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**Submissions**  
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## **DISTRIBUTED GENERATION PRICING PRINCIPLES ISSUES PAPER**

Network Waitaki welcomes the opportunity to provide our comments to the “*Distributed Generation Pricing Principles*” issues paper. We also generally support and agree with the submission by the Electricity Networks Association (ENA).

Appendix A contains our responses to the detailed questions in the Electricity Authority (Authority) submission format.

We appreciate the intent of the Authority with the proposed Code Amendment to review the arrangement in Part 6 of the Code for distribution pricing for Distributed Generation (DG).

We urge the Authority to treat this review as a matter of urgency as the current rules are detrimental to investment and the incremental cost cap is unsustainable and does not permit fair cost allocation to be applied.

We consider that reform of Part 6 is necessary to ensure that all users of the network contribute to network development and maintenance, which will become increasingly important as DG become more common. Currently, there is no requirement for DG to contribute to the development and maintenance of the network that they benefit from.

DGs are in effect allowed to ‘free-ride’ the core network. Especially larger DG that is not associated with load. The consequence is that while consumers benefit from the scale effect of more consumers connecting to and using the network, the same cannot be said when new larger distributed generators connect.

### **First mover disadvantage**

The current Part 6 pricing principles prevent the recovery of any cost exceeding the incremental cost to connect DG. This principle is in contrast to our Capital Contributions policy and the Authority’s proposed Connection pricing provide for recovery of a proportional contribution from all load connections to future upstream asset investment. This creates a perverse outcome where DG connections can connect and utilise existing export capacity in the network (at minimal or no cost) up until the export capacity of a section of the network is reached. At this point, the next connection applicant is subject to a substantial connection cost to increase the export capacity of a large part of the network or a GXP (as this is the incremental cost of connection).

This regulation reflects where EDBs have some hosting capacity on their network, however, this does not consider efficient network investment when undertaking major network upgrades.

**A case in point:** Network Waitaki is considering investment in a new Grid Exit Point (GXP). As have been communicated to the Authority over the years, during the last two decades, all options have been explored to solve the Transmission constraints on the Waitaki 110kV circuits to Oamaru and South Canterbury. The proposed solution is the construction of a new 150 MVA GXP that is significantly greater than what is needed to meet our forecast consumption in our electricity network. This will address the constraint and result in excess capacity being made available at the GXP in the short to medium term.

Because we have publicly disclosed the intention to build a GXP we have received interest from large solar and wind investors that seek to inject via Network Waitaki's network at the GXP.

With no ability to share costs with the DG operators under the regulated terms, the building of a GXP comes at a cost to our existing mostly residential consumer base in the order of \$50 million. This would be recovered via a Transpower Works Agreement at a cost of around \$5m per annum for an expected period of 30 years (70% increase in transmission costs)

We consider this an example of first mover disadvantage as there is currently no mechanism in which we can allocate some of the cost of investing in this GXP or utilisation of the network assets to a large DG participant (except if these participants are willing to contract outside of the regulatory pricing principles).

Hence, our predominantly small residential consumer base will be paying for a \$50 million investment of which a large DG could possibly be utilising the majority of the capacity in the short to medium term at a very low incremental cost as there is no basis for cost-sharing.

This is an inequitable practice whereas an electricity distributor we are required to support deployment of distributed generation on an incremental costs basis, when the DG is making use of the distribution infrastructure in largely the same manner as a customer who consumes energy. The DG is unfairly allowed to leverage a network funded by consumers.

It would be entirely rational under the current regime for Network Waitaki to only build a GXP at the size that would serve the expected level of electricity consumers in the region in the foreseeable future.

Network Waitaki seeks to support decarbonisation by enabling connection by DG at the planned GXP. However, we can not justify this investment if the regulatory environment does not provide us with certainty that the cost of investment can be shared fairly with future distributed generators.

### **Incremental Cost**

The incremental cost set out in the Code prevents cost reflective pricing from being implemented by EDBs, in that it does not allow the residual target revenue (after price signalling) to be allocated in the least distortionary way, which would be equally spread across all customers who benefit from the relevant assets including both load and generation customers by way of fixed charges.

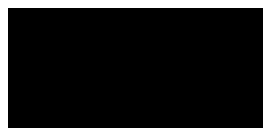
We propose that the Code is amended so that EDBs can spread the cost to maintain the network and the return on investment that they earn from both load and generation consumers as the current Code burdens load consumers unfairly.

This approach will be more cost reflective and also adopts a benefit-based approach, which aligns more closely with the approach taken in the proposed TPM.

In summary, we would like to stress that Network Waitaki supports DG but urges the Authority to act with urgency in reviewing the Part 6 Distribution Generation Pricing Principles. We would welcome an opportunity to share further with the Authority the issues and concerns around Network Waitaki's needed GXP investment as referred to above.

For any questions or clarifications on our responses please be in contact.

Sincerely



Dylan Andrews  
Chief Executive Officer  
Network Waitaki Ltd

## Appendix A Format for submissions

Submitter	Network Waitaki
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Questions	Comments
Q1. Do you have a view on the definition of incremental cost that is contained in the Code? Should it be more tightly defined to include only network costs and to exclude consequential costs relating to factors such as frequency keeping and voltage support? Would this lead to more timely generation build and lower energy costs?	<p>We agree with the concerns that the incremental cost limit leads to poor outcomes for consumers :</p> <ul style="list-style-type: none"> <li>• That common costs of managing the distribution network are passed on to other consumers including uncertainties and impact of voltage instability and reverse power flows contributed to by DG.</li> <li>• That in order to save other consumers extra cost, an electricity distributor will rather try to limit investment where a DG would connect.</li> <li>• That the increment cost limit is exacerbating “first-mover disadvantage” (please see our real-life case in the introduction on page 1).</li> </ul> <p>We strongly support that DG should share in common cost to broaden the base over which revenue is recovered.</p>
Q2. Do you agree with the problems with the incremental cost limit identified in this section? Why or why not? Do you have a view on the relative importance of the problems identified?	<p>Yes, we agree with the problems identified with the incremental cost limit. We are experiencing this first-hand in our consideration of investing in a new GXP and interest from DG parties.</p> <p>This is creating two issues:</p> <ol style="list-style-type: none"> <li>1. DG connections incur very low incremental costs because there is normally available capacity on the network for the first applicants. Once the capacity is fully utilised, and a part of the distribution network is congested, the cost for the next access seeker (irrespective of whether DG or load) will be enormous.</li> <li>2. Incremental pricing provides no incentive for EDBs to invest in their distribution for future DG growth. There are two reasons for this: <ul style="list-style-type: none"> <li>(a) if an EDB upgrades its network before the DG connects (such as our current consideration of a new GXP), then a DG customer can connect without contribution towards the upgrade costs. This is because the cost is already sunk and part 6 only requires additional, incremental costs, to be recovered.</li> </ul> <p>This seems fundamentally wrong – why should a load consumer pay the Distributor for allocated capacity, but, a distributed generator who uses capacity (for generation) does not pay for it.</p> </li> </ol>

	<p>(b) an EDB is unable to charge a DG for future costs through recovering the allocated network infrastructure as currently occurs for all the EDBs other load customers.</p> <p>Both connections (DG and load) are utilising the electricity network, which has associated maintenance costs, for their benefit ultimately, but one party effectively pays to use the network while the other does not. This does not seem equitable, nor in the best interests of consumers in general. This is especially relevant in the case of intermittent and unreliable generation such as wind or solar as they do not allow us to offset load with any degree of certainty.</p> <p>EDB networks are not designed for a large amount of DG export load. In the case of the UK there has been challenges with DG uptake: <a href="#">Why 'grid constraint' could hobble the clean energy revolution</a></p>
Q3 Do you agree circumstances have changed significantly since the DGPPs were introduced, including that there are now far fewer impediments to distributed generation than in the early 2000s?	<p>Yes, agree</p> <p>We support and encourage the deployment of DG but we consider that it is not equitable for commercial entities or high-income consumers that can afford to deploy DG to do so and access network infrastructure at what is effectively zero marginal cost.</p> <p>Our view is that users of the network (whether importing or exporting) should both pay for access.</p>
Q4 Do you agree with the assessment of the current situation and implications of incremental cost pricing? If not, why not? What if any other significant factors should the Authority be considering?	Yes, agree, please see response to Q2 and p. 1
Q5. Do you agree these are the appropriate options to consider?	We are supportive of option 4 and a principles-based approach to DG pricing.
Q6. Are there other options the Authority should consider for improving rules about costs that can be recovered from distributed generators?	<p>No, a principles-based approach will be appropriate and flexible to support unique network circumstances and will mean that cost can be recovered from DG, including in the following instances:</p> <p>a) Operational/capital cost caused by DG: The deployment of distributed generation on an electricity network typically generates cost, either operational or capital, to support the uncertainties and impact of voltage instability and reverse power flows. These costs should be borne by the DG owners rather than other network users.</p> <p>b) Contribution to maintenance and operational cost: Under the current rules, DG customers (who may be commercial DG businesses) may not be required to contribute towards the development or maintenance of the network (e.g., for</p>

	<p>investment for continual improvement in reliability) that enables their business to operate. Instead, the burden of the network cost remain on consumers while commercial DG investors get a free ride.</p> <p>c) Contribution to asset renewal: Where our network is unconstrained, DG may not provide any network value. Costs may not change with or without DG being added. However, investment is occurring in asset renewal based on age and condition in areas that are not subject to constraint. In these areas DG operators will receive a free ride because the investment is not related to capacity.</p>
Q7. Will new aggregator business models emerge to solve the problem?	Refer to ENA submission
Q8. Are distribution price signals alternative to, or complementary to contracting?	Refer to ENA submission
Q9. Which, if any of the above options, do you consider would best support efficient pricing for recovery of distribution costs from DG?	Option 4 – principles-based approach outside of the Code.
Q10. Do you agree with the Authority's tentative view on a solution? In particular:	
<ul style="list-style-type: none"> <li>Should efficient price signals be sent through a revised set of pricing principles?</li> </ul>	We agree with guiding pricing principles outside of the Code similar to the 2019 pricing principles.
<ul style="list-style-type: none"> <li>Would voluntary guidelines or mandating through the Code be the best approach?</li> </ul>	Voluntary guidelines will be the best approach as it will support and provide for unique EDB circumstances.
<ul style="list-style-type: none"> <li>Should we rely on the distribution pricing principles</li> </ul>	We agree with guiding pricing principles outside of the Code similar to the 2019 pricing principles.

outside the Code or codified new pricing principles for DG? Why?	
Q11. Are there any unintended consequences from removing the existing DGPPs?	There are no unintended consequences, instead the removal of the DGPPs will provide for fair equitable allocation of cost across all users of an electricity distribution network.
<ul style="list-style-type: none"> <li>Do you agree with the risks we have identified, and our assessment of them?</li> </ul>	Yes.
<ul style="list-style-type: none"> <li>Do you think there are any other risks we should consider associated with the removal of the DGPPs?</li> </ul>	There are none, since the Authority will be monitoring and can step in if really required.
<ul style="list-style-type: none"> <li>Do you have any information that would allow the Authority to better assess such risks?</li> </ul>	We would welcome an opportunity to share further with the Authority details of Network Waitaki's needed GXP investment as referred to on page 1.
Q12. Do you agree market and regulatory settings provide efficient incentives for DG reducing or avoiding transmission costs? What, if any, other significant factors or options should the Authority consider?	No comment