# E-MISSION POSSIBLE

## Expert roundtables on thorny questions for a net-zero NZ

## Summary of Roundtable 3: Low-emission investment and ETS reform

14 February 2018

## SUMMARY HAIKU

Our ETS needs
predictable processes
with safeguards for price.

## INTRODUCTION

This was the third of four roundtables bringing together diverse experts from New Zealand and overseas to shed new light on particularly thorny questions for New Zealand's low-emission transition. The road to a net-zero future is paved with challenging questions for which there are no definitive answers – just choices to be made under uncertainty and consequences to be faced under risk.

Motu convened the roundtable in collaboration with the New Zealand Productivity Commission, the Institute for Governance and Policy Studies at Victoria University of Wellington, and the Environmental Defence Society.

Keynote speaker Prof Geoffrey Heal (Columbia University) and Dr Suzi Kerr and Catherine Leining from Motu gave presentations which are available online. Distinguished panellists and experts discussed how New Zealand can enable low-emission investment using both emissions trading reform and other tools.

Discussions involving panellists and audience members were held under the spirit of the Chatham House Rule, allowing information to be shared without attribution to individuals. This summary is intended to synthesise the range of issues raised during the presentations and discussion. It does not present a comprehensive account, consensus view, or conclusions shared by individual participants. Issues raised during the wide-ranging discussions have been loosely grouped into themes.

## SESSION 3A: ETS reform for low-emission investment

**Prof Geoffrey Heal** presented on "*Managing GHG Emissions.*" He reviewed each of the possible levers for change: regulation, taxes, cap-and-trade, legal liability and activism. Regulations can be effective but do not produce least-cost outcomes. Taxes can be efficient but can be perceived as regressive, since the poor pay proportionally more on energy. The ideal tax level would be the social cost of carbon, and he reviewed some of the challenges around quantifying the social cost of carbon and mitigation co-benefits. According to the IMF, a mitigation cost of US$57 per tonne of CO2 can be justified by co-benefits in the top 20 emitting countries. Cap-and-trade systems operate much like taxes but the market sets the price based on quantity, and while they are efficient their impacts can be regressive. Their use is increasing at the national and subnational level. The legal liability route can be very slow and involve high costs. Activism by consumers and investors can help in driving change. Given the scale of the problem, least-cost solutions are desirable.

**Catherine Leining** and **Dr Suzi Kerr** presented on "*Clear Price Signals in the NZ ETS.*" They explained a proposal for reforming the management of unit supply and prices in the NZ ETS which emerged from work by Motu's ETS Dialogue group. The associated paper documenting the proposal was co-authored with several participants in that process, but it does not represent a consensus view by all participants. Catherine summarised the history of the NZ ETS, and discussed the 2030 target gap facing New Zealand under the 2015 Paris Agreement and its implications for unit supply in the NZ ETS. Both producers and investors need greater certainty over long-term unit supply and price in order to make efficient low-emission investment decisions.

The key components of the reform proposal are:

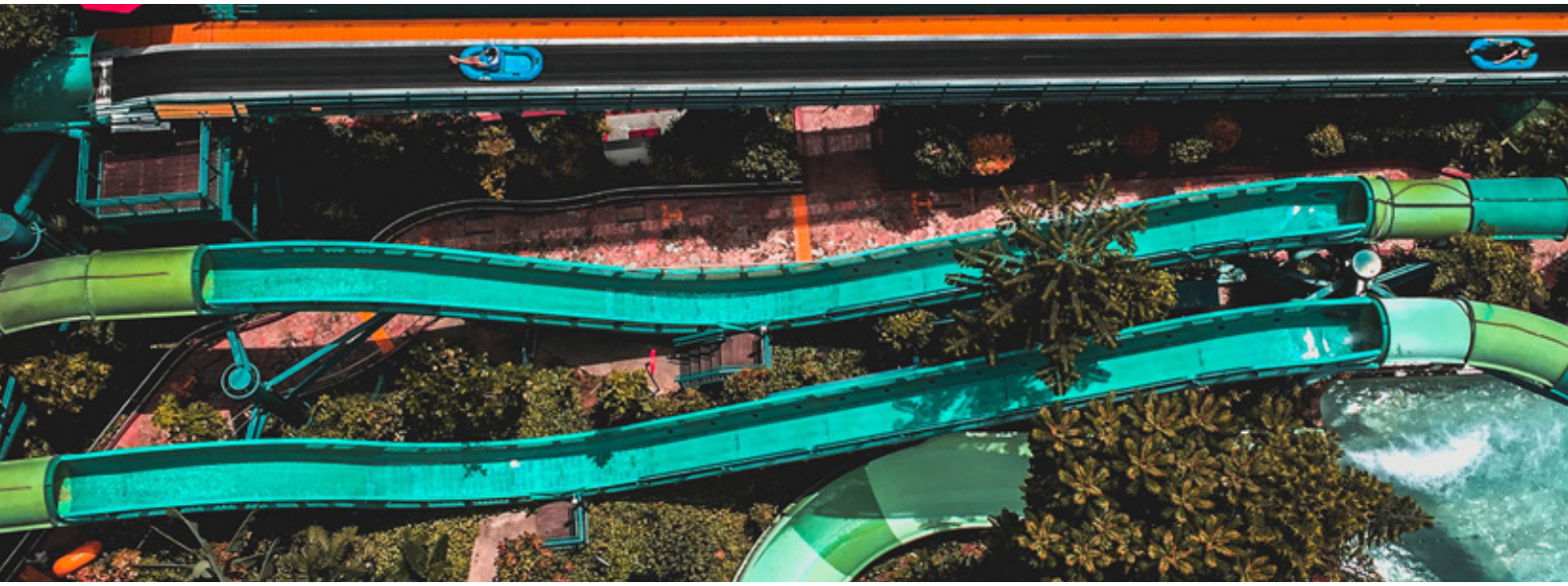
- a cap on unit supply which encompasses auctioning, free allocation and a unit reserve for price management, and is fixed for five years and extended by one year, each year
- a price band – a price floor and ceiling – which is fixed for five years and extended by one year, each year as a safeguard against price extremes
- an indicative ten-year trajectory, or corridor, for the cap and price band to guide longer-term decision making
- independent advice to government on NZ ETS supply and price, with the government retaining decision-making authority
- managed purchasing of international units, such that any future purchasing by ETS participants (if that becomes possible in the future) must displace other unit supply under the cap.

They showed how this architecture can flexibly accommodate biological emissions from agriculture whether they remain inside or outside of the ETS. A key message is that adaptive price management balances predictability for investment with flexibility to respond to external changes. This package provides a durable architecture for decision making under uncertainty – and some key signals and decisions are needed quickly, particularly in regard to setting the cap to guide investment and raising the price ceiling to mitigate a growing risk of arbitrage at taxpayer expense. The price ceiling should operate as a price safeguard, not a price setter.

## DISCUSSION POINTS:

**Theme: ETS reform**

1. The ETS is a tool, not an end in its own right. Pricing has limits as well as strengths.
2. The future will be different from the past and we need to future-proof the NZ ETS. Depoliticising the NZ ETS will help to create a more stable environment for conversation and action.
3. Different groups of stakeholders in the NZ ETS market have different priorities for managing supply and price. For some, the key consideration is domestic price certainty. For others, it is international price comparability (useful for linking) or international cost comparability (important to trade-exposed producers).
4. We can be bold in how we think about emission pricing. Price elasticity can be low. We need bold conversations to change the debate.
5. Price mechanisms need to adjust to technology changes.
6. Do we really need a price floor?



7. There is no right price. We can look at the probability distribution. We don't want extreme highs or lows. It is useful to aim for a band.
8. An ETS is a created, designed market and both price and quantity matter. It is useful to have a price band.
9. Right now, the spot market is fine. The forward market is not fine. The deals are bilateral.
10. Auction revenue can be invested in a successful, thriving low-emission economy.
11. We need accountability with the auction revenue being collected.
12. Certain types of offsets could demand a premium. Businesses are increasingly looking for profits in a socially responsible way.
13. With international purchasing, how will we relate to the international market? Other countries are short too.
14. We need to look at the implicit carbon price of other policies and measures. Regulation is a forced investment.
15. The relevant price in the long term is the global price that gets the job done.

**Theme: Green investment**

16. It can take a huge amount of time to put a deal together. It would be useful to have mechanisms that support small foresters, and a Green Investment Bank.
17. Data transparency and sharing can help with connecting investors with project opportunities and benchmarking performance. We need better matchmaking of capital and projects. Shareholder resolutions are making a difference.

**Theme: Managing policy impacts**

18. The phase-out of fossil fuels needs to allow for security of supply and adaptation of the system.
19. There currently is no discussion of the impact of our policy on vulnerable communities – whether because of their geography or economic factors. We have to safeguard the people who will otherwise take all of the pain.
20. We need to achieve resilience of communities as they face the challenge of climate change.
21. Businesses need policy certainty. We now have a combination of a more progressive government and increased business readiness to engage on this issue.
22. What does success look like? Environmental effectiveness needs to be better defined. We need to look at the oceans, biodiversity, waterways… Approaches in silos are a huge problem. Fragmentation of action breeds unintended consequences.

## SESSION 3B: New Zealand's international contribution

**Suzi Kerr** presented on "Climate teams: A model for international cooperation." This model is being developed by researchers at Motu and other collaborators as one approach for purchasing overseas mitigation to help New Zealand with meetings its target under the Paris Agreement and help developing countries with their low-emission transition. At present, there is no central international mechanism to enable trading of overseas mitigation, and countries must make their own arrangements bilaterally or plurilaterally. Governments may be able to access better units, and the benefits of lower-cost mitigation should accrue to taxpayers. The proposed approach involves a performance-based contract between a group of buyers (e.g. New Zealand and other more advanced economies interested in acquiring mitigation) and a seller who has a suitably ambitious target (Nationally Determined Contribution, NDC) under the Paris Agreement. The approach would offer certainty to the seller country of having a guaranteed purchaser at a minimum price floor, and to the buyer countries of securing supply under a maximum price ceiling. The buyer and seller parties would negotiate a crediting baseline that was at least as ambitious as the seller's NDC and ensured no double-counting of traded mitigation. Units would be traded only if the seller achieved mitigation beyond the crediting baseline. Buyers could develop a portfolio of agreements involving different sellers to guard against delivery failure. This has to be a government deal, but it could still involve private investors.

## DISCUSSION POINTS:

**Theme: Buying overseas mitigation**

1. Strong contractual arrangements would be needed for the Climate Teams approach to work. Teams aren't always on good terms. Options include escrow arrangements, liquidated damages, take-or-pay arrangements, and keeping the right to walk away.
2. It is important for New Zealand market participants that overseas mitigation have integrity and align with New Zealand's own principles and related policies. Overseas mitigation should help deliver sustainable development co-benefits. Investing in overseas mitigation could also open up new market opportunities for New Zealand technologies, products and expertise.
3. To help manage delivery risk, the government should select sellers with credible NDCs and explore options for collaboration with private players who can bring expertise, investment and influence. There is a role for private players in this space.
4. Government-to-government deals can have massive risk.
5. Price risks can be hedged now by buying units in Europe. Prices are moving fast internationally and we are facing a big risk.
6. We need a portfolio approach to manage risk.
7. We need to be realistic about what we can do in developing countries. We need to be wary of naivete. We need strong contracts and realism.
8. How can we do this closer to home? The Pacific presents an opportunity but lacks institutions and frameworks.
9. New Zealand is an outlier in our exposure to international carbon markets. Over time, we should align our targets more with our domestic action. Our full international contribution does not need to be integrated with our targets. It is speculative to look at how much to mitigate offshore.
10. We should be wary of what we think the Paris Agreement says we can or cannot do.

**Theme: Agriculture sector**

11. The Paris Agreement has provisions for food security alongside emission reductions. Globally we face a big gap before the agriculture sector can align with the Paris Agreement. New Zealand can have a major impact by helping other countries improve their production emission intensity using existing technologies and practices. There are huge gains to be made. MRV is a challenge in agriculture, and better inventories are needed. This is a function of good practice, not new technologies.
12. Globally, the agriculture conversation is about adaptation. New Zealand is an outlier in terms of how it is addressing this issue.

**Theme: Opportunities for domestic mitigation**

13. New Zealand's role is in setting a good example for the world. It could easily start with the electricity sector.
14. Right now it is hard to invest in New Zealand forestry.
15. We need to look carefully at the mitigation opportunities at home.
16. Co-benefits are so important. The ETS can't fix everything. We could find ways of attracting extra value to some kinds of units.
17. Forestry is presented as a key mitigation opportunity. However, much of our forestry industry is owned offshore. There is a disconnect between the NZ ETS and the Billion Trees initiative. Will the latter be implemented in a way that benefits New Zealand? We are looking at the intersection of two blunt instruments.
18. We need to show reciprocity to encourage global cooperation.

## CONCLUDING REMARKS

**Catherine Leining** from Motu presented outcomes from a participant registration survey. The roundtable had 60-65 participants. Of 58 survey respondents, 78% indicated that New Zealand can achieve a net-zero-emission economy sometime this century, 5% said it cannot, and 17% said they didn't know. Of 48 respondents, 42% supported a price ceiling, 31% opposed it, and 27% didn't know. Of 50 respondents, 52% supported a price floor, 24% opposed it, and 24% didn't know. In terms of five possible purchasing criteria for overseas mitigation, participants' responses could be ranked roughly from strongest to weakest support as follows:

- NZ's efforts to mitigate emissions overseas effectively support the global transition to net zero emissions.
- NZ efforts to mitigate emissions overseas count toward our international emission reduction commitment.
- NZ's private sector can be rewarded for efforts to mitigate emissions overseas.
- NZ's efforts to mitigate emissions overseas do not slow NZ's own transition to net zero domestic emissions.
- NZ's efforts to mitigate emissions overseas benefit people in the countries where the reductions occur.

Additional survey responses are noted at the end of this summary.

Catherine then offered some reflections on key issues raised during the roundtable.

The NZ ETS is one of many tools. We need to think systemically as we design our policies so they are complementary and effective rather than counterproductive. Activism is a powerful option and can be led by communities, investors and government.

We need to think holistically about the impacts of our policy choices. We need to consider communities, landscapes, species and resources that may be disproportionately impacted by our policy choices.

We need a system that is adaptable to change – technological, social and economic.

Climate policy makers must steer by the two stars of quantity and price. We don't know the "right" quantity or the "right" price at each point in time as we progress to net zero. We don't have to know in order to get started. If we set a cap with price safeguards against extremes, we can let marginal abatement costs emerge from experience. Key points of reference for setting the initial price band are:

- The social cost of carbon (US$50 in 2020 using 2017 dollars)
- The value of co-benefits from mitigation
- Price trigger points for technology and behavior change consistent with our targets (which could range from US$40-80 per tonne in 2020 and US$50-100 per tonne in 2030 according to the High-Level Commission on Carbon Pricing)
- Enabling an affordable transition for communities and businesses.

Policy certainty is critical. Free allocation decisions should be integrated into the package of decisions on NZ ETS supply and price.

We should consider the distribution of price and performance risk across government and market participants. Under a carbon tax, the government bears all of the performance risk. Under an ETS with price management measures, both price and performance risk can be shared.

An ETS auction can generate significant revenue for recycling to the economy. However, some participants were skeptical that the revenue would be directed transparently and wisely.

New Zealand can set an important positive example for the world. It is best to have a plan in place before a crisis arrives.

We are designing these measures to stimulate green investment. Contracts need to be effective. We need to have realistic expectations. There is an important role for private players.

To maintain our credibility internationally and domestically, we need to show alignment between our international actions and our domestic principles.

Our ultimate focus needs to be on reducing emissions to avoid dangerous climate change. We need to manage the strategic tensions between meeting short-term targets at least cost and supporting domestic and global transformation.

**We gratefully acknowledge IGPS for hosting this roundtable, and the Aotearoa Foundation and our other funders:**

THE TREASURY
Kaitohutohu Kaupapa Rawa

NEW ZEALAND PRODUCTIVITY COMMISSION

Ministry for the Environment
Manatū Mō Te Taiao

British High Commission

**SURVEY RESPONSES TO QUESTIONS:** (Edited for clarity and conciseness.)

"What action by farmers would have the most impact right now in supporting a low-emission agriculture sector?"

| Sector | Non-price barrier and policy change |
|---|---|
| General | Sunk assets and institutional endowments!<br>A reliance on carbon pricing to drive emissions reduction is grossly insufficient. Intervention will be required to deliver material change to emissions.<br>Long investment horizon for industrial sector. Consistent emission pricing over time and connections with international mitigation and pricing are mitigations.<br>1) Availability of suitable foreign technologies in NZ, and 2) business competency and scale of local technologies |
| Stationary energy | Legacy of deregulation and large generating assets probably limit uptake of DG and also slow inevitable convergence between electricity and transport<br>The electricity supply and demand balance (reserve margin) and how it affects commercial investment decisions<br>Electrification of high carbon emitters to provide the commercial incentive to invest in new renewable energy development<br>Industrial heat - security of supply of biomass for boilers<br>Better liquidity in the emissions forward trading market<br>Buildings. Better data tracking and sharing of project investments and performance<br>Adequate emissions standards: building<br>In bioenergy the biggest non-price barrier is investment uncertainty wrt policy life cycles |

| Sector | Non-price barrier and policy change |
|---|---|
| Transport | Electric vehicle charging infrastructure regulation - both in new home build regulations, new building regulations and on the highway |
| | Equivalence in cost per km of emissions from fuels is hidden through differing pricing mechanisms being applied (e.g. RUC for light diesel vehicles vs levies on Petrol). Full review of road funding mechanisms required |
| | Lack of effective vehicle emission standards |
| | Electric vehicles - range. Presumably technological change will cure the problem. |
| | In the transport sector, choices are shaped by a range of direct and indirect price signals beyond the carbon price (e.g. congestion pricing or lack thereof). Policy changes are needed to better align marginal transport price signals with marginal costs to society. |
| | Availability of low emissions fuels for maritime vessels |
| | Focus on mitigation rather than offsets |
| Forestry | Policy certainty |
| | Disagreement about the best approach to sequestering carbon while securing other benefits and avoiding harms |
| | Historic farm practices constraining land use change |
| | Simplification of forestry ETS rules |
| | Adequate emissions standards: forestry |
| | Exporting of whole logs. Our view is that the export of logs should be limited to ensure that sufficient wood is processed in NZ, which has positive effects across the value chain. We are open to policy measures to address this, but potentially some limitation on log exports should be investigated further |
| | Land prices - affect agriculture and forestry sectors |
| Agriculture | Dairy herds and on-farm learning coming mainly from within that sector |
| | Lack of knowledge about how to reduce CH4 emissions cost effectively |
| | Absence of measures. Policy change - mitigation policy development. Signal that govt will look gas by gas. Abandonment of slogans to justify special treatment |
| | Viable mitigation options is a barrier. Policy providing for appropriate timeframes for adjustment, as mitigation options become available |
| | Lack of clear information for farmers. Lack of mitigation technology. More policy relevant research and more basic research |
| | Lack of knowledge / capability among farmers about climate change |
| | Carbon price. Slowness to appreciate future trends |
| | Lack of participation of agriculture and point of obligation |
| | Bringing agriculture into the ETS |
| | Land prices - affect agriculture and forestry sectors |