

28 July 2021

By email: [energymarkets@mbie.govt.nz](mailto:energymarkets@mbie.govt.nz).

To whom it may concern,

## Energy efficient products and services

We appreciate the opportunity to make a submission on the Ministry of Business, Innovation and Employment (MBIE's) consultation on energy efficient products and services.

We have elected not to fill out the entirety of the submission form. Instead we take this opportunity to share some observations as the transmission grid operator. We note that the rapid changes in technology means that standards need to move rapidly to prevent technical requirements becoming outdated.

## Alignment with other regulations

The proposal suggests moving Minimum Energy Performance Standards (MEPS) into tertiary legislation so they can be more easily updated to reflect the latest available technology. We support moves to enable MEPS to be updated in line with technology advances. However, the products covered by MEPS may also be covered by other forms of legislation.

An example of this could be the Electricity (Safety) Regulations 2010 (ESRs). The ESRs regulate the sale of medium and high-risk appliances, many of which are commonplace consumer appliances (e.g. clothes dryers, washing machines, refrigerators and room heaters). One option for compliance is the supplier declaring that an article complies with an appropriate listed standard. The schedules of reference standards are updated infrequently, and often do not reflect the most recent standard. While the *AS/NZS 3820 Essential safety requirements for electrical equipment* allows for some flexibility in assessing newer technologies, some consumer products such as inverters and photovoltaic arrays are still required to meet mandated standards.

We are aware MBIE consulted on updating ESR reference standards in recent months, however the ESRs, as they are currently configured, are not as agile as the proposed MEPS. The progress of MEPS could therefore be held up by the ESRs that are slower to change. If product regulations were to become out of synch, and contradict each other, this would likely create confusion and uncertainty for manufacturers, suppliers and consumers.

The discussion paper has not addressed the existence of overlapping regulations or proposed how to overcome any potential conflicts or interdependences. There is some mention that safety features could be included in MEPS, but it is unclear if these safety requirements would be additional to or replace the need for other overlapping regulations.

## Additional requirements

The discussion document proposes expanding MEPS beyond purely energy efficiency and to include indirectly connected requirements, such as safety requirements. One area that may be worth further investigation is including power quality requirements.

When an appliance draws electricity from the network, it can impact the power quality on the network. An example of this could be the power electronics in a heat pump causing harmonics. When there are few appliances, or a diversity in appliances, the power quality may stay within acceptable levels (for example, heat pumps typically are not a problem as a range of different brands and models with different harmonic profiles will be installed on a network, so the harmonics average each other out).

On occasion power quality deviations can compound and cause real problems in the electricity supply. An example of this was when irrigation pumps in the South Island caused significant harmonics on local networks leading to the need for distributors to invest in upgrades to remediate power quality issues. These costs were passed on to consumers.

Requiring a minimum standard for power quality performance may reduce the risk of issues arising on networks when appliances reach a high level of penetration. Such regulation may be in the best interest of consumers if it leads to avoiding otherwise unnecessary network remediation costs. This is especially relevant to emerging technologies that are rapidly adopted.

## Demand response

Distributed energy resources (DER) and the associated demand response will play an important role in the transition to a low emissions economy. We support the principle that devices that enable demand response should have interoperability standards. Connectivity standards could vary within and across product types. For example, some products may have a mobile connection, while others could connect to hubs via, for example, wifi or Bluetooth.

We note that devices that connect to appliances or equipment may be able to provide 'smart' capabilities without requiring appliances or equipment to have built in demand response capabilities. This will need to be considered when cost-benefit analysis is undertaken on the products, otherwise there could be unintended consequences in terms of higher costs borne by consumers without additional benefits being realised.

Kind regards



**Joel Cook**

Head of Regulation