

New Zealand Productivity Commission  
Via email: [info@productivity.govt.nz](mailto:info@productivity.govt.nz)

8 June 2018

## **Productivity Commission Transitioning to a Low-Emissions Economy Draft Report**

Mercury welcomes the opportunity to provide feedback on the Productivity Commission's draft report into a low-emissions economy. Mercury supports the report's findings and recommendations and provides the following comments for the Commission's consideration.

### **Renewable electricity generation will be crucial to our low-emissions future**

One of the key findings is that an efficient and well-functioning electricity system will play a central part in the transition to a low-emissions economy. New Zealand's largely decarbonised electricity sector is a major advantage when compared internationally. Considerable scope exists to further increase the supply of electricity from renewable sources which will create opportunities to cost-effectively decarbonise other sectors of the economy, most notably in transportation and industrial process heat where we currently rely on emissions-intensive energy sources.

There is a growing consensus that additional renewable electricity generation will be required as electricity becomes the fuel of choice in more sectors of the economy, particularly as the use of electric vehicles (EVs) becomes widespread. The Commission's analysis suggests that nearly 50% more renewable electricity will be required by 2050 to power more EVs and shift process heat to electricity. Transpower in its recently released Energy Futures Whitepaper (*Te Mauri Hiko*) estimates that electricity demand is likely to more than double from 40 TWh per annum to 90 TWh by 2050 requiring significant and frequent investment in both grid connected technologies such as wind and hydro and distributed technologies such as solar and batteries. EVs are expected to reach 40% of market share by 2030 and 85% by 2050.

Mercury estimates that the costs of delivering the required renewable generation by 2050 implied in the above analysis would cost around \$20bn.

### **Co-ordinated stable and predictable policy and regulatory settings matter for securing cost-effective investment**

The opportunities that renewable electricity presents to achieve the Government's net carbon zero by 2050 objectives do not come without risks and uncertainties. Cost effectively meeting winter peak demand and balancing the system with more renewables will remain challenging and the stakes will be greater with more of the economy dependent on a secure supply of electricity.

It will be crucial to ensure that market and regulatory settings are stable and predictable to attract the \$20bn in capital required for new renewables investment given the long lead times for planning and building generation. We agree with Transpower report which notes:

"Investors might also be deterred if they are not confident about the stability of policy or regulatory settings. Investors do not like uncertainty. In the absence of reliable assurances about long-term policy stability, investors could also be deterred by concerns about the



possible introduction or absence of introduction of policies, for example, closing peaking thermal plants, incentivising distributed renewable generation, carbon charges, or changing market and pricing regulations.”<sup>1</sup>

Mercury notes that currently there are many moving parts reflecting different political imperatives that run the risk of inadvertently working against the government’s climate change objectives. For example, if wide ranging reforms to the currently high efficient electricity wholesale market arrangements are proposed under the Government Electricity Pricing Review this may stifle capital flows into the sector and raise the costs of carbon abatement through the economy.

### **Hydro generation will play an increasingly important supporting role for renewables expansion**

Hydro-generation will be critical for meeting the government’s climate change objectives. Large-scale renewable generation will increasingly be built from intermittent sources, like wind, which will need other significant sources of flexible generation that can quickly respond when the wind falls away. This flexibility role will increasingly be filled by hydro-generation. This is because the government’s recent ban of offshore oil and gas exploration means gas fired generation will become uneconomic. Gas fired generation is currently the only other major provider of substantial flexibility in the electricity system which is why it is included in all the Commission’s electricity supply scenarios out to 2050.

The government commitment to the Powering Past Coal Alliance will also mean coal will be phased out for electricity generation by 2030. This will reduce the ability of fossil fuels to cost effectively and flexibly meet peak demand and support the development of future intermittent renewables, such as wind, as well as provide energy storage in the system for periods when our hydro lakes experience dry sequences.

Given the importance of hydro generation in supporting renewable expansion (and the achievement of the government’s net carbon zero target by 2050) it will be important to consider the interactions of other policy measures and objectives to ensure there are no unintended consequences. The Government’s Tax Working Group for example is considering environmental taxes on water users which if applied to hydro generation would raise electricity prices and the costs of carbon abatement across the economy. The Resource Management Act is also in the process of being reviewed along with freshwater quality policy and these initiatives could impact on renewable electricity generation investment and costs.

### **Analysis points to need for targeting renewable energy rather than electricity and effective carbon pricing**

It will be equally important to ensure the settings are not designed in a manner that increases the cost of producing electricity. We support the Commission’s view that pursuing policy goals such as 100% renewable electricity needs further consideration given the cost-effective roll thermal sources of generation currently play in providing flexibility and energy storage as noted above.

Overbuilding renewables to provide the same level of reliability and resilience afforded currently by thermal generation options runs the risk of unnecessarily raising electricity prices and, as the Commission notes, raising the costs of reducing emissions in other sectors which have the potential for far greater emissions reduction than electricity, which is already highly renewable.

The Commission’s analysis (Figure 0.1) below indicates that electricity generation only represents around 6% of New Zealand’s total GHG emission. In comparison emission from transport are three higher at 18% and this figure is even higher when process heat is included (e.g. such as milk drying which uses coal for direct heat). This proves there would be much higher benefits for New Zealand in targeting renewable **energy** rather than electricity.

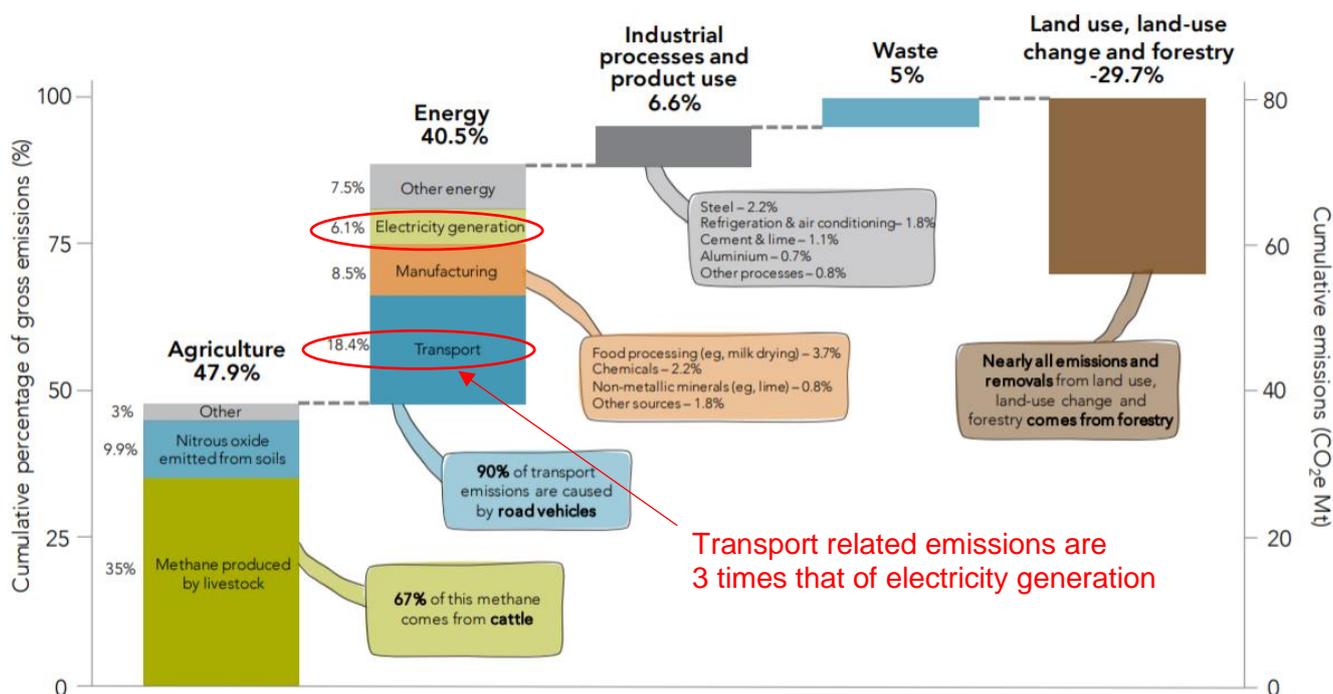
Mercury agrees with the Commission that the most effective means to reduce carbon emissions is to price carbon and allow the most efficient reduction measures across the economy.

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<sup>1</sup> Transpower White Paper 2018 “Te Mauri Hiko” – Energy Futures pg 51



## New Zealand's GHG emissions and removals by source, 2015



Source: Productivity Commission

## National Policy Statement Renewable Generation 2011

The Commission has requested ideas for making the National Policy Statement for Renewable Energy Generation (NPS REG) more effective. We agree with other submitters who consider that the NPS REG needs to send clearer signals to local government and the Environment Court about the significance of renewable energy, in particular more guidance on the relative importance of renewable energy compared to other matters of national importance under Part 2 of the RMA, for example, landscape values and more guidance on how the NPS REG meshes with other National Policy Statements.

Our experience has been that while the NPS REG is broadly consistent with the government's climate change goals it has not led to greater consistency across regional and district, policy statements and plans for the provision and management of renewable electricity generation activities. Often the supporting rules that exist below policy are not enabling and there remains a high degree of variability in local government planning documents that has not increased the level of certainty for generation projects. There remains conflict between the NPS REG and other matters of national importance in Part 2 of the RMA not helped by the statement in the preamble to the NPS REG "This national Policy Statement does not apply to the allocation and prioritisation of freshwater as these are matters for regional councils to address in a catchment or regional context..." and are subject to the directive provisions in the National Policy Statement Freshwater Management. It is also important that the NPS REG gives more recognition to the management of adverse environmental effects of renewable electricity generation and the importance of renewable energy generation needing to connect to distribution and transmission networks.

We would be happy to meet with the Commission to discuss any aspect of our submission. Please contact Nick Wilson, Manager Regulatory and Government Affairs at [nick.wilson@mecury.co.nz](mailto:nick.wilson@mecury.co.nz) or 09 5803623.



Yours sincerely

A handwritten signature in black ink, consisting of a horizontal line with a vertical stroke crossing it, and a cursive 'm' shape below.

Nick Wilson  
**Manager Regulatory and Government Affairs**

