

10 July 2017

Electricity Authority
PO Box 10041
WELLINGTON 6143

(by email to submissions@ea.govt.nz)

Submission on Enabling Mass Participation in the Electricity Market

Please find attached Cortexo's response to the above Consultation Paper dated 30 May 2017. Cortexo appreciates the opportunity to provide input into this process.

From our point of view we look at the questions posed from the customer perspective. It is our thesis that *eventually* the average consumer will generate, store, consume and exchange electricity. Distribution and transmission will be necessary to carry out the exchange of energy and to provide grid supply of electricity where necessary to supplement the consumer environment. The regulation required to operate such a market will be more about standardisation and safety, in much the same way that cars require a warrant of fitness and drivers require licenses to operate on roads provided by quasi monopoly organisations.

The discussion paper points towards this type of outcome, but it's a journey of many smaller steps. Our industry will need to move from its current self-centered and inward looking position to prepare for the future.

We fully support the Authority with regard to this discussion and believe that the outcomes will be increased competition and innovation in the electricity market that will directly benefit consumers.

Yours faithfully,



Terry Paddy
Managing Director

Format for submissions

Submitter	Cortexo Limited
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Q1. What is your view of the potential competition, reliability and efficiency benefits of more participation?

More participation will lead to more innovation and more innovation will lead to more competition as well as more efficiency through complimentary services; all leading back to more participation. Unfortunately more participation and more innovation require less protectionist activities by incumbents.

Reliability means different things to different people. Where as an EDB considers security of supply as sacrosanct, innovation may mean end users accept lower grid reliability (lower cost) if combined with their own generation/storage thus creating innovative pricing options (and more participation)

Q2. What is your view of the opportunities to promote competition and more participation in the electricity industry?

An unintended consequence of regulated markets is the protection of the status quo, high transaction costs and 'group think'. The fact that the regulator is seeking the type of discussion this discussion paper will generate is a sign that there is a genuine attempt to look outside the status quo and improve competition. Unfortunately any regulator is equivalent to a benign dictator, they always have the last word.

Q3. What other issues might inhibit efficient mass participation? Please provide your reasons.

Efficient markets rely on everyone having the same information so that transaction costs are the same for all. Mass participation will not occur until the silo's of information and control are broken down to enable new entrants to access the same information as incumbents and be able to provide new services that the incumbents either cant see or don't want (because they are threatened). Basically, when a new innovative solution company (a disruptor) looks "into" the current electricity market they are locked out of accessing the information that enables them to understand existing friction points (opportunities) and provide a solution. A case in point is the way some in the retail sector have been able to effectively block the flow of meter data to approved 3rd party recipients because of retailers desire to control the customer.

Q4. What is your view of the opportunities for network businesses to obtain external help to provide aspects of the network service using competition or market mechanisms?

As an outsider it seems natural that networks should be able to obtain external help to provide existing and new network services that will lower costs and improve service. External help could be from the end user (residential or commercial), who is becoming the owner of generation, load and storage or a new innovator who can act as a conduit for end users who wish to engage in these sorts of services.

Currently networks are "inward looking" focused on their poles and wires because this is what they are forced to concentrate on by regulation. To become outward looking, focused on the end users, they would have be able to engage with the individual customers at the end points of their networks. They are blocked from doing this in some way by regulation and by retailers who see any interaction with customers as a challenge to their market. Recent appeals to the Privacy Commissioner by the retail industry group, directed at network businesses, is one example of the

difficulty networks have with engaging with end users. To compound that, new innovator 3rd parties have difficulty obtaining the network information (such as constraints) and the customer level information required to provide network services to network companies.

Q5. What do you think are the main challenges to be dealt with to increase the use of competition in supplying network services? What are your reasons?

The evolution of the NZ electricity markets has meant that some of the information required for more efficient network operations is held or locked up by others such as retailers and MDM's. Information needs to be free flowing and customer access needs to be available to all parts of the supply chain so that innovation can occur at all levels. It is time it became clear to consumers that when they buy electricity that it comes from more than one party. Separate billing, for example, would create the ability for networks to have discussions with end users about services, costs and savings without having them masked by the retail layer. It is not at all logical to say 'consumers don't want that, its too complicated' when the point of markets and competition is to provide a variety of ways of delivering a service. It is not up to a select few to decide how end users should receive services, especially when those decisions are being made for protectionist commercial reasons.

Q6. What is your view on whether open access is required and what would be the elements for an effective open access framework?

The question of open access is difficult for new technology players like us to answer. We are not experts in monopoly economics neither do we have the depth of industry knowledge to fully understand the intricacies of network operating models; although the examples given in section 5 of the discussion paper clearly indicate how transmission & distribution businesses can manipulate their position for their own, and definitely not the consumers, benefit. As industry outsiders we also see the retail sector also having the ability to manipulate consumers with the way information and data is obfuscated.

Viewing the question from the point of view of the consumer, who may be a user, generator, exchanger or store of electricity, open access would mean a consistent set of rules across all distribution networks that allows 'me' to only pay for the services I use (if I exchange electricity with my neighbour I only want to pay for 2 power poles and 500m of wire – and the odd piece of hardware) or to enable 'me' to join together with likeminded individuals for a specific purpose (virtual micro grid)

Q7. How effective are the existing arrangements for open access? What are the problems?

No relivant comment

Q8. What type of distributor behaviours and outcomes should the Authority focus on to understand whether changes are required to support open access?

Free and transparent flow of information regarding network constraints and cost to serve consumers in a variety of situations.

Q9. What changes to existing arrangements might be required to enable peer-to-peer electricity exchange?

Peer-to-peer trading will happen (if not completely banned by law) regardless of the market regulation as consumers feel a sense of control when they are able to circumvent the system regardless of cost; so it will be better to provide an environment conducive to its use. Currently

planned work around multiple traders at an ICP, full transparency of generation and consumption data and the ability for the peer-to-peer trader to only pay for distribution services it uses will be required to enable an efficient peer-to-peer market. Currently a link is needed between the peer-to-peer 'participants' and the electricity market and a retailer provides this. The optimal solution would be those that wanted to exchange electricity between themselves, say as a virtual micro grid, could manage that process without the need of a retailer or specific market participant.

Q10. What are the costs and the benefits of enabling peer-to-peer electricity exchange?

The future of the electricity market is where the consumer is the 'centre' of the market, generating, exchanging, storing, and using electricity; and interacting with others. The creation of a more open and transparent electricity market will enable costs to be visible and understood by the consumers creating and consuming these services, without the need for complex middle market structures.

Q11. What is your view of the possibility for, and impact of, any current or future blurring of participant type? What are your reasons?

Currently some information and transparency is unavailable to organisations and individuals that are not market participants and this makes innovation difficult. Registration and approval to operate in the electricity market should only occur where safety and consumer protection is necessary. A consumer who offers generation, storage, load and exchange of electricity should be able to operate freely in the electricity market in the same way consumers are able to operate freely on platforms like Trademe as long as safety or normal 'common law' is not compromised

Q12. What types of participation are or might be prevented because the party is not recognised as a participant? What are the potential impacts?

As referred to in Q9, where parties want to operate in a closed environment as a say a virtual micro grid, then they would need to engage with a market participant for the reconciliation of the exchange of electricity, they would probably find it difficult to meet the current requirements imposed on say a retailer to be able to carry out settlement themselves.

Q13. What challenges might new forms of generation, such as virtual power plants, or small and dispersed generators, face in entering the market?

No relevant comment

Q14. What changes might be required to the rule book to facilitate the emergence of virtual power plants or demand response?

No relevant comment

Q15. Would the functioning of the market for hedges and PPAs and the availability of finance be improved if there were greater transparency of long-term prices and greater standardisation of terms and conditions for long-term contracts?

No relevant comment