Electricity Authority,
PO Box 10041,
Wellington 6143

19 February 2019

More efficient distribution prices consultation paper

Dear Sir/Madam,

Thank you for the opportunity to make a submission in regards to the future of distribution pricing policy in New Zealand. emhTrade is a participant in the NZ electricity market, engaged in significant R&D with regard to the transactive energy system of tomorrow.

As the assets that facilitate the efficient generation and distribution of electricity become more disaggregated and decentralised, it is critical that market structures evolve in order to signal, and facilitate the efficient transfer of that value.

By doing so the industry will gain access to the right resources, sooner, to be able to play it's part not only in keeping the lights on, but in transitioning to an electrified, low carbon economy.

We agree with the Authority's view that (in general) distribution tariffs are currently not fit for this purpose, and that it is essential the industry act with ambition and urgency to ensure that this changes.

We have provided answers to the specific consultation questions below, but also provide the following additional feedback to the paper.

Regulatory feedback and iteration cycle does not reflect urgency

Broadly, we agree with the Authority that distribution networks must "act with ambition and urgency on reforming their pricing structures. They should put in place concrete transition plans now, rather than wait". However, we think the proposal is unlikely to achieve this outcome without changes. Primarily, the feedback loop (on the regulatory change) is far too long.

Scoring distribution tariffs on an annual cycle is unlikely to demonstrate effectiveness or otherwise in achieving the desired outcome for at least two of those annual cycles. If the Authority is going to "expect distributors to make substantial progress by 2020, in order to align with the change from price to revenue cap regulation" there should be a number of check-ins between now and then as to how this is progressing, and whether this proposal is helping achieve that. It is not clear from the consultation and the proposed annual reporting cycle how this will occur.

Empirical Evidence is the largest impediment

Whilst it is true that "price reform does not change the rules on how much revenue distributors may earn in total from consumers" the Authority would be remiss if it considered that total revenue wasn't one of the most important considerations for distributors contemplating price reform.

Distributors are heavily incentivised to ensure that in any given period they hit exactly their allowable revenue (as set by the Commerce Commission). Because of this there is an entirely rational motivation to avoid any activity that puts that outcome at risk.

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There are a number of issues that create uncertainty in total revenue when moving to a new price structure. Including: a lack of easily available data with which to model new structures, a lack of capability to conduct the modelling, and most crucially, inability to understand the dynamic effects that new structures will have on consumer demand patterns, or emergent business models (ie demand response).

Whilst we understand that the first two of these issues can and have been partially addressed through collaboration between the ENA and retailers using historic consumption data, it is virtually impossible for distributors to predict with any degree of certainty how consumption patterns will change as a result of tariff reform (due to consumer choice, technology, or a combination of both) without undertaking experiments and trials to gather this data.

The Authority should be exploring ways in which it can facilitate experimentation, for the purpose of evidence gathering, in order to help distributors remove this risk and therefore proceed more rapidly with tariff reform. Meanwhile distributors would benefit from undertaking small scale trials through which they can better understand the dynamic outcomes that price structures might create and thus better model where tariff rates should be set if and when certain structures are rolled out to their entire network.

Pass through is not necessary to realise the benefits

We agree with the Authority's position that pass-through of tariffs (directly) is not necessary for cost reflective pricing to be effective and beneficial. There are significant advances in technology and business models that are likely to be commercially viable only if the true value of network use is signalled and this value is 'on the table'. It may be that these business models are able to automate, simplify or otherwise remove from visibility to the consumer the underlying price structure, whilst at the same time delivering valuable behaviour/consumption patterns to distributors. Without the price signal, and ability for a party (retailer, consumer or third party) to be able to derive benefit from responding to it, these models will not emerge.

Transaction cost is an important aspect of efficiency, but only at the margin

We acknowledge our inherent bias in this aspect, given part of our R&D programme has involved a considerable amount of work on 'smart tariffs' and how to bill them, but when considering the costs and benefits of a particular tariff, only the costs at the margin should be considered. If costs incurred by the highest cost participants are considered before making changes, competition and the pursuit of excellence will be stifled. This is especially true for the competitive parts of the industry.

We look forward the continued progress that distributors are making in regards to moving toward more cost reflective pricing, and the exciting future that this will facilitate for the industry. If you would like to discuss any aspect of this submission in further detail, please don't hesitate to contact me.

Yours Faithfully,

Stuart Innes
CEO & Co-Founder

	Question	Response
Q1	Do you agree that distributors need to reform their prices? What is the reason for your answer?	Yes. As noted by the Authority the current pricing methodologies are not cost reflective and therefore do not send clear signals (or make value available) for granular (in time and location) choices about consumption. New technology is radically reducing the transaction cost of consumers responding to these signals, but the business models that might deploy this technology are unable to do so as the value is neither being signalled or able to be transferred to lines companies.
Q2	How important and urgent are the issues identified by the Authority?	We see highly granular, cost-reflective distribution pricing as one of the most important improvements that can be made to the industry today.
Q3	Do you agree with the proposed Distribution Pricing Principles?	Broadly yes.
Q4	What if any changes would you recommend are made to the proposed Distribution Pricing Principles, and why?	
Q5	What if any changes would you propose to the star-ratings to better reflect the relative efficiency of distribution prices?	These could be published 'on-call' as distributors propose and/or trial new tariff structures, rather than just as an annual view of the published pricing schedules.
Q6	How long do you think distributors would reasonably need to introduce the different price structures discussed above?	In the current paradigm (annual price resets across the whole network following consultation with all retailers) we'd expect it to take at least five years before the majority of lines companies are able to implement highly cost reflective tariffs. With changes in approach, and more iterative steps providing empirical evidence, this could be reduced to two years.
Q7	Can you illustrate how and to what extent the LFC regulation hinders price reform?	Aside from the legal risk that has been highlighted by distributors on numerous occasions, there are other significant practical impediments that the LFC regs create. They can broadly be considered to double

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		the complexity of designing a new suite of tariffs including the analysis and billing systems required to support these.
Q8	How accurately has the Authority categorised distributor revenues and costs? How could this be done more accurately?	
Q9	What if any would be better indicators of the efficiency of distribution prices, or the ambition of and progress being made by distributors on their price reforms?	There could be a metric for 'ease of use' possibly a measure of the number of distinct retailers on a network for instance. There is a trade-off to be made between complexity, diversity across networks, and efficiency of price signal. Without requiring EDBs to conduct their own billing, the (marginal) cost of industry diversity in tariff structures should not be ignored.
Q10	What assistance could the Authority (or other stakeholders) offer distributors in order to speed up the reform process, or help to remove or reduce barriers to distribution price reform?	Annual reviews don't seem appropriate given the time-frames that the Authority is expecting. If this is driven by annual price changes, the expectations should be recalibrated, or a means by which to move faster than an annual cycle should be determined and promoted. The latter could be achieved through the provision of 'sandpits', promotion and facilitation of collaborations etc.

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