2 February 2015

Electricity Authority
PO Box 10041
WELLINGTON

Dear Authority,

Implications of evolving technologies for pricing of distribution services

Thank you for the opportunity to provide feedback on the Electricity Authority's (**Authority**) Consultation Paper *Implications of evolving technologies for pricing of distribution services* (**Consultation Paper**).

The Authority is right to be concerned about whether existing distribution pricing structures are durable[1].

New technologies will be transformational, distribution pricing must be fit for purpose

Contact is supportive of new technologies and agrees with the Authority that new technologies have the potential to transform how customers purchase and consume electricity in the future. Contact believes technologies such as solar, batteries and electric vehicles also have the ability to make a positive contribution to New Zealand's emissions profile. However, in order to enable efficient uptake of these technologies, and for the benefits to consumers and the country to be sensibly realised, pricing structures need to be in place that are equitable.

Based on what we see internationally, this transformation may accelerate over the next decade or so. To ensure the efficient and fair uptake of all new technologies it is imperative that distribution pricing (and other aspects of regulation around pricing) are fit-for-purpose over the long term.

In Contact's view the issues surrounding the current distribution pricing approach are well-articulated by the Electricity Authority in the Consultation Paper and Contact agrees with the majority of the Authority's conclusions, in particular that:

- new technologies will be transformational for consumers;
- the distribution prices consumers currently pay are not aligned with the services they buy.

[1] Consultation Paper page 32.

Distribution prices paid should be aligned with the services consumers buy

Contact agrees with the Authority that the price consumers pay for distribution services should better reflect the cost of providing the distribution service. Accordingly Contact supports a move to service based (cost-reflective) pricing where distribution prices more closely reflect the costs of providing distribution services to consumers, as soon as possible.

We note that currently:

- those with "peaky" loads (caused by either usage patterns or particular devices such as heat pumps and solar panels) are being cross subsidised by those with more "flat" load profiles[2;]
- current pricing is distorting the efficient uptake of emerging technologies, including:
  - dis-incentivising technologies like batteries and electric vehicles which currently have stronger underlying economics, and in the case of electric vehicles which have significant benefits for New Zealand Inc. through a reduction in New Zealand's transport emissions;
  - artificially boosting investment in solar before it is economic. While Contact is supportive of solar, we do not think its success should be at the expense of consumers without solar, who will pay higher distribution charges as a result of solar uptake, or other emerging technologies.

While this is a live issue, we anticipate this issue will only be exacerbated in the future, as current shortcomings with the pricing principles based approach are compounded by other new technologies.

Service based pricing should deliver the best long term outcomes for consumers

Contact agrees that service-based pricing is best placed to deliver long-term benefits for consumers. In our view distribution pricing should:

- be as simple as possible to facilitate consumer understanding and reduce unnecessary cost;
- be consistent nationally (as much as possible across network companies);
- be fair, service based and sending the right pricing signals (with little or no cross subsidies);
- be durable (fit for the future);
- minimise ongoing iterative annual changes (as is currently the case for many distributors)
- enable competition and customer demand to drive uptake.

An incremental approach to changing distribution pricing is likely to lead to continued confusion for customers and erosion of trust and goodwill for the electricity sector.

While a move to Time of Use (ToU) pricing may provide a step towards service based pricing, research from Australia suggests (please see Appendix 1) that this will not remove the significant cross-subsidisation between customers and that a move to fully cost reflective (service based) pricing is preferable.

Current principles based approach is not supporting simplicity or competition in new technologies

In Contact's view the current non-prescriptive pricing principles approach is not working and we disagree with the Authority's conclusion that distributors have strong incentives to change their pricing structures to meet the changing market.

Distributors' incentives are multi-faceted and complex, with other settings within the regulatory regime, such as Part 4 of the Commerce Act and Part 3 of the Electricity Industry Act, as well as distributors own diverse business interests, ownership structures and drivers e.g. listed companies versus community trusts, having the ability to influence distributors' incentives around pricing structures.

Further change to distribution pricing is needed to deliver long-term benefits to consumers

We do not believe that having defined the problem surrounding the current distribution pricing arrangements and quantified the potential inefficiency at between $2.7 billion and $5 billion (discounted NPV) [3], the Authority can simply leave the solution to 29 EDBs and their customers (retailers) to resolve on a network-by-network basis. Twenty nine different distribution pricing regimes is not only inefficient but the cost of this inefficiency is borne by consumers.

Our concern with the current non-mandated pricing principles approach is that any move to service based-pricing is likely to:

- result in up to 29 different distribution approaches[4] which cannot be easily communicated to customers;
- see a range of success levels in implementation;
- drive higher costs for consumers and retailers;
- take significantly longer than it would under a more mandated approach and allow cross-subsidies and poor signals to customers to continue. Analysis by NZIER shows there are significant benefits in making the change now versus delaying the change until later, with an inefficiency of $90-$700m in year two significantly less than the inefficiency which is present in year 10 - $1,600m-$5,800m.

We note that some networks are already moving towards service-based pricing and the lack of a single approach is resulting in diverging and sub-optimal price signals, increasing tariff complexity for consumers and cost.

[3] NZIER report, Effects of distribution charges on household investment in solar, p 16.
[4] This does not include the number of embedded networks.

While we accept there are some differences between networks, we do not think a voluntary network by network approach for matters as significant as this works.[5]

More prescriptive regulation of networks required to enable competition

Given the large number of networks in New Zealand, we consider that a more prescriptive process is needed for the re-setting of distribution pricing, and for this process to be incorporated into the Code. This process could regulate:

- Permitted distribution tariff types/designs, time periods
- The timing of any distribution tariff changes or increases
- Stakeholder consultation on the changes or increases run by the Authority
- Transitional provisions to reflect the materiality of the changes on stakeholders, giving them reasonable time to prepare for change.

Whilst this additional regulation may impose some cost to consumers, this cost is likely to be less than the long-term consumer benefits (including the benefits of the efficient uptake of new technology).

It is worth noting than in Australia EDBs are required to submit a pricing proposal to the Australian Energy Regulator (AER) in advance of each regulatory reset period, with proposals posted on the AER's website for public submission and approval by the AER. Before approving any change the AER must be satisfied the EDB complies with rule requirements (including LRMC-based pricing principles) and any applicable distribution determination and that all forecasts associated with the proposals are reasonable. EDBs are also required to maintain approved prices on their websites.

To ensure a well considered outcome in this space for consumers we recommend a cross-industry working group be established to work through and agree processes and principles. This will ensure that New Zealand's distribution charging regime is set up for New Zealand's long term benefit.

As it stands, the proposal to initiate distribution pricing structures may take 18 months for the Authority to land and another 12-18 months for distributors and retailers to respond to and execute. That's a three year old structure on emerging technology that is changing at pace.

For this reason, we think it would be useful for the Authority to work closely with industry to firm up a stance on what New Energy will look like by 2020 and beyond. There will be more solar homes, more EV's on the road, more charging station infrastructure and more battery types and technology. A distribution pricing structure that addresses the most likely scenarios for 2020 and beyond is what the industry should be working towards, as opposed to something that is fit for purpose now, but which will be three years old by implementation.

[5] We note the use of model use of systems agreements (MUoSA) has resulted in a variety of different agreement and virtually no Use of System Agreement being the same.

Change to distribution pricing brings risks, programmes for vulnerable consumers and communication must be in place

While the benefits of a move to service-based pricing are well articulated, such a change is not without risk as while some consumers will benefit, others will face bill increases as a result of the change. This risk needs to be well-understood and well-managed.

No matter how much sense a change makes from a service based/cost-reflective perspective, poorly executed demand pricing will only disengage customers and damage the reputation of the industry.

Consumer acceptance of service-based pricing and consumers' ability to manage any new pricing structure is critical for the successful roll out of service-based charging.

The criticality of these risks leads Contact to a number of conclusions, some of these conclusions need to be addressed by the Authority, while others will needs to be left to retailers. They are:

1. Any change to service-based pricing must be well-coordinated *across all network regions* – the Authority has a key role in this regard.
2. Ideally, the changes would adopt a uniform tariff design across all network regions (with differentiation driven only by a particular network's characteristics (load shape, spare capacity, growth projections, etc.)).
3. A nation-wide communication programme would precede the roll-out, supported by communications programmes by indiviual retailers.
4. The timing of the roll-out would be coordinated across networks.
5. Tools to enable consumers to manage the effect of the new tariff types must be made available as part of any roll out (it is not fair to apply a peak demand type tariff on a consumer if the consumer has no way of monitoring their real time peak consumption).
6. A mechanism for protecting the most vulnerable consumers must be agreed by industry before any roll out.
7. Significant consumer engagement will be required.
8. Given the contract with end customers sits with the retailer, retailers must continue to have the ability to deliver solutions customers' value and should not be stifled from innovating by distribution pricing.

This is a significant piece of work and one we recommend the Authority, together with the electricity industry, gives significant time and resource to. As The Lines Company's move to demand based pricing has shown, the importance of fit for purpose design, communication, information and the need for tools to assist in demand management cannot be underestimated. Likewise the reality of executing such a change is that this is unlikely to be able to be achieved without having some kind of transitional arrangements in place.

Most importantly given that any change may result in significant winners and losers, thought needs to be given to what can be done to assist the most vulnerable consumers in the event of any change.

Yours sincerely

Louise Griffin
Head of Regulatory Affairs and Government Relations

Response to questions

Q1.	What are your views on the scope of the Authority's review? Please give reasons for your answer.	In Contact's view the review has accurately identified the key issues facing the sector. Other areas the Authority may like to consider in its review include: • access costs/standards/terms and conditions for new technology connecting to the network (e.g. do we have central standards, governance over connection process for new technologies etc.). • the complexity resulting from the Authority and the Commission both having roles in setting distribution pricing. • whether the principles approach used currently works, or whether more prescriptive price setting rules are needed (as we have suggested throughout this submission) • the uncertainty created by the current transmission pricing methodology (TPM) and possible regional implications and ability to pass the possible cost increases through to consumers • the ease of implementation. • whether the large number of networks in New Zealand is delivering the best and most efficient long-term outcomes for consumers. What we are less convinced about is the Authority's proposed approach to dealing with the issues identified. There is evidence in New Zealand that non-mandated approaches in this space do not work, a key example being the model use of system agreement (MUoSA) which results in different approaches being taken by each EDB, no UOSA in New Zealand being the same and additional cost and complexity being borne by consumers. Currently every distributor is able to show compliance with the principles despite a wide range of designs – as one EDB has stated "we are all compliant". As they stand currently the pricing principles are already orientated towards service based pricing however these have largely not been adopted and the result is a regime that is distorting an efficient uptake of emerging technologies and creating significant cross-subsidies between consumers. Importantly this review needs to ensure consumers are at its core and that the outcome ensures the co-ordinated implementation of service-based pricing across NZ to ensure consumers are well positioned to manage the transition.

Q2.	What other technologies do consumers invest in or use that are likely to have a material effect on investment or operation of distribution networks? Please give reasons for your answer and an estimate of when you expect the technologies will have a material effect.	In our view the type of technology is irrelevant. What is important is ensuring fit for purpose, service-based pricing which future-proofs networks against whatever technologies come along in the future. Other technologies may include: • Other DG (e.g. micro wind) • Smart hot water • Inverters • Demand response capability • Many things we are yet to think of.
Q3.	What do you think about the Authority's concerns that existing distribution pricing structures do not reflect the costs of the different distribution services provided and may not be durable?	We agree with the Authority's concerns. However, in transitioning to service-based pricing there is a need to ensure durable tariff structures are put in place (where metering technology and system development allows), which reflect the long term cost of the network and the service provided to consumers. Putting pricing structures in place which only consider the short term capacity available in a network will result in inefficient signals being sent to consumers, inefficient investment by consumers and EDBs, tariffs requiring further adjustment at a later stage and confusion for consumers. That said, consumers' ability to pay needs to be taken into account.

Q4.	What is your view of the potential for a significant amount of inefficient investment in solar panels if distribution pricing structures continue to be based primarily on a consumption-based approach?	In our view there has already been a very material level of inefficient investment. Without a change to more mandated service-based pricing this will only increase over time. Ultimately the type of technology, be it solar, EVs, heat pumps or batteries is not the most important aspect. What is important is to have service-based pricing that is customer friendly, sends through the correct price signals and is durable for the future. Assuming this is in effect it should not matter what type of technology comes along as the prices will send through the right signals. A further benefit of real service-based pricing is that there is no discrimination against any consumer group and it will likely result in increased buy-in.
Q5.	What is your view of the potential for inefficient investment in distribution networks if there is a high uptake of electric vehicles and distribution pricing structures continue to be based primarily on a consumption-based approach?	Please see our response to question four above.

Q6.	What is your view of the potential for battery technology to defer or avoid investment to augment distribution networks?	Batteries are already economic today for some network upgrades and may have a material impact on future grid upgrades. However, it is worth noting that deferring network investment is just one of the many services that batteries can provide.
Q7.	What is your view of the potential for alternative distribution pricing structures to promote more efficient investment by consumers in heat pumps and / or LEDs?	Ultimately this depends on the structure, however service based (demand) tariffs are likely to suppress the uptake of heat pumps and promote the uptake of LED lighting and more efficient use of existing heat pumps. Likewise a move to service-based pricing may drive a move to gas heating (assuming heat pumps add to a typical household in terms of heat and peak load). Right now the uptake of heat pumps is likely to be increasing peak demand, causing network investment to be required and creating cross-subsidies between electricity consumers.

Q8.	What is your view of distributors' options for structuring their pricing?	While there are many different theoretical choices, some are better than others for the overall efficiency of the system. There is also a need to ensure pricing is not stopping competition and that consumers understand the drivers of the pricing and have the ability to react. Based on international examples (see Appendix 1) a move to ToU pricing will still enable significant cross-subsidies to occur. This will result in inefficient investment in emerging technologies, including solar PV. On this basis our preference is for distributors to move to service-based (demand) based pricing. However, as this may result in winners and losers, this may need to be phased in over time. Significant thought needs to be given to what can be done to assist those most vulnerable consumers in the event of any change. In order for this change to be successful there is also a need for more prescriptive application of this pricing. Right now 29 distributors can potentially change their pricing every year (and each year many do). This undermines customer confidence. A move to consistently apply pricing review timeframes, service-based pricing, measurement of peaks (e.g. monthly, annual) with phase-in periods and well-resourced education campaigns will help consumers. Continuous change in pricing structures by EDBs will create complexity for consumers and will not provide a stable platform from which consumers can make sound investments. The way distribution prices are structured should also not discriminate against particular user groups, including new connections and DG customers.

Q9.	What needs to occur for distributors to amend their distribution pricing structures to introduce more service-based pricing?	In some cases moving to service-based pricing will mean a large change in the way residential customers think about and use energy. Ensuring the right tools are in place to enable customers to be able to see and manage their electricity consumption at various times of the day and a well-resourced customer education campaign will be key to the success of any change. Significant consideration needs to be given to ensuring: • Appropriate assistance is in place for those vulnerable consumers who are impacted • Technology is in place to assist consumers with monitoring and controlling their electricity • Any change is well communicated. This issue is material. Service based pricing implemented poorly could have negative impacts for consumers and the industry. This is why in our view it needs to be carefully managed by the Authority.

Q10.	Would a change to the applicable rules encourage change to pricing structures?	Yes.
Q11.	What incentives could be introduced to encourage change?	Please refer to our response to question 12.

Q12.	What other options would ensure distribution pricing structures are service-based?	In our view the best option to ensure a move to service based pricing comes from a more prescriptive approach to the principles such as incorporating the pricing principles into the Code. An example could be making demand based pricing a Code requirement for all ICPs with advanced meters with communications should also be considered. This approach could include a requirement for EDBs to submit their pricing proposals to the Authority for release on their website, with comment sought by consumers and industry participants and, following submissions, the ability of the Authority to assess and approve (or reject) the proposal for compliance with the pricing principles in the Code. This would provide an open and transparent consultation process and ensure pricing structures, and future changes, are consistent with the pricing principles. Leaving the move to service based pricing to EDBs is likely to result in 29 different approaches, with varying degrees of "service-based" pricing being adopted. This will also result in unnecessary tariff complexity, which will be difficult to communicate to customers and will take too long. While we are pleased to see EDBs are currently trying to gain more alignment between themselves we also note this is likely to take years rather than months.

Q13.	Do you have any suggested improvements to the distribution pricing principles in Appendix B? What are your views on the recommendations made by Castalia noted above and in Appendix B?	In our view the principles appear largely fit-for-purpose so the main issue is the enforceability of the principles. We would like to see the Authority use greater power in this space and move to a Code based approach rather than the current light handed “principles” based approach (as discussed in response to Q12 above). The reason we recommend the principles being codified is that distributors are currently interpreting the pricing principles very differently. Castalia’s recommendations[6] did not deal with the fact principles are not being adhered to or that they are weak. We recommend adding more prescriptive pricing principles for example pricing based on LRMC, with guidance on LRMC to ensure consistent service-based pricing across EDBs. Other opportunities which could be considered include specifying that fixed charges (c/day) cannot be any higher than the actual level of operating cost in the business (for example 20% of total bill), and consumption based charges for capital recovery (e.g. $/kW) cannot be any higher than the LRMC of the network. This will ensure that network pricing structures reflect underlying costs, and result in a level playing field between existing networks and competition from emerging technologies.

[6] http://www.ea.govt.nz/search/?q=Castalia+Distribution+Pricing&s=&order=&cf=&ct=&dp=&action_search=Search

Q14.	Do you have any suggested improvements to the distribution pricing information disclosure requirements in Appendix B?	Yes. 1. There should be more prescription. Ideally there would be one set of rules for all EDBs, which don’t discriminate by technology or circumstance (e.g. a new customer joining the network). 2. The Authority should engage with consumers to get their perspectives. It is unlikely this will come through the submission process so may need to be done through qualitative research.

Q15.	What other issues with the current distribution pricing arrangements should the Authority address?	Right now there is a lack of consistency among networks which needs to be addressed in the short term. It will be important to ensure consistent pricing structures are adopted by EDBs, to minimise complexity for consumers and provide a stable platform from which consumers can consider and make investment choices.

Q16.	How will New Zealand-specific circumstances influence the effects of evolving technologies in this country?	In our view New Zealand's specific circumstances don't really influence the effects of evolving technologies. While the lack of government subsidies (feed-in-tariffs, net metering etc.) has meant evolving technologies have not impacted New Zealand as quickly in other markets, this has also meant that our regulations to deal with new technologies have not kept pace with other countries. However with technologies becoming commercial without subsidies, it is important the right regulatory frameworks are put in place quickly to ensure efficient investment and operation of energy markets. We should focus on building an enduring system rather than trying to pick technology winners.

	Additional comments	The Authority must be mindful of the cost of any such changes which are ultimately born by consumers. Our own experience with phase one of the retail data project suggests the Authority sigificantly under estimates the costs of change by many million dollars.

Appendix 1: Paper Network tariffs: resolving rate instability and hidden subsisidies

A paper for the SAO Advisory Customer Council – Utilities
Heidelberg, Germany, 16 October 2014
Paul Simshauser

Please refer to section 5.2 Two Part, Time-of-use and Three Part Demand Tariffs
Figure 12 and 13, 14 and 15