Submission

The Electricity Authority

Updating Regulatory settings for Distribution Networks

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1. A Warm Dry Home Initiative - The Current Problem

Many New Zealand homes are cold because households cannot afford to pay for the electricity to heat their homes. Various surveys show that a third of New Zealand's homes are cold and damp [1,6] and this is making people sick with cold related illnesses. Additionally, when it is very cold in the home, people die [3]. NZ homes are colder than the WHO recommended minimum of 18°C and possibly much colder in bedrooms as heating in bedrooms is uncommon. [2] Many of those affected by cold and damp homes are socioeconomically disadvantaged [3] such as those in homes that are rented, the elderly and those with disabilities. Further, it is likely that 19% of acute respiratory illnesses in children under two years old and about 40,000 hospitalisations of children, are a result of living in a cold, damp home.[2]

There are several remedies already in place and being implemented to address the problem of cold homes, notably the Healthy Homes Act; various subsidies (by local councils) for installation of insulation and clean energy space heating; and the winter heating supplements for social welfare beneficiaries. Specifically, the Healthy Homes Act requirements and insulation and space heater insulation subsidies, aim to provide better quality homes. However, when people are cash poor, hard choices on how the money is spent must be made and home upgrades (for home owning households) and electricity expenditure for all cash poor families are sacrificed for more critical needs such as rent, rates, a mortgage and food.

Cash poor households cannot afford to heat their homes and in the case of homeowner households, cannot afford to improve their homes with better insulation and environmentally friendly heating.

2. The Results of New Zealanders living in Cold Homes

Health and illnesses associated with living in a cold damp house, are remedied by multiple factors other than traditional healthcare[1] one of which is heating affordability via electricity. Electricity affordability most impacts low-income households, the elderly and those with disabilities who are the most financially disadvantaged. Notably, a high proportion of those earning below the median income include Māori and people of the Pacific, disabled people and the elderly.[10] Warm homes must be a priority as illness due to living in the cold, places a huge burden on affected families and communities, on the health system and on the well-being and economic performance of New Zealand. More people are getting sick and more and more children are growing up with preventable illnesses which will affect them all their lives. Telfar[9] highlighted that the hospitalisation rate was 75% higher in winter with a 20% excess in mortality, and a substantial increase in the 20 years from 1995 to 2005 with many of these being infants and young children. The Child Poverty Monitor from Otago University[8] estimate that 282,228 children live in damp homes and additionally that "40,000 hospital admissions of children" are likely to be linked to cold and damp homes.[2,9]

A significant proportion of household incomes are spent on housing ranging from 20% to over 42%[7] which, when income is low and electricity charges are high, will result in households turning off space heaters. A pathway to a warm home that stimulates better health, therefore, is the reliability of electricity at an affordable price. Recent reliability issues such as power outages and electricity affordability, result in more cold homes and consequently more illnesses related to living in the cold. Recently the power was cut to about 20,000 homes on the 9th of August on the coldest night of the year. Are there more outages to come?

The impact of low capacity, poor infrastructure and higher electricity prices can be seen in a specific case in the USA. In February 2021 more than 4.5 million households (about 10 million people) in Texas lost power due to severe winter storms.[5] As with other disasters those most affected were the most vulnerable, marginalised communities and those on lower incomes who lived in older, poorly insulated homes, and had limited resources to repair or improve their homes. The reports showed that these people were also most affected by limited employment, a burden of disease, and could not recover financially even to replace spoiled food. It was estimated that more than 111 people died during these Texas power outages by freezing to death in their own homes. In the Texas instance, more shocking was the reported 'hideous price hikes' from the generators selling to the retailers at the time, and the record profits made by investors. In Texas the pre-storm spot prices were at US$30/MWh and went up to their cap of US$9,000/MWh during the storm. Some retailers passed on this increase to their customers with some consumers receiving bills for over US$10,000 for one week's supply and hence had little hope of paying.

The Texas type power outages could easily happen in NZ, suggesting that cash poor households will then suffer even more. As NZ (appropriately) moves to carbon neutral energy, what is the cost to peoples' health and well-being for those who can least afford to pay more? In NZ there has been no material increase in electricity generation recently, yet it is estimated that we will need three-fold more electricity generation if we are to fully replace fossil fuels,[11] which are often substituted for electricity by the poorer households. As always, as was highlighted in the recent Texas power cuts, in times of economic disasters the disadvantaged suffer the most and do not recover, so that must be remedied in NZ. A lesser, yet still impactful trend is already happening in NZ. In May this year prices ranged from 26c/kWh in Dunedin to 42c/kWh in Kerikeri and those paying the highest prices were in regions with the most economic deprivation, the least able to negotiate good pricing, and the furthest away from a generator in the West Coast, South Otago, Northland or Gisborne.[4]

Electricity security of supply at affordable prices for heating is one of the biggest threats to good health and well-being. Already this year during a short cold snap there were power cuts overnight on the coldest night of the year in some of the coldest parts of the North Island which could be an indicator that the power grid is at capacity. The EA's objective is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry in New Zealand for the long-term benefit of consumers. Therefore, the EA is the

most appropriate authority to address the issue of cash poor households being unable to afford electricity for warm homes.

3. Solutions for Warmer Homes: Specific recommendation:

Create and implement a **Government Retail Electricity (GRE) provider** that provides:

1. no cost and low-cost electricity to households that are assessed as cash-poor;
2. a small, stepwise increase in tariff for electricity based on kWh limits per household in the winter months and in terms of climate location, that would be lower than other retailers currently charge.

To be eligible, householders must:

- meet criteria that assesses their inability to meet other commercial providers' retail electricity rates for the general population (i.e., those who can afford to pay);
- be living in homes that meet the Healthy Homes Standards (or homes that are in the process of being upgraded to these standards).

4. Notes to assist the implementation of an effective (GRE):

The GRE would be available nationally to defined domestic customers to enable sustained affordability to vulnerable New Zealanders. It will operate under the same regulations as other retailers where the main shareholder is the Government, and the principal funding comes from the Government.

The new GRE could be a role model for other retailers. For example:

- Electricity capacity, infrastructure and cost changes would place no further burden on households and would facilitate urgent transition to clean energy sources.
- The changes to clean energy, affordable and uninterrupted supply could include:
  - ripple control for hot water heating at low off-peak pricing to lessen peak demand,
  - micro-generation systems (e.g., solar, wind) enabled in communities to serve the community first who can then sell excess electricity to the grid,
  - uniform peak domestic pricing rolled out nationwide so that rural, remote and smaller communities are not disadvantaged.

5. Measures of Success – Warm Homes are Effective in Reducing Illness

The following success metrics for the new GRE could include:

a. That 80% of eligible households are enrolled with GRE or take up a similar plan with a local Electricity Retailer within the first 24 months of operation.
b. That homes in the program are at least 21°C in the living areas and at least 18°C in bedrooms when people are at home (as measured by self-report surveys). This is applicable when the outside temperature is below 18°C.
c. That when surveyed, the people in DEP 1-2 Quintile groups pay no more that 9% of disposable income on adequate electricity and heating.
d. The prevalence of illness and school absenteeism due to illness reduces, and the sick leave from work reduces both for parental care and for illness. This measure relies on reduction over the winter months year on year.
e. Once established, power supply estimated to be cost neutral as the Pensioner winter subsidy is redirected on a need's (criteria) basis only, rather than currently paid to all pensioners.

Additionally, the Healthy Homes Act must be broadened to include measures of success for implementation and a method of assessing compliance that is regulated so that the GRE is providing electricity to homes that are insulated. Further, that upgraded homes are linked to affordable electricity schemes provided by the new GRE or equivalently priced retail suppliers, for low-income households, income support households, households with special needs individuals, and for needs assessed pensioners.

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