focus

A Changing **Climate**

The Climate Change Commission's (CCC) final report to the government, *Ināia tonu nei: a low emissions future for Aotearoa*, outlines a view for New Zealand that, if adopted by the government, will dramatically reshape the country over the coming decades. It clearly signals that the road to carbon neutral 2050 will be one driven in an electric vehicle and lined with charging stations where petrol pumps now stand.

FORSYTH BARR

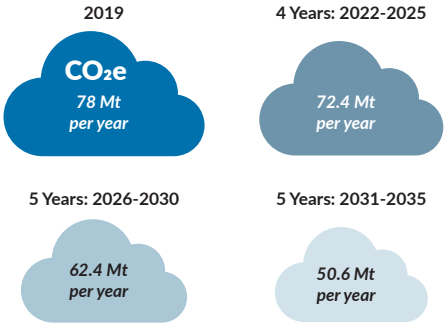
...The agricultural sector produces more than 50% of New Zealand's greenhouse gas emissions, which is unusually high...

The report signals a shift away from relying solely on the Emissions Trading Scheme and market forces to lower our emissions and instead seeks to eliminate them at the source through direct intervention. It has been apparent for some time that energy in New Zealand is changing. The report brings these changes into a clearer focus and sets a deadline for many of them.

In 2019 New Zealand emitted just over 78 million metric tonnes of carbon dioxide equivalent, contributing to global greenhouse gas emissions of more than 36 billion metric tonnes, a record high. While New Zealand's emissions are small in absolute terms, just 0.23% of the global figure, per capita we rank in the upper quartile, ahead of the United Kingdom. This has led to the CCC recommending that the government set an 'emissions budget' which, if met, would see New Zealand's annual emissions decrease by 35% by 2035.

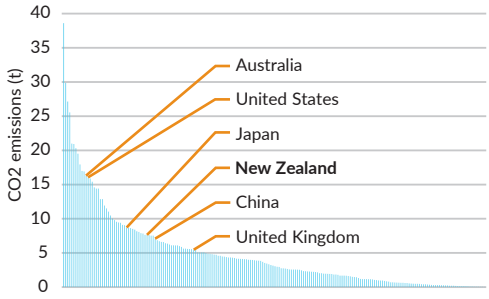
EMISSIONS BUDGETS 2022-2035 (AR5)

ANNUAL AVERAGE EMISSIONS



Source:Ināia tonu nei: a low emissions future for Aotearoa

CO_2 EMISSIONS PER CAPITA



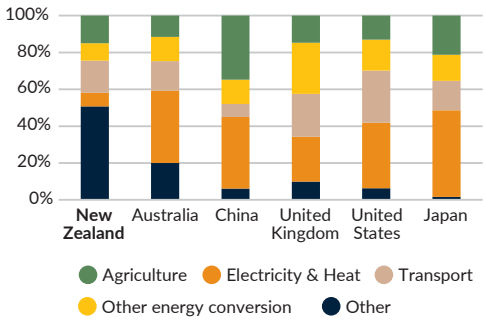
Forsyth Barr analysis, Our World in Data

New Zealand's decarbonisation challenge is greater than most countries

New Zealand's greenhouse gas emission sources differ greatly from other countries. The agricultural sector produces more than 50% of New Zealand's greenhouse gas emissions, which is unusually high. This presents a significant challenge to New Zealand achieving its greenhouse gas emission goals as reducing agricultural emissions is difficult and expensive, relative to reducing greenhouse gas emissions from other sources. Decarbonising by replacing coal fired generation with renewable generation is the easiest and cheapest way to reduce carbon emissions. Using that renewable electricity to decarbonise transport (electric vehicles), process heat (electric or bio-mass boilers) and space heat (electric heat pumps) is the next logical step for most economies to meet their emission reduction targets. In contrast, New Zealand's electricity greenhouse gas emissions are already very low at just 7%. New Zealand, therefore, has little choice but to target agriculture as well as the broader energy sector.

...The electrification of transport is not without hurdles...

GROSS EMISSIONS BY SECTOR



Forsyth Barr analysis, Our World in Data

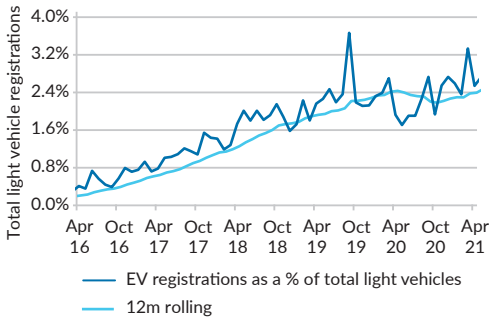
The CCC has reiterated the view of the Productivity Commission, the Interim Climate Change Commission and its own draft report that there is little to be gained by the government pursuing its current 100% renewable electricity target. A little gas-fired back-up generation will ensure security of supply and enable greater emission reductions in other parts of the economy (in fact CCC modelling indicates there will still be gas-fired generation in 2050). Pursuing a 100% renewable electricity target will likely result in higher electricity prices and more greenhouse gas emissions from other sectors of the economy. We concur with the CCC's recommendation that the government should adopt a renewable energy target as opposed to the evocative 100% renewable electricity target.

Transport and process heat are the easiest forms of greenhouse gas emission reductions

The second most environmentally and economically efficient way to reduce emissions is to electrify transport and industrial processes. This is the approach New Zealand is taking, with transport currently making up 17% of our emissions, second only to agriculture. Recent government policy, most notably the introduction of the 'feebate scheme' encouraging electric vehicle uptake, supports that approach. The CCC notes that to achieve New Zealand's 2050 greenhouse gas emission targets there should be no new petrol or diesel vehicles after 2035 (preferably earlier). Short-haul electric ferries, cargo ships and planes are likely to be a feature of New Zealand's transport future.

The electrification of transport is not without hurdles, most of which are outside the government's control. Electric vehicle (EV) manufacturers are struggling to produce enough EVs at an appropriate price point for New Zealand to import in order to meet increased targets. EV growth in New Zealand has stalled due to a lack of availability of models at an appropriate price. EVs represent around 2.4% of new registrations and that has not increased for two years. Cost reductions, improved battery range and improved model availability (there are currently no electric utes and few electric SUVs, New Zealand's most popular vehicle forms) will be the key to encouraging New Zealanders to switch to EVs. New Zealand's global position as a small market with a high reliance on imports will likely result in long lead times, risking failure to meet these EV targets.

ELECTRIC VEHICLES AS A PERCENTAGE OF TOTAL LIGHT VEHICLES IN NEW ZEALAND

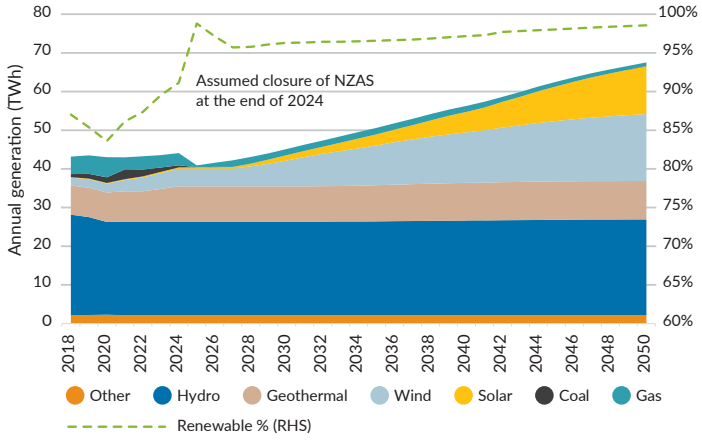


Forsyth Barr analysis, Ministry of Transport

...the CCC...assumes...that New Zealand's Aluminum Smelter...will close at the end of 2024...

Electricity companies will be significant beneficiaries from New Zealand decarbonising. In 2019, electricity made up just 24% of New Zealand's overall energy consumption, while oil amounted to double that. The CCC estimate that the supply of renewable energy needs to grow by around 20% over the next 15 years. However, we note that the CCC also assumes in its "demonstration scenario" that New Zealand's Aluminium Smelter at Tiwai Point will close at the end of 2024 — we are not convinced that will happen, meaning renewable generation will have to increase by 30%. Most of that generation is likely to come from wind, complemented by solar and geothermal. While oil and gas companies have a role in the future low-carbon economy (bio-fuels and possibly hydrogen will be an increasing part of the energy mix going forward), they will see demand for their fossil fuel products steadily decline.

RENEWABLE ELECTRICITY



Forsyth Barr analysis, Ināia tonu nei: a low emissions future for Aotearoa

Prime Minister, Jacinda Ardern, has pledged to uphold the overarching emissions budgets but it remains to be seen which of the recommendations the government formally adopts through legislation. Investors will get a clearer picture of what the future holds when the government announces its Emissions Reduction Plan, scheduled for release in December 2021.

Understanding that sudden changes in financial markets can cause concern or indicate opportunity, your Forsyth Barr Investment Adviser is available to provide you with advice and assistance at any time.

Andrew Harvey-Green
Director/Senior Analyst,
NZ Equities

Mark Robertson
Associate Analyst,
Equities, Research

0800 367 227

forsythbarr.co.nz