ONTARIO CLEAN ECONOMY ALLIANCE

Clean Economy Alliance Comments: Increasing renewable content in fuels

ERO 013-4598

The following comments were coordinated by the Clean Economy Alliance as part of our Climate Solutions Working Group Series. This Alliance includes prominent Ontario businesses, industry associations, clean tech companies, labour unions, farmers' groups, health advocates, and environmental organizations who have united to support the province of Ontario in showing leadership in addressing the crucial issue of climate change.

The recommendations in this document are officially endorsed by the following organizations from our membership and broader network:

Clean Energy Canada
Renewable Industries Canada
Advanced Biofuels Canada
Environmental Defence
International Institute for Sustainable Development
SWTCH
ArcTern Ventures
Ontario Society of Professional Engineers (OSPE)
Canadian Wind Energy Association (CanWEA)
Pembina Institute
The Atmospheric Fund
Clean Air Partnership
Asthma Canada
Canadian Solar Industries Association (CanSIA)
SolarShare
Green Neighbours 21
Pollution Probe
Building Energy Innovators Council

Increasing the use of renewable fuels forms a crucial part of Ontario's plan to reduce greenhouse gas (GHG) emissions and slow the escalating impacts of climate change. Renewable fuel producers are also part of a growing, thriving economy in Ontario, creating numerous jobs for small and large communities in agriculture and cleantech, and helping Ontario keep pace with a rapidly expanding market for cleaner alternatives to fossil fuels (e.g. ethanol, biodiesel, etc).

Ontario has proposed new measures to increase renewable fuel content in gasoline to 15% as early as 2025 through amendments to Ontario fuel regulations. Current regulations require a 5% ethanol blend. In 2020, amendments passed under the previous Ontario government will increase the requirement to 10% renewable content; the Greener Gasoline regulation (eff. January 1, 2020) will heavily rely on ethanol while introducing a wider range of renewable fuel compliance options. The 2020 amendments will also shift away from the sole minimum volume requirement (for ethanol), and move to a requirement for bio-based content meeting specific criteria for reduced lifecycle greenhouse gas emissions versus fossil gasoline.

We support Ontario's proposed amendments to Ethanol in Gasoline regulations as measures to reduce the carbon footprint of fuels. This is a positive, economically sound step to reduce GHG emissions from transportation in Ontario. This opportunity to encourage the growth of a made-in-Ontario industry while reducing GHG emissions should not be missed.

In Part 1 of these comments, we outline our reasons for supporting the proposed amendments. In Part 2, we suggest steps Ontario can take to further decarbonize fuels while increasing jobs and economic growth.

PART 1: SUPPORT FOR PROPOSED AMENDMENTS

We support Ontario's proposed amendments and believe that increasing renewable fuel content in Ontario will bring many different benefits, including:

1. Reducing greenhouse gas (GHG) emissions

Ontario is Canada's second-highest emitting province. At 35% of the provincial GHG inventory, transportation is the largest source of GHG emissions in Ontario (Figure 1).[i] There are currently 8.7 million registered vehicles on Ontario roads. Transportation demand is projected to grow as Ontario's population and GDP grows. Therefore, reducing the carbon footprint of the fuels we use to move people and goods will be essential to reducing GHGs in line with Ontario's climate change targets. While a shift towards vehicle electrification is key to ensuring deeper decarbonisation of the transportation sector, which is critical to slowing the impacts of climate change, this transition will take time and many individuals and businesses will rely on internal combustion engine (ICE) vehicles in the coming years. This means that strong policies to encourage and incentivize the decarbonisation of liquid fuels will be important for the foreseeable future.

Ontario's Environment Plan sets new GHG emissions reduction targets for 2030. Nineteen per cent of the reductions needed to achieve those targets are expected to come from the proposed regulatory action on clean fuels. This is the single largest mitigation strategy identified in Ontario's plan for achieving emission reductions. Swift and meaningful action is required to make good on this commitment.

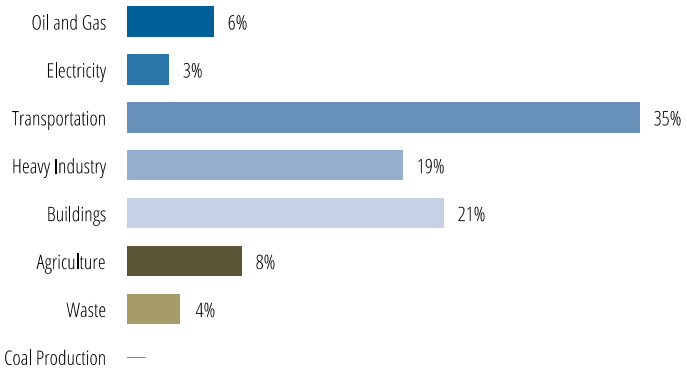


Figure 1. Ontario, GHG emissions by economic sector, 2016.
Source: Environment and Climate Change Canada, *National Inventory Report (2018)*, Part 3. Figure compiled by Pembina Institute.

Ontario's current proposal to increase renewable content in fuels will lead to demonstrable GHG reductions from existing vehicles. Government estimates indicate that a shift from 10% to 15% renewable content in 2025 could result in 1.2 megatonnes of annual GHG reductions". The previously introduced amendments to shift from 5% to 10% in 2020 are estimated to reduce annual carbon emissions by about two megatonnes, or the equivalent of taking about 130,000 cars off the roads[iii].

A lifecycle assessment approach, which measures emissions across the fuel's production, delivery and use stages, is also an important step in accurately measuring the overall GHG impact of fuels. Continued use of this approach will incentivize renewable fuels based on their ability to deliver GHG emissions reductions at the lowest cost to consumers, rather than prioritizing one specific fuel over another. The ability for regulations to allow flexibility and innovation will become increasingly important as the pace of clean technology advancement accelerates. We support the proposed amendment's technology-neutral approach for requiring renewable/bio-based content.

2. Increasing Ontario's economic competitiveness

Ontario is a province rich in natural resources and technical capacity. Expanding renewable fuels not only presents the opportunity to keep pace with other jurisdictions but to emerge a true leader in domestic production and a clean technology powerhouse.

First, increasing the renewable fuel content requirement from 10% to 15% will boost demand for corn to produce ethanol and support Ontario's farmers. Ontario farmers already produce roughly two-thirds of the country's corn; higher demand means stronger growth in this sector. Ontario consumers and businesses spend ~$20 billion each year on fuels[iv], with most of that spending leaving the province. Increasing the use of non-fossil fuel sources is a smart way to shift away from relying on imported energy and towards a more circular economy that builds energy security/independence within the province.

Second, a lifecycle approach to determining carbon intensity will incentivize the use of locally-produced Ontario corn over international sources due to our lower-carbon electricity and lower transportation-related emissions.

Third, the wider range of compliance options in the Greener Gasoline regulation will increasingly signal new demand and associated innovation in the forestry, agriculture, and waste sectors. Ontario companies have developed world-leading technologies that are being deployed outside the province; a strengthened Ontario fuels standard will underpin their continued success.

We recommend going a step further and implementing a requirement for a gradual reduction in carbon intensity over time. We detail this recommendation in Part 2. Such an approach would help to ensure Ontario remains competitive with jurisdictions in Canada and the U.S. that have implemented similar carbon intensity-based fuel policies (i.e., Low Carbon Fuel Standards). By incentivizing gradual improvements and innovation, Ontario can truly stay at the forefront of clean fuel markets. It can also prevent the flood of higher carbon intensity ethanol from jurisdictions with less stringent environmental standards into the Ontario market.

This action can also help ensure Ontario's corn growers and ethanol producers remain competitive as more jurisdictions strengthen standards for renewable fuels, and as the federal Clean Fuel Standard (CFS) comes into place. Ontario should seize this opportunity to show leadership and position itself for future economic growth as the rest of Canada, and the world, shifts to cleaner fuel alternatives.

3. Improving rural economic development

Ontario's domestic biofuels producers employ over 700 people, buy approximately 145 million bushels of corn, and deliver $1.75 billion in economic activity in the province annually[v]. As explained above, increasing renewable content in gasoline from 10% to 15% will increase the market for Ontario-grown corn, and over time, other agricultural and forestry by-products. Biocrude and renewable hydrogen, for example, are renewable fuels that utilize existing refining infrastructure and allow Ontario to seek deeper GHG reductions over time.

Wastes can move from 'cost' to 'valuable resource' for industries and municipalities. This means more economic certainty and growth in rural Ontario, dependable markets for farmers and foresters, cost savings for municipalities and industry, and a more resilient economy as Ontario gradually shifts away from fossil-based fuels and towards adding value to regionally available, sustainable energy sources.

The Ontario Federation of Agriculture (OFA)'s recommendations for rural economic development include "initiatives and opportunities to utilize crop residue feedstocks and purpose-grown crops to fuel the bioeconomy." Expanded markets for plant-based fuel sources grown in Ontario will support this bioeconomy while providing alternatives to fossil-based fuels.

4. Making gasoline more affordable

Ethanol-blended fuels provide cost savings for drivers. As stated in the proposal, ethanol prices have generally been lower than gasoline prices on a volume basis, and blending ethanol in gasoline has been a more cost-

effective way to enhance fuel performance compared to other octane enhancers (such as benzene, toluene, and xylene).

In 2018, wholesale ethanol was approximately $0.24/litre less expensive than straight gasoline[vi]. Even when ethanol's lower energy density is considered, ethanol-blended fuels provide cost savings for drivers. In the more mature US market, E15 is selling currently for 16% less than ethanol-free gasoline and 3% below E10[vii]. Due to this price difference and associated cost savings, ethanol is already being blended into gasoline in Ontario at a slightly higher percentage (about 8 per cent) than the regulations require.

Regulations are increasingly moving towards incentivizing cleaner technologies, and making polluting sources of energy incorporate the hidden costs of exacerbating extreme weather, health impacts, and other unseen costs. The proposed federal Clean Fuel Standard (CFS) and the incoming carbon pricing system will mean further savings for Ontario drivers who have access to gasoline with higher renewable content. For example, a shift to 15% renewable content would mean Ontarians save 1.2 cents per litre under the federal carbon backstop charge in avoided carbon costs. This is a smart move for the present, and an even smarter move for the future.

5. Better alignment with existing and upcoming fuels policies

We support and encourage alignment with federal CFS regulations, as well as other low carbon fuel policies in climate-leading jurisdictions such as BC, Oregon and California. A move towards incentivizing fuels based on GHG emissions intensity will allow Ontario to align with these markets more effectively than regulating solely on minimum percentages of specific fuels.

We support Ontario's shift to using lifecycle assessment tools to evaluate the GHG emissions intensity of renewable fuels blended into gasoline. This is a necessary step to transition to a system that rewards innovation and opens the door to new renewable fuels, allowing them to compete alongside existing fuels and keeping costs low for consumers.

Ontario's shift to a lifecycle assessment approach will integrate well with the proposed federal CFS. The CFS would reward lower carbon intensity biofuels, so even the 15% blend would have the flexibility to become cleaner over time. Refiners' actions to meet 15% renewable content in Ontario gasoline will also allow them to comply with their federal CFS obligation. To this end, we support the use of GHGenius 5.0 for the Greener Gasoline and Greener Diesel regulations.

PART 2: DEEPER DECARBONIZATION

We present the following options for stronger action to reduce the carbon footprint of fuels. These recommendations include measures to strengthen the proposed policy, as well as future renewable fuel policies for enhanced economic and environmental results.

1. Require a gradual decrease in carbon intensity of fuels

Maintaining a static requirement for GHG emissions intensity may eventually mean Ontario gets left behind other jurisdictions. We recommend exploring stringent fuel standards that progressively require carbon to be removed from the lifecycle of fuels, and recommend that Ontario move away from step-change regulatory signals to a longer-term plan with increasing stringency over time.

Requiring an incremental reduction in GHG emissions intensity (for example, by a small percentage per year) would move this policy closer to the Low Carbon Fuel Standard systems being adopted in many large North American markets, allowing Ontario producers to compete on an even playing field. By 2025, we expect that

many more jurisdictions will have shifted to an LCFS model with gradually declining carbon intensities to reward innovation in renewable fuels. To keep pace with these important markets, Ontario should consider doing the same.

As explained previously, incentivizing a gradual decrease in carbon intensity of fuels will also support locally-produced renewable fuel sources, and guard against increases in international imports of ethanol. Local Ontario sources will be less carbon intensive due to their reduced transportation requirements, while imported fuels will have to adhere to standards no less stringent than their own.

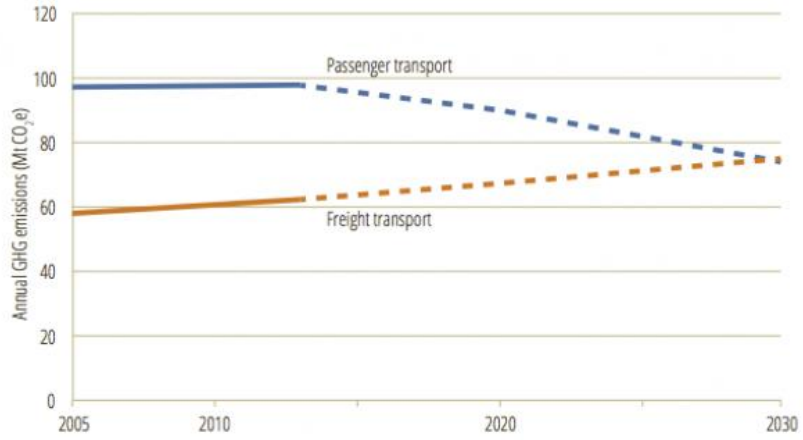
2. Align software and modeling tools to match competing jurisdictions

More accurate software and evaluation tools will incentivize further reductions in carbon intensity, and the growth of fuels with a lower carbon footprint. For example, moving to GHGenius 5.0 will more effectively evaluate broader impacts of fuels through their entire lifecycle, and ensure greater alignment with other leading jurisdictions.

It is important to capture the GHG emission impacts of as much of a fuel's lifecycle as possible within the current limits of scientific accuracy. As this technology continues to evolve, and as data improve, we recommend monitoring and evaluating best practices from leading jurisdictions. Ontario should design policies that allow the flexibility to incorporate new scientifically accurate tools as technology and lifecycle analysis (LCA) methodology/data quality advances.

3. Introduce policies to reduce GHG emissions from diesel

Trucking is the fastest growing subsector of transportation emissions in Canada. As our economy grows, the demand for goods (and the need to transport those goods) will grow as well, driving an increase in freight activity. This will mean a significant increase in GHG emissions from the freight sector unless strong action is taken.



Emissions projections to 2030 for passenger and freight transport.
Source: Pembina Institute

Since there are currently few zero-emission freight vehicle options available for mass adoption, it is even more critical that renewable fuels be incentivized in this sector while we make a transition to zero-emission vehicles in the long term.

Biodiesel boasts significant benefits over regular diesel. It is generally much less carbon-intensive than regular diesel, offers a major reduction in air contaminants, and offers significant health benefits over regular diesel.

Therefore, we recommend developing policies to incentivize greener diesel alternatives and to narrow the price gap between biodiesel and other renewable diesels, and regular diesel.

We are pleased that Ontario is considering updates to ensure that O. Reg. 97/14 (Greener Diesel – Renewable Fuel Content Requirements for Petroleum Diesel) is consistent with the Ethanol in Gasoline regulation, and recommend that the Greener Diesel Regulation also adopt GHGenius v5.0 as the regulation LCA model.

A modest increase (e.g. to 5% by 2020) in renewable content in diesel, and a longer-term signal (e.g. 10% by 2030), would result in new innovation and growth in Ontario. We note that due to renewable diesel fuels' generally very low carbon intensity, carbon pricing can produce a cost-neutral outcome for users of these fuels. Also, the credit market associated with the Greener Diesel regulation is contributing to cost-neutral low carbon fuels for those fleets switching to renewable diesel fuels.

A similar requirement to gradually reduce the carbon intensity of diesel would provide flexibility and keep Ontario's biodiesel and renewable diesel producers competitive. As with the gasoline pool, a range of technologies can lower the carbon intensity of diesel.

4. Incentivizing non-emitting fuel sources such as electricity

Policy steps to increase low-carbon fuel content in transportation fuels are an immediate and practical policy tool that aids in the transition to deeper decarbonisation of the transportation sector. This transition means supporting a switch to lower-carbon vehicles (EVs, hydrogen), building a fully integrated transit network, and encouraging active transportation methods like cycling and walking.

Knowing this, government policies to incentivize cleaner fuels should, whenever possible, build in opportunities to incentivize electrification as an option for compliance and align with other leading jurisdictions. All fuel-switching providers (e.g. biofuels, electrification) have access to larger markets when the pool of available technologies can support more ambitious policies. The market signal from these policies must, of course, keep pace with the compliance options to avoid stranding existing low-carbon solutions. This approach will pave the way for rapid growth and continued innovation to move us on the path to deeper emissions reductions.

Contact Information

Thank you for this opportunity to submit feedback on Ontario's proposal to increase the renewable content in fuels. The Clean Economy Alliance looks forward to continuing to work with the Province on programs to address climate change.

If you have any questions, please contact:

Sarah Buchanan: Clean Economy Alliance Coordinator - sbuchanan@cleaneconomyalliance.ca

[i] Environment and Climate Change Canada. 2018. National Inventory Report: Greenhouse Gas Sources and Sinks in Canada, 1990-2016. Part 3, Table A12-7. https://unfccc.int/documents/65715
[ii] Environmental Registry of Ontario. 2019. https://ero.ontario.ca/notice/013-4598
[iii] Environmental Registry of Ontario. 2019. https://ero.ontario.ca/notice/013-4598
[iv] Statistics Canada. Sales of fuel used for road motor vehicles, annual. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2310006601&pickMembers%5B0%5D=1.7
[v] Doyletech Corporation. 2017. Economic Impact Assessment of an Enhanced Biofuels Mandate in Ontario.
[vi] Environment and Climate Change Canada. 2018. *Technical paper: federal carbon pricing backstop* https://www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html
[vii] E85 Prices. https://e85prices.com/