Nova Scotia's cap-and-trade program: Cue bono?

Larry Hughes
Dalhousie University
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Last week, Premier McNeil announced that Nova Scotia would introduce a cap-and-trade program in 2018, thereby avoiding a showdown with the federal government over carbon-pricing. In addition, the province and the federal government agreed to an equivalency agreement (essentially extending the agreement signed by the province with the previous Harper government), allowing Nova Scotia Power to continue using limited amounts of coal past 2030.

This means that the energy products most Nova Scotians use (such as electricity, fuel oil, gasoline, and diesel) will not be subject to an annually-increasing carbon-levy that would have started in 2018. It also means that an unspecified number of Nova Scotia's industries that produce greenhouse emissions (notably electricity suppliers, manufacturers, and transportation firms) will participate in the cap-and-trade program.

The basic rules of cap-and-trade are straightforward: all participants are given an annual emissions cap; if a participant's emissions are below its cap, its "savings" can be traded (i.e., sold) as "emissions credits". However, if it exceeds its cap, the participant is required to purchase sufficient credits to meet the cap. To encourage participants to continue reducing their emissions and avoid purchasing credits, the cap is reduced periodically.

Nova Scotia intends to implement its own carbon market (as Alberta has done) rather than joining, for example, the one run by California which now includes Quebec and Ontario.

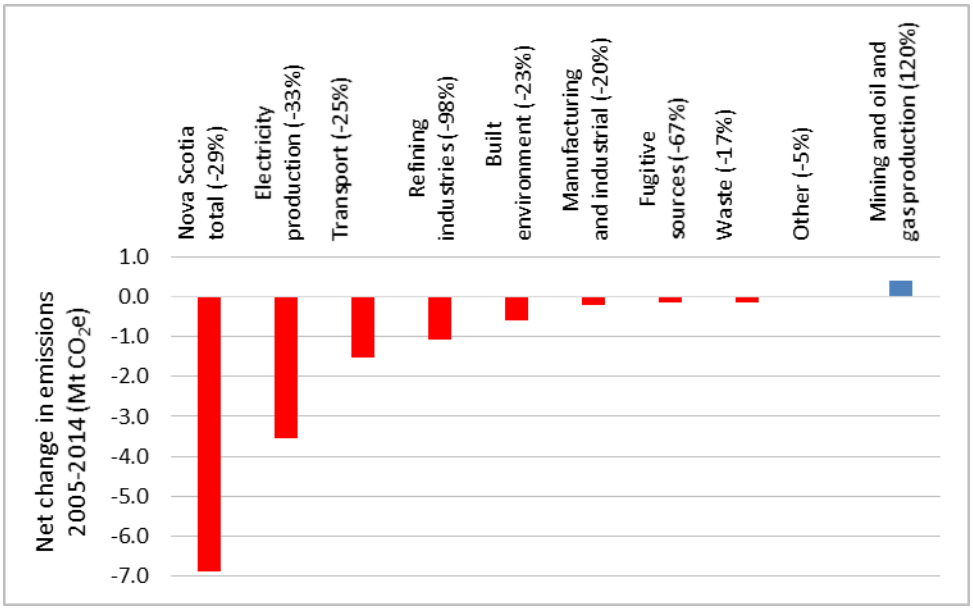
The reason given by the province for taking this approach is that the revenue generated from emissions trading will be kept in the province. While this is true, there is another, more practical reason – Nova Scotia's industrial emissions are (very) small when compared to the aforementioned jurisdictions and any emissions credits would probably make little impact. For example, in Alberta, Large Industrial Emitters are classified as any industry emitting more than 100 kilotonnes of CO_2e. In 2014, total CO_2e emissions from all Nova Scotian manufacturing and industrial sources was about 460 and 380 kilotonnes, respectively, whereas in Alberta it was almost 11,000 and 10,000 kilotonnes, respectively.

Moreover, if Nova Scotian industries did participate in external carbon-markets, the traded emissions would be treated as an emissions reduction in the purchasing jurisdiction rather than in Nova Scotia. While this could generate wealth in the province, it could hamper the province's efforts to achieve specific reduction targets.

The initial cap can be determined in a variety of ways. In some jurisdictions, the initial caps are based on past historical emissions. While this is acceptable if all participants abide by the rules, any participant that inflates its initial cap will have emissions less than the cap and be able to sell non-existent reductions. The EU's first attempt at emissions trading suffered from this shortcoming.

As the following graph shows, between 2005 and 2014, Nova Scotia's emissions declined by almost 7 megatonnes or just over 29%, from 23.5 to 16.6 megatonnes. CO_2e emissions declined

in most sectors over this period, led by electricity (about 3.5 megatonnes, a decline of 33%) and transport (about 1.5 megatonnes, a decline of 25%). The closure of the Dartmouth refinery in 2013-14 contributed significantly (over 1 megatonne) to this decline.



The emissions from the energy used in mining and oil and gas production are the one notable exception to this decline, reflecting the resource-extraction activities that are taking place in the province. Not surprisingly, between 2005 and 2014, this trend was experienced across the country due primarily to the rapid growth of tar/oil sands production in western Canada.

While the total emissions from each industrial sector (with the exception of resource-extraction) have declined, this does not mean that all industries within a sector have experienced declines. If one business experiences a slowdown and its emissions decline, another may see an increase in activity, causing its emissions to rise.

Furthermore, a carbon-trading market does not necessarily mean that a participant with emissions-credits to sell will find a buyer. For example, if Nova Scotia's 2013 emissions levels were the cap for 2014, a buyers' market would probably have ensued since in 2014, industrial emissions declined by about 1.1 megatonnes (ignoring the refinery closure and the built-environment) and resource-extraction emissions increased by 0.2 megatonnes.

Although Nova Scotians will not pay a carbon-price directly, they could pay indirectly when purchasing products from any Nova Scotian company that includes the cost of its participation in the cap-and-trade program in the price of the product. Not surprisingly, the price of Nova Scotian products sold outside the province could also increase for the same reason.

On the other hand, products brought into the province from jurisdictions that aren't subject to some form of carbon-pricing would not be affected (other than perhaps by costs added by Nova Scotian transportation companies).

Since liquid fuels, such as fuel oil and gasoline, must be transported, they could also experience an increase in price, albeit relatively small. If this increase is enough to encourage some

consumers to switch from oil heat to electric heat-pumps, the province's emissions could be reduced even further.

Nova Scotia Power, which has been subject to an emissions cap since 2010, stands to benefits from the cap-and-trade program for at least two reasons. First, it has the opportunity to sell emissions credits to other companies (Nova Scotia Power has never exceeded its cap and is already below its 2023 cap). Second, it will be able to increase sales of electricity as consumers and companies shift from oil to electricity for heating and eventually transportation.

Short of a significant slowdown in Nova Scotia's economy, it is reasonable to assume that over the next decade, the bulk of Nova Scotia's greenhouse gas reductions will still be the result of the regulations requiring Nova Scotia Power to reduce its emissions and increase its use of renewables.

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