By Email

COUNTIES POWER

2 February 2016

Submissions
Electricity Authority
PO Box 10041
Wellington 6143

Dear Sir/Madam

**Implications of evolving technologies for pricing of distribution services**

Counties Power appreciates the opportunity to submit on the Electricity Authority's (Authority) consultation paper "Implications of evolving technologies for pricing of distribution services".

We are supportive of the Authority's review of this area and see the consultation paper as a positive step to having industry consensus and clarity on the required changes to distribution charges. Counties Power is aware of many of the issues that the Authority has raised and it is part of the reason for the Company's investment into smart meters and ultimately a smart grid.

We have answered the Authority's consultation paper's questions in the appendix of this submission.

**About Counties Power**

Pukekohe based Counties Power operates a mainly rural electricity distribution network in the south Auckland and north Waikato regions. Counties Power is owned by the Counties Power Consumer Trust on behalf of the 39,000 consumers it serves.

Counties Power operates over 3,000 km of lines, including a 110kV sub-transmission network from Transpower's Bombay substation and a 33kV sub-transmission network from Transpower's Glenbrook substation. Counties Power is one of the fastest growing lines companies in New Zealand as the area becomes more urbanised.

**Impact of new housing**

While we agree with the Authority on the future impact of new technologies on residential demand the biggest current technology impact on Counties Power is the improvement in the energy efficiency of new homes. In Counties Power's territory annual power consumption of a new home is on average 6,600kWh per annum compared to an existing home that uses around 8,300kWh per annum. However, Counties Power has to ensure that the capacity to these new homes is the same as the existing house base because they have the same peak demand. As a result, with Counties Power delivering a capacity service, as the Authority correctly states, new home owners are effectively paying a lower amount for the same service compared to older home owners. The effect of this is exacerbated with the average new home owner on Counties Power's Low Fixed Charge tariff and existing home owners paying the higher standard residential line tariff.

This is an increasing issue with Counties Power's customer base growing at around 2.5% per annum and this is likely to accelerate with over 10,000 residential sections approved as part of the Housing Accord between the government and Auckland Council. This growth, plus industrial growth, has seen Counties Power invest over $20m in new capacity related network infrastructure over the last couple of years. Therefore, we feel it is vital that any move towards cost reflective service-based pricing can only be achieved if the government alter the Low Fixed Charge regulations[1] through either repealing the legislation or substantially lowering the kWh threshold and specifically excluding homes with installed distributed generation.

**Smart metering investment**

Better utilisation of the existing network and the associated benefits of delaying future network upgrades was one of the key drivers of Counties Power's investment into smart meters. This investment means that Counties Power now has one of the highest levels of smart meter penetration of any EDB, with Counties Power smart meters being utilised by all retailers on the network.

Counties Power is, therefore, very keen for the value of this investment to be realised through consumers having choice, plus transparency, through cost reflective pricing (service-based pricing). We believe that this will support the avoidance of over investment in the network, give our customers the option to reduce their power bill, and be able to fairly charge those customers more who are willing to pay more to use electricity at peak times.

The Authority has outlined its position that if distributors adopt service-based pricing then over time retail competition will encourage retailers to differentiate their product/service offering. Counties Power submits that this position will not be clearly reflected in market behaviours because it assumes retailers will pass all underlying price signals onto the consumer. Given the issues that the Authority has identified, Counties Power believes that this position can only be achieved if there is a requirement for retailers to pass on the price signals unless agreed otherwise by the relevant Electricity Distribution Business (EDB).

If the Authority adopts the position that market competition will ensure retailers pass on the EDB price signals then EDBs may have little choice than to respond in a similar way to The Lines Company and bill customers directly. For Counties Power the additional costs of billing directly will be offset by the savings from delayed network investments. However, a separate bill from Counties Power will likely serve to confuse and displease customers given the low engagement nature of residential electricity purchases and the consumer preference for a single bill. Consequently, Counties Power's preferred option, and the one simplest for consumers, is that retailers are required under the Electricity Industry Participation Code (Code) to pass on the EDB service-based prices.

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1 Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004.

**Restrictions on distributed generation charges**

Although from a very small base, Counties Power is experiencing an exponential increase in distributed generation because of residential photovoltaic installations. Counties Power agrees with the Authority that these solar installations will probably displace other renewable resources. We suspect that these investments are uneconomic despite the cost reduction in the technology because of the retailer reduction in the purchase buy-back price from any power exported by the home owner.

As a consequence, Counties Power questions the restrictions on the distributed generation charges set out in the Code. These Code restrictions mean that EDBs can only charge the net incremental increase in cost and so the owner of the distributed generation does not pay their fair share of allocated infrastructure costs. Changing the requirement of artificially lowering EDB prices for distributed generation would be a proactive step that the Authority could take to correcting the issues that it has identified including reducing the amount that consumers who rely solely on the distributed network would have to pay in the future.

**Conclusion**

Counties Power believes that most EDBs would both agree with the Authority's views in the consultation paper and would be keen to introduce service-based pricing. Furthermore, the introduction of the charges could happen reasonably quickly. This has occurred already in part with a large number of EDBs, including Counties Power, having smart tariffs where the kWh charge is split into peak, off-peak and shoulder charges. This tariff configuration has been poorly adopted across the industry because of the reluctance of retailers to adopt the charges. Their reluctance is because of a lack of a competitive advantage, difficulties with their billing systems and we believe the difficulties with the management of the raw kWh data.

The difficulties EDBs have faced with retailers adopting the smart tariffs are likely to be repeated with capacity and demand based charges. Furthermore, feedback Counties Power has received from some of our retailers is that if Counties Power was to introduce capacity and demand based charges, the retailers would then convert the charge to a volume based charge to the end consumer.

Consequently, Counties Power would request that the Authority focuses on putting into place measures that would ensure retailers are required to adopt the new tariffs and for these tariffs to be reflected in their prices. This should be through changes to the Code that requires retailers to pass on the service-based pricing signals and through changes to the Model Use of System Agreement.

Regards

Andrew Toop
Commercial Manager

Appendix 1 Responses to the Authority's questions

| No. | Question | Response |
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| Q1. | What are your views on the scope of the Authority's review? Please give reasons for your answer. | Counties Power agrees that service-based pricing is desirable long-term and Counties Power notes the ENA's support of efficient cost-reflective prices. Furthermore, changing EDB tariffs so that this option is available to retailers would not be difficult. However, where the difficulty occurs, and where the scope of the review needs to be expanded, is around how these new tariffs would be adopted by the retailers and the existing Low Fixed Charge regulations that prohibit more cost reflective pricing. These areas appear to be excluded from the scope of work by the Authority but need to be included if there is to be meaningful changes in existing distribution pricing. |
| 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. | Counties Power believes that the Authority has listed the key technology changes. The other change that has affected some of the EDBs in Canterbury is the change from a winter to a summer peak because of the large increase in irrigation. Counties Power also believes that Transpower has seen summer peak growing twice as quickly as the winter peak. While Counties Power is not experiencing a significant growth in summer peak demands, it believe that there is increasing use of air conditioning and irrigation in our territory and this will likely see a continued growth in our summer peak demand. For the summer peak growth the increasing use of photovoltaic generation would be positive because their power output would correlate with a summer peak demand. |
| 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? | Counties Power agrees with the Authority's concerns and that a significant uptake in distributed generation will not be efficiently managed under the current volume based pricing. This could be partly resolved by the Authority changing the Code to enable distribution pricing of distributed generation so that customers with photovoltaic generation pay their fair share for use of the distribution network. |
| 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? | Counties Power believes that for an average residential home a solar investments is already economically inefficient and being driven by non-financial drivers. The Authority needs to amend the Code to ensure distributed generation owners pay a fair proportion of the infrastructure costs that they use when exporting power. |
| Q5. | What is your view of the potential for inefficient | This could be easily avoided through the electric vehicles being connected to the EDBs |

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| | 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? | controlled supply in the same way that home water heating occurs. This would require dedicated wiring or the vehicle charging from the EDB relay on the same basis as the houses' hot water cylinder. As the controlled supply is only load controlled during winter morning and peak times it would be unlikely to interfere with the charging of the electric vehicle. |
| Q6. | What is your view of the potential for battery technology to defer or avoid investment to augment distribution networks? | This technology is in its infancy and so it is too early to be certain as to the role of batteries going forward. However, it is possible that batteries may have a similar role as the industry's historic controlled hot water supply, or may replace core network and generation investment overtime.<br>Furthermore, because New Zealand's electricity spot prices are relatively flat compared to international electricity energy prices (internationally prices spike because of expensive thermal peaking stations) there may be less financial benefit for the battery to avoid high electricity spot prices by the retailer. This would leave the main industry battery benefit being to avoid distribution and transmission peaks, as well as storing distributed generation output. |
| 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? | Alternative distribution pricing structures are unlikely to promote more energy efficient investments because owners of heat pumps and LEDs already obtain pricing benefits from the current consumption based kWh prices that lower the overall monthly charge.<br>Furthermore, increased energy efficiency from the use of things like heat pumps can mean increasing the rate of heating or running the heating longer than previously occurred to improve the home environment. This can reverse the energy savings and reduced peak demand. For example, most EDBs have a peak demand that occur in a winter weekday after 5pm when workers return home and start heating their homes. The initial demand of the heat pump may be significantly high as the homeowner seeks to get the inside of the home to the right temperature (and similarly with modern insulated homes). Then running the heating for longer to maintain the home at this set temperature. |
| Q8. | What is your view of distributors' options for structuring their pricing? | EDB pricing structures are constrained by the ability for the retailers to handle different pricing configurations such as demand and capacity charging. Currently the near universal use of kWh volume charges enables the retailers to structure their mass market billing systems to handle different variations of the same charge.<br>Introduction of mass market demand and capacity charges would only be possible if the EDB were to bill the consumer directly. |
| Q9. | What needs to occur for distributors to amend their | It would very easy for Counties Power to introduce service-based pricing. The difficulty |

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| | distribution pricing structures to introduce more service-based pricing? | occurs in seeking retailers to adopt the pricing structure. Would the Authority accept EDBs imposing service-based pricing structures that would not be compatible with retailers billing systems or internal line charge reconciliation?<br>Currently the only option for universal service-based pricing is direct pricing to the end consumer by the EDB, which imposes additional costs on EDBs that then have to be recovered from consumers. |
| Q10. | Would a change to the applicable rules encourage change to pricing structures? | Changing the rules that required the retailer to pass-on the price signals to the end consumers would encourage EDBs to investigate charging options that delayed future infrastructure investments. Long-term this would result in increased network utilisation and lower costs to the end consumer. |
| Q11. | What incentives could be introduced to encourage change? | A requirement under the Code for retailers to pass through the EDB pricing signals to consumers. This would enable consumer owned EDBs an immediate incentive because the network infrastructure savings would be passed on to their customer base through the avoidance of future price escalations. However, for the non-consumer owned EDBs changes to the Commerce Commission price path models may be required to enable the EDBs to retain all, or some of, the increased profit from the longer term improvement in network utilisation would likely be the best incentive. |
| Q12. | What other options would ensure distribution pricing structures are service-based? | The Authority should modify the Model Use of System Agreement so that it states that retailers should seek to adopt any EDB service-based pricing, promote the pricing to their customers, and require the retailers to reflect the pricing in their final pricing to the customer. While this would not enforce the requirements on the retailers it would ensure that EDBs have a better negotiating position for ensuring the adoption of the terms in their Use of System Agreements. |
| 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? | The proposed suggested improvements are simplistic and of little help. The barriers to service-based pricing relate to how the retailers would react to the tariffs and how they can be billed to the end consumer. Currently the only way to avoid this barrier is for EDBs to bill directly to the end consumer, which is the approach that has been taken by The Lines Company.<br>As mentioned, the Authority should seek changes to the Low Fixed Charge regulations and withdraw the enforced under-recovery of distributed generation charges in Part 6 of the Code. |
| Q14. | Do you have any suggested improvements to the distribution pricing information disclosure | The Authority should seek alignment with the Commerce Commission information disclosure requirements. |

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| | requirements in Appendix B? | |
| Q15. | What other issues with the current distribution pricing arrangements should the Authority address? | The Authority needs to provide greater clarity around the Authority's position that the Low Fixed Charge regulations are not a barrier to the introduction of service-based pricing. In particular, what prices would be considered as a fixed charge and what would be considered as variable charges.<br>Given the Authority's position on distributed generation, the Authority should review the distributed generation pricing principles in Part 6 of the Code. EDBs should be allowed to recover a fair share of the EDBs costs from owners of distributed generators. As the Authority states distributed generator owners tend to be better off and their generation results in other consumers having to pay higher line charges. |
| Q16. | How will New Zealand-specific circumstances influence the effects of evolving technologies in this country? | Counties Power disagrees with the Authority's conclusion that a highly competitive electricity retail market will ensure that retailers adopt the more efficient service-based plans. This is because the Authority is seeking to double guess what the end consumer will see being advantageous to them. As can be seen in the smart phone market low cost models are often less important than brand and perceived value. Similarly, more of the new retailers are small and have marginal impact which is not what is required to avoid the inefficient investments that is the purpose of the Authority's consultation paper.<br>Consequently, Counties Power again requests that the Authority take a more proactive stance in ensuring that the retailers are required to adopt and pass-on the service-based EDB prices. |