

Cover note

This document provides information on analysis undertaken by The Treasury for the Commission on the distributional impacts of emissions pricing. This formed part of the evidence considered for the advice on NZ ETS unit limits and price control settings for 2023-2027.

The Treasury's microsimulation model of the tax and welfare system (the TAWA model) was used to calculate the increase in household disposable income spent on fuels (petrol, diesel, fossil gas and electricity) and food for five emissions price points, distributed across household income quintile. The modelling used the most recent Household Economic Survey (2018/19) with expenditure data.

The Commission also carried out new electricity system modelling to increase understanding of the effect of different emissions prices on wholesale electricity prices (see Technical Annex 3). Outputs from this modelling fed into the analysis carried out by the Treasury.

The Treasury's modelling sought to isolate the effect of the NZ ETS on fuel and food prices to provide an indication of the distributional impact of increasing emissions prices, all other things being equal. This is a useful first order approximation of emissions price impacts over the period considered. However, there are limitations to this modelling. It is a short-term, static analysis that involves significant assumptions, including:

- that the economy has not changed significantly since the time of the baseline data (2019) including that household incomes or expenditure do not change.
- 100% pass through of any cost increases, instantaneously and simultaneously, from producers to other businesses and from producers to households.
- no behavioural response from households in response to rising prices – there is no change in the level of consumption or in the uptake of low emissions technologies and practices.

Because of these limitations, the results are likely to overstate the direct impacts of higher emissions prices on households.

Moreover, the isolated impacts of emissions pricing estimated by this analysis must be considered in the broader context of the transition to a low emissions economy. The NZ ETS is only one policy of many that will collectively work to reduce emissions to meet emissions budgets and targets. Over time, as households and businesses increasingly shift to lower emissions choices, and as buildings, vehicles and equipment become more efficient, New Zealanders' exposure to emissions pricing will reduce and costs will go down. Supportive policies acting alongside the NZ ETS will help to accelerate these shifts.

Our previous analysis for *Ināia Tonu Nei* found that a successful transition will ultimately reduce household energy bills. Shifting to electric vehicles and heating, improving energy and fuel efficiency, and providing opportunities to reduce vehicle travel can deliver cost savings that we expect will more than outweigh the impact of higher emissions prices.

However, this analysis highlights the transitional challenges as a rising emissions price may add to the direct and indirect pressures currently faced by households. Some groups of society will be more negatively impacted than others by any increased costs in the near-term. These potential impacts will best be managed by the Government putting in place policies alongside the NZ ETS to support those most disadvantaged and those least able to adjust.