

# EMISSIONS TRADING, PROJECT-BASED TRADING AND JOINT IMPLEMENTATION

Suzi Kerr

22 February 2001

## How can New Zealand trade internationally?

Formally two forms of trade exist within Annex I, International Emissions Trading (IET) and Joint Implementation (JI).<sup>1</sup> International emissions trading is essentially trade in assigned amount units (AAUs) where each country faces a binding target so the AAUs traded are not specific to a project or sector. Annex I JI provides for the transfer of emission reduction units (ERUs) tied to the implementation of specified projects. These projects can be implemented by Annex I Parties, or by 'legal entities' within those countries. When ERUs are sold to another Party, the seller Party subtracts the ERUs from its assigned amount, and the buyer Party adds the ERUs to its assigned amount.<sup>2</sup> Although this mechanism is commonly referred to as Annex I JI, this term does not appear in the Protocol (except in the Contents page) and should not be confused with joint implementation under the Framework Convention.

The Protocol places the following restrictions on Annex I JI transactions:

- These transactions must be linked to projects that reduce anthropogenic emissions by sources or enhance anthropogenic removals by sinks.
- The projects must have the approval of the Parties involved.
- Emission reductions and sink enhancements must be 'additional to any that would otherwise occur.'
- Parties may not buy ERUs unless they have met their requirements under Articles 5 and 7.<sup>3</sup>
- A buyer may not apply ERUs toward meeting its commitment if there is a question about seller compliance with Annex I JI requirements (i.e. buyer liability).
- The acquisition of ERUs must be supplemental to domestic actions undertaken by the buyer, and therefore can only be used to meet a portion of the buyer's commitment.

---

<sup>1</sup> International Emissions trading occurs through Article 17 of the Protocol. Joint Implementation among Annex I states occurs under Article 6. This must be distinguished from the pilot program Activities Implemented Jointly created under the Framework Convention that involved developing countries also and was often referred to as Joint Implementation. Annex I parties will engage in trading with developing countries through the Clean Development Mechanism. It is also confusing that it is called Annex I" JI, given that it relates to "Annex B" parties of the KP.

<sup>2</sup> A Party's assigned amount is its net GHG emission budget based on its commitment under the Kyoto Protocol.

<sup>3</sup> Articles 5 and 7 outline requirements for the preparation and submission of national inventories of GHG emissions and sinks by Annex I Parties. Interestingly, the Protocol does not require Parties that sell ERUs to meet the national GHG inventory requirements under Articles 5 and 7. This limitation on buyers and not sellers of ERUs is intriguing given that it would be of greater consequence to the international community if Parties *selling* ERUs were not in compliance with Article 5 and 7 because it would be impossible to determine if such Parties were in compliance with their Kyoto commitments and thus, whether they were exporting non-additional ERUs.

JI transactions would be subject to international oversight to ensure that the additionality and other restrictions are satisfied. If compliance is determined on a case-by-case basis this is necessary to ensure international environmental integrity. This would not necessarily mean that every project would be externally audited but the international bodies may require certification by an internationally accredited certifier and may audit some projects directly.

In contrast, the Protocol only places a single restriction on the acquisition of AAUs through IET transactions: such acquisitions must be supplemental to domestic actions undertaken by the buyer. However the purpose of the Annex I JI additionality requirement is to prevent an Annex I Party from exporting project-based emission reductions that are needed by that Party to meet its commitments. The same issue can arise under IET. Ultimately, the AAUs or ERUs will be proven additional when the host Party that exports the ERUs is still able to meet its emission reduction commitments under the Protocol. National compliance can be assessed only if the Party has an adequate inventory. For example, if a selling Party under-reports its actual greenhouse gas (GHG) emissions in its inventory and this error is not detected, some AAUs sold will not represent real reductions in GHGs. Because the buyer party will be able to use the AAUs to increase its emissions beyond its target, the actual combined emissions by both the seller and buyer Parties will exceed the sum of their assigned amounts.

Thus most analysts recommend that compliance with the monitoring and reporting requirements should be a requirement for those selling under IET. If the inventory is not adequate to assess compliance each individual sale will need to be determined to be additional and trade should occur through Annex I JI.

### **When would New Zealand need to have a project-based credit system meeting the additionality requirements of Joint Implementation in order to trade internationally?**

If Parties whose inventories do not meet the requirements of Articles 5 and 7 of the Protocol are not allowed to participate in IET, Parties with inadequate inventories would need to rely on the Annex I JI framework to sell ERUs to other Parties. Project additionality and baselines would need to be validated by independent entities based on the same criteria and rules for evaluating project additionality as established under the CDM. As long as New Zealand can monitor and report sufficiently well to meet the requirements of Articles 5 and 7 it can use IET. Hence, there should be no need to sell through Annex I Joint Implementation.

### **How can the government facilitate international trades by private legal entities?**

Legal entities could trade through IET or through JI projects.<sup>4</sup> Legal entity trading requires that governments devolve AAUs through domestic regulation such as a tradable allowance program or project-based trading.

With a domestic allowance system, or a tax or other system with a allowance option, legal entities are being given responsibilities for limiting emissions as well as being devolved the right to buy and sell allowances. If they are allowed to directly trade on the international

---

<sup>4</sup> In the global market they could also buy certified emission reductions through the Clean Development Mechanism. This is not part of Annex I trading so is not discussed here.

market (the domestic allowances are the same ‘currency’ as AAUs) they will make their own judgments about future marginal costs and demands. They will sell through IET but could buy from other Annex I states either through IET or JI. For buying or selling through IET, the government would simply need to make the legal entity the legal owner of the AAUs they hold. For buying through JI the government may set conditions on buying if ERUs (emission reduction units-created through JI projects) are not directly equivalent to AAUs (e.g.: if they have some buyer liability). Governments may not let them be used as direct replacements for AAUs in domestic compliance because the government ultimately bears the risk that the JI projects are not valid. Invalid ERUs could push the state out of compliance. The state might require that the legal entity purchase insurance or provide security. Legal entities will abate and trade until their marginal cost equals the international AAU price.

If the government does not devolve AAUs to some sectors they may still allow them to sell through individual projects (JI or IET) and possibly buy through JI or IET. Selling through individual projects essentially requires the government to devolve AAUs to legal entities on a project-by-project basis.<sup>5</sup> The government would allocate AAUs to legal entities while making them legally responsible for controlling emissions within the project. The government must have an apparatus for approving project-based sales because they directly affect national compliance through the national AAU budget. The government would need to ensure that the project met the international additionality requirements. These JI projects could be audited by international bodies. For legal entities to buy AAUs or ERUs they need an incentive.<sup>6</sup> In a tradable allowance program they can use the AAUs to meet their regulatory obligations. With other forms of regulation they will buy only if they can exchange AAUs for a reduction in their regulatory obligations.

### **Would the New Zealand government ever want to use Joint Implementation if it can use IET?**

The only reason the New Zealand government or New Zealand legal entities would want to participate in Joint Implementation would be if the government was not able to control its own certification of project-based trading and wanted to submit to international certification to avoid the risk of domestic corruption. While some countries may face this situation, this is not a reasonable scenario for New Zealand.

If the government allows legal entities to participate fully and directly in IET, i.e. with no oversight on trades, then the government needs to be able to set an emission cap, distribute emission allowances to emissions sources either through auctioning or grandfathering, and monitor and enforce compliance with the cap. However, this is not the only possible form of IET trading.

Parties that do not yet have the capacity to create a full emissions trading regime may choose to restrict IET to transactions undertaken at the government level. Trades could be organised by legal entities but would require government approval. Government-level trading would allow a Party to maintain more control over each transaction and protect against overselling AAUs needed for compliance with their Kyoto commitments. Under government-level trading, legal entities could undertake project-based transactions identical to those envisioned

---

<sup>5</sup> In a tradable allowance market, i.e. emissions trading involving sub-national entities, this apparatus is not necessary because checks on the relationship between additional abatement and permits sold are built into the allocation, monitoring and surrendering of allowances.

<sup>6</sup> Private entities may also buy for speculative purposes but these AAUs will never be surrendered to their government. They will be resold.

under Annex I JI. If the government implements project-based transactions through IET rather than through Annex I JI they avoid the additionality requirements and other restrictions associated with Annex I JI. There is no reason to sell through Annex I JI.

**Would there ever be advantages to having project-based trading in a sector where an emissions trading regime is also operating?**

There are no advantages if the emissions trading regime is comprehensive. Project-based trading would duplicate or conflict with the emissions trading regulations. When an emissions trading regime is operating, additionality is defined perfectly by the number of allowances released for sale. If a project allows a legal entity to sell some allowances internationally then GHG use in the economy is reduced by exactly the number of allowances sold because the national cap is reduced.

If the trading regime were not comprehensive, e.g. some sources were excluded or some gases released by the sector were not included in trading, some project-based trading could be used. Sources out of the system that can reduce below business-as-usual (or their regulated level) and prove it could sell to either domestic or international buyers. The government would need to certify these project-based trades to assure domestic compliance but could reward them with AAUs that could then be sold domestically or under international emissions trading. Even this scenario does not require the use of Annex I JI.

**How does the choice between project-based and emissions trading based approaches depend on the initial allocation of allowances?**

As long as trading is unrestricted, the initial allocation of allowances is only an issue of distribution. Those who receive the allowances receive a wealth transfer equal to the value of the allowances but it does not have significant effects on their real activity.<sup>7</sup> There is no causal relationship between those who receive the allowances and those who emit. If trading is restricted, however, the initial allocation partly determines who emits and thus the initial allocation has efficiency effects.

Project-based trading has high transactions costs that may restrict trading. Thus, if project-based trading is chosen, the rights to emit should, as far as possible, be allocated to those who would emit in an efficient world. If rights to emit can be clearly allocated and monitored there is no reason to do project-based trading rather than emissions trading. If rights to emit cannot be clearly allocated and monitored project-based trading may be the only form of trading possible and the other non-trading regulations on this sector should be designed to bring each entity as close as possible to their efficient abatement level.

---

<sup>7</sup> The indirect effects are caused by the fact that people behave differently with different levels of wealth but the efficiency effects of this are unpredictable.

**Illustration: Wind farm replacing thermal power.**

Under a domestic emissions trading system, the act of creating a wind farm would not be explicitly linked to the reduction in use of thermal power. The thermal power station would be required to have allowances to match their fuel use. If the thermal plant closed, reduced output or was not built, the benefit would be a saving in the need for allowances. The plant could either sell allowances or avoid buying them; in either case the effect on operating profit is the same.

The wind power plant would be rewarded under a domestic emissions trading system because its competitors (such as the thermal power plant) would face higher fuel prices when the requirement for allowances is taken into account. The wind power plant would not deal with allowances directly.

If a wind farm were able to claim ERUs for producing energy that would replace fossil-fuel-based energy, these ERUs would have to be taken out of the cap that the thermal power station operates under. Otherwise there would be a double reward for the same reduction in emissions and an increase in total emissions. For example suppose the total cap on the energy sector was 100 AAUs. If the windfarm claims 10 ERUs and the cap is not altered there are now 110 AAUs. The windfarm may really reduce energy demand by 10 units however this does not mean that emissions in the sector will fall by 10 units. Thermal stations can still emit 100 as defined by their AAUs. When energy demand falls they could either reduce their price so that they continue to sell as much energy, or they could have less efficient plants so that they emit more per unit of energy created, or they could sell the excess AAUs they now hold. Whatever happens, their 100 AAUs will translate into 100 units of emission eventually. The windfarm's ERUs will also be used to match emissions so the total emissions from the sector will rise to 110.

If in contrast when the ERUs are given to the windfarm they are taken away from the thermal power sector the level of emissions would be held constant. The issue is then who the offsetting AAUs should be taken from and whether they should be compensated.

A wind power plant is not an emissions source that is left out of the emissions trading system, nor does it involve gases not covered by an emissions trading system. A comprehensive trading system does not require limitations on wind-power plants. Hence there is no gain from project-based trading involving wind power or other plants that do not emit GHGs.

In conclusion, there is never an advantage to using Annex I/II for project level trading at an international level rather than simply using International Emissions Trading. In addition, the only reason to use project-based trading is because a source or gas is not included in the emissions trading system.