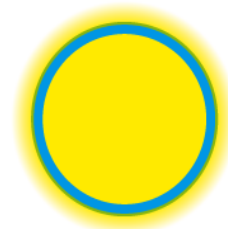


11 July 2017

Submissions
Electricity Authority
PO Box 10041
WELLINGTON 6143



Dear Sir/Madam

Enabling Mass Participation

This is Powerco Limited's submission on the Electricity Authority's 'Enabling Mass Participation' consultation paper dated 30 May 2017. "Mass participation" describes the impact of technology and market developments on the number of parties buying or selling electricity services.

Customer needs will evolve and we're designing our network to support them

Electricity is fundamental to economic prosperity and a modern lifestyle. Delivering it to our customers safely, reliably, and efficiently is our core business. A number of global and national factors are affecting electricity use via innovation in communication, consumption, and connectivity technologies. At a local level, we also need to keep pace with changes in population, demographics, and the factors driving regional growth. As a result, we anticipate increasing volatility in electricity demand and changes to the way our network is used. The importance of a reliable electricity supply will remain in sharp focus as well. These factors will have major implications to the way we build and manage our network in the future.

Consumers are excited about new technology. We are too. Emerging technology will allow us to use our network more intensely, improve our operating efficiency and reliability, and offer an expanded service range to customers. Partnering with retailers and other providers on trials of new technology solutions allows us to understand the future demands that may be placed on our network. This supports our corporate objectives of enabling our customers' energy choices and efficient asset utilisation now and into the future.

We support open access to a stable network platform where this has benefits for end consumers

We are committed to making our distribution network available as an open-access platform to which customers can connect (within safe bounds) any devices they require, or over which they can transact with others as they see fit. Delivering that service involves a degree of transparency about our investment decisions and the solutions we consider. Our asset management plan¹ (AMP) describes our network and the challenges we face to meet consumer demand. We aim to be transparent about our investment drivers, the options to resolve constraints, and preferred solutions (network and non-network). Feedback from recent stakeholder engagement is that this type of transparency is important to them. We plan to reinforce this in future AMPs, which are a public document updated annually.

¹ Our 2017 AMP can be found here: <http://www.powerco.co.nz/Publications/Disclosures/Electricity/>

In addition to maintaining a safe network, stakeholders are seeking confidence that we are making efficient and non-discriminatory investment and procurement decisions. Our procurement practices ensure efficient prices on both counts. Our operational delivery arrangements are outsourced to contractors across the country, leveraging their scale, experience, and systems to deliver a safe, high quality service. Larger capital construction works are market tendered, ensuring the cost is fair, efficient, and meets delivery requirements.

Open access is a two-way street. Data sharing protocols and capabilities across all market participants need to evolve. As a network distribution business, we need to understand consumer behaviour and preferences - including potential behaviour - to ensure we can run our network efficiently. Access to smart meter data along with improved visibility of the low voltage parts of our network (which we are planning to invest in) will ensure we can meet the safety and reliability needs of our customers both now and in the future.

Collaboration and consistency

It's essential that the industry works together to ensure energy is delivered to consumers at the lowest life-cycle cost while maintaining safety and reliability. This applies to market participants who use the rules, and the regulatory authorities who make them. Powerco is committed to continue engagement with retailers and other stakeholders to share our learning and insights. Given the significant value consumers put on a reliable electricity supply, a coherent, transparent, integrated, and staged approach to regulatory changes will allow markets to evolve efficiently.

As a large New Zealand distributor of electricity, we play an important role in an industry which is in transition. Powerco is one of a number of distributors embracing pricing reform to send appropriate cost reflective signals to users of our services. Distribution pricing is just part of the equation. Transmission pricing is an important component too. We support the efforts of the Authority and Transpower to review transmission pricing² in light of changes to technology and regulations. As the visibility and importance of pricing across the supply chain increases, we want our customers to have the ability to choose how they use energy in a manner that best suits their own needs.

We support the Authority's intent to facilitate competition. There's a balance to be struck between facilitating and prescribing solutions, particularly where alignment of costs and revenues can be misaligned. In the same way that networks provide a platform for markets to operate, we see regulation playing a similar role in facilitating competition. In addition, we note that some of the topics raised in the consultation paper appear to overlap with other regulatory jurisdictions and decisions. A considered and coherent approach to regulatory reform will be efficient if made in conjunction with other regulatory bodies.

The attachment has our responses to the questions in the consultation paper. If you have any questions about this submission, please contact Andrew Kerr Andrew.Kerr@Powerco.co.nz.

Yours sincerely



Richard Fletcher
General Manager Commercial and Regulatory

² We have raised concerns about the emerging complexity of potential solutions.

| Question | Comment |
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| <p>Q1 What is your view of the potential competition, reliability and efficiency benefits of more participation?</p> <p>Q2 What is your view of the opportunities to promote competition and more participation in the electricity industry?</p> <p>Q3 What other issues might inhibit efficient mass participation? Please provide your reasons.</p> | <p>A focus on potential net benefits is appropriate to ensure the all aspects are considered. Given the range of views of potential futures, a robust and evidence-based analysis of cost and benefits will be valuable for all stakeholders:</p> <ul style="list-style-type: none"> • <i>Competition</i>: An increased focus on pricing across the supply chain will affect existing and new markets, some of which are under the jurisdiction of the Code. In terms of the Authority's work programme, a number of existing projects in the EA work programme relate to the issue, including wholesale market³ which may flow through to the retail market. • <i>Reliability</i>. An increase in monitoring of users and the network will be required. As noted by the Authority "distribution generation can disrupt the operation of local networks and impose costs on distributors to address reliability and local quality problems".⁴ In terms of detail about the impacts, several parties have been studying this at a detailed level. For example: <ul style="list-style-type: none"> ○ the Smart Grid Forum investigated the reliability impacts⁵. ○ Analysis by the GREEN Grid project was presented to the Authority's Security and Reliability Council⁶. • <i>Efficiency</i>. Increased technology has the potential to impact investment in generation, transmission, and distribution. Evidence-based assessments of these impacts should underpin assessments of the nature and scale of opportunities and impacts. For example, a Meridian Energy study⁷ assessed the impacts across the supply chain. <p>It's essential that the industry works together to ensure energy is delivered to consumers at the lowest life-cycle cost.</p> <ul style="list-style-type: none"> • Measures to encourage efficient mass market participation need to capture consumer preferences for participation and engagement given their views on the role and cost of electricity. For example, consumers can choose which fuels they use for home or transport use, how they insulate their homes⁸, and which appliances they purchase. • It is equally important that the Authority's initiatives take account of those of other Government agencies so policy and regulation develop in lockstep. Consumer choices affect markets and services outside the scope of the Code. • Standards of and access to data will need to evolve to ensure network operation meets safety and reliability needs cost-effectively and maximise the opportunity for meaningful market signalling. This will affect the nature and scale of systems upgrades/investments by affected parties to manage the data. Smart meter penetration and functionality will affect the speed and scale of any benefits from initiatives relying on accurate and timely data. • Cost reflective distribution tariffs are one of many input costs that retailers manage and respond to. Retailers choose how to reflect these input costs in their retail prices. |

³ For example, potential changes to improve the forecasting of wholesale prices, and move to real-time pricing.

⁴ <http://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-market/nz-smart-grid-forum/meetings-year-1/meeting-6/electricity-authority-working-paper.pdf>

⁵ <http://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-market/nz-smart-grid-forum>

⁶ <https://www.ea.govt.nz/dmsdocument/21434>

⁷ <https://www.meridianenergy.co.nz/assets/Investors/Reports-and-presentations/Industry-reports/Smart-Energy-Futures-Summary-Report-Jan2012-2759757-1.PDF>.

| Question | Comment |
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| <p>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?</p> <p>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?</p> | <p>As noted in our summary, Powerco is participating in a number of trials to assess the viability and scope of new technology solutions. We describe these in our asset management plan. Networks already purchase some network services from customers right now. The hot water ripple load controlled by distributors is “purchased” from consumers (via retailers) through a reduced or discounted distribution line charge. Any reduced demand is also of benefit due to a reduction in the customer’s variable charge set by the retailer.</p> <p>Network owners should assess the opportunities for contestability on their networks. Alternatives need to lead to better outcomes for end consumers and not compromise safety and resilience. Examples of some of the challenges are</p> <ul style="list-style-type: none"> • balancing the complexity of new technologies with the costs to upgrade systems, including integration with new service providers. • ensuring a materiality threshold around the scale of the service and transaction costs. For example, services may be location specific and vary across geography and time, affecting the certainty, scale and value of solutions. |
| <p>Q6 What is your view on whether open access is required and what would be the elements for an effective open access framework?</p> <p>Q7 How effective are the existing arrangements for open access? What are the problems?</p> <p>Q8 What type of distributor behaviours and outcomes should the Authority focus on to understand whether changes are required to support open access?</p> | <p>We support the principles of open access and a level playing field, noting that these must align with our obligations to maintain a safe network. In that context, the network owner is best placed to specify access terms. As noted in the Authority’s paper, open access arrangements exist today. The Commerce Commission’s work around related party costs is an example of work ensuring a level playing field. The Commission’s role to ensure distributors invest efficiently is a relevant consideration for this work programme, including any incentives that distributors face around operational and capital expenditure.</p> <p>We agree that network use is changing (para 5.8). Assessing the impacts of this requires an increase in monitoring of the network at a more granular scale. It also heightens the need for distributors to understand the behaviour patterns of consumers. Visibility of customer data (current and forecast) will increase in importance for us as we seek to run our network efficiently now and in the future. Adding more providers of functions and services will emphasise the need for cohesive system operation, and the consistency of, access to, and storage of data.</p> <p>Our asset management plan⁹ (AMP) describes our network and the challenges we face to meet consumer demand. We aim to be transparent about our investment drivers, the options to resolve constraints, and preferred solutions (network and non-network). Feedback from recent stakeholder engagement is that this type of transparency is important area to them. We plan to reinforce this in future AMPs, which are a public document updated annually.</p> |

⁸ The Government announced in June 2017 that they had extended insulation grants to include low-income home owners. <https://beehive.govt.nz/release/insulation-grants-extended-low-income-home-owners>.

⁹ http://www.powerco.co.nz/uploaded_files/POWERCO%20Asset%20Management%20Plan%202017.pdf

| Question | Comment |
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| <p>Q9 What changes to existing arrangements might be required to enable peer-to-peer electricity exchange?</p> <p>Q10 What are the costs and the benefits of enabling peer-to-peer electricity exchange?</p> | <p>Peer to peer exchange are an example of a market that may develop on our stable open access network platform. This is another example of a potential change to network use that we will need visibility of flows and technology in order to manage out network efficiently. Network pricing would also need to evolve to ensure costs are apportioned to producers and consumers for the access to and use of the network.</p> <p>From the material in the discussion paper, peer-to-peer exchanges are working now. Current arrangements would appear to be enabling them to occur. Speculating on the potential costs and benefits is best handled in the context of a clear problem definition.</p> |
| <p>Q11 What is your view of the possibility for, and impact of, any current or future blurring of participant type? What are your reasons?</p> <p>Q12 What types of participation are or might be prevented because the party is not recognised as a participant? What are the potential impacts?</p> | <p>We support measures to “right size” participant categories given roles and obligations eg, using sub-categories of participants. A household generator might have different obligations to a grid connected generator. The information about the customer may need to change to reflect the nature of the generation. The current load/generator/both description of ICP status is unlikely to be descriptive enough given the range of possible configurations.</p> <p>More generally, it’s important that distributors can maximise the efficiency of investments (in tandem with visibility of options and solutions as we noted earlier). We support the status of batteries being moved from a “mostly resolved” to “resolved”.</p> |

| Question | Comment |
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| <p>Q13 What challenges might new forms of generation, such as virtual power plants, or small and dispersed generators, face in entering the market?</p> | <p>These forms of generation are an example of users of our stable network platform. In order to understand what additional network controlling and protection mechanisms may be required in the future, our focus is on the visibility of flows and ability to forecast those flows. Both distribution and transmission pricing will need to ensure these parties face costs that reflect their network use. The Code will need to ensure these parties are accountable for the risks and responsibilities they impose on the network. For example, the Authority is progressing work to improve the accuracy of spot price forecasts and should account for the impacts of new forms of generation if they are material.</p> |
| <p>Q14 What changes might be required to the rule book to facilitate the emergence of virtual power plants or demand response?</p> | <p>The Authority's experience with the development and evolution of forward contract markets may assist with answering some questions 13 and 15 in the consultation paper.</p> |
| <p>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?</p> | |