An Environmental Perspective on International Greenhouse Gas Emission Trading

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Introduction

In the past, I have expressed less concern with international emissions trading than the clean development mechanism or joint implementation with developing countries. A number of reasons underlie my and other's distinction between trading and joint implementation:

- There has been a tendency to see international emissions trading as good for countries like Canada. There are estimates that Canada could reduce emissions far beyond the Kyoto requirements simply by pursuing emission reductions which are, from a societal perspective, worth doing for reasons unrelated to climate change, but there are limits to these estimates and the supply of no-regrets measures might become limited. Emissions trading could potentially reduce implementation costs.
- International emissions trading has generally been see as good for the environment. By reducing the cost of greenhouse gas emission reductions there would be greater political appetite for significant emission reductions in the future. Moreover, if emission reductions occurred mainly in countries like Russia where the cheap emission reductions exist that was good too. While Canada

might not get the benefit of reduced local pollution (estimated as worth about $3 to $7 USD per ton of carbon reduced), air pollution problems are far greater in Russia and so too the potential environmental spin-offs..
- Emissions trading was good for countries like Russia that need assistance to rebuild. It was a mechanism by which a company like West Coast Energy or TransAlta would be encouraged to invest in Eastern Europe, fixing up leaky natural gas pipelines or retrofitting dirty inefficient power plants. Analyses show that the Annex 1 countries with the greatest economic benefits from greenhouse gas emissions reductions are those of the former Soviet bloc.

On the other hand, there have been far greater concerns regarding joint implementation. There are clear advantages in reducing costs and demonstrating the desirability of emission reductions to the developing world, but; most environmentalists have felt that these are overwhelmed by the potential for nations to generate credits from projects in the developing world that would have occurred anyway. If credit is given in such cases it reduces the environmental effectiveness of any developed world commitments.

The distinction between joint implementation (now the clean development mechanism) and trading has been based on a few assumptions. It is based on the assumption that any emissions trading system would be accompanied by enforcement mechanisms and responsibilities that would create incentives to comply. It is based on the assumption that no nation would agree to emission allocations that exceeded another nations' probable emission levels.

Unfortunately these assumptions are wrong. While international trading has potential, most of the proposals being discussed create a system which, if it is accepted by the international community, would allows us to maintain technical compliance with the *Kyoto Protocol* while allowing far higher emissions. Moreover, some of the international trading rules being discussed may reduce the eventual likelihood of getting developing countries to sign onto emission caps.

The basic problems are as follows:

- There is a likelihood of countries meeting international commitments through clean development mechanism projects that would have occurred in any event. This is the problem of credit for non-additional projects;
- Proposed trading systems would allow Russia, the Ukraine and other states to sell portions of their allowed emissions that exceed their likely emission levels under "business as usual". This is the problem of hot air.
- The JUSCANZ group (essentially the non-EU members of the OECD) has supported weak enforcement provisions and a trading system in which nations could buy emission rights that are not surplus to the needs of the nation selling them. This is the problem of "weak enforcement and seller beware" trading system.

- The JUSCANZ group has resisted any restrictions on the extent to which trading and the clean development mechanism can be used to achieve emission reduction targets. This in the unlimited buyout problem.

I'll discuss each of these in turn.

Credit for Non Additional Projects

Under Clean Development Mechanism certified emission reductions are to be additional to any that would occur in the absence of the project. This is important; otherwise there simply is no real emission reduction. However, it misses an equally important question. Is the project additional to any that would occur in the absence of the clean development mechanism? The CDM requires "emissions additionality." It does not require the project to be something that would not have occurred in the absence of the mechanism, i.e., it does not require "project additionality." Therefore, credit could potentially flow from a project that reduces emissions but would have occurred anyway.

If credit is given for a project that would have occurred in the absence of the CDM, and is used to avoid making an emission reduction in Canada, the net effect is to undermine the significance of Canada's emission reduction commitments. Under the clean development mechanism, if a project reduces emissions by 1000 tonnes, we see a 1000 tonne reduction in the developing world, but in the absence of the clean development mechanism we see 1000 tonne reduction in the developing world plus another 1000 reduction in Canada.

The problem of credit being given for projects that are not additional is inherent in any system for generating credit outside of nations subject to binding limits. It is acute because many of the emission reduction projects for which credit is given are profitable or worth doing for reasons such as reducing local air pollution. Projects which reduce emissions occur all the time; they simply do not occur in the numbers to counteract the general trend to higher emissions.

Although the *Kyoto Protocol* could have specified that credit should only be given for projects which are not profitable, or not worth doing for other reasons, this would defeat the purpose of the clean development mechanism. It would no longer serve the function of achieving emission reductions that are worth doing for reasons unrelated to climate change.

Its essential to mitigate the problem of credit being given for projects that would have occurred anyway by establishing stringent criteria for setting the baselines against which emissions additionality is measured. Baselines from which emission reductions occur have to reflect good practices within a sector, with credit only given for emission reductions that go beyond standard practices.

For instance, if a utility boiler is retrofitted, the baseline against which emission reductions are measured should not simply reflect pre-retrofit emission levels, but also

the extent to which continuing retrofits are normal good practice in developing countries, and the extent to which the retrofit goes beyond normal good practice. A stringent approach to baseline setting will not cure the problem of credit being given for projects that are not additional, but it can make this problem less acute. It is something Canada needs to be pushing for.

Hot Air

From an environmental perspective, the biggest problem with international trading is the trading in "hot air." Hot air is essentially the trading version of credit from non-additional projects under CDM. Eastern European nations have emission allowances for the 2008 to 2012 compliance period that exceed their likely emissions under a business as usual scenario. For instance, Russia and the Ukraine are both allowed to emit at 1990 levels in the 2008 to 2012 compliance period. However, due to the collapse of their economies, emissions are currently far below 1990 levels. Russian carbon dioxide emissions are currently only 74% of 1990 emissions. This is only projected to increase to about 80% by 2010, or under optimistic forecasts, to about 90% of 1990 levels by 2010. Under trading rules supported by Canada, eastern European nations would be able to sell their surplus allowable emission rights without any actions being taken to reduce emissions.

Allowable emission rights that are surplus to business as usual emissions will allow nations buying the rights to increase their emissions while the nations selling them do nothing to reduce emissions. Russian hot air alone will likely allow other Annex 1 nations to increase their collective emissions by four percent above commitments.

Given the high allocation of emission rights to Russia and the Ukraine, the problem of hot air is likely best removed by using Article 6 of the *Kyoto Protocol* - the joint implementation provisions -as the basis for international trading. In that situation, emission trading would be supplemented by requirements to tie trades to investment in projects that reduce emissions. Both Russia and the environment would benefit.

Unfortunately Canada has not supported that approach.

Weak Enforcement and Seller Beware

Another concern with trading is that the *Kyoto Protocol* so far has no enforcement mechanisms and the trading mechanisms supported by the JUSCANZ group -- the non-EU OECD countries -- is a seller beware system. Under a seller beware trading system, a country purchasing international allowable emission rights need not be concerned whether or not the nation selling its rights is likely to be in compliance with emission limitations. A nation could potentially continue emitting at well over 1990 levels but sell all of its quota of international emission rights. A nation buying the rights would then be able to increase emissions and maintain compliance. The net effect is to allow the environmental effects of one nation's breach of international law to multiply and spread through the whole system.

In other words, a nation desperate for cash or with a corrupt government could sell emission rights that it knows will be needed in the future to maintain compliance. They may try to cover up the situation by exaggerating levels of sequestration in their forests (Depending on negotiations regarding sinks, these numbers may be very large and nearly impossible to verify). Or possibly they act as international scofflaws and simply sell all their emission rights. Either way, another nation can buy the emission rights with impunity. Not only does a non-complying nation emit more, but its sales of emission rights allow other nations to emit more.

The US sulpher dioxide trading program is a seller beware system, and I would endorse it as a model domestic trading system. Seller beware works well in domestic trading programs where there are mechanisms that guarantee that non-compliance will be expensive, but it is problematic in an international agreement without any enforcement mechanisms other than international reputation. International law is often honoured more in the breach than in compliance. The *Kyoto Protocol* does not yet establish mechanisms to address non-compliance, and Canada's position is that there should be no trade or financial sanctions for non-compliance. Weak or non-existent compliance mechanisms combined with seller beware emissions trading only serves to encourage non-compliance that could undermine the trading mechanism.

In the absence of extremely tough enforcement mechanisms, buyers of emission rights should buy them subject to the risk that they might be discounted or invalidated if the seller is later to found to be out of compliance. This would create a strong incentive for buyers to ensure that sellers are on track to compliance. This is a buyer beware system, similar to the US Open Market Trading System.

Unfortunately, most of the proposed international trading rules only place the risk on the buyer after a question has been raised in relation to the seller's national annual inventory. This is likely to come years too late to stop trading of emission rights that are clearly not surplus to the sellers needs. .

Unlimited Buying Out of Commitments

Finally, Canada and other JUSCANZ members have been resisting limitations on the extent to which trading or the clean development mechanism can be used to meet emission reduction commitments. It is not clear whether this is due to some expectation that we will avoid making the majority of emission reductions in Canada or don't want to carry out any emission reductions in Canada or whether its due to some ideological belief that there should be no fetters on the free market. Whatever the thinking is, it is likely to reduce the possibility of mitigating climate change in the long run and reduce Canada's potential to capitalize on the first mover effect -- i.e. the potential to benefit from export or become more competitive from new technologies and innovations that have been spurred by a commitment to domestic emission reductions.

To mitigate climate change in the long run, we eventually need to have developing nations accede to emission limits. If the wealthiest, most developed nations, especially

the US, are unwilling to reduce their actual emissions, what sort of message does that give? What we need to do is demonstrate that reducing emissions is compatible with a strong economy and a better place to live. Completely buying out of our commitments, does the exact opposite. It suggests that we are afraid of reducing emissions and that we don't think climate change is a real problem. The chances of bringing developing nations into the fold of countries with capped emissions will be reduced.

Summary

Are the current proposals for trading good for the climate? Obviously not. Trading in hot air and credit for non-additional clean development projects reduce the significance of the Kyoto Protocol. Russian Hot air alone will, if it is allowed, have the same environmental impact as increasing all the developed countries emissions by 4%. The buyer beware system allows the environmental implications of one nations non-compliance to multiply through the international system.

Ignoring the environment effectiveness, is it good for Canada? Clearly, hot air emission rights will come cheap. Similarly, international scofflaws might be willing to sell non-surplus emission rights at bargain basement prices. Buying these cheap emission rights may thus reduce the compliance costs for individual emitters. But we need to distinguish between what's in the best interest of an individual firm and what is the best interest of Canada as a whole. Because individual emitters are always those that reap the benefits of lower emissions focusing narrowly on the issue of reducing an individual emitters greenhouse gas reduction costs does not give the most economic solution. Moreover, is it really in our best economic interest to allow domestic emitters to emit more by paying off foreign governments? Capital flows out of Canada. This isn't a matter of comparative advantage because we are not getting anything for our money. Moreover, Canada doesn't get any of the benefits associated with reduced greenhouse gas emissions.

Is it good for Russia, the Ukraine or other purveyors of hot air? Often hot air trading has been justified as a latter-day Marshall Plan -- the plan that infused US dollars into the post war reconstruction of Europe. If one accepts that a deal that is purportedly about protecting the environment should be used to prop up the Russian economy this might be persuasive. Under hot air trading, there would, indeed, be an infusion of capital into the former Soviet bloc.

But is this the sort of capital infusion the Russian economy needs? Under the Marshall Plan, the US government and the predecessor to the OECD ensured that money went to real reconstruction projects. Given the corruption and breakdown of civil society in post war Germany, it would have been simply unthinkable to simply pass cash to the post war government without conditions. But despite a similar breakdown in civil society in Russia, we are proposing that the private sector simply be allowed to exchange cash for emission rights: no need to invest in emission reduction projects, no need to ensure actual reductions take place.

In sum, I'm not opposed to emissions trading per se. I think market solutions can work if you have the right limits, rules and enforcement mechanisms in place. What I am opposed to is the form of trading Canada and JUSCANZ are supporting in relation to international emissions trading rules.