

Emissions trading in New Zealand: Transition and evolution

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Key messages

- An emissions trading system is not a static institution. It should be designed to anticipate and respond to changing circumstances. Short, medium and long term needs are different.

Long term

- Long-run international policy must effectively limit emissions not just emissions intensity
- Long-run international policy should be efficient
- New Zealand's key role in international policy is to encourage others to act and facilitate their efforts.
- New Zealand should achieve this in a way that minimises the long run cost to our economy.

Medium term

- Medium-term NZ policy should encourage reductions in all emissions except where those reductions would result in significant leakage
- The stringency of medium and long-term NZ policy should depend on two things: how we perceive our international responsibilities; and the levels of cooperation that others are engaging in.
- The architecture of the NZ system should be designed to be adaptable to changing targets and scientific knowledge.

Short term

- We should not do anything in the short term that we do not want to do in the long term
- We should take account of the need for short-term adjustment
- NZ should emphasise policies that will take time to take effect and that are not dependent on other policies for their effectiveness.

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Where do we want to be in the long term within the international context?

An emissions trading system is not a static institution. It needs to evolve in response to changes in international climate agreements, new science, and domestic learning and adaptation. It is helpful to think of three periods across which the system must evolve. We discuss these in reverse order because the system design needs to be forward looking.

In the 'long run', which may be twenty or even thirty years away, we anticipate a relatively stable international policy environment where most countries have implemented globally consistent regulation, the science relating to measuring the relative impact of different activities is evolving more slowly, and the intensity of cooperation is gradually growing.

- **Long-run international policy must effectively limit emissions not just emissions intensity**

What matters most for climate change is the absolute concentration of greenhouse gases (GHGs) in the atmosphere. Slowing the rate at which concentrations rise has some value both from a science point of view and because it may allow more time for human adaptation. In the long run, the global mitigation effort has to focus on levels of emissions. We need incentives for production with lower emissions intensity (improved technology and processes) but also need to restructure our consumption away from GHG intensive products.

Controlling absolute levels of emissions requires global (or close to global) participation. This means that the agreement must be perceived to be equitable, where there are many ways to define equitable, to facilitate full participation.

To control climate change we need to form a global cooperative agreement in an environment where there is no effective international enforcement of commitments. In these conditions, the only effective strategy for building and sustaining cooperation is through building and sustaining trust in each other's intentions. Transparent and credible information about actions and real levels of control, signals of commitment where the most effective are those that involve real cost, and joint building of effective, efficient institutions all help build trust.

There is a strong argument that richer countries should take the lead in taking real action. It is highly likely that most OECD countries, including the US and Australia will have created policies that begin to have real impact on GHG emissions by 2012. Developing countries are beginning to take real action through the Clean Development mechanism now that European Union Emissions Trading System (EUETS) prices are high and they have full access to that market. Whatever happens through the formal processes post 2012, it is likely that this level of informally coordinated cooperation will continue to grow.

- **Long-run international policy should be efficient**

An efficient international mitigation effort requires that cost signals be equalised across countries, gases and sources/sectors. One way to achieve this is full liquid global trading. A potential route toward this is through connections between the EUETS and other evolving systems.

An alternative route, potentially complementary, is internationally harmonised taxes. Harmonised taxes are unlikely to form the basis of a formal international agreement for two reasons. First, getting developing countries to participate in this would require considerable financial transfers or different levels of taxes. If taxes differ across countries, this is inefficient. Second, it would be extremely difficult to truly harmonise GHG taxes. As we have found with tariff reductions under trade negotiations, it would be too easy to circumvent the intended effect of a GHG tax with other tax or subsidy changes or regulation changes.

Sectoral targets without cross sector trading will not achieve efficiency but they may offer a transition path from CDM for developing countries that are unable to fully participate in global trading immediately. This means that New Zealand should plan to participate in global emissions trading in the long term.

- **New Zealand's key role in international policy is to encourage others to act.**

New Zealand is too small to have a significant direct impact on climate change. We can however have an impact through our effect on others' willingness to cooperate as well as by innovating in both technologies/processes (particularly in areas where we have unusual mitigation options such as geothermal or agricultural emissions) and policy design. One more country showing credible efforts to contribute its share to the cooperative agreement could have a disproportionate effect on others' willingness to participate. We are a relatively rich country and should be willing to move ahead of some of our poorer trading partners.

That said, we should not lead too far ahead so we avoid excessive leakage and disproportionate cost to our economy relative to others of similar income levels, and should clearly link our emission reduction transition strategy to action by others to maximise our impact.

What if international agreement falls to pieces?

If the formal international agreement temporarily comes apart, the informal development of cooperation will still continue and we should continue to contribute to reductions and trust building. Our levels of commitment may be lower however if international progress is slower overall.

If international cooperation develops slowly there is an even stronger need to emphasise adaptation to deal with the climate change that is already unavoidable.

- **New Zealand should achieve its contribution to the global effort in a way that minimises the long-run cost to our economy.**

Given a certain level of commitment by New Zealand, we should ensure that our long run institutions will allow us to achieve this in a way that is most effective given our international goals, and most efficient locally. This suggests use of price instruments, close international linkages and emphasis on disseminating what we learn about effective mitigation in New Zealand.

What should a medium-term ETS look like?

In the 'medium term' New Zealand will face an incomplete international agreement where some countries have no effective greenhouse gas regulation, marginal costs of abatement vary across countries and sectors, and the

international emissions trading market is volatile. This period could stretch from the end of 2012, when our domestic system achieves complete coverage, for more than twenty years. In this period we need to establish the long-term architecture for the system, provide credible international signals of commitment, maximise our contribution to global learning about mitigation and avoid structural change in our economy that will not be efficient in the long term.

- **Medium-term NZ policy should encourage reductions in all emissions except where those reductions would result in significant leakage**

The system should be as comprehensive as possible as fast as possible. Extreme cases of leakage could be dealt with by special transition measures as discussed in the paper on leakage (Greenhalgh et al) that would emphasise emissions intensity rather than absolute emissions in the short term. A relatively lower price in the short term would reduce the general effect of leakage from New Zealand's effort.

- **The stringency of medium and long-term NZ policy should depend on two things: how we perceive our international responsibilities; and the levels of cooperation that others are engaging in.**

The stringency of our commitment should be in line with or slightly ahead of countries similar to us. Particularly because of leakage issues, if New Zealand took a significant leadership position by taking on extremely stringent targets, the extra gains for mitigation and climate change might be small while the domestic cost could be very high. Potentially we should focus our leadership effort more on facilitating learning about policy design, and continuing research, development and diffusion of mitigation options in sectors where New Zealand has comparative advantage (agriculture, forestry, geothermal..). This strategy could contribute more to the global mitigation effort as well as placing some of our companies in a strong competitive position.

- **The architecture of the NZ system should be designed to be adaptable to changing targets and scientific knowledge.**

A first key issue is to establish clear 'relative' property rights and address compensation once and for all. For most situations this requires assessing the case for compensation for stranded assets that will depreciate. For the loss of value of farmland, a perpetual stream of units (not necessarily full compensation) may be appropriate because the land never depreciates.

Second, any emissions units that are issued in advance should be designated as a share of the NZ target so that changes in the target are shared in an understood way.

International targets and the science behind monitoring and measuring emissions and climate impacts are rapidly evolving and are likely to change significantly over the next ten or even twenty years. We need to explicitly plan ways to adapt to this when we first implement the system so that we do not face the high economic and political costs that would be associated with a significant redesign of the system.

What should we do in the period before we can implement a full ETS?

The sooner all sources and gases are included, the sooner people will be able to reduce their greenhouse gas impact efficiently. It will be easier for them to make long-term investment decisions, and incentives to develop and adopt new technology will be stronger. On the other hand, several policy challenges will make it difficult to include some sectors and gases quickly. For a few sectors or even subsectors, the potential adverse effects of leakage may outweigh the real reductions they can achieve in the short run so inclusion without policies to address leakage may be environmentally counterproductive and economically costly. In addition, very rapid adjustment to a high price on greenhouse gases could be very costly. Rather than delaying the entry of sources or gases to allow slower adjustment, it may be better to include them but avoid very high carbon prices while the economy adjusts.

For some sources, the technology for modelling and monitoring greenhouse gas emissions in such a way that agents have flexibility in how they control emissions is not sufficiently developed; for example nitrous oxide emissions from agriculture are dependent on farm level activities and hence are ideally modelled at that level. Early inclusion, with a processor level obligation and less targeted monitoring, is possible, but the point of obligation and monitoring technology may have to change soon after and this transition may be difficult to manage. In any case, agriculture is a sector that faces some significant leakage issues. The 'short term' may last until the end of 2012.

- **We should not take policy action in the short term that we do not want to continue in the long term.**

Building a constituency that supports climate action requires government policy that is durable and avoids stop-start policy switches. We should not compromise our long-term architecture for short-term fiscal considerations. Policy changes are costly for those who we want to respond. If future policy change is anticipated, responses to existing policies will be reduced.

- **We should take account of the need for short term adjustment**

In the first few years, while the market is getting established and people are adjusting to and learning about how the economy operates with a carbon price and how emissions trading works, it might be useful to have a low carbon price. One way to achieve this is a 'safety valve' as discussed in the paper in this series on managing risk.

With a safety valve, however, if it is likely to be invoked we cannot allow banking or international sale of units. This suggests that it should not be a medium term policy where we do want to allow full market integration and banking. It could however be used in the short term to ensure that the adjustment path is not too rapid, causing unnecessary economic pain. This suggests we could also consider not allowing banking or international sale of units (buying is no problem) for the first few years of the market (maybe until 2012). This limitation could be applied with or without a safety valve. This obviously disadvantages those who are able to sell units but it protects those who are facing higher marginal costs and they are the ones who will face potentially acute adjustment costs.

- **In the short term NZ should emphasise policies that will take time to take effect, have high co-benefits, and have ‘stand alone’ value (i.e. they are not dependent on other policies for their effectiveness).**

These could include:

- Performance standards for vehicles, buildings
- Education programmes
- Adapting institutions to facilitate climate friendly investments – e.g. Resource Management Act processes that affect renewable energy or sustainable urban design;
- Encourage voluntary use of ‘best practice’

It is important to signal intentions to avoid lock-in of long-lived capital, and also keep technological options open where possible

It is important for the government to signal to investors that they should *avoid* locking in capital in climate-unfriendly long-term uses, such as e.g. new fossil fuelled power stations (unless carbon capture and storage is provided for); or new motorways supporting urban sprawl.

Policies should support research and experimentation, especially in areas where New Zealand has a strong interest relative to other countries so it is more likely to be a world leader and less likely to be able to benefit from others’ research.

Some policies will be more effective when they are implemented in combination with the price signal from the emissions trading system. These may be best emphasised after the sector is included. For example, efforts to encourage widespread use of on-farm mitigation options will be more effective when farmers face an emissions price. Once agricultural gases are included in the system, farmers’ economic incentives will be aligned with the encouragement to adopt new technologies.

Behavioural change requires a sense that everyone is involved. Any central or local government action or publicity that seeks to change behaviour will be more effective if it supports the “I will if you will” approach, i.e. builds a sense that all parts of society and the economy are involved in reducing emissions.