Electricity Price Review: Submission on Options Paper

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1. My name is Robert McLachlan. I am Distinguished Professor in Applied Mathematics at Massey University. For many years I have been an advocate for climate change mitigation and most of my submission concerns this area.

2. However, the state of the electricity market for consumers was brought home to me recently when, after several years structuring my electricity demand in response to existing prices, especially the cheap night rates (e.g. by installing a night store heater and buying two electric cars), I was informed by my lines company PowerCo that their night rate would rise by 200% in three weeks time. I would add that their service is poor – we have 3 or 4 power cuts a year, often for extended periods, and often with the same, unremediated cause, and the company is unresponsive. I was surprised by this because not only did I think the lines company were a regulated monopoly, and that such a change would not be allowed, but also because all the evidence I could find indicated that demand is much lower at night in the North Island, and there is substantial baseload, which would continue to favour cheap night rates both for delivery and for energy. I was wrong.

3. While some of the options in Sections A–F are sound, overall they are woefully inadequate to the situation described in your first paper, in the terms of reference, and even in the cover letter from Hon Dr. Megan Woods, who opened with the statement that "the market is not working for everyone. Nearly a third of all households struggle to pay their power bills or spend a large part of their income on power." This situation is not addressed in the options paper. None of the options singly or collectively quantify the effect on these disadvantaged households. Only one out of 41 options (B7) mentions a dollar figure – $45m, or 0.5% of industry revenues. The report bends over backward to be fair to large generators and monopoly lines companies, not to consumers. In fact I didn't find a clear statement of what the authors mean by "fair".

4. Section A: I support options A1 and A2. The Commerce Commission and Electricity Authority are opaque and unresponsive to consumers.

5. Section B: I support options B1–B8, except that in B3–B5, the costs should be borne by the industry in return for their extensive government protection and monopoly. Government welfare to households with energy hardship merely further subsidises corporate income.

6. Section C: I support options C1–C6.

7. Section D: I support options D1-D4.

8. Section E: I support options E1–E7.

9. Section F: I support options F1, F3, F5. I also support option F6. The burning of fossil fuels has to stop and a regulator can be an effective mechanism to do so.

10. Section G. The terms of reference require the review to take into account "work on how to reach 100% renewable electricity by 2035 by the new Interim Climate Change Committee and Climate Commission, and the work of the Productivity Commission on its low emissions economy inquiry." Although it does say on page 1 that the enquiry has "been liaising with the ICCC", there is no sign of what the result was. 100% renewable electricity by 2035 is not mentioned in the options paper. Nor is there any hint that the IPCC 1.5°C report has been taken into account. This report, endorsed by the Government, requires burning of fossil fuels to halve by 2030. This will require large new sources of renewable electricity, which, to encourage adoption, must in addition not be too expensive. This is a big challenge and the failure of the inquiry to address it is a missed opportunity. I would have expected to see some scenarios outlining a reduction in fossil fuel burning by 2, 4, or 6% per year for the next few years and the policies for the electricity sector that would achieve them. As you know, at present a number of large gas-fired power stations are planned or under construction or renewal, and no large wind farms have been built since 2014. (One 130MW wind farm in Taranaki may start construction this year.) Plans to stop burning coal at Huntly have been delayed several times. CO_2 emissions are not falling and are unlikely to fall in the near future.

11. I support options G1–G4. In option G1, the part of the funding sources mentioned that are available for innovation to lower emissions are tiny compared to the scale of what is needed to lower emissions. For example, one of the quickest and most cost-effective steps to lower transport emissions is to urgently electrify the entire urban bus fleet. Clearly the role of the electricity industry comes into this and the existing regulatory and funding systems are not sufficient for the task.

12. Building 1000-2000MW of new wind turbines over the next 5 years would lower emissions as it would decrease the use of gas peakers and would allow water to be stored in the lakes. (We have little storage relative to generation capacity, and lack of water is a bigger problem than spilling.) It would lower wholesale electricity prices, especially at night. Why would an existing generator do this? It would cannibalise the rest of their business. I am not an expert but the obvious solution would be for the government to either build or tender for their construction. Similarly, 100% renewable scenarios involve building large amounts of pumped hydro, a project on a similar scale to the original hydro schemes of the 20th century. This falls under the inquiry's terms of reference. How is it going to happen?

13. There is still time for the inquiry to recommend or suggest more specific options to lower emissions in the electricity sector. Specifically, I suggest examining the following:

    (a) In order to encourage investment by households and businesses in grid-tied solar power, the Commerce Commission to regulate solar buy-back prices in bands by system size, reviewed every 3 years.

    (b) Unison's solar tariff to be banned.

    (c) Reinstate the ban on new fossil fuel power stations.

    (d) Understand how Australia came to have the cheapest domestic solar installation costs in the world and whether it can be replicated here.

    (e) Remote areas face special circumstances. Consumers in Stewart Island pay \$100/mo fixed costs plus \$1/kWh, in addition to very high CO_2 emissions from burning diesel. 32 studies of Stewart Island's electricity have come to nothing. The inquiry should determine why this is and find the best way to ensure renewable energy at a reasonable price for Stewart and Chatham Islanders. Great Barrier Island has no grid, but it also has high emissions from diesel generators. Other remote areas (e.g. East Coast, King Country, parts of Rangitikei) have a grid, but lines companies are struggling to maintain them.

    (f) Require gentailers to disclose CO_2 emissions on each bill and compare them to competitors, along with public health-style information about climate change.

Regards,

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