

The election of the sixth Labour-led government heralds a new direction for climate change policy in New Zealand.

As part of the new government's 100-day priority plan, it pledged to set a [target of carbon neutrality by 2050](#) and to establish the mechanisms to phase out fossil fuels. In doing so, New Zealand will join a small group of countries that have established this goal since last year: France, Germany, Sweden (by 2045) and Norway (by 2030).

From commitment to action

The government plans to set up an independent climate commission, likely [based on the one established in the UK](#) with nearly unanimous parliamentary support in 2008. UK emissions are down not just to 1990 levels, but to [1900 levels](#).

The [climate commission's tasks](#) will include providing advice on effective pricing mechanisms for climate pollution, on the transition to 100% renewable electricity by 2035, and on bringing agriculture into the NZ [Emissions Trading Scheme](#).

All parties to the [Paris Agreement](#) have already agreed to become carbon-neutral in the second half of this century. The snag is turning that commitment into action.

A story of good intentions

It is now 20 years since New Zealand first signed the [Kyoto Protocol](#) – two decades of fine words and twists and turns in policy while emissions [continued to rise](#).

Surprisingly, while Australia has followed a twisty path of its own, perhaps with not so many fine words, the effect has been the same: gross greenhouse gas emissions have risen 24% in New Zealand since 1990, compared to a rise of 27% in Australia.

A fresh start for climate change mitigation in New Zealand

Written by Robert McLachlan, Professor in Applied Mathematics, Massey University

New Zealanders built a lot of gas-fuelled power stations in the 1990s and bought a [lot of cars in the 2000s](#)

. Astoundingly, we now have more cars per capita than [Australia](#)

The frustrating story is told in the documentary [Hot Air](#) . New Zealand spent ten years getting a strategy in place, ending up with an [emissions trading scheme](#)

(ETS). Another decade of tinkering later, the scheme involves a complex system of discounts, free allocations, exemptions and, crucially, unlimited access to international emissions units.

After 2012, New Zealand companies used this access to buy large numbers of [low-integrity units from the Ukraine](#)

, enough to officially cover a quarter of all our emissions. The price of carbon, currently NZ\$19, adds about 4c per litre to the price of petrol, and about 1c per kilowatt-hour to gas-powered electricity. So far, New Zealand's ETS – like others worldwide – [has not delivered](#)

Read more: [A new approach to emissions trading in a post-Paris climate](#)

New Zealand's state-owned mining company, Solid Energy, was pushed into some risky deals and ultimately into [managed bankruptcy](#) . The remaining assets have been sold to Bathurst Resources. Chief executive Richard Tacon [said recently](#) :

... there is no viable alternative to coal. I mean we realise it's a transition fuel, but there's a lot of business, dairy ... that rely on coal to be a reliable, storable source of energy.

Has even an Australian coal baron ever called coal a “transition fuel”? But then again perhaps Tacon has a point: the dairy company Fonterra burns more than half of all New Zealand’s coal, and the dairy industry as a whole emits [2.2 million tonnes of carbon dioxide per year burning coal to dry milk](#).

Civil society perseveres

Against this background, climate activists have had a hard row to hoe. Law student Sarah Thomson took the [government to court](#) in July 2017 over its inaction on climate change. In a [victory for both sides](#), the judge ruled that the government should have reviewed its 2050 target, but declined to order a judicial review because the government had since changed.

The youth climate group Generation Zero campaigned for a [Zero Carbon Act](#). The former parliamentary commissioner for the environment, Jan Wright, called for a [UK-style Climate Change Act](#).
Thirty-nine mayors pressed the government to [take stronger action](#).

Data from a [20-year longitudinal study of social attitudes](#) in New Zealand show [increasing agreement with climate change](#).

A third review of the ETS removed a [50% discount, with further strengthening scheduled](#). The Environment Ministry was asked to advise [specifically on domestic emissions reductions](#).
The Productivity Commission, a government think tank, was asked to [report on a low-emission economy](#).

However, during the election campaign, climate change was not a major issue, and official projections showed a continued rise in emissions. [Under current policy settings, net emissions will rise a further 58% by 2030](#).

Aiming for carbon neutrality

A fresh start for climate change mitigation in New Zealand

Written by Robert McLachlan, Professor in Applied Mathematics, Massey University

That brings the story to New Zealand First's decision to choose a Labour-led government, with the Green Party in a confidence and supply arrangement. The Greens now have five ministers, including co-leader James Shaw as minister for climate change. Labour, having first introduced the ETS in 2008, will now amend it to try to make it work.

Already, since the election, Fonterra has [announced](#) a commitment to cut processing emissions (mostly due to coal, but also natural gas and transport) by 30% by 2030, matching the national target, and 100% by 2050.

Carbon neutrality calls for, among other things, a complete stop to burning fossil fuels and to buying products that burn them, such as petrol cars. The year 2050 is not that far away.

In truth, by 2050 anything might happen: organic solar cells might become as cheap as newsprint, unleashing economic growth and making “sunlight-to-liquid fuels” economic – or not. Positive carbon feedbacks from the oceans, forests and Arctic methane might overwhelm our mitigation efforts. Climate sensitivity might surprise us on the high or low side.

We can't say what parts of the natural world will survive climate change and the attempted sustainability transition. But New Zealand is taking a step in the right direction.

Robert McLachlan does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond their academic appointment.

Authors: Robert McLachlan, Professor in Applied Mathematics, Massey University

Read more <http://theconversation.com/a-fresh-start-for-climate-change-mitigation-in-new-zealand-87245>