

From: Andrew Eagles <andrew.eagles@nzgbc.org.nz>
Sent: Friday, 28 May 2021 5:01 PM
To: regulation.branch <regulation.branch@comcom.govt.nz>
Subject: Feedback on fit for purpose regulation updated

Kia ora Andy

Thank you for the opportunity to feedback. This version is updated below.

We note the comments in your letter of 29th of April 2021 on the energy transition. The NZ Green Building Council has concerns that the regulatory environment for energy is not currently driving a low carbon future.

Energy efficiency is expected to deliver [more than 40% of the reduction in energy-related greenhouse gas emissions](#) over the next 20 years in the IEA's Sustainable Development Scenario, which shows how to put the world on track to achieve international climate and energy goals. And yet this is not happening in New Zealand.

Too many households must spend high proportions of their incomes heating cold, inefficient homes. If we are serious about tackling poverty and improving the lives of all Kiwis, we must ensure our future housing stock does not shackle households to high energy bills. According to health statistics, 30,000 are hospitalised from issues related to poor housing every year (1). Over 40% of our homes are damp or mouldy (2)

New Zealand has a clear and legislated goal of achieving a net zero carbon economy by 2050. If we are to achieve this, we must make drastic improvements to energy efficiency in our homes and reducing carbon emissions related to the housing sector.

The housing sector represents a huge opportunity for improving energy efficiency and reducing the nation's energy demand. If we significantly improve energy efficiency in homes, we will help to reduce peak demand, free up energy capacity for new technologies such as electric cars, and reduce the urgency for developing new energy generation

Buildings are responsible for over 20% of New Zealand's carbon emissions (under a production perspective) and yet there are few drivers for generators to improve energy efficiency instead there is a consistent push for more renewables.

Analysis from Associate Professor Michael Jack & Professor Janet Stephenson (both University of Otago) & Dr Ben Anderson, University of Southampton (3) *"The key observation missing from the CCC analysis (see Sec 3.8.3) is that space heating and in particular residential space heating is one of the dominant drivers for the seasonal variation in New Zealand's electricity demand"*

They go on to note that *"Overall, our modelling shows that applying currently-achievable best practice standards to new builds and retrofit of existing stock could reduce annual electricity demand to 1/3 (~6TWh) of business as usual by 2050 and the winter peak to 1/4 (~5TWh) of business as usual by 2050 (see <https://www.otago.ac.nz/oerc/symposia/archives/otago759840.pdf>). This reduction in winter peak represents a reduction in the current peak by ~1.5 TWh. This will substantially reduce the costs of the low carbon transition because excessive over-investment in supply side infrastructure will be avoided (c.f. "Principle 4: Avoid unnecessary cost"). In addition, this will have known co-benefits in terms of health and economic outcomes for lower socio-economic groups (Chapman et al., 2009) and*

would create substantial post-COVID employment opportunities.” These benefits from Chapman et al deliver a \$5 benefit for every \$1 invested.

The Ministry for the Environment estimate marginal abatement costs to be around \$50 - \$500 per tonne for decarbonising the electricity supply. Insulation measures and other steps to reduce energy use in homes are likely to have significantly better marginal abatement costs than this reinforcing the point that NZGBC consistently makes: that energy efficiency should be prioritised. Concept Consulting (for EECA) also quantify the financial benefit of demand reduction on infrastructure (5)

The UK have an Energy Company Obligation which is overseen by the Office of Gas and Electricity Markets, a non-ministerial government department and an independent National Regulatory Authority. A recent Energy Company Obligation (ECO) programme, known as ECO2, ran from 2015 to 2017. This placed obligations on larger energy suppliers to deliver energy efficiency measures to domestic premises in Great Britain. There were three main obligations energy companies were required to meet.

- the Carbon Emissions Reduction Obligation
- the Carbon Saving Community Obligation
- and the Home Heating Cost Reduction Obligation.

Suppliers were required to achieve the following cost and carbon savings - 19.7 Mt CO₂ under CERO, 6 Mt CO₂ under CSCO and £6.46 billion under HHCRO.

There is also huge potential for Kiwi businesses. Research from BECA found *“if we retrofit 1,200 of New Zealand’s largest commercial buildings (sized over 3,500m²) to net zero energy, the savings would be equal to the annual electricity generated by all wind turbines in New Zealand.”* (6)

We very much support the summary from Dave Erickson to look at an “infrastructure plan” that:

- Fund a massive retrofit project that would bring all non-conforming buildings up to this code regardless of ownership
- Part of this building code is to make these buildings flexible loads that can respond to a variety of stimuli, including price. This would in part be based on an independent engineering review of the distribution system characteristics in a particular area. It could also include an independent engineering evaluation of “optimal portfolios” of flexible demand, storage and renewable generation for each area.
- Require utilities to support the installation of these optimal portfolios, and hand over operation of them to an independent operator, which would operate them to minimize the reliance on the bulk system.

A national campaign to improve the energy efficiency of New Zealand homes and buildings will improve health, reduce costs for whanau, improve the competitiveness of kiwi businesses, drive down carbon and free energy up for the energy transition such as the move to EVs. We encourage the Commerce Commission to consider creating an Energy Company Obligations scheme in the New Zealand in order to help deliver a transition to a lower carbon healthier Aotearoa New Zealand.

Nga mihi nui

Andrew Eagles

1) NZ Herald. Child deaths linked to unhealthy housing 'unacceptable' – health minister. 30 August, 2017 <https://www.nzherald.co.nz/nz/child-deaths-linked-to-unhealthy-housing-unacceptable-health-minister/YJ2MZ7Y4WT2FFI7FYSWQQFQKCY/>

2) BRANZ Housing Condition Survey 2015
https://www.branz.co.nz/cms_show_download.php?id=a1efff0a2fd9885ecf878ce475631df7025cf3b8

3) Otago University and Southampton University
[https://eprints.soton.ac.uk/448287/1/NZCCCSUBMISSION Jack et al.pdf](https://eprints.soton.ac.uk/448287/1/NZCCCSUBMISSION%20Jack%20et%20al.pdf)

4) Ministry for the Environment. 2020. Marginal abatement cost curves analysis for New Zealand – Potential greenhouse gas mitigation options and their costs.
https://environment.govt.nz/assets/Publications/Files/marginal-abatement-cost-curves-analysis_0.pdf

5) Concept Consulting Group. 2018. <https://www.eeca.govt.nz/assets/EECA-Resources/Research-papersguides/Concept-electricity-efficiency-report.pdf>

6) BECA research 2016 - <https://www.beca.com/ignite-your-thinking/ignite-your-thinking/june-2016/a-net-zero-energy-nz-commercial-building-stock>

Ngā mihi nui | Kind regards



NZGBC

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Lots of us are working flexible hours now, instead of the traditional 9-5, so please do know I'm looking forward to a reply, but only when you're next working