

14 December 2016

Kate Simcock
Greenpeace New Zealand
11 Akiraho Street
Mount Eden
Auckland

Petition: Stop the solar tax

Dear Ms Simcock

Thank you for your petition.

The Electricity Authority Board considered your petition 'The New Zealand Electricity Authority must take responsibility for protecting solar power and regulate to prohibit electricity providers from penalising solar users, financially or otherwise' at its meeting on 1 December 2016.

Section 15 of the Electricity Industry Act 2010 requires the Authority to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers. In other words, our job is to work for the best outcome of consumers, not of electricity suppliers (whether owned by consumers or not).

We treat solar and every form of generation equally

In promoting competition it is essential the Authority ensures all participants and technologies are treated equally. This means we do not favour or discourage any form of generation, whether it is wind, natural gas, hydro or solar. To do otherwise would not be consistent with the requirements of s15 of the Electricity Industry Act.

We also note that the Parliamentary Commissioner for the Environment has observed that 'Solar makes a lot of sense in many countries, but we need to play to our strengths. Wind farms, geothermal power plants, and electric cars will help us all year round'.

In working towards providing a level playing-field for all participants and technologies, we continue to undertake a lot of work to make it easier for people to exercise more choice and control, for example by investing in small-scale distributed generation, such as solar generation. Our work in this area includes:

- Reducing operational costs and barriers to the connection of distributed generation, and particularly household solar. Refer to the outcomes of our *Operational review of Part 6* of the Electricity Industry Participation Code.
- Encouraging distributors to reform their prices to provide better signals about using electricity and about investing in technologies such as batteries and solar. Refer to our ongoing work on the *Implications of evolving technologies for pricing of distribution services*.
- Working to help consumers capture the benefits of evolving technology by removing unwarranted barriers to innovation and new business models. Refer to our review of *Barriers to small-scale distributed generation* and current work to facilitate consumer participation in electricity markets.

New Zealand is fortunate to have a significant proportion of renewable electricity generation – about 85 per cent of our power comes from hydro, geothermal and wind. However, the environmental impacts of different forms of electricity generation are not something the Authority can consider in making its decisions. These issues are managed through specific

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legislation. For example, carbon emissions are managed through the Emissions Trading Scheme.

We have made it easier for solar to connect

We completed an operational review of Part 6 of the Code in 2014. The review focused on streamlining the processes for connecting small-scale distributed generation. Distributed generation is generation connected to a local electricity distribution network (rather than to the national transmission grid) and small-scale refers to generation that has less than 10kW of capacity.

The review resulted in the Authority taking early action to remove barriers that unnecessarily restricted the adoption of rooftop solar, by requiring electricity distributors to adopt simplified and fast processes for approving connection applications from solar installers when the solar equipment meets standard safety requirements.

Consumers are now seeing the benefits of this simpler and faster connection approval process. Across the country there are now more than 11,600 small-scale solar connections at 31 October 2016), up from 8,872 in December 2015 and 2,116 December 2013.

We want people interested in solar to have accurate distribution pricing information

People make decisions to install solar for both financial and non-financial reasons. A key aspect of the financial reasons of a decision to install solar is the cost of electricity distribution services now and into the future.

We have been considering the implications of evolving technologies¹ for the pricing of electricity distribution services. Our objective is to promote efficient distribution pricing. We expect electricity distributors to introduce pricing that is cost-reflective and service-based – this means consumers should face prices that reflect the costs of the electricity distribution services provided to them.

We are very concerned that current distribution pricing approaches will impose long term costs on consumers. In particular, distribution prices that don't provide a reasonable accurate signal of the economic costs of distribution services will over time lead to consumers bearing higher than necessary costs due to over-investment network infrastructure.

Current electricity distribution prices bear little relationship to the costs of providing access to the network. Those costs are largely determined by the capacity of the assets needed to meet peak demand on the network, and depend very little on the aggregate volume of electricity delivered over periods of time such as a day, week, month or year.

We are not alone in our concern. We are observing an emerging consensus about the negative economic impact for New Zealand of current distribution pricing. For example, the Sustainable Electricity Association of New Zealand recently noted that 'cost-reflective electricity pricing would help distributors integrate solar generation onto their networks by encouraging more self-consumption by panel owners'. The conversation is being assisted by the likes of Concept Consulting which is publishing reports on the social, environmental and economic impacts of current distribution pricing.

Currently, distribution prices are largely volume-based, which means the amount consumers pay for using the electricity distribution network depends on the amount of electricity they take from the grid, rather than on their maximum demand or the capacity of the assets supplying

¹ Evolving technologies include energy-efficient lighting, solar photovoltaic generation (solar panels), electric vehicles, battery storage, advanced ('smart') metering and internet-connected household appliances

them. Cost-reflective and service-based pricing means that prices should be set on the basis of the capacity wanted by the consumer (called capacity pricing) or on the basis of peak demand (called peak demand pricing). Time-of-use (TOU) pricing can sometimes be developed to approximate capacity or peak demand pricing.

Capacity pricing is used for other services, eg, broadband, SkyTV and so on. In these situations consumers choose the capacity level they want, and agree to use it within those limits. Under capacity pricing, consumers with solar generation and large scale batteries would be able to choose lower capacity levels than other consumers without control over their peak demand for electricity.

The above is just one example. Cost-reflective and service-based pricing will provide consumers with better information about the economic implications of their electricity decisions and better incentives to act accordingly. In the future we expect to see electricity retailers and distributors offer consumers greater choice and assist them to make more informed trade-offs between the cost of their own investments and the cost of electricity distribution services.

In addition, we are making it easier for consumers to compare and choose the price offers that suit their circumstances by making it easier for consumers to obtain and use their consumption data. Easier access to consumption data will assist people to make decisions about the financial impact of solar, for example by being able to see whether their consumption profile matches, or can be made to match, the output of solar panels.

Our focus on reducing barriers to innovation and participation will help people make decisions to invest in solar

The electricity industry faces potentially far-reaching change as evolving technologies, such as solar, expands the range of realistic options for how electricity is generated and used, and provides consumers with greater choice and control over their energy needs.

In 2012 we accepted the advice of the Retail Advisory Group – a group with an independent chair and comprising consumer and electricity industry representatives – that there were no material regulatory barriers to retailers buying electricity generated from household solar panels.

More recently, we have been considering whether there are barriers to greater participation in electricity markets. We recognise that evolving technologies could lead to the development of new and innovative business models. We are currently looking at:

- *Multiple trading arrangements.* We are exploring whether consumers can have trading relationships with multiple retailers and/or energy services companies. Currently a consumer with solar must sell their electricity to the retailer they buy from. Multiple trading relationships could, for example, facilitate more flexible peer-to-peer trading arrangements, including making it easy for a household with solar to trade their surplus electricity with their neighbours.
- *Barriers to mass participation.* Evolving technologies allow consumers to participate more actively in the wholesale electricity market. We want to make sure the existing rules don't prevent consumers from taking advantage of emerging opportunities in this area, such as for using and sharing resources such as solar and batteries.
- *Data and data exchange.* As new business models emerge we want to ensure the electricity industry's systems and processes – which are primarily about quick and easy exchange of highly accurate data – allow smaller participants to meaningfully engage with the market.

The Authority has considered your petition. As described above, the Authority must be technology neutral, and does not favour or discourage any form of generation. Further, the

Authority has, and continues to, work to remove barriers to innovation and participation. An aspect of this work includes making it easy for people to make decisions about, and invest in, solar.

I would be pleased to meet with you to discuss the Authority's work programme and priority given to facilitating consumer participation and reducing barriers to entry, exit and expansion in the electricity market.

Yours sincerely

Carl Hansen
Chief Executive