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Heather Pearson
Air Policy Instruments and Program Design Branch
Ministry of the Environment
135 St. Clair Avenue West, 4th Floor
Toronto, Ontario
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Re: EBR Registry Number: 010-5484

Dear Ms Pearson

Environment North has prepared the following comments on the *Discussion Paper: A Greenhouse Gas Cap-and-Trade System for Ontario.* Environment North is a registered charitable organisation established in 1972 and based in Thunder Bay, Ontario. Environment North strives to improve and protect the ecological sustainability and socio-economic well being of Northwestern Ontario. This paper involves several areas of interest for Environment North including climate change, the boreal forest and energy.

The introduction to the *Discussion Paper: A Greenhouse Gas Cap-and-Trade System for Ontario* has some encouraging features. It acknowledges scientific reports of the "devastating effects of increasing global greenhouse gas emissions" and stresses the need for a rigorous program to reduce greenhouse gas (GHG) emissions in Ontario.

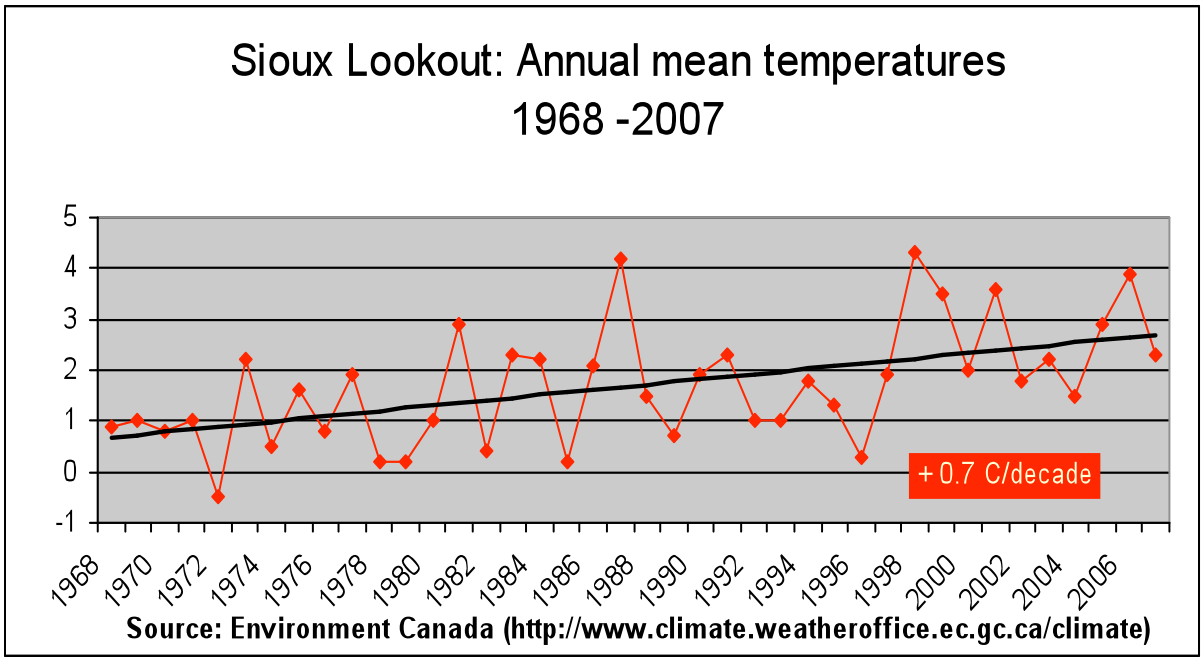
The goal is to start the system by 2010, a quick start in the sport of government politics, which is consistent with climate and economic predictions. Dr. James Hansen (director of NASA's Goddard Institute for Space Studies) has stated that measures to avoid "dangerous climate change" must be well in place within one decade. Economist Sir Nicholas Stern has cautioned on many occasions that the time available to avoid such consequences and related economic effects is limited. He is directly quoted several times in the Discussion Paper, including his warning that if we fail to act now, climate change will "exact much greater penalties later on."

The stated goal of 15% below 1990 levels by 2020 (a reduction of 99 megatonnes relative to business-as-usual) is somewhat modest when compared to recommendations of the Intergovernmental Panel on Climate Change (IPCC) in 2007. They stated that developed countries as a group must reduce their emissions 25 and 40 per cent below 1990 levels by 2020 to help keep carbon dioxide concentrations at or below 450 parts per million.

This threshold would likely confine increases of the Earth's average temperature to about 2˚ C higher than pre-industrial level (circa 1800) and limit trends to more severe and dangerous weather events.

The global average temperature consists of data from many regions. The observed and predicted temperature increases of middle and higher latitudes exceed global average temperatures in almost all situations. The Discussion Paper notes in the first paragraph that "Since 1948, average temperatures in Ontario have increased by as much as 1.4 degrees C" and also details some increased weather extremes and volatility that are likely to be associated with upward temperature trends.

The Northwest region of Ontario has shown greater warming trends. Future projections of warming (at least 4˚ C more in the growing season by 2040) flag major landscape change. The following figure illustrates the warming trend for Sioux Lookout, considerably more than the provincial average.



Kenora, Fort Frances, Dryden and other nearby communities have similar trends. These temperature trends in the Northwest are consistent with predictions of higher rates of warming in higher latitudes and in the middle of continents.

Record rainfalls in the previous 15 years, several of which have been classed as 50-year and 100-year events, have caused increased frequency of flooding and sewer backup and related health issues in many communities. The most extreme occurred in Rainy River District and adjacent jurisdictions in June 2002. Peak flows on Rivers such as the Turtle and Atikokan had estimated return periods of about 500 years. Some areas were isolated for nearly two weeks. (The 49th Parallel Severe Rainstorm, Floods, and High Water Events of June 2002. Brian Murphy et al., 2002 (Meteorological Service of Canada (2002).

Precipitation variability has also resulted in extremes in the other direction. Many water systems have recorded record low flow and water levels in the previous 15 years. This, combined with high summer temperatures in some of those times resulted in elevated water temperatures and previews of the future with increased stress on various trout and other cold-water species. Lake Superior was a record low level in the summer of 2007 and still remains 20 centimetres below its long-term average in spite of several seasons of average and higher than average precipitation.

The area burned due to forest fires has doubled in the Northwest region in recent decades and are expected to double again as early as 2030. Causes for concerns about increased “air pollution” in southern and central Ontario are “a variation on a theme” in the North. Air quality in the spring, summer and fall is occasionally reduced because of smoke from forest fires. Wind direction is a major determining risk factor. A probable increased incidence of fires in the future likely means more days with smoke and, depending on wind direction, more evacuations, especially of remote communities.

We agree with the Discussion Paper that remote and resource-based communities are especially vulnerable to increased frequency of weather and climate extremes and have already been “severely affected by drought, ice-jam flooding, forest fires and warmer winter temperatures, which have caused repeated evacuations, disrupted vital transportation links and stressed forestry-based economies.”

General considerations

A cap-and-trade system (or any process that has a price for carbon) may be a way of having industries pay for major external costs (current and future) which are usually paid for by tax payers and government(s). For example the costs of respiratory and other illnesses that result of smog-producing industries have been a burden on the health care system and individuals.

In theory, cap-and-trade systems have considerable promise. Companies can innovate and find the most cost-effective way to reduce emissions below a provincially and/or federally-mandated cap, then sell the difference to another company that chooses to buy credits, rather than cut emissions. As a government lowers the cap, credits get more expensive which encourages companies to trim emissions.

The proposed cap-and-trade system in Ontario initially involves large emitters; primarily fossil fuels based power plants and large industries such as pulp and paper, mining and smelting. Then, the [threshold] “would decline from 2012 to 2020”. It is not stated if there is a minimum or, if so, what would it be?

The intent of the Discussion paper is positive, although problems in other systems need to be examined carefully. The present European cap-and-trade system was first developed by a number of individual nations in the European Union (EU) and then

adopted by the EU in 2004. There are many criticisms of the EU cap-and-trade system and some who would argue that is has not resulted in any reduction of GHG emissions. “The plan unleashed a lobbying free-for-all that led politicians to dole out favours to various industries, undermining the environmental goals. Four years later, it is becoming clear that system has so far produced little noticeable benefit to the climate - but generated a multibillion-dollar windfall for some of the Continent's biggest polluters.” (New York Times, Dec. 10, 2008)

The Discussion paper states that the Cap-and-Trade program would be “designed to achieve real reductions based on the internationally accepted base year of 1990”. It is refreshing to see acceptance of the baseline established at the Kyoto Protocol and avoidance of distracting practices such as British Columbia’s base year of 2007, or clutter like “intensity-based targets” of the federal Conservative government.

Environment North’s review of *A Greenhouse Gas Cap-and-Trade System for Ontario* includes general concerns, followed by areas of specific concern for Northwestern Ontario.

1. Carbon price per tonne is market driven: One of the criticisms of Cap-and-Trade is that it is mainly market driven and we have seen the failings of this approach with recycling recently. Setting a floor and ceiling price for carbon, in theory, ensures high enough prices to fetch a reasonable price per tonne, but sufficiently sensitive to increased prices in fuels and domestic goods.
2. Lobbying: The system has to avoid flaws of the European system such as lobbying. This can undermine the goals of the Cap-and-Trade system and distort the market.
3. Measuring initial success: The rapidity of putting this system in place by 2010 is admirable. Using actual emissions data from 2005-2007 (adjusted to “realistically represent emissions for the start”) for the first compliance period in 2012/14 seems reasonable.

   However, we temper our praise because reductions of GHGs in the first and second compliance periods will mainly be a result of a halt to using coal at generating stations in Ontario and not a direct consequence of cap-and-trade.
4. Complete Life Cycle Assessments: The entire cycle of production must be considered in terms of carbon production for any industrial product or process. If this is not done it unfairly favours certain interests and distorts comparison of options. There may be situations where many companies contribute to the final product or process but individually may not be capped as emitters, the carbon accounting is more complex and has the potential to be missed.

   For example, consider electricity produced from coal versus nuclear energy. Most of the carbon dioxide in coal is released during combustion at generating stations with lesser contributions during mining and transportation between sites.

It is relatively easy to account for tonnes of carbon at Ontario Power Generation stations. In contrast, nuclear electricity generation involves many steps, various companies and processes. These take place at different locations and times and include transportation, construction of the concrete and steel power plants, uranium mining, refining, assembly of fuel bundles, plus decades ahead the interim-and long-term storage in concrete geological facilities with final decommissioning and disposal of reactors. This failure to recognize the full cycle is particularly evident in the nuclear power industry. The Cap-and-Trade Discussion Paper fails to directly mention the planned contribution of nuclear electrical generation or address the life cycle of the nuclear power industry.

This is not a plea to continue use of coal at Ontario Power Generation sites and we support the government's attempt to halt coal use for electrical generation by 2014. It is however, a caution about "greenwash" claims that nuclear industry does not produce GHGs.

Particular issues for Northwestern Ontario

1. Forestry Offsets: Utilising the forests as an offset in our region is likely and there are many environmental benefits to planting trees. However, there are numerous problems with planting trees as GHG offsets, including fundamental scientific uncertainty around the precise calculation of carbon sequestered in trees and soils and the effects of soil disturbance. Forestry-related offsets should be carefully examined, with reduction of fossil fuel use remaining the primary goal.
2. Biofuels: Biofuels are a potential low-carbon energy-source. However, we stress that the whole fuel cycle must be taken into consideration. The carbon saving will depend on how the biofuel is produced. In many instances the production of biofuels has produced a carbon debt. Biofuels which come from waste biomass offers the best GHG advantage.

   Plans are underway to burn wood pellets and possibly other biofuels at the two coal plants in the Northwest, one in Atikokan and the other in Thunder Bay. This would supply a reliable source of power that could be controlled to supplement electrical power production on occasions when there is insufficient power from hydro and from future wind and solar sources. In order to ensure that that the biofuels utilized are a low-carbon source of fuel the entire fuel production cycle must be analysed.

Conclusions

An efficient emissions trading scheme puts a "real" price on carbon — one that, if done thoughtfully, factors in the social and ecological impacts of carbon and drives investor and consumer behaviour accordingly.

The Discussion Paper details

1) Ontario signed a Memorandum of Understanding with Quebec on June 2, 2008, to establish a joint greenhouse gas emissions Cap-and-Trade regime,

2) "Ontario is a member of the Western Climate Initiative and will seek to harmonize with this leading North American [Cap-and-Trade] program when it comes into effect in 2012, and includes precise time lines (though these are probably overly optimistic).

The language of the Discussion paper (and introduction of the Green Energy Act) indicate that the Ontario government are in tune with the concept of "a planet in peril" and the direct links with rapid climate change and "living in a GHG constrained world".

Accounting for carbon usually is presented as a choice between a tax on fossil fuel or cap-and-trade. The Honourable John Gerretson, Minister of the Environment rejected the tax idea and committed Ontario to a cap-and-trade system. However, Ontario must recognize the pitfalls. This is a market system based on producing profit with emission reduction as a secondary consideration.

The following includes excerpts from an open letter (29 December 2008) to Michelle and Barack Obama by James Hansen, climate scientist, and his wife Anniek Hansen:

> We write to you as fellow parents concerned about the Earth that will be inherited by our children, grandchildren, and those yet to be born". . . "Barack has spoken of 'a planet in peril' and noted that actions needed to stem climate change have other merits.
>
> "Cap and trade" generates special interests, lobbyists, and trading schemes, yielding non productive millionaires, all at public expense. It could waste another decade, locking in disastrous consequences for our planet and humanity".

The critical point is not waste another decade and abide by Nicholas Stern's caution: "That's why it's so important to have a clear conception from the start, to start off with a clear strategy."

This is an opportunity for Ontario to make the Cap-and-Trade system better than the results to date.

Graham Saunders
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