Electricity Authority submission

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Subject: Consultation paper — Requiring distributors to pay a rebate when consumers export electricity at peak times

Task Force Initiative 2A: requiring distributors to pay a rebate when consumers supply electricity at peak times

Question	Submitter comments
Problem definition	
Q1. Do you agree with the problem definition above? Why, why not?	Broadly, yes. Re: 4.9, this is what we did in investing in DG for our home. Given the ease of installing a single-phase solution, and the general limitation of single phase solar DG consumer systems to a 5kw generation system in built-up areas, **it ended up being more appropriate for us to invest in additional battery capacity rather than export electricity to the network**. If you want consumer rooftop solar to be a greater contributor to the network, then the size of approved systems needs to be increased to simplify greater export capacity from consumer rooftop solar. For example, we already have 7.24kw of solar panels, but the inverter is limited to 5kw by the distribution company, so there is wasted generation capacity that we cannot provide more units to the network. And it is worth noting that the current export rates from our retailer, is around 66% of the rate at which we can purchase night units. This suggests that the larger gentailers may need "encouragement" to pay closer to day unit pricing for export units.
Proposed solution: principles-based rebates	
Q2. Do you agree with these principles? Why, why not?	Does this also occur on a regional basis? For example saying that perhaps Auckland and Hamilton are perhaps those areas that need targeting for consumer DG, as they are at the opposite end of the country from most hydro generation? These principles only appear to reward consumers where "injection provides network benefits" – what happens if benefits change over time, e.g. a large number of consumer DG comes online in an area, and the benefit is lost. Would that mean consumers would lose their share of the network

	benefit as it is being shared across a larger number of consumer DG systems?
Q3. Do you agree that the principles should only apply to mass-market consumers, or should they apply to larger consumers and generators also? Why, why not?	The priority should be to focus on mass-market consumers first, yes. Larger consumers are probably better placed to negotiated and create custom contracts with distributors. Mass-market consumers don't have this option, so we currently have to just accept what our retailers provide us.
Q4. Do you agree the principles should apply to all mass-market DG, including inflexible generation (noting that the amount of rebate provided will still be based on the benefit the DG provides)?	Yes, the benefits should apply to all – this keeps the system simple. As highlighted, irrigation loads see benefits from daytime solar. As air temperatures rise with climate change, we will follow trends overseas where peak loads now occur on extreme temperature days.
Q5. Do you agree with the direction of the guidance that would likely accompany the principles? Why, why not?	5.7(a) – I disagree that we should be using DG as anything more than a temporary bandaid. Distributors shouldn't be avoiding investing in capacity and resilience upgrades for their infrastructure. This may be an unintended consequence that DG results in networks that have reduced future capacity and resilience – especially for large events such as the Alpine Fault earthquake that is 75% likely to occur in the next 50 years (during the lifetime of significant amounts of infrastructure being added today). 5.7(b) – This is challenging for mass-market consumers, as it sounds like there will be many periods when export units won't attract a rebate, and limited options when it will. This doesn't not encourage residential DG to invest in rooftop DG or BSS that will make any appreciable difference. As outlined in 5.7(e).
Q6. Are there any additional issues with the principles where guidance would be particularly helpful?	Yes, I don't believe that the mass-market consumer can reasonably support distributors "cherry-picking" the time and location of rebates. As previously indicated, this sends unstable price signals that we cannot rely on. Consumer would to better to invest in BSS, EVs and the like to sink solar production into, rather than receive a rebate maybe a couple of times a year – and only if their distributor needs it, and they are living in the right location.
Q7. Do you agree the principles should be incorporated within the Code, rather than being voluntary principles outside the Code? Why, why not?	Yes, they should be incorporated within the code. Voluntary principles hold no strength or consistency.
Q8. Do you agree with the proposed implementation timeline for this proposal? If not, please set out your preferred timeline and	No strong opinion.

explain why that is preferable.	
Q9. Do you agree the proposal strikes the right balance between encouraging price-based flexibility and contracted flexibility? Why, why not?	At this stage, as a mass-market consumer, it is doing nothing to suggest this is a good system that I should contribute to – I'm actively helping asset managers defer expenditure on maintaining and upgrading their assets. I don't want to be a party to that – if the day distribution charge is going up, they should be investing and expanding their assets, not paying consumers to stop-the-gaps in their network.
Q10. Do you agree the proposal will lead to relatively minor wealth transfers in the short term, and will lead to cost savings for all consumers in the longer term?	Yes, but only for those DGG consumer lucky enough to win the ICP lottery – being on the wrong network, in the wrong location, that needs DGG to fill the gap because of the distributors underinvestment in assets.
Alternative option: prescribed rebates	
Q11. Do you agree that more prescriptive requirements to provide rebates will be less workable than a principles-based approach, and therefore should not be preferred? Why, why not?	No strong opinion.
Alternative option: consumption-linked injection tariffs	
Q12. Do you agree that a consumption-linked injection tariff would not be sufficiently targeted, and therefore should not be preferred? Why, why not?	It isn't any less preferable than the options previously covered above. It does have the benefit of simplicity of implementation however, unliked the targeted principles covered previously. This option also doesn't require a consumer to win the ICP rebate lottery.
Q13. If this approach was progressed, do you think: a) injection rebates should perfectly mirror consumption charges? b) there are sufficient safeguards in place that would allow distributors to avoid over-incentivising injection to the extent that it incurs additional network costs?	No, injection needs to be less than peak consumption. This sends the signal that reduction/conservation is valuable and is the most important action. If injection is equal or greater than peak consumption, that sends the wrong signal. However, the injection rate should also have a floor, and be at least equal to, or higher than the night rate. If it is less than this, and it currently is, that sends the signal that DGG isn't valuable, and that consumer DGG should only be designed for the site, and not for providing DGG back to the network. As these proposals read to me so far, there is nothing in here that encourages me to want to contribute DGG back to the network, and that I should continue trying to maximise consumption/storage of generation for the households use, rather than exporting.

	This will leave distributors being responsible for investing in their network upgrades that can't be deferred or avoided through DGG rebates. I note Orion's injection limit as we operate on Orion's network. I understand the need for this but also note that this limits the upside benefit of DGG for peak consumption and asset investment deferrals.
Regulatory statement	
Q14. Do you agree with the objective of the proposed amendment? If not, why not?	The objective seems reasonable. The details as outlined in the consultation doesn't seem to encourage me, as a consumer, to want to contribute DGG when needed though.
Q15. Do you agree the benefits of the proposed amendment outweigh the costs?	I believe that you overestimate (in 6.10) the willingness of consumers to adopt expensive batteries to contribute to the preferred solution. There is not enough economic certainty from this proposal to justify a consumer committing to investment in a BSS. They will get greater benefit from demand-reduction and time shifting. Also, given that current battery chemistry has a limited number of charge cycles, and may require injection at near maximum sustained rate for the battery, which also may impact battery health, consumers may choose to avoid injection during peak periods due to the impact it may have shortening the battery life. Price signals need to factor in that each time they are used, they will be (slightly) degrading the consumer's asset. This is why injection from cars/mobile battery systems don't make sense, as over the lifetime of the car they can reduce the batteries capacity and the car's range. Re: 6.15 – another risk is under-incentivising timely injection. Unless you win the local ICP lottery, none of these changes will benefit a DGG consumer.
Q16. Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objectives in section 15 of the Electricity Industry Act 2010.	Re: 6.20 – I have seen nothing in this proposal that is likely to encourage me, as a DGG consumer, to want to take part beyond my current import/export relationship.
Proposed amendment Code drafting	
Q17. Do you have any comments on the drafting of the proposed amendment?	Additionally, the overall outcome over this proposal is to delay distributors investing in capacity and resilience, rather than encouraging them to strengthen and diversify their networks. I note in Table 1 p34 this statement:

	“where it will help avoid more expensive network investment in the future” This provides little confidence to me, as a consumer, that this proposal is going to improve the state of New Zealand’s electricity infrastructure. If anything, this proposal appears designed to ensure that network investment will be actively avoided.