

Reprint **Island Tides**

Visit www.islandtides.com for more interesting articles on other BC, national & international topics

Reprint from Volume 17 Number 3

February 24, 2005

Fudging Kyoto - Patrick Brown

Canada's approach to the 'First Compliance Period' (2008–2012) of the Kyoto Protocol is in the nervous process of revelation. We have set ourselves an ambitious target, a reduction of 6% from 1990 (the base year) levels of greenhouse gas production in this period. We have, frankly, little chance of meeting this without cooking the books.

Canada has particular problems. We're a large northern nation with (mostly) a cold winter. We're highly dependent on transportation using fossil fuels. We're also a large producer of fossil fuels, and we export significant quantities to the US, which has rejected the Kyoto agreement.

Two Fudge Factors

Canadians are as good at cooking the books as anyone else (just read the financial pages of the newspapers). So when the Protocol was being drafted, Canada gave strong support to two measures: the international trading of carbon credits; and credits for the use of forest and agricultural lands as 'carbon sinks'.

Neither of these two measures actually reduce the amount of greenhouse gas (GHG) emissions that we put into the earth's atmosphere. They are, at best, accounting techniques.

Greenhouse gases, usually measured as tonnes of carbon dioxide equivalent per year, enter the atmosphere predominantly as a result of the processing and combustion of fossil fuels. The most effective way of reducing greenhouse gas production is to reduce the use of fossil fuels. Period.

Trading Carbon Credits

The central idea of trading 'credits' in carbon dioxide emissions depends on government allocating an allowable quota of emissions to a geographical area, industry, corporation, economic sector, etc. If the area, industry, corporation, or sector takes measures to permanently reduce its GHG production to a level below its quota, then it is entitled to sell its unused quota to other entities who may find it difficult or very expensive to reduce their emissions to reach their quota.

The idea is that GHG reductions are achieved in the cheapest possible way, and that the price of 'credits' is set by a free market and will eventually settle between the cost of the most expensive reductions and the cheapest reductions.

Naturally, entities for whom reductions are expensive will seek out those for whom reductions are cheapest rather than actually carrying out their own reductions, thus providing

incentives to cheat, speculate, and connive. Add the opportunity (to cheat, speculate, and connive) and it becomes clear that the so-called 'free market' in emission credits will require a great deal of regulation and supervision:

- credits and reductions must be reliably measured, tracked, and certified by an independent body
- the system must not award credits for reductions that were required by law, or which would have been undertaken without the incentive of credit trading
- reductions must not be calculated from artificially inflated baselines
- monitoring and enforcement of emissions must be effective in preventing abuses of the system, with adequate penalties
- a watertight information system must be maintained by national and international authorities to completely track emission caps, trading, and credits.

Emission credit trading systems are not new; they have been in existence in the US for some time. The 1990 amendments to the Clean Air Act provided an emissions 'cap' and trading arrangements for sulphur dioxide (SO₂), mainly produced by coal-burning power stations. The Act requires that new sources of ozone pollution in 'non-attainment' areas must purchase credits to offset their emissions. Anyone may purchase these credits, including brokers and speculators (Cantor Fitzgerald, the brokerage firm which used to occupy the top floors of the World Trade Centre, trades in emission credits).

Even with the US Government enforcement, there have been suggestions of irregularities in the creation of 'caps' and the trading of credits.

International Trading

The Kyoto Protocol allows trading GHG credits between countries, under the rules of the UN Framework Convention on Climate Change (UNFCCC). This provides for the financing of GHG reduction projects in one country to compensate for continuing or increased GHG emissions in another country (only 'Annex 1' signatories to the Kyoto Protocol need apply). Credits can sometimes be traded in advance of the projects in return for money to finance the projects.

Clearly, this requires, in addition to authoritative certification of the baseline emissions and any applicable quotas, and of the expected reductions, effective monitoring,

© Island Tides Publishing Ltd. This article may be reproduced with the following attribution, in its entirety, and notification to Island Tides Publishing Ltd.

'This article was published (February 24, 2005) in 'Island Tides', an independent, regional newspaper distributing across the Southern Strait of Georgia from Tsawwassen to Victoria to Nanaimo.'

Island Tides, Box 55, Pender Island, BC, Canada.

Phone: 250-629-3660. Fax: 250-629-3838.

Email: islandtides@islandtides.com.

Website: <http://www.islandtides.com>

information systems, enforcement, and penalties. UNFCCC is still in the early stages of establishing this. A few projects have been proposed, but the potential for abuse of such a system is overwhelming.

Russia has a large quantity of GHG credits for sale, because the decline in the Russian economy since 1990 (Kyoto's base year) has resulted in a substantial decline in GHG production - thus the references to 'Russian hot air'. But trading in these credits clearly does nothing to reduce the world's GHG production.

In summary, it may be possible for a national government to track these items within a single jurisdiction, but the chances for effective international supervision of such a system, with its incentives for deception, seem slim.

Forest and Agricultural Lands

In general, forest and agricultural lands absorb carbon dioxide as plants grow. Approximately 50% of wood is carbon, and that carbon comes from the air. Certain agricultural techniques increase the amount of carbon dioxide absorbed, or 'sequestered' by growing plants. So growing forests, and increasing the productivity and area of agricultural lands, could theoretically reduce the net production of greenhouse gases.

This was the basis on which Canada, in the Kyoto negotiations, claimed credit for the GHG sequestered by its forests and farmlands. To put this in context, preliminary estimates indicate that, in the northern hemisphere, growing plants annually sequester about one-third of the CO₂ produced from fossil fuels.

This has given rise to an effort by forest managers to certify their annual uptake of GHG in order to sell carbon credits to industrial GHG producers.

Annual CO₂ Consumption

The idea of a 'carbon credit' is that it represents a permanent reduction in the earth's GHG production. In other words, once you have taken the action that resulted in the reduced production or increased uptake of CO₂, the reduction continues, year after year, at the same rate. In the case of forests and agriculture, this is difficult to measure and difficult to certify. And the term 'sequestered' means temporary storage, until the wood rots, is burned, or is chemically processed, thus releasing the CO₂ back into the atmosphere.

Assuming that half the dry weight of wood is CO₂, then any system that estimates the amount of wood grown can be used to estimate the GHG sequestered that year. In a new monospecies plantation forest, such a measurement may be

credible. Similarly, forest harvesting may produce credible wood weight measures, and if a percentage of the logs goes on to make construction lumber, the CO₂ continues to be sequestered. But some wood goes to make wood pulp - what then of the CO₂?

In a mature forest, trees fall and rot, giving off CO₂. Some mature forests are net *producers* of GHG. Fires and insect damage may kill trees (think of the mountain pine beetle infestation in BC's interior). And climate change itself may change the growth patterns of trees and other forest plants.

Even greater uncertainties attend efforts to estimate the GHG consequences of changes in land use. Urban growth itself can reduce sequestration of CO₂. In other words, GHG credits claimed for forests and agriculture are temporary, hard to measure, hard to supervise and track, and are scientifically questionable. The UNFCCC has been pondering a provision that would require that the quantity of GHG sequestered be remeasured every five years. This merely provides continued opportunities for error, distortion, and deception.

Commentary

Canada's Kyoto plan should not depend on the purchase of foreign GHG credits, or on claiming credits for forest and agriculture GHG sequestration. It would be better if Canada and Canadians face up to and concentrate on the reduction of GHG's from fossil fuel production and use. Put simply, to reduce the GHG's, we must reduce the amount of fossil fuel that we use.

Obviously, we need to reduce industrial production of GHG's by reducing the use of coal, oil, and gas, and increasing the use of electricity generated from renewable sources. We need more efficient cars and trucks—more than this, a GHG-reduced Canada would probably require a reduction in the need for transportation of people and goods. We have, after all, built our cities so they use prodigious amounts of fossil fuel energy.

We should look seriously at the GHG's that result from the extraction and processing of oil and gas. Tar sands extraction uses 2000 cubic feet of natural gas to produce every barrel of crude oil; add that to the emissions from subsequent refining, transportation, and ultimate combustion, and real questions arise, particularly if we are producing oil for export.

Really, there's not much chance that we can hit our target, and efforts to fudge the numbers are a waste of time. But there's no need to throw up our hands. Canadians should concentrate on reducing fossil fuel use and get on with it. ✍

© Island Tides Publishing Ltd. This article may be reproduced with this attribution, in its entirety, with notification to Island Tides Publishing Ltd.

'This article was published (February 24, 2005) in 'Gulf Islands, Island Tides'. 'Island Tides' is an independent, regional newspaper distributing 15,000-20,000 copies in the Southern Strait of Georgia from Tsawwassen to Victoria, BC.'

Island Tides, Box 55, Pender Island, BC, Canada. Phone: 250-629-3660. Fax: 250-629-3838.
Email: islandtides@gulfislands.com. Website: <http://www.islandtides.com>
