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Vector – Accelerated depreciation application

Meridian appreciates the opportunity to provide feedback on Vector's application for accelerated depreciation. Vector's notice requests the Commerce Commission apply a 0.85 depreciation adjustment factor at the 2020 reset of the default price-quality path. This is the maximum adjustment factor allowable under clause 4.2.2 of the Electricity Distribution Business (EDB) Input Methodologies (IMs).

Median opposes Vector's application and asks that the Commission decline it because:

- Vector has not provided evidence of consumers electing to disconnect from the network such that Vector will no longer be able to fully recover their historic capital investment (as per the original rationale for accelerated depreciation) nor has Vector established any connection between the maximum adjustment factor sought and the expected risk of stranding;
- network stranding appears increasingly unlikely and Vector's own research indicates that new technologies like electric vehicles (EVs) will likely drive greater, rather than less, reliance on the distribution network;
- if Vector's application for accelerated depreciation is approved, the result would be short-term price shocks for consumers to mitigate a highly uncertain risk of future price shocks in the unlikely event that mass departures from the network occur;
- Vector's application argues that customers who do not, or cannot, invest in new technologies might pay more of the costs of historic network investments than those who do invest in new technologies – this is a real problem, however, the problem is

one of inequitable allocation of network costs amongst users rather than an inability to fully recover historic capital investment, the two should not be conflated;

- issues associated with inequitable network cost allocation are well understood, there is broad industry agreement that distribution network price structures need to change to address this, and the Electricity Authority has a project underway to encourage EDBs to reform their pricing to be more cost-reflective and benefits-based – such reform needs to be progressed urgently to avoid inequitable outcomes and inefficient investment in and use of the network – this is the solution *not* accelerated depreciation of assets;
- furthermore, Meridian questions whether it is the Commission's intention to enable accelerated depreciation for Vector's investments in otherwise contestable and high-risk emerging markets for new technologies – on the contrary, we believe exposing EDBs to competitive pressure (including stranding risk) in relation to investments in new technologies is entirely consistent with outcomes produced in competitive markets and that in general investments in new technologies will be more efficient and in the interests of consumers if done through the competitive market; therefore
- granting the application would not be consistent with the section 52A purpose in the Commerce Act – in fact Vector's notice contains no explanation of why its proposal would be consistent with section 52A and in this key respect it is defective.

Each of these matters are discussed further below.

No evidence of economic stranding provided

We have copied below paragraphs 70 to 72 of the Commission's *Topic paper 3* of the *Input methodologies review decisions*, which set out the problem that the Commission originally sought to address by allowing applications for accelerated depreciation (emphasis added):

> 70. The problem: increasing deployment of emerging technologies potentially changes the risk to EDBs' ability to fully recover their invested capital, under existing physical asset lives assumptions set out in the IMs. These new technologies enable greater deployment of distributed generation or greater distributed electricity storage. Such technologies may enable:
>
> 70.1. more consumers to generate and store their own electricity; and/or
>
> 70.2. new competitors to enter the market and bypass distributors' networks
>
> 71. As a result, *an EDB's network may be used by fewer consumers and the EDB may not be able to fully recover the costs of its historic investment from its*

remaining consumers. We have assessed the potential change in this risk relative to what it was in 2010, when we first set the IMs.

72. The IMs allow for assets to stay in the RAB even though they have ceased to be used (ie, become physically stranded). Therefore, physical asset stranding is not the risk under consideration. Rather, it is the risk that the network becomes economically stranded. That is, *the risk is that at some future point enough consumers elect to disconnect from EDBs' networks such that the revenue EDBs are able to recover from the remaining customer base is insufficient to allow them to fully recover their historic capital investment* (hence the title 'risk of partial capital recovery'). This is because prices to those remaining consumers would need to rise beyond their willingness to pay given their economic alternatives (or beyond politically acceptable levels).

Nowhere in Vector's application can we see evidence presented regarding the potential for consumers to disconnect from the network such that Vector will no longer be able to fully recover its historic capital investments, nor can we see any connection established between the maximum adjustment factor sought and the actual or potential risks of economic stranding. Vector makes various statements asserting increased risk and uncertainty for example at paragraph 31, "We demonstrate there is evidence of increasing risk. There are leading indicators demonstrating the heightened uncertainty caused by technology change for asset management." However, the application is notable for the absence of any actual evidence suggesting the likelihood or otherwise of economic stranding of the network.

For example, the first piece of "evidence" presented in the application is that there is less national demand growth in recent years (Graph 1). This does nothing to demonstrate whether customers are departing specifically from the Vector network. Meridian's understanding, and indeed the industry consensus, is that flatter national demand can be attributed to energy efficiency measures that have been implemented in recent years.

Vector's asset management plan scenarios are cited later in the application notice, with Vector's favoured "symphony" scenario showing the potential for modest growth in network maximum demand. However, again the application is silent on whether economic stranding might occur. Vector goes on to say that they modelled price increases under each scenario over a 30-year period, with three scenarios showing significant year-on-year price increases. The application does not attribute these price increases to anything in particular, i.e. there is no evidence these price increases can be at all attributed to economic stranding on the network. In all likelihood, sustained price increases under the model are in fact attributable

to network expansion and additional capital investment to manage increased network maximum demand under the "rock", "pop", and "disco" scenarios. We can only assume this is the case because actual modelling results are not provided by Vector.

The bulk of Vector's reasoning in the application focuses on managing pricing equity and fairness between households that invest in new technologies and those that don't. We address the points made by Vector on this subject under a separate heading below.

Vector's own research suggests that the *opposite* of network stranding will occur

While the "death spiral" and risk of economic stranding was perceived as a real threat in 2016 when the Commission made its IMs decision on accelerated depreciation – in 2019 the dominant view is one in which networks will remain vital to consumers as demand increases and New Zealand moves towards a low emissions future with the electrification of light transport and industrial processes. In short, it seems the risk perceived in 2016 is not at all likely to eventuate and that accordingly there is no need for accelerated depreciation.

Vector's own assessment of the impacts of new technology on their network suggests that economic stranding of the network is unlikely to occur and that on the contrary, increased reliance on the network is likely in future. Vector's green paper on *EV Network Integration* states that:[1]

> … a single EV household has the potential to increase its electricity capacity needs between 100% for very slow trickle charging, and 2000% for rapid charging. This is essentially adding between one and 20 additional 'homes' in terms of network capacity. These potential street level impacts are magnified by emerging research showing the extent to which EV take-up is commonly 'clustered' in suburbs, bringing forward constraints on existing network investments.

Short-term impacts on consumers

Paragraph 90 of the Commission's *Topic paper 3* of the *Input methodologies review decisions* estimates that a 15% reduction in asset life will result in an approximately 3-6% increase in average distribution prices, which translates into a short-term 1-2% increase in

[1] https://vectorwebstoreprd.blob.core.windows.net/blob/vector/media/the-spin-off/ev-network-integration.pdf

the average consumer's electricity bill.[2] The Commission designed accelerated depreciation "to mitigate the risk of potential future price shocks for consumers"[3]. Therefore, approving the application for accelerated depreciation would:

- guarantee a short-term price shock for Auckland consumers; and
- mitigate the risk of a future price-shock for future consumers, if departures from the Vector network are of such scale that economic stranding occurs (a scenario we consider highly unlikely).

We do not see why the Commission would want to guarantee a short-term price shock as a trade-off to mitigate a highly unlikely risk that a later price shock might occur. The exception might be if the future price shock had the potential to be on a far greater scale. The evidence presented by Vector does not demonstrate any risk of economic stranding, let alone economic stranding on such a scale that a significant price shock might occur.

Distribution pricing reforms will address inequity based on household technologies

Vector's application argues that customers who do not, or cannot, invest in new technologies might pay more of the costs of historic network investments than those who do invest in new technologies – Meridian agrees this is a real problem. However, the problem is one of inequitable allocation of network costs amongst users rather than an inability to fully recover historic capital investment. Vector's application seems to attempt to conflate these two risks with statements such as "the successful use of the depreciation adjustment factor is to ensure price rebalancing eliminates, or at least reduces, the impact of inequity between users across time and technology adopters."

Graph 3 of the application claims to show the moderating effect that adjusting depreciation will have for the lowest decile users compared to the status quo for revenue recovery. However, no data is provided, nor is the methodology described or assumptions transparently set out for the reader. Of particular interest would be the distribution pricing assumptions made in the analysis. The problem described by Vector is not new and has been repeatedly identified by the Electricity Authority and industry in the context of the Authority's distribution pricing reform project. The project aims to encourage EDBs to reform their pricing to be more cost-reflective and benefits-based. We believe that distribution pricing reform will address the inequities described in Vector's application and

[2] https://comcom.govt.nz/__data/assets/pdf_file/0020/60536/Input-methodologies-review-decisions-Topic-paper-3-The-future-impact-of-emerging-technologies-in-the-energy-sector-20-December-2016.pdf

[3] Ibid, paragraph 88

that accelerated depreciation is not required or useful. In previous Meridian submissions we have pointed out that:[4]

> The 29 lines companies allocate the costs of running, maintaining and expanding their networks to customers in a range of different ways but the dominant methodology is to allocate network costs on a variable, per kilowatt hour basis. Variable charging like this is poorly aligned with the true drivers of network costs (which are based on peak demand) and is not providing realistic or efficient cost signals to customers, particularly the adopters of new technology. This means solar take up is over-incentivised and the pace of electric vehicle uptake is reduced, with potential costs to the country of billions in inefficient expenditure and significantly increased greenhouse gas emissions. Research also indicates that current distribution pricing structures result in cost-shifting from wealthier to poorer consumers penalising those who can least afford it. Efforts to improve the pace of change in this area should be cognisant that market-led reform of distribution pricing structures has been encouraged by the Electricity Authority and is already under way.

Statements are made in the application that, "If technology adoption continues along the trends of the last 10 years then users without new technology will be disproportionately contributing to network asset recovery." This suggests Vector has no intention of reforming its price structures in that time period. Again, no evidence is provided to show that technology adoption entails a risk of economic stranding. As we have said, cost allocation issues that result from technology adoption should be addressed through distribution pricing reform.

The effect of accelerated depreciation on Vector's investment in new technologies

In addition, Vector itself is investing in new technologies like household solar, batteries and EV charging infrastructure and is including such assets in the regulated asset base. Following the Commission's open letter to EDBs in May 2018[5], the Commission published data on Vector's spending on new technologies showing that:[6]

- 0.09% of Vectors total RAB is attributable to spend on EV charging infrastructure;
- 0.45% of Vectors total RAB is attributable to spend on battery technology;

4 https://www.mbie.govt.nz/dmsdocument/3840-meridian-submission-draft-tor-electricity-pricing-review-pdf

5 https://comcom.govt.nz/__data/assets/pdf_file/0023/90581/Open-letter-Our-intention-to-gather-information-relating-to-emerging-technologies-9-May-2018.pdf

6 https://comcom.govt.nz/__data/assets/pdf_file/0014/100661/Snapshot-of-EDBs-spend-on-e-tech-10-October-2018.pdf

- 0.11% of Vectors total RAB is attributable to spend on distributed generation of less than 10kW (presumably solar); and
- 0.04% of Vectors total RAB is attributable to spend on home energy management systems (which by Vector's admission were placed in storage in 2018).

Vector's total electricity RAB as at 31 March 2018 was $3.0 billion[7], meaning that based on our rough calculations Vector has invested $20.7 million of capital in these technologies and will recover that cost plus a guaranteed return on the investment from Auckland electricity consumers.

Allowing accelerated depreciation of those assets would further de-risk and incentivise Vector's investments in what should preferably be contestable emerging markets for new technologies, allowing Vector to recover their sunk investment and increasing the likelihood that consumers face higher prices because of inefficient investments in new technology. Investments in new technologies are inherently risky due to the rate of change in the technologies themselves and in consumer preference. Meridian considers exposing EDBs to competitive pressure (including stranding risk) in relation to investments in new technologies is entirely consistent with outcomes produced in competitive markets and would encourage efficient investment in the best interests of consumers.[8]

We question whether it is the Commissions intention that these assets be included in the regulated asset base[9] or that accelerated depreciation should be used to further de-risk and incentivise such investments by EDBs.

Consistency with section 52A of the Commerce Act

Vector's application must explain why applying for an adjustment factor of the level proposed is consistent with section 52A of the Commerce Act.[10] It does not and for this reason it should be dismissed as defective. Vector asserts at paragraph 84 that "our Notice is in the long-term benefit of end-users" but this is not the correct test. The correct test is that the

[7] https://blob-static.vector.co.nz/blob/vector/media/vector/fy18-annual-results-presentation.pdf
[8] Meridian also believes that if EDBs are to acquire contestable technologies or provide services based on them, they should do so through an arm's length related party in competition with other providers, i.e. by transparently procuring new technologies or services through an open tender.
[9] The Commission's May 2018 open letter certainly makes it clear that the Commission "would not expect the costs and revenues associated with EV chargers to be within the scope of the regulated service". However, a number of EDBs challenged the Commission on this and we are not aware of the Commission issuing any update as to the outcome.
[10] Clause 4.2.2(5)(a)(ii) of the Electricity Distribution Services Input Methodologies Determination: https://comcom.govt.nz/__data/assets/pdf_file/0017/60542/Electricity-distribution-services-input-methodologies-determination-2012-consolidated-January-2019-31-January-2019.pdf

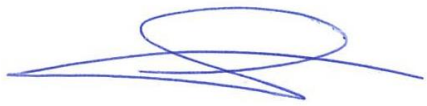
notice must be consistent with promoting "…the long-term benefit of consumers… by promoting outcomes that are consistent with outcomes produced in competitive markets…". As part of this, regulated suppliers are to:

- have the incentives in section 52A(1)(a) and (b);
- share with consumers the benefits of efficiency gains through lower prices ((section 52A(1)(c); and
- be limited in their ability to extract excessive profits (section 52A(1)(d)).

Vector's notice attempts to step through the various limbs of section 52A(1)(a) to (d) at paragraph 84 but it seems clear that granting the application will do nothing to advance the achievement of any of those limbs. More fundamentally, the notice contains no explanation of how approving the proposed price increase now would deliver "outcomes that are consistent with outcomes produced in competitive markets". The reality is it would not. We consider a business operating in a competitive market would take other steps to address the issue Vector has identified rather than increase its prices. It would restructure its prices so that they were more cost-reflective and benefits-based and thereby avoid the inequities Vector mentions.

Please contact me if you have any questions regarding this submission.

Yours sincerely



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