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How is the draft Emissions Reduction Plan supposed to work?

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COMMENT: In its new climate plan, the coalition government seems to be setting New Zealand up to withdraw from the world carbon market before 2035, argues economist Geoff Bertram.

And if the government's "least-cost" approach to emissions reduction is followed to its logical conclusion, it will lead to retaliatory tariffs for exporters as the global price of carbon rises.

Despite frequent official claims, the New Zealand Emissions Trading Scheme is not a cap-and-trade arrangement. It is simply an uncapped trading scheme in which the price of carbon emissions is set by whatever is the least-cost marginal source of carbon credits.

At different times this least-cost source of credits has been any of: (i) the cost of growing trees to absorb carbon; (ii) the "trigger price" at which the Minister of Climate Change turns on the printing press to flood the market with NZUs, (iii) the price at which offshore carbon credits can be purchased, and (iv) the price at which the holders of the huge stock of "banked" NZUs from previous periods are willing to release those units onto the market.

It has never been the marginal abatement cost at a fixed volume constraint, and none of those prices corresponds to the marginal abatement cost at which the Government's 2030 NDC target, or the 2050 split-gas targets, could be achieved through domestic action by means of the NZETS.

Nevertheless it is true that the price carbon polluters can buy NZUs at will have some influence on emissions, and the expectation until last month, when the government released the second Emissions Reduction Plan for consultation, had been that the NZU price would progressively increase – to $230 per NZU by 2050, in the Ministry for the Environment's projections published in December 2023.

That expected price rise was modest relative to the actual estimated social cost of carbon emissions on a global scale - recently estimated by the US Environmental Protection Agency to have the following lower-bound values per tonne of each gas (before conversion to CO2-equivalence) in US dollars: for carbon dioxide $110 in 2020 rising to $210 in 2050; for methane $470 in 2020 rising to $2,700 per tonne by 2050; for nitrous oxide $30,000 in 2020 rising to $64,000 by 2050.

Rock-bottom carbon price

The coalition government's draft Emissions Reduction Plan projects a radically different, rock-bottom carbon price path for New Zealand, and claims that this is consistent with achieving the 2050 targets.

For just the next few years the plan relies on New Zealand participating in global carbon trading to purchase offshore credits of some kind to fill the gap between target and actual emissions, with the local carbon price projected to rise to $75 in 2030 (apparently the expected price of offshore units).

New Zealand is then to withdraw from the international market while newly-established carbon forests drive the NZU price down to $50 by 2035. Thereafter until 2050 the price is expected to remain at $50 as the area of plantation forests increases by 40% without encroaching on "high-quality productive" agricultural land.

Withdrawal from global carbon market?

How do we know that the coalition government plans to withdraw from the world carbon market before 2035? Well, imagine a world in which the global price of carbon credits moves up towards the US EPA's social cost estimates cited above, while the NZETS continues to trade at $50, with all carbon-forest owners willingly putting their NZUs into the local market at $50 rather than selling their carbon-absorption services on the higher-priced world market.

Ban on carbon credit exports

The economics of this do not compute unless New Zealand forest owners are barred from earning the overseas value of their carbon absorption (which is, incidentally, what the New Zealand Government actually did during the First Commitment Period of the Kyoto Protocol). In other words, carbon-credit exports will have to be banned to hold down the local price. This will have two readily-predictable consequences.

First, the arbitrage incentives for New Zealand forestry companies to break the export ban will become more and more powerful as overseas carbon prices go up, and New Zealand's refusal to allow its foresters to participate in the global market for carbon credits will inevitably be challenged by other countries and by overseas investors in New-Zealand-located carbon forests.

Second, by holding down the domestic carbon costs borne by local dairy, meat, and other export producers as the world price rises, the New Zealand Government would be setting up a classic dumping arrangement which will (and should) attract retaliatory tariffs on all those exports.

No plan to sustain net zero

The draft Emissions Reduction Plan is mysteriously silent on how the resulting stresses are to be handled. It is equally silent on how zero net emissions of long-lived gases are to be sustained beyond 2050 once the forested area has been increased 40%, especially if further expansion of carbon forests into productive agricultural land is blocked.

The years after 2050, as today's pine plantations reach full growth and begin to age, may lie comfortably beyond the planning horizon for the coalition but will be well within the expected lifetime of today's young adult voters.

Ministry for Environment consultation on New Zealand's second emissions reduction plan closes 21 August 2024.

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