising good strategies and their delivery;**
- **rewarding EDBs' who meet environmental objectives including their own decarbonisation journeys (noting the public sector's ambitions to be carbon neutral by 2025).**

15. Part 4 regulation of natural gas pipeline businesses (GPBs)

87. Vector owns and operates over 6,800 kilometres of natural gas pipeline assets serving approximately 114,000 customers in the Auckland region. Our gas distribution business (GDB) regulated asset value is circa $434 million with a weighted average life of 38 years based on our most recent Information Disclosure filing.

88. Our GDB is subject to both annual Information Disclosure filings and five-year Price-Quality Determinations under Part 4. The second Price-Quality Determination is due to expire on 30 September 2022. Accordingly, the Commission is required under sub-Part 10 of the Commerce Act to determine the starting price adjustment for the next five-year price-path period for both gas transmission businesses and GDBs.

89. The next DPP is occurring at a time of considerable uncertainty for all reticulated gas pipeline businesses (GPBs). There is significant uncertainty about the role for GPBs in New Zealand's net zero economy. The opportunities presented by new lower carbon gases such as hydrogen and biomass present a considerable opportunity for networks to continue to have an important role in New Zealand's energy mix. However, there is also a possibility that such technologies may not be part of the transition direction of the country which creates heightened risk around investment stranding. Accordingly, it is incumbent on the Commission to both provide continued confidence in the Part 4 principles of financial capital maintenance (FCM) and to facilitate the opportunity for technological change from the reticulation of lower carbon emitting fuels such as hydrogen (through both blending and conversion) and biomass production of natural gas.

90. The next GPB DPP cannot occur without confronting these formidable issues for asset management and stewardship and how they are reflected through prices. Rather, the 2022-2027 period will be the most pivotal for GPB preparedness for climate change and will need to be directly considered for the price setting process.

Vector recommends the Commission actively considers how it can address the uncertainty risk for the next GPB DPP.

Vector's Asset Management Strategy

91. Vector is currently planning our 10-year asset management plan (AMP) forecast for our Auckland Gas Distribution Business. The investment and maintenance forecasts in our AMP are being produced with considerable uncertainty around the continuing preference to include gas reticulation with property developments. At the same time Vector has taken the prudent step to change our capital contribution policy for new connections which further complicates the task of forecasting future connection growth.

92. We consider the current uncertainty with the direction of natural gas reticulation policy means that we will continue to review our capex requirements for the business. In this environment, we are reserving the right to re-publish our forward capex requirements after the business has had an opportunity to observe the impact of the proposed government policy changes and our own connection policy changes on customer take up of new connections.

The Climate Change Commission – draft report recommendation

93. The timing of the next reset period is occurring at a time of considerable uncertainty for New Zealand's natural gas supply and assets and unprecedented in the context of New Zealand regulated essential infrastructure. The New Zealand Climate Change Commission (CCC) is shortly providing advice to government on the pathway for New Zealand to change its current annual green-house gas emissions from approximately net 60 million tonnes per annum to net-zero by 2050. The Draft Report by the CCC for example has recommended as part of that pathway from 2025 there should be a prohibition on new connections to reticulated GPBs and a complete transition away from natural gas use in buildings by 2050. Such a change has significant ramifications for the Part 4 framework for GPBs and the foundation and assumptions upon which Part 4 prices have been set for GPBs.

Vector recommends the Commission uses the latest available information when it considers the inputs for the next 2022-2027 GPB DPP.

15.1 The NPV=0 and the financial capital maintenance (FCM) expectation are being challenged and need to be re-affirmed to ensure effective asset stewardship

94. Part 4 is designed to balance the interests of customers and regulated service owners to set prices consistent with terms produced by competitive markets. The key principle for setting prices is to target a price level that preserves FCM. This objective ensures customers have prices exclusive of any monopoly rent and service providers having an expectation of earning a normal financial return on invested capital.

95. The Commission described the concept of FCM as:

> *"over the lifetime of its assets, a typically efficient firm in a workably competitive market would expect ex-ante to earn at least a normal rate of return (i.e. its risk adjusted cost of capital)."*[22]

96. Reticulated natural gas networks are an important component of New Zealand's economy powering both major manufacturing and industrial processes and supporting a significant portion of New Zealand's North Island residential energy customer needs. Accordingly, these needs are not expected to dissipate overnight. Asset owners will still need to manage, plan and invest to keep the integrity of the system for the foreseeable future.

97. A risk to the application of FCM would mean asset managers would have less confidence with commissioning new investments if there is a risk to both the recovery and the targeting of a fair return on investment.

98. Therefore, the Commission's application of Part 4 needs to provide confidence for asset owners that they can make the right investment decisions for the integrity of their system without fear of investment stranding. If the regime cannot do this, then it is broken, and active consideration should be given to alternative regulatory arrangements.

99. Accordingly, the Draft CCC Advice provides significant risk about whether FCM would continue to be a reasonable expectation if the current Draft Advice for natural gas is adopted by the government.

100. Therefore, the 2022-27 GPB reset is occurring at a critical point in time for the Commission to reinforce a commitment to NPV=0 and adopting measures that demonstrate this commitment. We also support additional levers are able to be applied to ensure effective asset management decisions can be made over the medium term to manage customer demand and network.

Vector recommends the Commission considers all the levers possible for giving certainty with the targeting of FCM.

15.2 The 2022-2027 GPB reset – the uncertainty around natural gas policy lends itself to a roll-forward of current prices

101. The CCC's Draft Advice would be a significant shift to the policy direction for New Zealand's natural gas assets including GPB networks. The adoption by government of the CCC's recommendations will have a material effect on the assumptions used to derive the current and

[22] EDB-GPB Reasons Paper at FN 108

projected profitability of GPB services, as the Commission is required to do for any starting price adjustment (SPA). Until there is certainty around the government's direction for New Zealand's natural gas sector then there remains a fundamental concern around whether the revenues set for the 1 October 2022 five year period reflect a capital allowance providing both a return on and of capital where there is less certainty around the full recovery of invested capital.

102. Vector considers the current circumstances lends itself to the Commission adopting a starting price adjustment for the 1 October 2022 reset that "rolls forward" prices from the previous regulatory period. This is consistent with option provided for in the Commerce Act by section 53P(3)(a). We cannot see how the Commission can reasonably apply section 53P(3)(b) forecast current and projected profitability with the current level of uncertainty.

103. Adopting a "roll-forward" is entirely appropriate in the current circumstance and consistent with the legislative intent of Part 4. It would also limit any judgements by the Commission on the projected profitability over forthcoming price-path period and beyond given the current level of uncertainty with the direction of future reticulated natural gas use.

Vector recommends the Commission considers whether price roll-forward is an appropriate approach for the next DPP.

15.3 Things to consider for a new starting price adjustment if adopted for the 2022-2027 Price-Quality Determination for GPBs

104. Should the Commission not elect to use its power under section 53P(3)(a) to "roll over" starting prices to set the next Default Price Path and instead adopt a starting price adjustment based on expected profitability then a range of issues that need to be considered. These include:

    a. Managing the additional uncertainty from the CCC Draft Advice;
    b. Providing confidence for capital recovery;
    c. Very uncertain growth projections; and
    d. Supporting innovation with alternative fuels for natural gas reticulation.

Recognising heightened risk for GPBs

105. The CCC Draft Advice to government underscores country specific risk for New Zealand's GPBs. The Commission has previously recognised this element when setting the GPB asset beta at 0.10 above the baseline beta set from the comparable company set when setting its return on equity. At the time the Commission noted there were reasons such as growth options,

operating leverage, the nature of the product and composition of customers[23] which provide enough differences between GPBs in New Zealand versus comparative assets being managed in other parts of the world to warrant a difference in the required normal return level for equity.

106. The CCC Draft Advice to government further underscores the greater level of risk for GPBs operating in New Zealand. The recommendations to limit new connections to local GDBs by 2025 and a complete transition away from natural gas in buildings by 2050 is consistent with the Commission's previous views around GPBs having more unique challenges in New Zealand.

Providing for asymmetric non-systematic risk

107. The Commission's Open Letter acknowledges this that "gas use is likely to come under increasing pressure as decarbonisation efforts progress." Accordingly, if the CCC Draft Advice is accepted or a similar type of recommendation is adopted.

108. Asymmetric risk refers to the changes to the level of risk where the downside from a particular risk has no equal countervailing upside equivalent. In this respect, the Commission's Open Letter discussion has recognised a growing level of asymmetric risk for regulated GPBs. This acknowledgement of the change requires compensation to make suppliers indifferent in their investment options.

109. Non-systematic asymmetric risk was most recently considered by the Commission under Part 6 of the Telecommunications Act for the development of pricing control arrangements for Chorus. In that process, the Commission recognised technological obsolescence of regulated fibre networks was an additional risk that required compensation for to ensure Chorus was indifferent to fibre-network investment versus alternative uses of capital. The Commission has proposed to add 10 basis points to the cashflow allowance for Chorus in its first Price-Quality Determination.

110. Vector considers the risk of changes to New Zealand's direction for natural gas warrants consideration of similar mechanism to that provided for Chorus to be adopted for the forthcoming GPB DPP. The case for compensation for asymmetric non-systematic risk in this instance is clearer and vitally important for service providers to retain the confidence to continue to invest in their GPB assets to meet the integrity needs of their service. Accordingly, the question is not whether the lever adopted for Chorus is appropriate for GPBs but whether the 10bp premium is sufficient compensation for the policy driven obsolescence for the sector.

111. The compensation mechanism for Chorus of providing the return through supplier cashflows would also be an appropriate approach for asymmetric non-systematic risk compensation given

[23] EDB GPB Reasons Paper p.161

such risks will not be recognised in the return on equity framework set out in the Input Methodologies.

Vector recommends the Commission recognises asymmetric-non systematic risk in the 2022-2027 GPB DPP.

Changing the standard asset lives assumption for new investments

112. We consider a reasonable change for the Commission to adopt for the GPB reset is to reconsider the current standard life assumption for new investments in its financial modelling of allowable revenues. The current DPP GDB financial model adopts a simplification of the expected weighted life of new investments of 45 years. This average life reflects the range of different technical standard lives for major pipeline asset classes. We consider the assumptions around the financial model simplification should be revisited. The current practice of matching the technical physical asset life with their economic recovery should also be revisited given the heightened uncertainty around future natural gas use.

    Vector recommends the changing of new asset standard lives in the GPB IMs and the simplified life assumptions used in the Commission's

Limiting long-run stranding risk

113. The Commission should consider additional levers to accelerate capital recovery for regulated suppliers. We consider the current recovery profile for the unrecovered RAB, which for Vector has a weighted average life of circa 38 years, (without including the forecast investment for the next 10 years) is not consistent with the current net zero proposal for natural gas assets. There are practical steps the Commission can adopt now to help reduce the risk of long-run stranding. These include:

    - Accelerating the depreciation recovery of the existing RAB; and
    - Changing the model for inflation compensation

Accelerating depreciation

114. Accelerating the rate of depreciation recovery for the RAB starting with the 2022-2027 DPP reset will help limit any breach of the NPV=0 principle for the recovery of invested capital. We see this lever to be essential for supporting the legitimate business interests of GPB asset owners with the heightened uncertainty around the future of natural gas.

Changing the compensation model for inflation

115. The current regulatory framework for suppliers under Part 4 – excluding Transpower – is for the Commission to provide for the delayed compensation of inflation. Under this approach the Commission endeavours to provide the investment return for inflation as part of the capitalised value of the RAB. Accordingly, for each regulatory period the Commission sets an investment return in revenues that excludes from its nominal WACC a forecast of expected inflation. Instead, inflation compensation is delivered through the annual updating of the RAB by actual inflation for each regulatory year.

116. We consider the model for delayed inflation compensation via the RAB is not appropriate for GPBs given the changing risk to long-run investment recovery. Rather, the Commission should adopt a model of contemporaneous inflation compensation as provided for in the nominal WACC – as is applied to Transpower in setting its individual price paths.

117. This is highly relevant for the next 2022-2027 DPP as a net zero pathway where reticulated gas is removed from significant sections of the current network obviates the high capital value for funding significant long-term asset replacements. Rather, delayed inflation compensation in this context would materially contribute to the extent of future asset stranding. Such a change does not conflict with the principles of FCM as contemporaneous inflation compensation is essentially an equivalent in terms of investment return except in the timing of inflation recovery. It is highly relevant for investors to continue to maintain certainty of being able to recover both their investment and a fair return for both new investment and committed investments.

The form of control and uncertain growth forecasting

118. The CCC Draft Report recommendations have both immediate and long-term consequences for the regulation gas distribution networks which are controlled in the form of a weighted average price cap (WAPC).

119. The key element of a WAPC versus other forms of control i.e. a full revenue cap is the real revenue growth presumed by the starting prices. The Commission refers to this as constant price revenue growth (CPRG) which is determined by volume growth (i.e. new connection to the network and system throughput).

120. Vector notes the context of the CCC Draft Report recommendation of prohibiting new connections to gas pipeline businesses from 2025 and discussion in the Commission's Draft letter around likely declining usage of natural gas networks going forward, significantly complicates the task around accurately forecasting CPRG. Therefore, we encourage the Commission to consider the adoption of a revenue cap for the GDB 2022-2027 DPP to limit the value judgements it must apply around gas demand and growth. Alternatively, we encourage the

Commission to take full stock of the external policy environment when it adopts a forecast for the next DPP to limit any policy changes that militate against the growth rate assumptions.

Vector recommends:

- **the Commission considers alternative forms of control GDBs such as a revenue cap to limit the judgement it will have to make around future real revenue growth for the next DPP;**
- **if the Commission continues to apply a WAPC then it must adopt a CPRG that reflects the current uncertainty and expected challenges for connection take-up over the next DPP**

15.4 Alternative low emission reticulation options

121. Reticulated natural gas networks on the North Island were a significant undertaking and will be uneconomic to replicate in the future. They have had an instrumental role with diversifying New Zealand's energy mix. Therefore, it is vitally important the networks continue to have a role with serving New Zealand's energy needs as we transition to net zero by 2050. We support the investigation into alternative fuels and support the government's hydrogen vision. Accordingly, the testing of networks for the blending of low emission fuels like hydrogen/biomass with natural gas to reduce the CO2 impact of reticulate natural gas assets on the environment.

122. It is important for New Zealand's GPB networks to test their capability for hydrogen blending for issues such as embrittlement for certain pipeline materials. It is also important for the networks to determine how a possible full transition pathway to hydrogen reticulation can be managed and what asset replacement programmes may need to be undertaken to deliver such a future.

123. Given the volume of initiatives globally (such as the H21 being led by Northern Gas Networks) the opportunity for full hydrogen reticulation will continue to improve as more conceptual trials are operationalised within networks. Innovation of regulated services has long been a challenge for the Part 4 framework.

124. Therefore, Vector supports the Commission allocating funding as part of the next GPB DPP for technology trials to help network preparedness for low carbon fuel alternatives such as hydrogen reticulation.