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## **Submission on Default price-quality paths for electricity distribution businesses from 1 April 2020**

ETNZ - The Energy Trusts Association - represents the Trust owners of electricity distribution businesses throughout New Zealand, the largest of which is Entrust (majority owner of Vector) and the smallest of which is the Buller Electric Power Trust. The majority of the Trustees of these energy trusts are elected by electricity consumers who are the beneficiaries of the Trusts.

As the organisation representing consumer and community owners of electricity distribution businesses, ETNZ has both an asset owner and a consumer perspective in addressing this topic.

Our focus in this submission is on the proposed changes the Commission is making to provide incentives for innovation, and the approach being taken to meet the statutory requirements to promote energy efficiency and demand-side management.

### ***The proposals to promote innovation***

We note the Commission's recognition of the relatively modest levels of investment innovation apparent in the energy sector and among the distribution companies (4.54 of the 'Reasons Paper'):

- Only 7% of energy sector businesses are conducting research and development, which is much less than other sectors;
- Energy sector R&D expenditure appears to be declining;
- For the 2018 regulatory year, distributors reported a total of less than \$10m expenditure on R&D.

We also note the Government's target of lifting R&D expenditure to 2% of GDP.

Against this background, the Commission's proposal to provide a new 'incentive' that allows a distributor to recover just 0.1% of net allowed revenue, including a 50% distributor incentive, appears to be a token gesture that is unlikely to have any material impact.

The justifications in the Reasons Paper for this minimalist approach seem questionable:

4.76.1 The innovation recoverable cost may cover expenditure that would have happened without its introduction, resulting in a higher cost for consumers without any additional long-term benefit.

This comment could apply to virtually any form of R&D expenditure. It could be countered with the much more probable argument that consumers may get a far greater than expected return from R&D on new technologies.

4.76.2 Making the limit proportional to revenue may mean that the available funding is too small to be useful for the smallest distributors, and for these businesses the compliance costs of the recoverable cost may be too high.

An allowance of 0.1% of revenue makes this a self-fulfilling prophecy.

4.76.3 There is some compliance cost involved for independent assessment of projects, which may prevent uptake given the relatively small limit on the recoverable cost.

Again, tinkering with such tiny incentives invites disproportionate compliance costs.

4.76.4 The innovation recoverable cost does not directly facilitate collaboration between industry participants.

Where such collaboration might be valuable it is hard to see why it would not occur.

4.76.5 Consumers will pay for a substantial proportion of the projects (up to a limit of 0.1% of forecast net allowable revenue plus the IRIS impact of regular capital or operating expenditure), even if the projects do not end up being successful, which is not consistent with the incentives present in competitive markets.

However, the potential rewards from R&D in unregulated industries are very much higher. It should not be considered a problem unless it happens.

Similarly, the Productivity Commission has undertaken a considerable amount of recent work that highlights the potential returns to the economy of innovation incentives. The following comments from the Commission's current issues paper on *Technological change and the future of work*<sup>1</sup> are illustrative:

*Assessments of current assistance programmes show mixed, but broadly positive, results.*

- *The Ministry of Economic Development (2011) concluded that firms that receive Capability Building assistance show significantly higher employment growth and a significant impact on multifactor productivity four years after first assistance (compared with matched unassisted firms). But no overall additional impacts were identified for firms that received Project Funding (assistance for R&D projects that is provided to firms with potential for high growth).*
- *Jaffe and Le (2015) found that receipt of an R&D grant significantly increases the probability that a firm applied for a patent during 2005–2009, but found no positive impact on the probability of applying for a trademark. Receiving a grant almost doubled the probability that a firm introduces new goods and services to the world while its effects on process innovation and any product innovation were much weaker.*
- *Wakeman (2017) found similar results in that grant recipients are more likely to patent, to innovate in their marketing approach and to introduce new products (but not to engage in process innovation). Wakeman (2017) also found that in the 2–3 years after receiving a grant, recipients experience faster employment and labour productivity growth than non-recipients.*

### ***The proposal to restrict R&D the incentive to network services***

We note the comment in the Reasons Paper (4.73) that “We expect that cost allocation rules would be correctly applied so that consumers only pay for the portion of expenditure that benefits the network service.”

Where new technologies are being investigated there is very likely to be an element of real or potential spill-over of benefits into parallel activities. For example, technologies such as batteries used to manage supply peaks may also be useful for electric vehicle charging, for supporting communications systems during emergencies, and so forth. If distributors are required to

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[https://www.productivity.govt.nz/sites/default/files/Technological%20change%20and%20the%20future%20of%20work\\_Issues%20paper%20FINAL.pdf](https://www.productivity.govt.nz/sites/default/files/Technological%20change%20and%20the%20future%20of%20work_Issues%20paper%20FINAL.pdf)

demonstrate that benefits will be sequestered, and to net off proportions of R&D expenditure that may produce non-network outcomes, then this would constitute a significant disincentive to R&D investment, especially when the very small rewards provided for via the proposed incentive are considered.

### ***Continued underachievement of the s54Q requirements***

The Reasons Paper (4.78) recognises the direct relationship between investment in innovate projects and the objectives of s54Q of the Commerce Act. However, when the negligible likely impacts of the proposed 0.1% incentive signal (with its associated compliance costs and complexities) are considered there once again appears to be no significant progress being made towards achieving the purposes of this very specific clause, despite its two ‘must do’ instructions to the Commission.

At the May ETNZ Conference, the Commission’s presenter asserted that 54Q has to be regarded as a subservient requirement that cannot conflict with the overall objectives of Part 4. We find it difficult to see how providing the incentives required by 54Q would in any way compromise the purpose of Part 4 as set out in s52A of the Act.

In fact, the Part 4 purpose statement specifically defines the outcomes being sought that are relevant to innovation and to the outcome required by s54Q, that suppliers of regulated services must:

- “(a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
- (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands;...”

We are also concerned at the removal of the ‘D factor’ incentive (introduced in the current 2015-20 DPP) that compensates distributors for revenue lost through efficiency gains that reduce volumes. There does not seem to be any discussion of this in the Reasons Paper, apart from a bullet on page 5 (‘U3’). If removal of the D factor reflects the move to revenue caps, we have not been able to identify any compensatory adjustment in the net allowable revenues. This suggests that the 0.1% of revenue innovation incentive simply amounts to replacement of the D Factor with a potentially even smaller allowance.

### **The importance of electricity distribution to innovation across the economy**

Efficient electricity delivery is fundamental to most existing technologies and, almost certainly, to the vast majority of new or developing transformative

ones. Ensuring that electricity delivery evolves in tandem with technological change across the economy is, in our view, all-important.

Also, there is a clear trend for network-based technologies and systems to converge, and to become mutually reliant on processes such as cyber security and data sharing. As artificial intelligence becomes entrenched, we would expect this convergence to extend down into households and appliances, as well as to be a vital part of commercial and industrial processes and procedures.

A regulatory approach that continues to place electricity distribution in a silo risks inhibiting its ability to support other innovative technologies and systems.

### ***Conclusion and recommendations***

Given this very strong wording in the clause defining the purpose of the regulatory regime, and bearing in mind the Government's wider objective of achieving a much higher level of investment in R&D by New Zealand businesses, we consider that the proposal of a token 0.1% of net allowable returns is totally inadequate.

We recommend that, at a minimum, the incentive be increased to 1% of allowable returns.

It would be timely for the 2020-25 regime to give greater recognition to the trend towards convergence across networks and electricity-dependant technologies, and to the regulatory repositioning that may be needed to ensure that this occurs optimally.

As an example, effective and reliable cyber security will become increasingly important as networks converge and extend into appliances, etc. A strong regulatory focus on ensuring that coherent protections extend across electricity systems, and interconnected networks of all types, could prove to be of critical importance to the economy and to consumers. Specific recognition of this via the incentives provided would be a useful modification to the proposed DPP.

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