Submission to the "Financing and incentivising efficient expenditure during the energy transition topic paper"

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19th July 2023

Introduction

solarZero is using distributed battery technology to provide:

- Two non-network solutions (Upper Clutha and Coromandel).
- Reserves.
- Winter peak capacity as an innovation pilot project.

The fleet of batteries now exceeds 11,000 which are observed in near real time and can be managed almost instantaneously.

Our experience with innovation and the energy transition is unique. Using distributed batteries as reserves is a world first as is using distributed batteries to help meet peak demand. The two non-network solutions are world leading. Our learnings are that innovation is really hard for everyone involved.

As the paper points out, the electricity industry is going through a once-ever step change. The amount of innovation needed to efficiently make that step change is probably on a par with the innovation that occurred when the electricity industry became established in the 1890s and expanded through until the 1950s.

The economic theory of innovation is clear: Without incentives and an overall framework that encourages innovation, there will be an under provision of innovation in an industry or the economy.

Do the proposals in the paper encourage the optimal level of innovation?

To date lines companies have gone to market for **four** non network solutions. We know that the industry has been using the equivalent of non-network solutions – ripple control – for decades. The technology now available for non-network solutions is vastly superior to ripple control. So why the very slow uptake as seen via only four non-network solutions coming to market? Could it be that:

- The new flexibility technology, such as batteries and demand response, are simply not good enough? No. The technology is excellent and works well.
- The industry is slow to innovate? Quite possibly. Callaghan Innovation considers the electricity industry to be the second least innovative industry in New Zealand.

If it is the second reason above, then the Commerce Commission must increase the incentives for innovation and develop an innovation programme to help ensure that the industry innovates as the economy transitions.

Incentives for innovation

In the paper we don't see any change in the incentives that the Commerce Commission is putting in place to encourage innovation. Therefore we can expect the same outcome: Limited innovation. We can only assume, therefore, that the Commerce Commission:

1. Is not interested in encouraging innovation or
2. Needs to revisit the proposals in the paper.

It is inconceivable that the Commerce Commission can truly believe that maintaining the status quo will deliver an optimal level of innovation in the electricity industry. Given that the paper focuses on the transition and the need for innovation the mis-match between the analysis and solution is puzzling to the point of inexplicable. Clearly, something has gone wrong during the analysis process.

Innovation – way forward

Together with the Electricity Authority, Callaghan Innovation, MBIE and the University sector, we suggest the Commerce Commission develop an effective innovation plan for the electricity sector. This plan is needed because electricity is going to power almost all of the economy. Given the process for this IM is running out of time, it makes sense to amend the innovation parts of the IM as this interagency work develops recommendations. This, of course, will take time and is a medium-term solution.

As a short term solution, the Commerce Commission should rapidly go back to drawing board and start its innovation thinking from scratch. What we suggest is that the Commerce Commission urgently pulls together a workshop of key people/agencies to develop recommendations on how to drive innovation in the electricity distribution and transmission sector. Those recommendations can then be quickly tested with a wider set of stakeholders across the industry and then folded into the final IM.