

Clean Fuel Standard CASE STUDY: ONTARIO

Snapshot of macro effects for Ontario:

Direct compliance costs:	\$3.9 billion (\$550 per employed person)
Capital removed from economy:	\$6.8 billion
Job losses:	11,279
Increase in cost of gasoline:	10.1%
Increase in cost of natural gas:	3.8%
Main sectors affected:	Wholesale and retail sales (2,163 jobs) Banking, Finance and Professional Services (5,186 jobs) Entertainment, including Restaurants (2,297 jobs) Trucking, Courier and Storage (311 jobs) Construction (737 jobs) Air, Rail and Bus Transportation (850 jobs)

Household Effects

In 2016, 15.9 million Canadians commuted regularly to work, and of that number about 75% drove cars while the remainder took some form of transit. This reflects a national pattern that jobs in Canada are concentrated in a small number of large cities like Toronto, Vancouver and Montreal, requiring daily commuting from surrounding areas. Associated with this concentration of economic activity, residential housing prices have gone up significantly over the years. By 2019 the average price of a detached home in Toronto was over \$1 million (Financial Post, 2019). For many Ontarians, inability to afford housing within Toronto requires moving to the surrounding, mid-size cities such as Oshawa, Hamilton and Barrie, and commuting to work (Tetyana et al. (2019)). Thus transportation fuels like gasoline are an essential energy source for many Canadians, and affordability of transportation fuels directly affects peoples' ability to access the labour market.

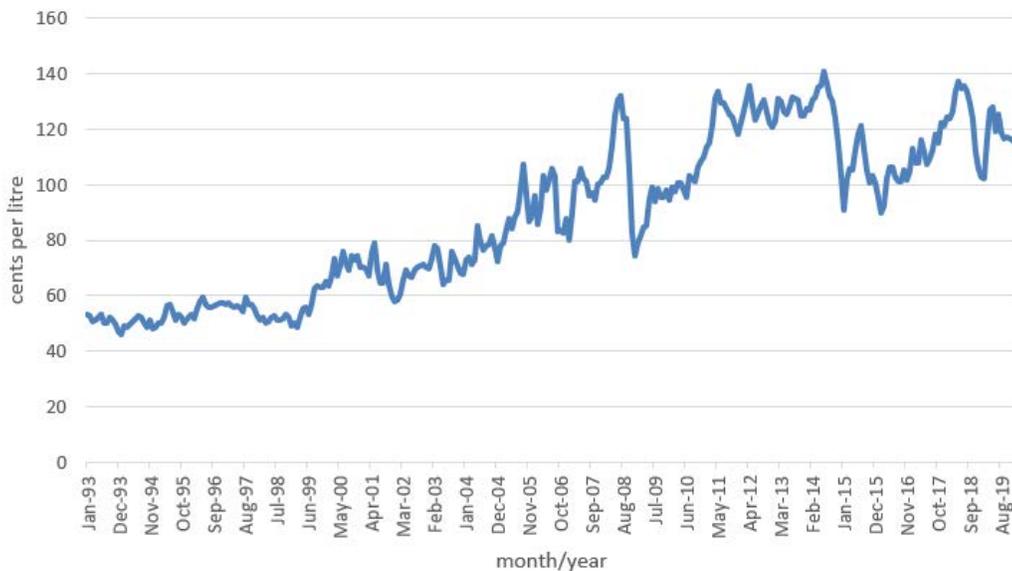


Figure 1. Nominal gasoline price in Ontario, 1993-2020.
Source: Statistics Canada 2020c

Figure 1 shows the historical price of gasoline in Ontario since 1993.¹ According to the Statistics Canada 2016 Census of Population, there were 5,169,170 households in Ontario. The average annual gasoline price was \$1.27 per litre in 2018 (Statistics Canada, 2020c). Our model estimates that of the 17% increase in production costs about 10.1% would be passed on to consumers in Ontario which implies the average purchase price would have been \$1.40 per litre of gasoline in 2018. Gasoline sales in Ontario in 2018 totaled 17.3 billion litres. Had the same volume of gasoline been purchased at the higher price the additional cost would have been just over \$2.7 billion dollars, or \$515 per household per year. In practice people adjust their fuel purchases downward to mitigate this impact, but in doing so they forego the benefits of fuel use, which in the case of Southern Ontario can include losing access to a large part of the regional job market. We estimate the reduction in gasoline consumption would only have been about 2.4%.

Next, we estimate the impact on average household and restaurant business from an increase in the price of natural gas. Figure 2 shows that natural gas accounts for the majority (67%) of heating in homes, making it a critical energy source for the province.

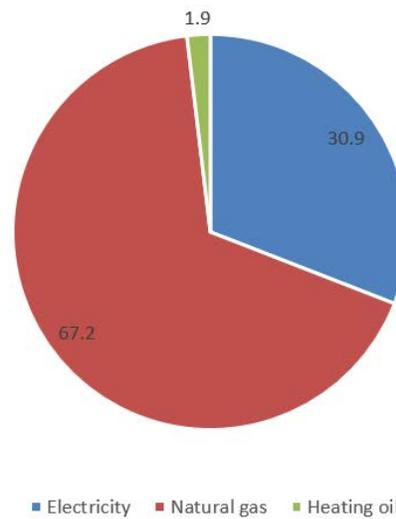


Figure 2 Percentage distribution of energy used for heating by households in Ontario, 2015.

Source: Statistics Canada (2020h)

CERI (2019) estimated that the CFS would increase the price of natural gas by at least 60%. Since this is inconsistent with other goals of the policy we analysed the effects of a 5% increase the production cost of natural gas, of which about 4% is passed on to consumers. The average household in Ontario spent \$362 on natural gas in 2019. Under the CFS the same volume of gas purchase would have cost \$376, or \$14 more every year. By contrast a 60% increase would cost about \$220 per year. In practise households and businesses would have reduced their gas usage to mitigate some of this cost increase, but in doing so they would have had to forego some home heating or appliance usage, reducing consumer welfare in the process.

¹Due to the availability of gasoline price data by major cities, the cost estimate of households on additional gasoline expenses at the provincial level uses major city-level average prices as a proxy for the corresponding province.

Small Business Effects

Ontario is home to 37% of the total food-related establishments in Canada (Natural Resources Canada, 2013). According to Natural Resources Canada (2013), the energy intensity for food service businesses is about 4.76 Gigajoules per square meter (GJ/m²) annually in the region. In Ontario, about 50% of the total energy consumed by the commercial and institutional sectors was natural gas. Based on data from Natural Resources Canada we estimate that 65% of the total energy consumed by food service businesses is natural gas. We also assume a restaurant size of 600 m², which is the average size of a sample of Harvey's and Swiss Chalet establishments in Sarnia, Ontario. (Energy Innovators Initiative, 2003). Using the average natural gas price in Ontario, if the cost goes up by 4% the additional cost for a typical restaurant would be about \$500 per year to purchase the same quantity of fuel at the higher price. In practise establishments would try to cut their natural gas consumption, either by cutting back on heating or reducing gas appliance usage, both of which would be challenging for restaurants and could entail costs of other kinds. It is also plausible that an increase in the price of gasoline and natural gas could lead to a rise in the price of other essential energy sources like electricity, which would further contribute negatively to Ontario businesses and households.