Challenges for New Zealand's Carbon Market

Mundaca, Luis; Richter, Jessika Luth

Published in:
Nature Climate Change

DOI:
10.1038/nclimate2052

2013

Document Version:
Early version, also known as pre-print

Article published in *Nature Climate Change* (2013) 3 (12): 1006-1008 (DOI: 10.1038/nclimate2052).

Challenges for New Zealand's carbon market

Luis Mundaca & **Jessika Luth Richter**
International Institute for Industrial Environmental Economics at Lund University
P.O. Box 196, 221 00 Lund. Sweden
Corresponding author: luis.mundaca@iiiee.lu.se

New Zealand is often seen as a leader when it comes to environmental policies. However, the decision taken by its government at the 2012 United Nations Climate Change Conference in Doha to walk away from a legally-binding cap on greenhouse gas emissions was heavily criticised. Official data about the New Zealand Emission Trading Scheme (NZ ETS), released on 17 September 2013, confirmed both deficiencies in policy design and a lack of domestic effort to reduce emissions. Ironically, New Zealand's lack of international commitment may be good news for the NZ ETS, which has lost credibility in recent years.

Doha and the New Zealand ETS

The eighteenth session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) concluded in December 2012 in Doha, Qatar. This was a significant meeting for the New Zealand (NZ) government as it announced that it would not make an emission reduction target for the second commitment period (CP2) of the Kyoto Protocol (KP), which runs from 1 January 2013 – 31 December 2020.

The decision was heavily criticised by environmental groups and the main NZ opposition parties. Most critics maintained that the NZ government had aligned itself with countries that do very little, if anything, to fight climate change and had undermined the country's international reputation with respect to climate change. In return, the government argued that it was working with nations that were responsible for 85% of emissions (e.g. the United States, Canada, China and Russia) and was looking beyond the KP to work on the next agreement. Unlike NZ, more than 30 countries agreed to an emissions cap in Doha.

Also at the Doha meeting, international rules governing access to Kyoto carbon units for the CP2 were revised. This decision was critical because the NZ ETS, the first mandatory national-level ETS outside Europe, allows unlimited access, trading and banking of Kyoto units in addition to its own domestic units (NZUs). In fact, the NZ carbon market has no quantitative restrictions on the amount of overseas carbon credits resulting from the Clean Development Mechanism (Certified Emission Reductions, CERs), Joint Implementation (Emission Reduction Units, ERUs) and Carbon Sink Activity (Removal Units, RMUs) that can be surrendered.

Following the decision of the Doha meeting, parties under the NZ ETS still can access and trade Kyoto units generated under the first commitment period (CP1). In principle, this can carry on until 2015–2016 (the end of the so-called 'true-up' process) although the UNFCCC has yet to determine a specific deadline. However, since 1 January 2013 parties have been unable to purchase or transfer any CP2 Kyoto carbon units, with the exception of primary CERs[1] [a]. In addition, the NZ government still needs to determine rules for the carry-over (or 'banking') of all CP1 carbon units remaining in the NZ emission unit registry account at the end of 2015–2016. The government's preference appears to be to end the carry-over of Kyoto credits, but a firm decision remains to be made[1].

[a] In December 2011 the NZ Government introduced a ban on 'industrial gas CER' imports; however, forward contracts that were submitted or introduced before that date can be used until June 2013. At the same time, the government banned some 'hydro CERs' as well as some ERUs in response to criticism about lack of restrictions on the volume of overseas units. Note that these restrictions are qualitative. In contrast, quantitative restrictions were recommended by the 2011 Review Panel and Parliamentary Commissioner for the Environment but have not been incorporated into the scheme.

To-cap or not-to-cap

To the surprise of many, the NZ ETS does not have a formal cap on emissions so it is not a cap-and-trade scheme as such. The omission of this key design element means that the NZ ETS is instead a system of mandatory surrender of carbon credits to cover emissions. Before Doha, the NZ government had been working on an auction mechanism for the sale of NZUs within an overall cap. The system was proposed in 2012 amendments to the NZ ETS regulatory framework. However, to the best of our knowledge, there is still no indication of when and how a formal cap would be set, or how ambitious it may be.

On 16 August 2013, the NZ government announced a new target of a 5% emissions reduction on 1990 levels by 2020. However, this target is a national goal that is not specifically related to a cap under the ETS. Once again, this decision has been heavily criticised by environmental groups, scientists and major opposition parties. Although the target has been labelled as "100% useless", "inadequate" or "disappointing"[2,3] the NZ Climate Change Minister, Tim Groser said, "this is an unconditional target to take responsibility for our emissions, and gives certainty to domestic stakeholders"[4]. The position taken by New Zealand in international negotiations means that the 5% national target is understood as a voluntary pledge for reducing greenhouse gas emissions under the UNFCCC, rather than under CP2 of the Kyoto Protocol.

The NZ ETS is the country's primary policy instrument for addressing climate change and meeting its obligations under CP1. While New Zealand is projected to meet its Kyoto obligations under CP1, this is primarily due to emission reductions in the forestry sector (which joined the ETS in January 2008 and was the first sector to participate) and international offset purchases, rather than gross emission reductions[5]. A review by an independent panel appointed by the NZ government in 2011 concluded that the ETS was not sending the right signals for low carbon investments and had not led to significant reductions in domestic emissions[6].

Market trends

Links between the NZ ETS and the international carbon market mean that New Zealand's carbon market has been flooded by Kyoto carbon credits. Driven by access to cheap international credits, the NZ ETS has come to rely heavily on Kyoto units, which have decreased the liquidity and credibility of the domestic market[7]. While in 2010 most traded units came from domestic carbon credits, imports of Kyoto credits have grown dramatically since 2011 (Fig. 1) and since 2012 related transactions have dominated the market. It could be argued that the KP principle of 'supplementarity', which means that KP carbon credits can be used in addition to domestic mitigation actions, has been violated.

[Insert Fig. 1]

Parties have made extensive use of Kyoto credits in order to comply with their mandatory surrender of carbon credits (see Fig. 2). In 2011, Kyoto units represented nearly 70% of all surrendered credits (ERUs alone represented more than 25% of the trade)[8]. Recent official data shows that in 2012 this trend grew, and Kyoto units represented 95% of surrendered credits (ERUs representing 70%)[9]. On the other hand, while domestic actions were responsible for more than 90% of surrendered credits in 2010 (of which forestry NZUs represented nearly 63%), the share of domestic action has since fallen significantly: to 13% in 2011 and to 4% in 2012.[9]

[Insert Fig. 2]

The excess of supply has reduced the price of domestic carbon credits (Fig. 3). The price of NZ units has broadly followed the international price of CERs/ERUs[7]. In 2010, NZUs were cheaper than international units and emitters bought NZUs from the forestry sector, the main supplier of domestic credits. Then, towards the end of 2010 the spread between NZUs and Kyoto units reduced and in 2011 NZUs became slightly more expensive than Kyoto units. This was mainly due to increased supply from the international market and the financial crisis in the European Union, which reduced

both emissions and EU demand for offsets. Some parties have used the spread between NZUs and the cheaper offsets as an opportunity to sell freely-allocated domestic NZUs and purchase cheaper international offsets to meet their obligations. The larger the spread between NZUs and international offsets, the larger the windfall profits[7].

[Insert Fig. 3]

As the market price for carbon units has fallen, so has the supply of domestic NZUs, because the forestry sector has increasingly refused to sell at low prices. Instead, the forestry sector has preferred to bank their units until the price rises. In addition, low carbon unit prices have meant that deforestation liabilities (when landowners switch land use following a harvest) are no longer a real barrier to leaving the sector, as economic incentives for replanting have been rather low. According to data released by the NZ Environmental Protection Authority[1] [b] it seems that forestry-sector operators have been taking advantage of their ability to surrender their units and opt out of the scheme[7]. Foresters leaving the scheme can take advantage of the spread between the price of NZUs and international units. They cover their liabilities with the cheaper offsets and have the option to sell their allocated NZUs either immediately or at a later date.

In February/March 2013, the price for carbon credits reached a record low in spot market trading (NZ$1.45–2.45)[10–12]. In August 2013 NZUs were being traded at NZ$4.5[11]. This may be a modest, but early sign of the reaction to the domestic market becoming cut off from the international carbon offset market. In addition, since the announcement at Doha, only those companies which fear that the government may limit access or carry-over of CP1 Kyoto units after 2015 have been buying and banking domestic NZUs[7].

Outlook

Although the NZ ETS has not quite failed, its incomplete and inadequate design remains a clear political challenge to the construction of a more credible, dynamic and liquid domestic market. Low carbon prices have failed to provide incentives for afforestation and long-term investment in clean energy technology. An ambitious programme of caps would reverse the lack of internal demand and restore environmental integrity. This must include the agricultural sector, which generates approximately 45% of greenhouse gas emissions[5]. The agriculture sector's original 2013 entry date was first delayed to 2015 and then indefinitely by amendments to the NZ ETS legislation.

Combined with international rules that exclude NZ from access to Kyoto units under the CP2, the government's position in international negotiations will inevitably change the dynamics of the domestic market. While the country's disconnection from the international market is likely to increase demand for NZUs and provide incentives for afforestation and deter deforestation (e.g. in the 2020s, when many managed forests are due to be harvested), the supply of additional NZUs via an auction mechanism will be needed. These issues, among others, support the idea of setting up a long-term price signal to encourage mitigation investments. This is consistent with the long-term 'economic resilience' objective of the NZ ETS, which includes incentivising low-carbon technologies. In any event, an immediate halt to the flow of cheap Kyoto units remains a huge political battle.

It is clear that the NZ ETS is in need of improvements. It is very likely that politics will decide the future of the NZ carbon market. National elections are due to be held in 2014 and, unlike Australia, where the new Liberal-National coalition government dismantled the 'Climate Commission' and plans to scrap the carbon pricing mechanism, a change of government in New Zealand could see policy design issues addressed (e.g. cap) to increase the scheme's efficiency and integrity. The major NZ opposition parties have been heavily critical of the 2012 amendments to the scheme, the lack of domestic effort, low carbon prices, and the withdrawal from CP2. However, any meaningful reform

[b] According to information from the EPA, as of 1 March 2013, 136 forester operators had left the scheme. Of these, 94% left after the price of NZUs rose above that of international offsets, and 54% left in the four months following the government's announcement not to place quantitative restrictions on international units.

will have to address inescapable policy trade-offs and may require the (bipartisan) political compromises found in climate policy.

References

1. Environmental Protection Authority. New Zealand Emission Unit Register (2013). Available at <http://www.eur.govt.nz/>
2. Renowden, G. 100% useless: NZ government announces pathetic 5% emissions target (2013). Available at <http://hot-topic.co.nz/100-useless-nz-government-announces-pathetic-5-emissions-target/>
3. Victoria University of Wellington. Government emission target for 2020 inadequate (2013). Available at <http://sustainablecities.org.nz/wp-content/uploads/Emissions-target-for-2020-inadequate-.pdf>
4. New Zealand Government. New Zealand commits to 2020 climate change target (2013). Available at <http://beehive.govt.nz/release/new-zealand-commits-2020-climate-change-target>
5. Ministry for the Environment. New Zealand's net position under the Kyoto Protocol (2013). Available at <http://www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/net-position/index.html>
6. Emission Trading Scheme Review Panel. *Doing New Zealand's Fair Share. Emissions Trading Scheme Review 2011: Final Report*. (Ministry for the Environment, 2011).
7. Luth Richter, J. & Mundaca, L. Market behavior under the New Zealand ETS. *Carbon Management* 4, 423–438 (2013).
8. Ministry for the Environment. *NZ ETS 2011 - Fact and figures* (Ministry for the Environment, 2012). Available at <http://www.climatechange.govt.nz/emissions-trading-scheme/building/reports/ets-report/nzets-2011-facts-and-figures-2012.pdf>
9. Ministry for the Environment. *NZ ETS 2012 - Fact and figures* (Ministry for the Environment, 2013). Available at <http://www.climatechange.govt.nz/emissions-trading-scheme/building/reports/ets-report/ets-2012-facts-and-figures.pdf>
10. Carbon News. New Zealand (2013). Available at <http://www.carbonnews.co.nz/>
11. Carbon Match. The New Zealand Carbon Market (2013). Available at <http://www.carbonmatch.co.nz/>
12. Point Carbon. Carbon Market Australia - New Zealand (2013). Available at <http://www.pointcarbon.com/news/cmnanz/>
13. CO2 New Zealand (2012). Available at <http://co2newzealand.co.nz/>
14. OM Financial Ltd. (2013). Available at <https://www.commtrade.co.nz/>

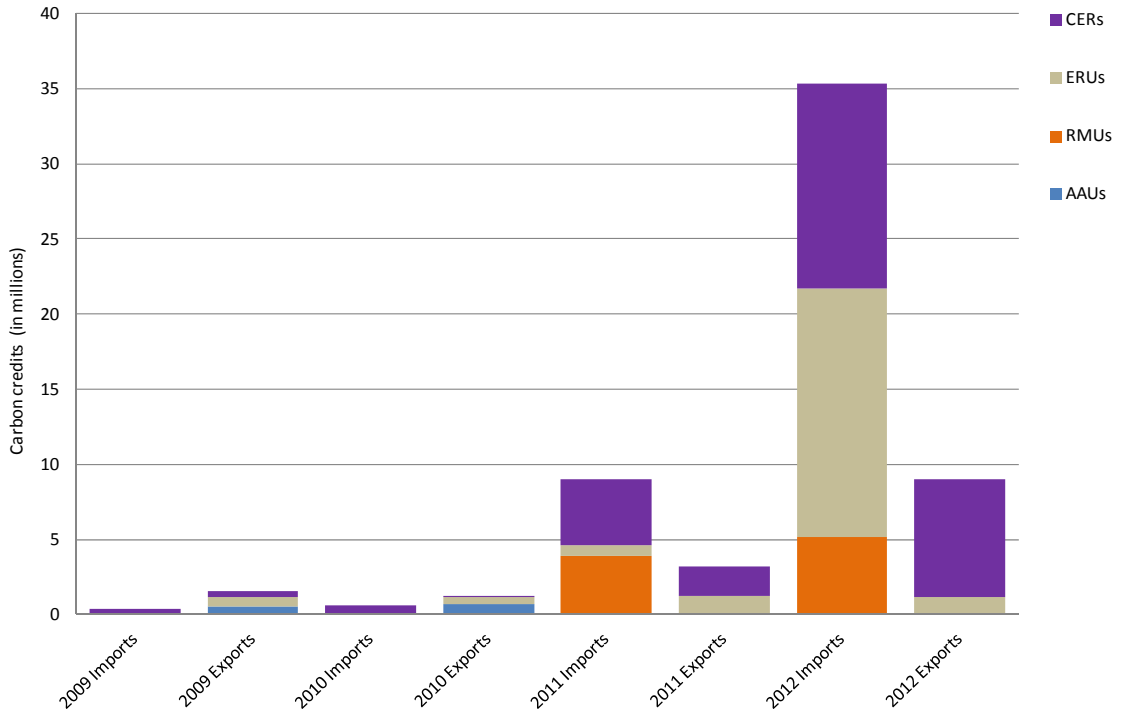

Figure 1: Carbon credits imported from or exported to overseas registries in the New Zealand emission trading scheme, 2009 – 2012. Data taken from ref. 1

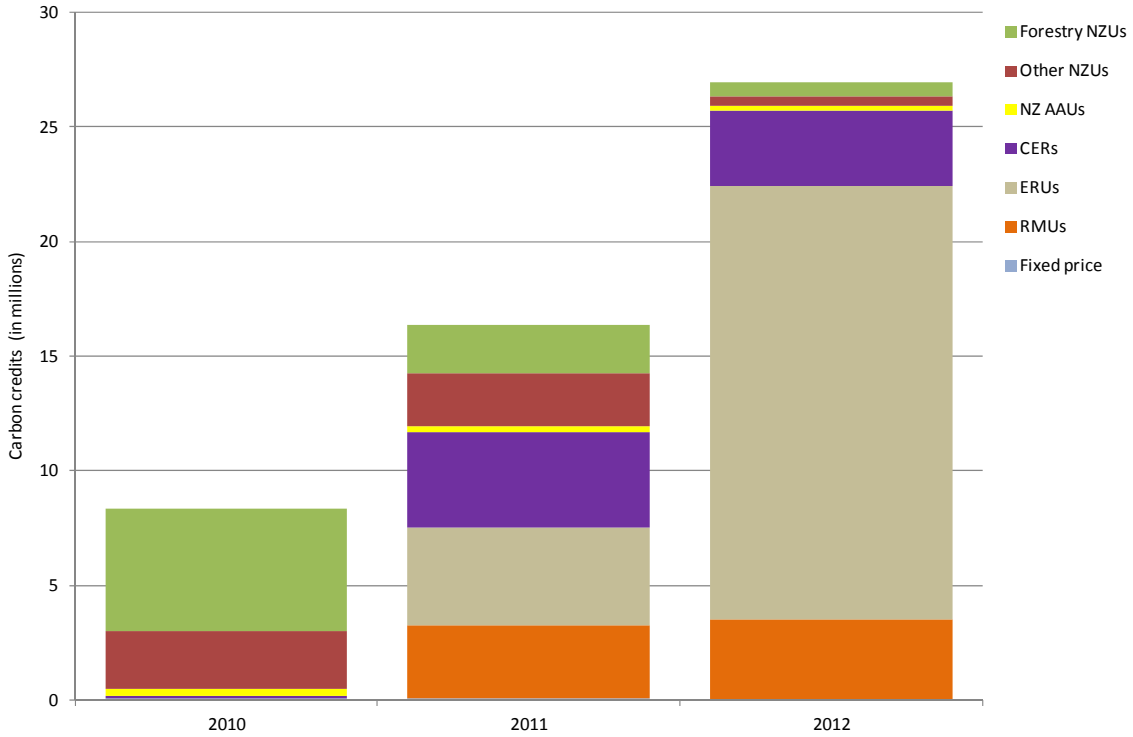

Figure 2: Carbon units surrendered under the New Zealand emission trading scheme. Note that for 2010 figures cover a six-month period for non-forestry sectors. Figures for 2011 and 2012 cover emissions for a full calendar year. Data taken from ref. 9 Forestry NZUs: NZUs given to foresters in the ETS. Units can be converted to NZ AAUs for offshore sale. Other NZUs: All other NZUs, including those given to industrial allocation recipients. Units cannot be converted to NZ AAUs. NZ AAUs: New Zealand based AAUs, which can be either forestry NZUs or NZ AAUs been granted to companies in NZ that have participated in 'projects to reduce emissions' or the 'permanent forest sinks initiative. Fixed price: Participants have the option to pay the NZ Government a NZ$25 fixed price per unit to be surrendered, rather than surrendering the other type of eligible units

Figure 3: New Zealand spot carbon prices, March 2010 – January 2013. Values are expressed in NZ$. Data taken from ref.10-14