

28 March 2021



Attn: Submissions analysis team  
Chief Executive  
Climate Change Commission  
P O Box 24448  
Wellington 6142

By email: [hello@climatecommission.govt.nz](mailto:hello@climatecommission.govt.nz)

**Dear Submissions analysis team**

**Re: Draft Advice to Government**

Flick Electric supports the government's ambitious international commitments to reduce NZ's greenhouse gas emissions and commends the Climate Change Commission (Commission) on its evidence based draft Advice to government.

We also agree achieving these commitments will require significant investment and change within the electricity sector. Fortunately, we are in a time when the economics of the electricity sector are changing due to technological improvements. The economics of decentralised generation are beginning to stack-up. Consumer choice and control over their energy use and generation is becoming a reality as EVs, control technology, batteries and small-scale generation are all falling in price and becoming more accessible. The pressures of climate change, combination of technological improvements and changing economics mean that this sector should look fundamentally different by 2035.

Flick brings smart energy choices to life by offering innovative electricity products to consumers, including a product directly linked to the wholesale spot price (known as Freestyle). Our Freestyle product enables consumers to be true 'prosumers' and capture the benefits of adoption of new technology. Consumers use clear and transparent price signals to make decisions about their use and adoption of technology. Flick's world-first app, CHOICE, has always given Kiwis live updates about the carbon impact of NZ's electricity use, and sends alerts so they know when to switch things on and off. Flick Electric is a carboNZero company, offsetting our corporate emissions by investing in native plantings by Trees that Count.

Our focus is to ensure that the way NZ transitions to a low emissions economy results in sensible outcomes for electricity consumers (noting that more than 100,000 of NZ's households are currently experiencing energy poverty) and for the economy. That is, the balance is equitable between environmental responsibility and social responsibility.

## **Electricity market outcomes**

We have two concerns regarding expectations of the electricity market to enable a transition to a low emissions economy, namely:

- a) the target of 100% renewable electricity by 2030 is aspirational but potentially costly for current and future electricity consumers; and
- b) the current structure and incentives in the wholesale electricity market will jeopardise delivery of any target at a reasonable cost to consumers.

### ***a) Renewable electricity target***

Flick notes the Commission's Advice report is based on the government's target prior to the 2020 General Election of 95% renewables by 2035. During the election campaign and since then the government's revised target is 100% renewables by 2030.

This is a significant difference. 100% renewables by 2030 requires within the next 9 years:

- an additional 1.3TWh of renewable generation output and associated infrastructure to transport this electricity to consumers (an increase of 13.4% on the Commission's forecast 9.7TWh increase in renewable output between 2020 and 2030)
- solving the impact of periods of low hydro storage on security of supply
- ensuring the wholesale market design can manage largely intermittent generation and integrate whatever form of 'battery/storage' option arises.

A 100% renewable electricity target will require overbuilding intermittent renewable generation which could make the price of electricity so high that it makes it unaffordable to electrify transport and industry. If we are to electrify at scale NZ needs affordable power for businesses to be sustainable and to ensure we don't increase energy poverty.

Flick's strong preference is for a target that can form a bedrock for a sensible and timely workplan to achieve the required investment, rather than an aspiration about which there is a range of views and uncertainty.

We suggest that between now and 2030 and 2035, the cost of renewable generation technology (such as solar) could fall dramatically. This will impact the level of investment and the way intermittent supply can be managed. It may become evident in say 5 to 10 to 15 years that a 100% renewable electricity target is realistic and achievable but at this time Flick does not support this target.

From the perspective of electricity consumers, it is pragmatic and makes economic and commercial sense to retain optionality. This includes:

- ensuring gas is available for at least the next decade until sufficient renewable generation capacity is constructed to avoid a tight supply/capacity situation if there is low hydro storage
- allowing the appropriate amount of time to complete impartial analysis and development of a business case on 'battery' options to address periods of low hydro storage. We caution against the government hurriedly 'picking winners' and owning the solution. Ownership as well as integration into the wholesale market must be resolved. In our view, the market structure should incentivise existing and/or new players to develop commercially viable solutions to this problem (eg using existing hydro storage capacity to fill-in for intermittent output as opposed to the current baseload operation)
- understanding the outlook for electricity demand from major customers (there are a number of major industrials currently undertaking strategic reviews and the current contract with the Tiwai smelter expires on 31 December 2024)
- understanding the outcome of the NZ Battery Project and what the Government decides to invest in. In our view, generators are unlikely to announce any commitment to invest in further new utility scale generation construction projects until this project is finalised in early 2024<sup>1</sup> (followed by a 2-3 year period to construct wind farms that are already consented).

We agree with the Commission that "arriving at 100% renewable electricity is consistent with the aim of net zero emissions in 2050, but the timing and sequencing of the transition should be carefully considered as part of the decarbonisation of the wider energy system".<sup>2</sup>

Flick suggests the Commission retain its target of 95% renewable electricity by 2035. If a range of factors that are currently uncertain come together to achieve an outcome that is good for the economy and good for consumers at a higher proportion of renewable electricity at an earlier date – then we can be pleased to be ahead of target.

### ***b) Wholesale market structure and incentives***

Flick's view is that the incentives enabled by the vertically integrated structure of the dominant generators in the current market design is not delivering efficient outcomes for consumers. This is relevant to the Commission's work and modelling of future electricity prices, demand and impact on the economy. Current spot prices and hedge prices for the period to the end of 2024 are very significantly above the CCC's assumptions (for example \$71.4-\$78.3/MWh in

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<sup>1</sup> Cabinet paper December 2020 update on the NZ Battery project, paragraphs 29-34  
<https://www.mbie.govt.nz/dmsdocument/13397-december-2020-update-on-the-nz-battery-project-proactiverelease-pdf>

<sup>2</sup> Evidence Report Chapter 17 page 32

2024 compared with the ASX calendar 2024 price of \$122.56/MWh on 12 March 2021).

The government must be confident that the regulatory environment, and coordination of policies across government, will enable timely new infrastructure investment to support NZ's transition to low emissions. Under the current market structure – with a lack of competition in the generation market – we're not confident that sufficient investment will happen in a timely manner.

The current barriers to competition and the existing market power are impeding the adoption of new technology and the success of new business models. New Zealand's regulatory settings have a critical bearing on how successful our transformation will be - including if new businesses and technology can be adopted on their merits. But settings need to change to enable this transformation. If successful, the electricity sectors' transformation will have an impact on the productivity and the competitive advantage of New Zealand (and consequently our national wellbeing) - conversely, if not, it will put these in jeopardy.

Flick suggests the Commission should advise government that a study of the dominance of vertically integrated gentailers in both the generation investment and wholesale markets is in the best interests of consumers. This study would report on whether the current market structure can be relied on to achieve the government's ambitious renewables and climate change targets.

In our view, the dominance of the gentailers has to be addressed to ensure a highly competitive and well-functioning wholesale market delivering:

- strong competition to be the generator that is dispatched at the lowest economic cost - a cost reflective of underlying cost drivers and the long-run marginal cost of new generation
- strong competition amongst incumbent and independent generators to make timely decisions to invest in new generation capacity
- incentives on existing or new participants to solve the impact on security of electricity supply of low hydro storage.

In summary, it is critical that the right mechanisms, transparency and market structure are in place to ensure that electricity prices are affordable and supply is reliable as more people rely on electricity through the transition.

## **Comments on specific aspects of the Commission's Advice**

### ***National Energy Strategy***

Flick agrees that the government should develop a National Energy Strategy "the objective of which would be to ensure that the phase down of fossil fuels, and scale up of new low emissions fuels, is smooth and appropriately sequenced".

Flick also supports the Commission's recommendation for a target for renewable 'energy' and not just renewable 'electricity'. We do not have the technical expertise to comment on whether 60% in 2035 is the appropriate level of the target.

In order to meet the Government's international commitments to reduce emissions, the focus must be across all forms and uses of energy in the economy (eg, transport including rail and ferries, and industry) and the most economic option for energy be adopted (ie. there may be cheaper renewable fuel/energy options for industry than converting to (renewable) electricity, eg biomass).

### ***Fossil fuel for electricity generation***

Flick supports gas use (rather than coal) in thermal generation plant. However, ongoing uncertainty about gas supply from existing fields and annual / continuous anxiety about hydro lake levels means burning coal can be necessary to ensure there is enough electricity to meet demand for a period (until additional renewable capacity is built and / or our energy storage problem is solved).

Thermal generation plays an important role in supporting variability in renewable generation output (across days: wind; and weeks: hydro storage). This role continues until other options to provide renewable storable energy are in place.

Care needs to be taken to ensure everything lines up as we transition from coal and gas use to use more renewable fuel - and this may take some time, for example:

- if a decision is made to construct a 5,000GWh pumped storage facility (Lake Onslow) this is a ~10 year project
- large scale batteries may not be economic in NZ for some time
- enough generation capacity needs to be constructed to:
  - replace existing volumes from thermal plant
  - meet increasing demand from electrification, and
  - enable use of existing hydro storage capacity as backup instead of thermal generation – likely to be at significantly lower cost than pumped storage
- transmission and distribution infrastructure investment is also required to deliver this electricity to consumers.

During this time there has to be commercial incentives for existing gas field operators to continue to supply gas for electricity generation plants. The Commission assumes production from existing gas fields steadily declines over the period to 2035 and beyond when commercial decisions may be made that it is uneconomic to continue operating some assets at offtake volumes well before 2035 (ie it is more economic to leave the gas in the ground than to continue to operate at lower offtake levels).

If demand for gas exceeds supply or there is uncertainty about the availability of this gas this will drive up electricity prices potentially making it much more

expensive to convert transport or industrial processes from fossil fuels to electricity.

Flick agrees with measures to improve transparency on future gas supply – both timing and quantity. We believe the market should be relied upon to incentivise owners of thermal baseload to reduce future use of fossil fuels (Genesis has already announced its intentions with respect to reducing coal use and new renewable generation).

### ***Energy efficiency***

Flick fully supports using less energy through efficiency measures. A recent report by EECA demonstrates that there are considerable opportunities to improve energy efficiency at a cost well below the cost of constructing new generation plant. Electricity retailers have the opportunity to differentiate themselves by promoting to consumers ways to use less energy.

If the Commission is focused on energy efficiency for low income households or households in energy poverty Flick suggests well scoped programmes administered by EECA would be more cost effective mechanisms to achieve improvements in energy efficiency relative to imposing an entirely new regulatory mechanism on say electricity retailers or distributors. Programmes by the government's social agencies who have established relationships with low income households could also be implemented at lower cost. These agencies are more likely to value the multi-benefits (such as better health and wellbeing) from improving energy efficiency than an electricity retailer or distributor.

### ***Better use of demand response***

Flick agrees better use of demand response has the potential to shift demand from peaks. There is latent potential for consumers to make better choices about when they use their electricity. Providing consumers with information, price signals and tools is a critical first step for consumers to make informed decisions.

Our Off-Peak trial in Wellington has demonstrated that consumers are prepared to change their behaviour when they are informed. In addition, residential consumers on Flick's Freestyle product who pay spot electricity prices are enabled to be true 'prosumers', using transparent price signals to capture the benefits of adoption of new technology and to make decisions about their use of electricity. However, consumers also have to be confident that spot electricity prices are reasonable and reflective of underlying cost drivers when / if they chose to be exposed to these prices.

The benefits of increasing demand response have been well understood for some time but in our view the enablers, including consumer awareness, are at a tipping point. Future growth in demand response activity, by residential and



larger consumers, depends on consumers electing to understand spot market prices and respond/reduce demand when they see that spot prices are high/can be predicted to be high. The counterfactual is consumers can elect to be protected from these prices by a fixed price contract and be indifferent about when they consume electricity. If spot prices are volatile and/or unexplainably high consumers will not be confident in being exposed to these prices. It is critical, therefore, that everyone has confidence in the market and rational price signals are essential. In summary, Flick submits that a well-functioning wholesale market is essential to NZ realising the potential from demand response.

### ***Government owned housing infrastructure***

Flick agrees with the Commission's statement that "Government should leverage this investment [in state housing] to maximise opportunities for emissions reductions, to avoid lock in and prevent stranded assets, and to drive growth in industry capability and readiness. Additionally, this investment can be leveraged to support a just transition by addressing energy affordability and ensuring equitable access to low emissions options, for example, in transitioning from portable LPG heaters to heat pumps".<sup>3</sup>

### ***Native forestry***

We endorse the focus on new native forests and look forward to further supporting the work of our partners Trees That Count and Permanent Forests NZ to this end.

### **Sustainable Business Council and Climate Leaders Coalition submission**

Flick is a member of the Sustainable Business Council and supports their submission. In particular, Flick agrees with their recommendations and suggestions with respect to electricity regulation.

We welcome the opportunity to discuss our information in this submission with you in more detail.

Yours



**Steve O'Connor**  
Chief Executive

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<sup>3</sup> Evidence report Chapter 17 page 44