

# Nova Scotia's proposed cap-and-trade program

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On January 1<sup>st</sup> 2018, federal regulations will require all provinces to have a price on their carbon dioxide emissions. Some provinces, such as British Columbia, have implemented a carbon levy (intended to encourage consumers to reduce their emissions), while others, notably Quebec and Ontario, have opted for a cap-and-trade program (intended to encourage industrial energy users and energy suppliers to reduce their emissions). Alberta has chosen to do both.

In December 2016, the Nova Scotia government announced that the province will implement a cap-and-trade program.

In early March of this year, the provincial government released a document outlining its proposed cap-and-trade program. The program has two overarching requirements:

- Since Nova Scotia Power is already subject to emissions regulations, the province will “... address GHG emissions from other sectors, such as industry, transportation, and buildings”, and
- Given the cost of electricity-rate increases between 2005 and 2014, Nova Scotian households “... will not be responsible for [carbon price] compliance, but will indirectly interact with the program through the fuel they purchase”.

The province estimates that, in addition to Nova Scotia Power, there will be about 20 participants in the cap-and-trade program. Participants are determined by the following criteria:

- Industrial emitters with emissions equal to or greater than 100,000 tonnes of CO<sub>2</sub>e. According to data from Environment and Climate Change Canada, Nova Scotia's top emitters that met this criteria in 2014 (in addition to Nova Scotia Power's five thermal generating stations) were Deep Panuke (222,972 tonnes), the Thebaud Platform (167,639 tonnes), and the Brookfield Cement Plant (206,803 tonnes in 2013).
- Petroleum suppliers delivering more than 200 litres of fuel a year. Suppliers of refined petroleum products will be responsible for the emissions of the fuel they supply to their consumers. They will not be responsible for upstream emissions.
- Natural gas distributors. As with petroleum supplies, natural gas distributors will be responsible for their customers' emissions from natural gas, but not for upstream emissions.

As in other cap-and-trade jurisdictions, participants will be required to have emissions allowances, a permit specifying the maximum volume of emissions allowed in a given year. This is the cap.

Jurisdictions typically auction allowances or allocate them at no cost. In Ontario, allowances are auctioned and the province uses the revenue for green projects. Nova Scotia plans to give the allowances to participants at no cost because this approach, “saves participants money in the short-term because they do not have to pay for allowances, thereby reducing the overall cost of the program on the Nova Scotia economy... gives program participants a greater ability to

*consider making GHG reducing investments instead of purchasing auctioning allowances... helps protect competitiveness through reducing overall compliance costs, which will avoid Nova Scotia production from moving to another jurisdiction and continuing to emit carbon”.*

At present, the province is still developing its method for calculating allowances. One straightforward approach being considered is for allowances to be distributed “to program participants based on their historical GHG emissions, either as an average of several recent years, or the single most recent year”.

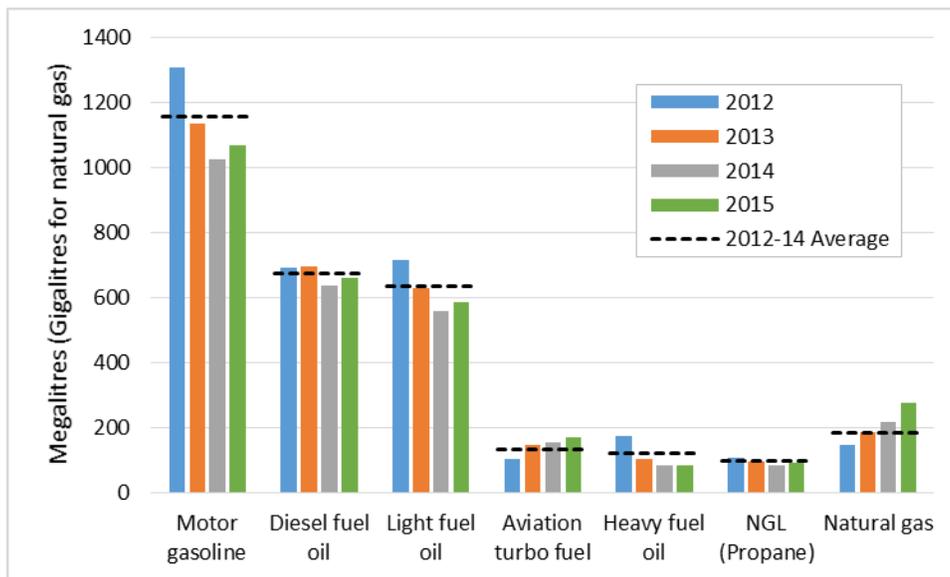
So what might a cap-and-trade program with a cap based on an average of previous emissions mean to Nova Scotians?

Nova Scotia Power and the Brookfield Cement Plant have both experienced a steady decline in emissions for at least a decade. If this continues, both will be under their caps and have allowances to trade.

On the other hand, emissions from Deep Panuke and Thebaud have peaked or are peaking. This may require their operators to purchase allowances from other participants. However, since both of these facilities will be decommissioned over the next few years, their emissions will fall to zero, both reducing both the number of participants and the province’s overall emissions.

The remaining participants are those supplying energy for heating in the built environment (light and heavy fuel oil, natural gas liquids, and natural gas) and transportation (gasoline, diesel, and aviation fuel). This part of the cap-and-trade program can be expected to affect most Nova Scotians to varying degrees.

The following chart shows Nova Scotia’s energy-demand of the fuels affected by the cap-and-trade program. Demand for many of these fuels decreased significantly between 2012 and 2014 and increased between 2014 and 2015. Since the emissions of carbon-based fuels are proportional to their demand, any change in demand will have a corresponding change in emissions. This means that Nova Scotia’s emissions declined for most of these sources between 2012 and 2014, but subsequently increased by 2015.



As an example, consider a scenario in which the province's cap-and-trade program began in 2015 with the initial cap being the average of the previous three years of emissions. Since demand for aviation turbo fuel, natural gas liquids, and natural gas exceeded their three year average in 2015, some, or potentially all, of the suppliers of these fuels would be required to purchase emissions allowances for emissions above the cap.

In these cases, the supplier would have a choice: absorb the allowance costs to keep prices down; improve efficiency to reduce both emissions and allowance costs; or simply pass the allowance costs on to consumers.

Since absorbing costs or improving efficiency may not be possible for many suppliers, most could be expected to pass the allowance cost on to consumers. This was the case in Ontario last January, where the government's allowance auction (on all fuel sold) resulted in suppliers raising the price of liquid fuels and natural gas.

The province's proposed cap-and-trade program is intended to shield most Nova Scotians from potentially disruptive price increases. Since allowances are allocated without cost, any fuel price increases would only be for the cost of allowances for emissions above the cap.

In the short-term, this means that there is little incentive for either suppliers or consumers to take steps to reduce their emissions. Over the longer-term, as the caps decline and allowances for excess emissions become more expensive, consumers may respond and attempt to reduce their emissions.

The program appears to be an attempt at nudging Nova Scotians away from high-carbon to low-carbon energy sources. In the built environment, the cost of allowances will make light fuel oil and natural gas less attractive than electricity, especially when used with heat-pumps. Transportation will be more of a challenge as gasoline and diesel will be the fuel of choice for private vehicles until consumers change their mode of transportation or electric vehicles become mainstream.

As Nova Scotia Power's emissions continue to decline, the future will become more electric.