

OUTFITTING THE NZ ETS IN POST-PARIS STYLE: “TOP TEN” LIST FOR 2019

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SUMMARY HAIKU

Emissions trading
must continue to evolve
in line with the times.

INTRODUCTION

This year will be pivotal for designing New Zealand’s climate policy portfolio in the lead-up to the Paris Agreement, which kicks off in 2021. While the IPCC’s report (on Global Warming of 1.5°C) makes the case for increased global ambition to avoid dangerous temperature rises, we face a considerable mitigation gap to reach our existing 2030 target,¹ our domestic greenhouse gas (GHG) emissions are continuing to rise,² and options for purchasing international emission reductions (IERs) are murky.³ Importantly, our 2030 target is only a waypost on the more challenging journey toward net zero domestic emissions – however that is defined – later this century.

Emission pricing has an important role – but not the only role – in New Zealand’s mitigation strategy. The New Zealand Emissions Trading Scheme (NZ ETS) was designed for a past era where UN rules shaped the international carbon market and our goal was least-cost compliance with short-term targets for global responsibility. It allowed international emission prices to set our own, and when those prices plummeted, the outcomes were high volumes of low-cost and low-quality overseas units, no significant domestic mitigation, and no credible long-term price signal to drive low-emission investment.

Now our goal is to transition strategically toward net zero domestic emissions while supporting global progress under the Paris Agreement. Under its more flexible (and evolving) carbon market mechanisms, we are unlikely to see convergence of international emission prices toward one that makes sense for New Zealand. In this context, aspects of the NZ ETS design are outmoded and need an update.

The government has previewed forthcoming policy. The Zero Carbon Bill (ZCB) will establish a 2050 emission target, a process for intermediate emission budgets, and an independent Climate Change Commission.⁴ The government will consider recommendations from the Interim Climate Change Committee (ICCC) regarding New Zealand’s transition to renewable electricity and surrender obligations for agricultural methane and nitrous oxide emissions if they enter the NZ ETS. Later in 2019, the government will introduce legislation to amend the NZ ETS accordingly.

Setting aside the issue of agricultural emissions, this briefing presents a “Top Ten” list of alterations to watch for as we outfit the NZ ETS for the important job ahead.

NZ ETS “TOP TEN” LIST FOR 2019

1. Implementing a supply cap
2. Designing a price collar
3. Linking to international emission reductions
4. Phasing out industrial free allocation
5. Refining forestry accounting rules
6. Improving market oversight and information
7. Recycling NZ ETS auction revenue
8. Cancelling units for non-ETS offsetting
9. Coordinating policies across the portfolio
10. Decision making for policy continuity with predictable flexibility

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IMPLEMENTING A SUPPLY CAP

To date, New Zealand has focused on the “trade” in cap-and-trade. We are long overdue for our own cap on unit supply and it is finally on the horizon. The role of the cap is to constrain domestic emissions and enable the market to set an efficient emission price in line with our targets. Since 2012, the government has had the option in legislation to auction units under an overall limit (essentially a cap) on auctioning plus free allocation, but this has never been actioned. In December 2018, the government announced its intention to begin auctioning under a cap in 2020.⁵

The choice of cap has distributional implications for the relative emission reduction responsibility and cost allocated to ETS versus non-ETS sectors and government (hence taxpayers) in order to achieve a given target. It determines how much money accrues to government through auctioning and how much gets sent offshore to purchase IERs. It also shapes perceptions at home and overseas regarding New Zealand’s mitigation ambition.

In our preferred approach,⁶ a volume-limited cap on unit supply would encompass auctioning, free allocation and a unit reserve for price management. The cap would not bind forestry or industrial removals. Banking would shift supply and smooth prices over time. The cap would be fixed in advance for a period of five years, extended by one year each year, and guided by a 10-year indicative trajectory (corridor) for emissions.⁷ It could be reviewed and adjusted more quickly in response to clearly defined *force majeure* events.

In the context of the Paris Agreement, the cap architecture in the NZ ETS must accomplish two critical goals: enabling the government to exert domestic sovereignty over New Zealand’s decarbonisation pathway, and sending a clear and credible signal to the market about long-term supply to guide ambitious low-emission investment.

DESIGNING A PRICE COLLAR

The NZ ETS cap will require a further accessory: a price collar (price ceiling and price floor). In the current policy and market context, there is value in managing both supply and prices under the NZ ETS. No one knows the optimal value for either. While managing emission quantities in line with our emission targets and budgets, we can guard against unacceptable price extremes in both directions.

In December 2018, the government signalled it planned to replace the current fixed-price option (FPO) of NZ\$25 per tonne with a volume-limited cost containment reserve (CCR) implemented at auction. However, the FPO will be retained for surrenders due in 2019. The government will investigate potential options for a price floor.⁸

In our preferred approach,⁹ the CCR would be bound by the cap. It would operate using a tiered approach as follows:

1. If the auction price rose to hit a first trigger price, units would be released from the CCR for auctioning. The auction would continue to set the price.
2. If the auction price continued to rise and hit a second trigger price, the government would initiate a review of NZ ETS supply and price settings which could either be conducted by, or informed by independent advice from, the Climate Change Commission.
3. If the CCR volume was exhausted before new unit supply settings were in place, the government would offer an unlimited number of fixed-price units for purchase and immediate surrender by participants. Fixed-price units could not be traded or banked.

As of April 2019, the market price is sitting slightly above NZ\$25. The current FPO should be replaced as soon as possible – with advance notice to the market. In the current context, it discourages efficient mitigation, generates windfall gains for participants holding NZUs, and poses serious target and fiscal risks to the government.



For managing downside price risk, we recommend incorporating a reserve price at auction. This would be simple to implement and could help avoid very low prices. If private actors were not willing to pay at least the reserve price, the government would stop selling units and the supply to the market would automatically contract. An auction reserve price mechanism would not provide an investment guarantee. Units in the secondary market could still be traded below the auction reserve price. With a reserve price, an ETS auction would respond quickly and predictably to unpredictable events that lower prices. A reserve price would signal the direction of travel for minimum emission prices and build confidence for low-emission investors and innovators. It would also provide greater assurance to government about the minimum level of auction revenue to expect.

As with the cap, the price collar settings should be decided and fixed five years in advance, extended by one year each year, and guided by an indicative 10-year trajectory (corridor).

LINKING TO INTERNATIONAL EMISSION REDUCTIONS (IERS)

Purchasing IERs can help New Zealand make a more ambitious and cost-effective contribution toward global mitigation and accelerate developing countries' low-emission transition. However, international purchasing should not divert New Zealand from its domestic decarbonisation pathway and emission price trajectory. Furthermore, the government will need to ensure that all IERs accepted in the NZ ETS and counted toward its targets have environmental integrity, are not double counted by the seller, and have government approval by the seller and New Zealand. IERs should have the same value to the climate as reductions "Made in New Zealand." Furthermore, New Zealand should financially support mitigation only in countries less economically advanced than our own.¹⁰

The Paris Agreement has fundamentally changed how countries will trade IERs over 2021–30. Direct international purchasing by NZ ETS participants under a new UN market mechanism (Article 6.4) may not become possible for a considerable period of time. Government-to-government mitigation transfers are enabled under Article 6.2 and could take many possible forms. One is ETS linking, which is complex and requires harmonisation of features affecting unit integrity, supply, and price. Full buy-and-sell ETS linking appears undesirable and unlikely for the NZ ETS in the foreseeable future given the loss of sovereignty and other risks this would involve. Buy-only linking could become possible under appropriate constraints but suitable systems in developing countries that would produce gains from trade are under development.

In our preferred approach,¹¹ New Zealand's purchasing of IERs should be managed by the government. For the foreseeable future, all purchasing will need to occur through government-to-government agreements. However, options can be identified enabling private entities to play a role in those agreements and receive IERs in return. Motu and international researchers are collaborating to develop a "climate team" mechanism for international climate change cooperation which could facilitate government purchasing.¹²

The government has signalled it will limit the quantity of IERs if the system reopens to such units in the future.¹³ Questions remain about how the limit will be defined, whether it will apply to purchasing by the government as well as NZ ETS participants, how it will affect overall unit supply, what quality criteria will apply, and where such units might come from in the near future.

We suggest that if it becomes possible for NZ ETS participants to buy IERs in the future, a quantity limit should apply as a percentage of the surrender obligation and participants' international purchasing should offset other supply under the cap so that New Zealand retains its ability to make deliberate decisions about its decarbonisation pathway and emission prices. There may be a case for the government not to devolve future purchasing to NZ ETS participants so that taxpayers, rather



than participants, can continue to receive any gains from trade.

PHASING OUT INDUSTRIAL FREE ALLOCATION

In July 2017, the previous government signalled possible changes to industrial free allocation after 2020.¹⁴ The current government consulted on industrial free allocation in 2018,¹⁵ but no decisions have been signalled to date. New Zealand's approach to industrial free allocation is not aligned with our decarbonisation targets, does not reflect the falling risks of leakage under the Paris Agreement, lowers mitigation incentives for recipients and downstream consumers, poses a high cost to taxpayers, and applies an outdated methodology. During this phase of NZ ETS reform, the government should revisit the objectives and methodology for providing free allocation to emissions-intensive and trade-exposed (EITE) producers.

In our view, the key NZ ETS policy objectives for EITE producers should be incentivising low-emission transformation and preventing (or otherwise compensating for) leakage of emissions overseas which would undermine New Zealand's contribution to global mitigation. The phase-out of free allocation for EITE producers should be determined through a decision-making process guided by tests or conditions relating to:

1. aligning the level of free allocation with New Zealand's emission targets and budgets for domestic decarbonisation
2. the risk and cost to New Zealand of leakage versus free allocation.

Given the potential complexity of assessing leakage risk and allocative baselines, we suggest that free allocation determinations be made less frequently (e.g. every five years) than other decisions on unit supply and price management, although all of these decisions should be coordinated.

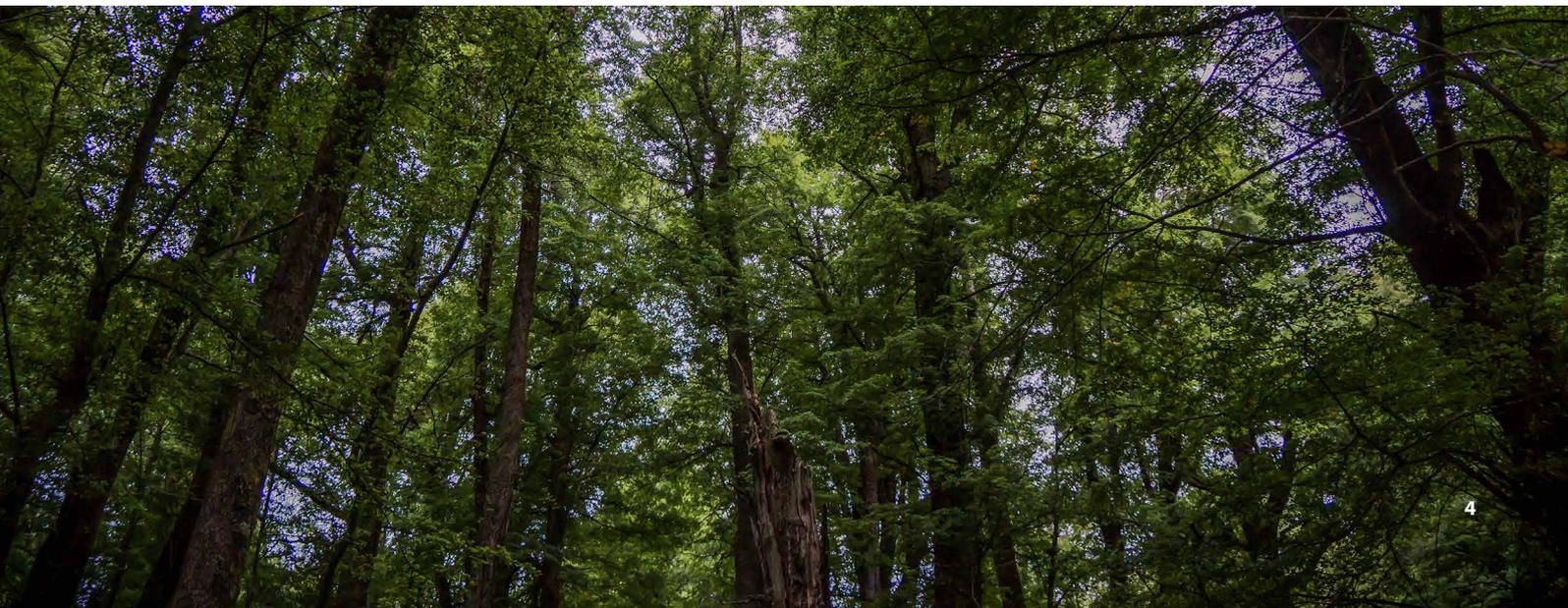
The methodology for calculating free allocation could be adjusted over time by updating the emissions intensity thresholds for eligibility, updating allocative baselines, and/or changing the rate of phase-out. In addition, we recommend periodic updates to the Electricity Allocation Factor used to calculate the amount of free allocation, and regular monitoring of the actual emission factor for marginal electricity generation.

The government could consider replacing output-based free allocation with the alternative of a lump-sum payment (in cash or units) for some recipients. One option would be for the payment to take the form of a grant conditional on investment to reduce the emissions intensity of production.

REFINING FORESTRY ACCOUNTING RULES

Analyses of New Zealand's potential pathways toward net zero emissions have highlighted the role of forestry to offset emissions and the need for effective emission pricing to incentivise lower-emission land use.¹⁶ Our afforestation potential is finite and high levels of afforestation, particularly in fast-growing exotics, can have social, economic, and environmental consequences. Forest offsetting can help buy time for technology development and uptake in other sectors, but should not divert New Zealand from transitioning to zero gross emissions of long-lived GHGs and reducing emissions of shorter-lived gases.

In recent years, NZ ETS policy and price uncertainty and administrative complexities have been barriers to accelerating afforestation.¹⁷ In 2018, the government consulted on a suite of possible changes to NZ ETS forestry accounting rules as well as other operational improvements.¹⁸ Two sets of decisions have been announced to date. The first is introducing a



new permanent post-1989 forest activity in the NZ ETS to replace the Permanent Forest Sink Initiative.¹⁹ The second is introducing “averaging” accounting for new afforestation (mandatory from 2021 and optional from 2019).²⁰ However, important questions have yet to be answered about how existing forestry participants will transition into the new rules, what default values will apply to different types of forest and forest management regimes, how harvested wood products will be recognised, how landowners will respond to the changes, and how the outcomes will affect unit supply and liquidity in the NZ ETS as well as New Zealand’s target gap for 2021–30.

IMPROVING MARKET OVERSIGHT AND INFORMATION

In 2018, the government consulted on options for improving NZ ETS market oversight and information.²¹ Three key issues are the security of registries, the legal status of emission units, and the quality and accessibility of information available to the market.

Recent NZ ETS reviews and consultation have not revealed significant concerns about the integrity of the New Zealand Emissions Trading Register (NZETR), although some concerns have been expressed about the difficulty of using it.²² Other systems have experienced fraud and other problems, so this requires ongoing vigilance.

More concerns have been expressed in New Zealand about financial risks that traders may be exposed to when making trading decisions. Initially NZUs were explicitly not defined as securities. Some market participants wanted them treated as a commodity to reduce the administrative costs of trading. However, this potentially exposes participants to unscrupulous or simply poorly informed advisors and traders. In the Financial Markets Conduct Act 2013, NZUs were not included on the list of financial assets that were covered, but they could be brought in at the discretion of the Financial Management Authority. If NZU futures are traded, retail transactions are legally protected. With the recovery in value of NZUs, and considering the risk to credibility of the NZ ETS from even a small number of publicly visible bad experiences, the regulatory status of NZUs as a financial instrument seems worth revisiting.

Markets depend on good-quality, timely information to work well and find the prices that balance expected supply and demand over time. In New Zealand, the information on unit demand comes from modelling that is only partially available and not well understood by market participants. Information about new policy affecting unit supply is not yet released through predictable processes. Price data is available only from individual traders who voluntarily release it. No trade price or volume data is available in real time. This could lower market confidence as well as raising efficiency issues. In a recent assessment of NZ ETS information needs, key recommendations included providing a centralised information portal, reporting more information on sector activity where possible, and increasing the frequency of reporting.²³

Markets will tend to improve as they evolve, and they are likely to evolve faster with the impetus of higher prices. Regular auctions will help price discovery and provide liquidity and a source of units to small buyers. Stronger financial regulation of the NZ ETS market would also improve its functioning. Regular predictable release of information from markets and from government would increase market efficiency and resilience.

RECYCLING NZ ETS AUCTION REVENUE

The introduction of auctioning will generate valuable government revenue which could be used for many purposes, such as transitional assistance to disproportionately impacted businesses and households, support for climate change mitigation and adaptation activities, and reductions in other distortionary taxes. Decisions on revenue recycling can be politically charged as they have important distributional implications and can affect public support for rising emission prices.



The potential amount of NZ ETS auction revenue is uncertain. The Tax Working Group (TWG) estimated it could range from NZ\$130 to NZ\$830 million per year on average over 2021–30. This range is based on emission prices rising from NZ\$20 per tonne in 2021 to NZ\$50 per tonne in 2030 and different assumptions about coverage of biological emissions from agriculture and the phase-out of free allocation.²⁴ These scenarios, which align with the government’s current carbon budget projections, leave a target deficit of 203 Mt CO₂eq to be achieved through domestic emission reductions, net forestry removals and purchasing of IERs (which could be directed to increase NZ ETS auction volume²⁵). The TWG notes that auction revenues would increase under higher target-consistent emission prices (e.g. up to \$80 per tonne by 2030 as indicated in modelling applied by the Productivity Commission). In the long term, auction revenue will change in line with both higher emission prices and lower emissions under steeper targets.

More analysis and stakeholder dialogue are needed on how the substantial revenue stream to be generated by the NZ ETS should be returned to the economy, and how the NZ ETS will interact with other environmental taxes (e.g. addressing waste, transport, or water quality). Because of uncertainty over the magnitude and timing of auction revenue, it would be preferable not to make specific programme budgets directly dependent on it. Instead, the government should take auction revenue into account in overall budget planning and decide on budget allocations for individual programmes based on their merits.

CANCELLING UNITS FOR NON-ETS OFFSETTING

Currently no mechanism enables firms or individuals to cancel NZUs in a way that would both reduce NZ ETS supply and tighten New Zealand’s target (thereby preventing double counting of emission reductions). This precludes participants from applying cancelled NZUs for non-ETS offsetting purposes, including for meeting international aviation obligations under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).²⁶ Enabling such a mechanism would increase the required level of mitigation action within NZ ETS sectors. That could either increase the NZ ETS price or be accommodated with a higher NZ ETS cap. The latter could pose a fiscal risk to the government which would need to purchase more IERs. The government could consider two options:

1. creating a mechanism through which the cancellation of an NZU would flow through to New Zealand’s target or GHG inventory reporting, with the option of a quantity limit to manage NZ ETS price risk
2. enabling firms or individuals to buy IERs directly from the government and cancel them, assuming they do not have the option to purchase them directly from the international market.

The second option would be easier to administer and limit NZ ETS price risk. For the voluntary market, an alternative is to move away from the traditional concept of carbon-neutrality offsetting and enable other forms of branding or recognition that reward extra action to reduce entities’ long-term emissions or invest in removals under the NZ ETS cap.

COORDINATING POLICIES ACROSS THE PORTFOLIO

The NZ ETS cannot be reformed in isolation from other sectoral regulations, policies, and measures. The scope of potential interactions can extend far beyond the climate change portfolio and have environmental, economic and social consequences. Such interactions can be mutually reinforcing, counterproductive or duplicative. Removing non-price barriers to mitigation can make emission pricing more effective. Emission price signals can be overridden by more stringent regulations – and vice versa. Regulations that force higher-cost mitigation for some NZ ETS participants will lower emission prices and mitigation incentives for the other NZ ETS participants. While applying further regulations and policies to subgroups within capped



sectors may not produce least-cost mitigation across the economy, they could support other strategic objectives. Importantly, mitigation (or other) regulations and policies applied to capped participants will not reduce total emissions below the system's cap unless the cap itself is reduced. For these reasons, the NZ ETS cap should be designed and updated in conjunction with other regulations, policies and measures.²⁷

The NZ ETS will need to align with the overarching framework created by the ZCB. ZCB provisions on emission targets, budgets, and limits on international purchasing will need to enable the effective operation of unit supply and price management mechanisms under the NZ ETS. The government may wish to consider setting a contingency emission budget for this purpose.

Finally, policy alignment will also be essential at the international level. In particular, any mismatch between net banking of NZUs and/or IERs in the NZ ETS and rules for international carry-over of surplus mitigation could create a taxpayer and/or target liability for New Zealand across commitment periods. The evolution of international rules, modalities, and guidelines for carbon market transactions under Article 6 could have important implications for the types and quantities of IERs used to adjust unit supply under the NZ ETS.

DECISION MAKING FOR POLICY CONTINUITY WITH PREDICTABLE FLEXIBILITY

The next phase of reforms to the NZ ETS should seek to achieve:

- environmental effectiveness by delivering a genuine and ambitious contribution toward both domestic and global decarbonisation in line with New Zealand's current targets and future aspirations
- policy and price predictability by creating structural mechanisms and processes that support decision making under uncertainty and enable efficient investment decisions that will unlock transformational change.

Decision making with predictable flexibility is supported by the architecture proposed above for managing unit supply, emission prices, and international purchasing with fixed settings for five-year periods, rolling updates, and indicative ten-year corridors for emissions and prices.

The decision-making process on the NZ ETS could also be supported by the CCC to be established under the Zero Carbon Bill. The government has signalled the CCC could play an advisory and/or decision-making role on aspects of NZ ETS operation.²⁸ In our view, the CCC should advise on and monitor the role of the NZ ETS in supporting New Zealand's progress towards its climate change goals, and not hold decision-making authority delegated by the government. Decisions on cap setting, emission price management, free allocation, and the quality and quantity of purchased IERs involve both technical and political judgements with significant implications for the environment, economy and society as well as New Zealand's international relations. Such decisions should be informed by independent expert advice from the CCC but rest with government and remain subject to democratic accountability.

In addition to advising on specific NZ ETS design settings, the CCC could provide authoritative analysis on:

- desirable pathways for target-consistent domestic emission prices as well as the social cost of carbon in the New Zealand context
- post-2050 emission targets and budgets and their implications for near-term decisions
- the distribution of impacts from emission targets, emission budgets, and mitigation policies across the economy, and measures for addressing disproportionate or unjust impacts.



Above all, maintaining cross-party support for long-term policy continuity on the operation of the NZ ETS will be essential for sustaining confidence and investment by market participants as well as buy-in from the general public.

CONCLUSION

With practical alterations, the NZ ETS can maintain sovereignty over the pace and cost of domestic decarbonisation, enable more predictable decision making under uncertainty, and send clear price signals to market participants and investors to reduce emissions in line with our emission targets and budgets. In the long term, New Zealand's biggest impact on global mitigation will come from showing other countries what is possible. Let's make the NZ ETS a trend setter for ambitious mitigation post-Paris!

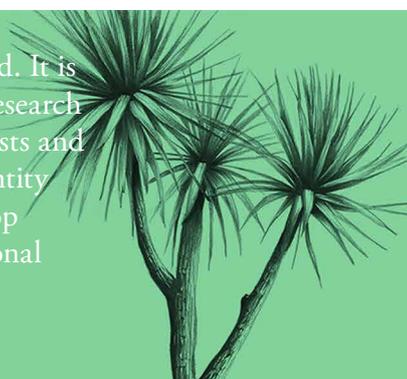
FOOTNOTES

1. New Zealand's 2030 target (its Nationally Determined Contribution, NDC) is to reduce net GHG emissions by 30% below 2005 gross emission levels (about 11% below 1990 levels). Our projected target gap over 2021–30 is 203 Mt CO₂eq, about 2.5 times our gross annual emissions in 2017.
2. In 2017, New Zealand's gross emissions were 80.9 Mt CO₂eq (23% above 1990 levels), and net emissions 57.0 Mt CO₂eq (65% above). From 2016 to 2017, gross emissions increased 2.2% (driven by increases in electricity emissions in a dry year and road transport) and net emissions 4.8% (driven by increases in harvesting).
3. Although the 2018 climate change conference in Katowice delivered the "rulebook" for implementing the Paris Agreement, countries failed to agree on rules, modalities, and guidelines for carbon market mechanisms under Article 6.
4. Ministry for the Environment (2018b)
5. Genter (2018); Ministry for the Environment (2018c)
6. Leining and Kerr (2019)
7. This differs from the auction model in the Climate Change Response Act 2002, under which the government announces the overall limit five years in advance but only years 1 and 2 are truly fixed, leaving years 3–5 open to adjustment with advance notice. In our model, each year 6 extension would be expected to have an immediate price impact across the preceding cap period because it would alter expectations of future supply, so there would be no need to adjust cap volumes for years 3–5.
8. Genter (2018); Ministry for the Environment (2018c)
9. Kerr and Leining (2019b)
10. Equal or more advanced economies should have targets that make their mitigation costs at least as high as ours. If they do not, we should apply pressure to them to increase their ambition rather than paying them to do so.
11. Kerr and Leining (2019a)
12. Kerr et al. (2018). More information is available at <http://climate-teams.org/>.
13. Genter (2018); Ministry for the Environment (2018c)
14. Bennett (2017)
15. Ministry for the Environment (2018a)
16. New Zealand Productivity Commission (2018); Parliamentary Commissioner for the Environment (2019)
17. Carver, Dawson, and Kerr (2017)
18. Te Uru Rākau (2018)
19. Jones (2018); Ministry for Primary Industries (2019)
20. Jones and Shaw (2019)
21. Ministry for the Environment (2018a)
22. Ministry for the Environment (2016); Ministry for the Environment and Ministry for Primary Industries (2018)
23. Stevenson et al. (2017)
24. Tax Working Group (2019)
25. Auctioning NZUs backed by lower-cost IERs could generate net revenue for the government.
26. Information is available at <https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx>.
27. For further discussion, see Leining (2017).
28. Ministry for the Environment (2018b)

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