



Technical Document: Considerations for Design of Carbon Trading System based on Cap and Trade Regulations for the Jurisdiction of Nova Scotia – December 10, 2008

In January 2008, Scotian WindFields Inc released their submission in response to the call for input to the public consultation regarding a Renewed Energy Strategy and Climate Change Action Plan. In that document we made some initial recommendations regarding the design of a Cap and Trade system for Nova Scotia. One year later we wish to submit an update that expands upon the recommendations with some of the technical considerations to designing and implementing that system.

Highlights of New Recommendations

1. Institute annual fixed cap on CO₂e emissions
2. Set cap at 2006 level to 2010, and then incremental reduction annually to meet EGSPA target in 2020
3. Nova Scotia's system should be regional in scope, preferably tied to the Regional Greenhouse Gas Initiative of the American North East
4. Regulate all large final emitters above a minimum threshold such as 25,000MT CO₂e annually
5. Ensure offset credits/projects are included
6. Link Nova Scotia offset credits to international carbon markets
7. Revisit the Integrated Resource Plan with more realistic projected prices for carbon
8. Use revenue from auction allocation units to fund Demand Side Management programs

From our initial submission, January 2008:

A carbon credit trading system should be associated with the implementation of fixed caps on emissions. Carbon credit trading incents greater innovation and investment in emission reductions. It also generates economic activity with new wealth creation. Carbon credit trading schemes are becoming a standard method of encouraging emission reductions around the world. Carbon emission reductions have become a fungible commodity on global markets with global trading schemes that feed into international commodity markets. Nova Scotia could bring new wealth to the region and allow local entrepreneurs to participate in global markets if the government implements a carbon trading system in this province and designs that system appropriately.

Carbon credits will be available to corporations that succeed by lowering their emissions below their emission reduction cap. These corporations will realize a double payoff by selling credits for their emission reductions, and by avoiding the carbon tax that is placed on any overages of greenhouse gas emissions. In this way technical innovation and aggressive sustainability investment is encouraged in the private sector.

The benefits of a cap and trade system can be augmented to bring in new wealth to the province and considerable community economic development by including project based credits in the cap and trade system. Project based credits allow small and medium enterprises, farmers, foresters,



fishers, municipalities and all manner of entities to take advantage of the system. Carbon credits for emission reducing projects encourage innovation and investment in the type of small to medium projects that fuel economic growth in rural regions. Project based credits include quantifiable and verifiable emission reductions that are realized through activities such as improved farming practices, methane flaring and capture, improved forestry practices, re-forestation, renewable energy, energy efficiency, fuel switching, transportation efficiencies and the list of possibilities goes on indefinitely. Most significantly, investment in these projects comes from private enterprise and emission reductions are financed and facilitated by private money instead of the government.

Further wealth-generating potential is available if the system of registration and verification is rigorous and the credits can be linked to other trading regimes such as the Regional Greenhouse Gas Initiative (RGGI) of the North Eastern States or the Chicago Climate Exchange (CCX) to name but two. A Nova Scotian cap and trade regime with project based credits could be tied to a larger New England Governor-Eastern Canada Premiers (NEG-ECP) initiative. Organizational structures and targets common to this group have been developed over years of meetings and conferences. The entire region could take advantage of pre-existing ties and realize a greater economic payoff by working together. This broader system would redistribute wealth and enable local entrepreneurs to sell into the larger jurisdiction.

In order to assess benchmarks and the progress that we are making toward reducing our greenhouse gas emissions, Nova Scotians need adequate access to data regarding greenhouse gas emissions and sources. We encourage the government of Nova Scotia to maintain an open access source for our annual targets in reductions, our progress toward meeting these targets, and a list of sources of reductions and emissions.

From: *Scotian WindFields Inc Submission to the Department of Energy Regarding Nova Scotia's Renewed Energy Strategy and Climate Action Plan, January 2008.*

One year later, the advice in this document still stands. Herein we expand upon our recommendations with some of the technical considerations regarding the design of a cap and trade system. The specific details of its design will determine its success.

Success will be measured in economic and environmental benefits to Nova Scotians and success in meeting targets established in the Environmental Goals and Sustainable Prosperity Act (EGSPA), 10% emission reduction below 1990 levels by the year 2020.

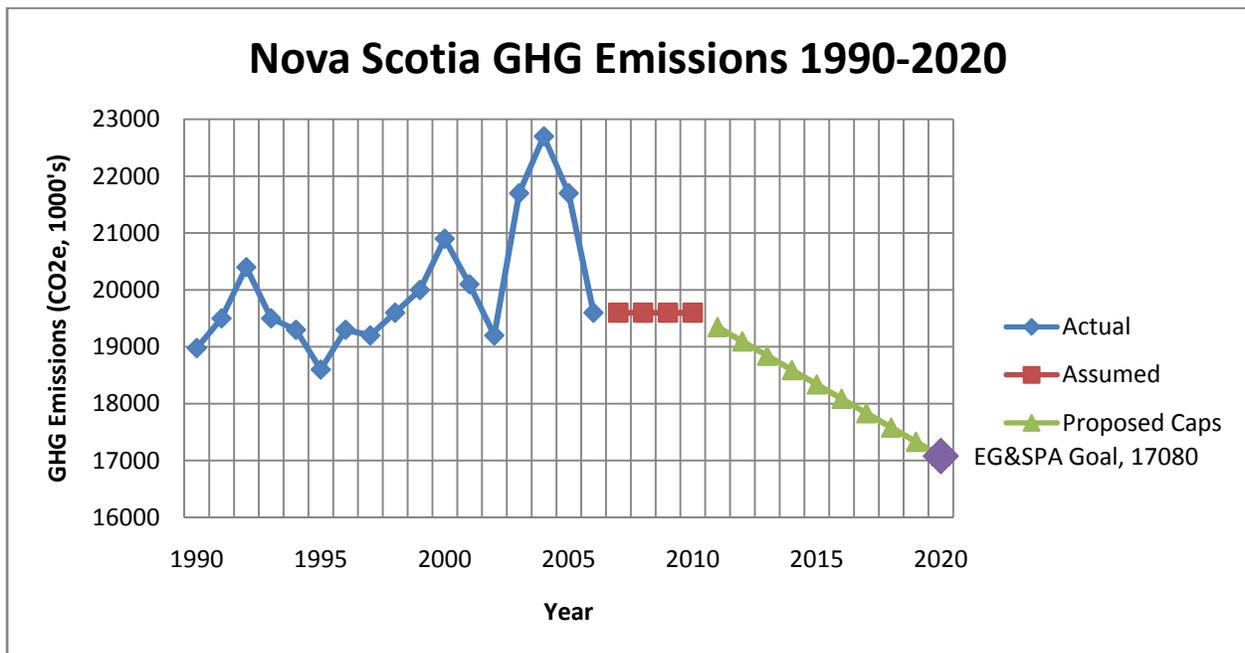
Fixed Caps

The single most important factor that will determine the success of the Nova Scotia system is the establishment of fixed caps on emissions rather than intensity-based caps. No credible system in the world is using intensity based caps. Intensity based caps do not help governments meet their targets, whereas fixed caps are immutable and effective. Even as carbon intensity is declining in Nova Scotia (by

25% since 1990) our absolute emissions have risen. This experience is typical of most developed regions of the world and points to the futility of intensity-based systems.

Size of cap

Initially, the size of the cap should be reasonable to allow for a period of adjustment within the affected sectors. However, it will need to decrease over time to meet the targets set in the EGSPA. Most frameworks include a period of steady emissions, followed by annual reductions. The cap should be instituted at 2006 levels through to 2010 and then reducing on an annual basis through 2020 to meet the EGSPA goal of 10% below 1990 levels. This results in a 1.3% annual reduction in emissions between 2011 and 2020.



Regional Scope

Our system could be part of a larger regional cap and trade system and utilize the mechanisms and targets of the New England Governors-Eastern Canada Premier (NEG-ECP) framework. The regional approach will enhance the effectiveness of the application of targets by decreasing leakage between jurisdictions. A regional approach will also help cut administrative costs by reducing duplication and will speed implementation by utilizing existing structures and methods. Nova Scotia could save time and startup costs by participating in the established cap and trade system of the Regional Greenhouse Gas Initiative of North Eastern states, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

Regulatory Scope

The administrators of the cap and trade system will need to establish which sectors and entities will be regulated. The most common strategy is to include large final emitters with carbon emission totals above an established threshold. Environment Northeast, a respected environmental policy think tank that focused on Atlantic Canada and the American North East recommends including all industrial emitters above a threshold of 25,000 MT CO₂e annually. We concur with their recommendation.

Offset Projects

It is important that the Nova Scotia system of cap and trade include allowance for a percentage of offset projects. Offset projects are wealth generating for the local economy and generally support rural economic development in diverse applications such as renewable energy, farming techniques, forestry, transportation strategies, and community programs. Small business and municipalities are often the biggest beneficiaries.

Therefore, it is crucial that the Government of Nova Scotia include offset credits in their cap and trade system. To maximize the benefit of project offsets, they should establish rigorous qualifying criteria for offset credits, using established validation and verification protocols with accredited auditors. Transparent registration protocols for new methodologies will increase innovation and uptake of a new offset program. Clear additionality rules will ensure the credibility of the system and help project proponents meet program criteria.

International Linking

With rigorous criteria for credits, Nova Scotian projects will produce offsets that are fungible on foreign carbon markets, thereby increasing the wealth-generating potential for local projects. Furthermore, increased value for credits provides greater incentive for local enterprises and organizations to produce emission reductions and further the goals of EGSPA.

Integrated Resource Plan (IRP)

In light of new developments in fossil fuel and carbon markets, Nova Scotia should adjust the IRP appropriately and implement stronger strategies for combating climate change and ensuring energy security. For instance, the plan identifies an increase in new renewables beyond the 2013 goal of 10%, and aggressive Demand Side Management as the most cost effective strategy. However, their assumptions for the cost of carbon were dramatically lower than current price projections. Therefore, given current forecasts, the Department of Energy could safely implement more aggressive targets for renewable energy in the new Integrated Resource Plan. We recommend that the Department of Energy revisit the IRP with an adjusted price for carbon.

Demand Side Management/Energy Efficiency Funding

The Regional Greenhouse Gas Initiative (RGGI) of the 10 North Eastern United States directs the funding from auction allocation units to their DSM program. Their initial auction in September raised \$38 million.



Their upcoming December auction is expected to raise three times that much. We recommend that Nova Scotia follow the design of the RGGI and institute a similar funding arrangement.

References

Environment Northeast www.env-ne.org

Regional Greenhouse Gas Initiative www.rggi.org/home

Scotian WindFields Submission to NS Department of Energy
www.scotianwindfields.ca/content/publications

Nova Scotian Power Inc Integrated Resource Plan
www.nspower.ca/about_nspi/rates_regs/regulatory_initiatives/air_emissions/IntegratedResourcePlan.shtml