January 23, 2018

Rebecca Tan
Ministry of the Environment and Climate Change
Climate Change and Environmental Policy Division
Air Policy Instruments and Programs Design Branch
77 Wellesley Street West, Floor 10
Toronto, Ontario M7A2T5

RE: Comments on the Proposed Amendments to the Ethanol in Gasoline Regulation (O. Reg. 535/05), EBR Registry No. 013-1929

Dear Ms. Tan:

Growth Energy and the U.S. Grains Council ("USGC") appreciate this opportunity to comment on the Ministry's proposal to amend the Ethanol in Gasoline regulation (O. Reg. 535/05) to:

(1) increase the ethanol blending requirement in regular grade gasoline to a 10% annual average starting in 2020 (the "Blending Proposal");

(2) require that ethanol used for compliance with the regulation achieve substantial greenhouse gas ("GHG") emissions reductions from petroleum gasoline on a lifecycle basis (*e.g.*, 35%);

(3) expand incentives for advanced renewable fuel technologies;

(4) utilize the GHGenius model to calculate the GHG-intensity of fuels; and

(5) require a professional engineer to certify data regarding carbon intensity calculations (collectively, the "Proposal").

Growth Energy is the leading association of ethanol producers in the United States, with 88 members and 82 affiliated companies who serve the United States' and Canada's need for renewable fuel. The U.S. Grains Council works in more than fifty countries and the European Union to develop new markets for U.S. barley, corn, grain sorghum and related products, including ethanol and distiller's dried grains with solubles. Corn, ethanol, and its co-products are all global commodities. For decades now, North American farmers and ethanol producers

have benefitted from tariff free borders. With an existing, robust, North American supply chain, Ontario can rest assured that any incremental increase in demand will be met by this vibrant marketplace. Collectively, the North American industry is poised to assist Ontario in meeting the Proposal's targets and supporting Ontario's transition to a lower carbon-intensive transportation fuel system.

We strongly support the Ministry's Proposal as a whole, which sets Ontario on a path to achieve substantial GHG reductions, as well as reductions in other air pollutants such as carbon monoxide and particulate matter, in the near-term through increased blending of ethanol in gasoline. However, we believe that the Proposal could be strengthened even further by raising the required blend rate above 10%. The Proposal already recognizes that increasing the ethanol content of gasoline is the best and most cost-effective way to expeditiously reduce GHG emissions in transportation fuel.[1] The Blending Proposal presents a very realistic, achievable goal that will support consumer choice and ensure compliance flexibility while resulting in meaningful reductions in the carbon intensity of gasoline. We support a requirement that ethanol used for compliance with the regulation attain certain GHG emissions reductions on a lifecycle basis compared to petroleum gasoline and support a methodology for determining lifecycle carbon intensity that accurately reflects ethanol's emissions reductions.

Additionally, the Proposal's streamlined approach wisely ensures Ontario can proceed in the short-term with its GHG-reduction efforts without waiting for a federal Clean Fuels Standard to be developed or complicating integration into that program. The Proposal promises to spur hundreds of millions of dollars of economic growth in Ontario, creating a win-win for industry and the environment.[2] Moreover, because ethanol is consistently less expensive than gasoline, the Proposal will result in lower prices at the pump for Ontario consumers.

The Proposal solicits comment from stakeholders on three primary areas: implementation of the blending requirement; GHG lifecycle assessment methodologies; and design considerations for a Blenders Support Program to encourage high-biofuel blends and biocrudes. Below we provide suggestions for the Ministry's consideration regarding the Proposal to maximize feasible GHG reductions from gasoline while preserving compliance flexibility and consumer choice.

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I. Increased Ethanol Blending, Increased Environmental Benefits.

Increasing ethanol concentrations in fuel presents tremendous benefits to the public in the form of lower GHG emissions, lower levels of other pollutants, improved fuel properties (cleaner and cooler burning), and economic benefits to Canada's critical agricultural economy. *See*

[1] Growth Energy refers the Ministry to its March 12, 2017 comment letter and attachments thereto regarding the Discussion Paper "Developing a Modern Renewable Fuel Standard For Gasoline in Ontario" for a more extensive discussion of the benefits of ethanol blending. *See* Attachment 1.

[2] *See* Doyletech Corporation "Economic Impact Assessment of an Enhanced Biofuels Mandate in Ontario" (October 2017).

Growth Energy's March 12, 2017 Letter to the Ministry at 2-3. Growth Energy encourages the Ministry to consider the following suggestions to the Blending Proposal to optimize the benefits of the regulatory proposal, while minimizing costs:

1. Allow Gasoline Suppliers to Blend Ethanol into Gasoline Grades Beyond Regular Gasoline for Compliance Flexibility Purposes.

The Blending Proposal limits the gasoline into which gasoline suppliers may blend ethanol for compliance purposes to "regular grade gasoline (88 octane or less)"; however, additional GHG emissions reductions and compliance flexibility may be realized if the Ministry allows ethanol to be blended into all four gasoline grades as contemplated in the current standards and specifications set forth in the Canadian General Standards Board document CAN/CGSB-3.511-016.

At present, Ontario Regulation 535/05 applies the 5% blending requirement to all gasoline, not only regular grade. *See* Ont. Reg. 535/05, § 3-4. In order to comply with the regulation, suppliers may elect different percentages of ethanol to blend into different grades of gasoline, as long as the overall average blend percentage is 5%. This gives suppliers flexibility in responding to market demand and consumer preference.

The Ministry should continue this approach going forward. The Proposal indicates that the Ministry intends to require at least 10% ethanol "in regular grade gasoline." The Ministry should instead require an average of 10% ethanol for all gasoline produced by a supplier, allowing the supplier the flexibility to market different blends with different grades of gasoline.

Requiring an average 10% blend across all grades of gasoline will provide more environmental benefit both in GHG emissions reductions and other harmful air pollutants than limiting the regulation to regular gasoline. As shown by the U.S. experience, where approximately ninety-five percent of all grades of gasoline is E10, ethanol blending into multiple grades of gasoline is feasible.[3] Applying the 10% requirement to all gasoline grades would still ensure consumer choice because E15, a gasoline blend with 15% ethanol, and E85 could be available along with lower ethanol blends, where demand required. E15 is a less GHG intensive, lower cost, higher-octane fuel option offered in hundreds of locations across the United States alongside regular and premium gasoline.

2. Increase the Blending Requirement Above 10%.

We applaud the Ministry's proposal to increase the blending requirement, but encourage the Ministry to increase it above 10%. Under the Renewable Fuel Standard in the United States, in 2018, renewable fuel will constitute 10.67% of all transportation fuel, and the average blend rate of ethanol in gasoline now exceeds ten percent.[4] Ethanol-blending is the primary driver of GHG-reductions in the US's transportation fuel supply. The United States' experience

[3] *See* U.S. Energy Information Administration, "Almost all U.S. gasoline is blended with 10% ethanol," May 4, 2016, available at https://www.eia.gov/todayinenergy/detail.php?id=26092.

[4] *See* Renewable Fuel Standards for 2018, 82 Fed. Reg. 58,486, 58,491 (Dec. 12, 2017); U.S. Energy Information Administration, Monthly Energy Review, Fuel Ethanol Overview (February 2017), *available at* https://www.eia.gov/totalenergy/data/monthly/#renewable.

demonstrates the feasibility of a greater average blending requirement. The Ministry could implement a higher percentage in 2020, or start with 10% in 2020 and phase in a greater blending requirement over time.

As discussed in our prior letter, each year, E15 is increasingly widely available and in-demand by consumers in the United States. Almost a decade ago, after extensive research, the U.S. Environmental Protection Agency approved the use of E15 in 2001 and newer light-duty trucks and passenger vehicles and all flexible fuel vehicles. Encouraging E15 as a choice at the pump would further enhance Ontario's GHG-reduction goals and afford additional compliance flexibility associated with a greater than 10% blend requirement especially since the Canadian General Standards Board (CGSB) has updated the fuel specification to include 15 percent ethanol. Similarly, there is significant room for growth in E85 sales to flex fuel vehicles; E85 achieves approximately 37% GHG-emission reductions as compared to pure fossil fuel gasoline on an energy-adjusted basis.

Through consumption of these alternative, lower-GHG intensive fuels, a greater than 10% ethanol blending requirement would aggressively tackle emissions from gasoline, while providing a realistic compliance scenario for regulated parties, ensuring consumer choice, and spurring economic growth.

II. A Successful Blenders Support Program and Infrastructure Investments.

In the United States, the United States Department of Agriculture's Biofuels Infrastructure Partnership Program ("BIP") has been critical in facilitating the rollout of higher ethanol blends and enabling consumers to purchase cleaner and lower cost ethanol blends such as E15 and E85. The Biofuels Infrastructure Program is an innovative public/private partnership that affords states the opportunity to apply for grant funding to (a) upgrade pumps to dispense E15 and E85 and other ethanol blends (blender pumps); and (b) install new storage tanks and related equipment associated with higher-ethanol blend fuels. The program is set to distribute $100 million to upgrade infrastructure for nearly 5000 pumps, 1500 stations, and hundreds of underground storage tanks. To date, there are now more than 1300 high volume retailers offering E15 and E85 in 29 states and we have recently surpassed more than 3 billion consumer miles driven on E15.[5]

Ontario's contemplated $155 million Blenders Support Program is an important step to ensuring penetration of higher ethanol blend fuels in the market and realizing the associated environmental benefits. Investment in infrastructure upgrades such as the installation of fuel pumps, tanks, and other retail fuel equipment capable of storing, handling and dispensing higher blends of ethanol would ensure Ontario could surpass the proposed 10% ethanol blend requirement, and would position obligated parties well to respond to a federal Clean Fuel Standard. We acknowledge that the Ministry and local partners would be best-positioned to assist in shaping the specifics of a Blender Support Program in Ontario, and would welcome further opportunity to discuss the success of the U.S. Program.

[5] U.S. Department of Agriculture, Farm Service Agency, Biofuel Infrastructure Partnership, *available at* https://www.fsa.usda.gov/programs-and-services/energy-programs/bip/index.

III. Accurately Calculating Ethanol's GHG-Benefits Through Lifecycle Analyses.

Growth Energy supports the Proposal's analytic approach regarding utilization of the GHGenius model to ascertain the lifecycle GHG performance of ethanol, gasoline, and other transportation fuel alternatives such as biocrudes. The GHGenius model includes pathways for all transportation fuels that are commercially available in Canada today, as well for emerging fuels that are not broadly commercially available. In addition, developers of the GHGenius model continually modify and improve the model to incorporate new feedstocks and fuels as technology evolves.

GHGenius applies very similar co-product allocation credits to the corn ethanol life cycle emissions using the displacement method. The allocation method can also be changed, for example, to enable energy allocation. The thermal and electricity use for U.S. ethanol plants in GHGenius is consistent with the U.S. values used in GREET (net of GHGenius' bundling with upstream energy inputs for chemicals used at the ethanol plant).

Importantly, the GHGenius model does not incorporate the unsound science of "indirect land use change."[6] This is presumably because of the extreme uncertainty in predicting those emissions. We agree with that approach. GHGenius does include carbon adjustments from direct land use change. We agree with this approach also as it encourages conservation management practices, and in many geographic regions, can properly credit agriculture for soil carbon sequestration. GHGenius allows credit for permanent sequestration of CO2 and the model can be parameterized to also provide credit for the processing energy differential when CO2 is recovered for other uses. However, recent data suggests an increasing dependence of the U.S. food and beverage industry on fermentation CO2 from ethanol plants, indicating that, absent that clean CO2 source, much higher polluting and often fossil-based carbon sources would be employed.[7] A mechanism should be set up within GHGenius to provide proper credit as has been done in other markets.[8]

It is our understanding that, to the extent Ontario adopts GHGenius 4.03a as the tool to determine ethanol's GHG-benefits, it would not adopt a GHG-reduction requirement that would result in the exclusion of U.S. ethanol plants from the Ontario market. We hope the Proposal, as implemented, would maintain the United States and Canada's strong bilateral trade relationship and ensure the United States' access to the Ontario market.

IV. Continuing to Incentivize Cellulosic Ethanol.

Growth Energy additionally supports the Proposal's preservation of the existing incentive to use cellulosic ethanol. Cellulosic ethanol may achieve a 115 percent GHG reduction below fossil fuels, depending on the cellulosic feedstock type and conversion process.[9] To further assist in spurring development of the cellulosic ethanol industry and to acknowledge the

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[6] Please see Attachment 1, Growth Energy's March 12, 2017 letter and attachments thereto for a discussion of ILUC.

[7] Mueller, S. (February 2017). "Ethanol Industry Provides Critical CO2 Supply", *Ethanol Producer Magazine*. Available at: http://ethanolproducer.com/articles/14122/ethanol-industry-provides-critical-co2-supply

[8] "ISCC Case Study Sweden", International Sustainability and Carbon Certification. Available at: http://www.iscc-system.org/en/iscc-system/iscc-trailer/iscc-case-study-sweden/

[9] U.S. Department of Energy, Energy Efficiency & Renewable Energy, "Ethanol Vehicle Emissions," *available at* http://www.afdc.energy.gov/vehicles/flexible_fuel_emissions.html.

dramatic environmental benefits the fuel contributes, we agree with preservation of the 2.5 liter multiplier set forth in the current regulations.

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In sum, the Proposal substantially advances Ontario's goals of reducing the carbon intensity of its gasoline supply through greater ethanol blending. The Proposal is achievable and promises real GHG benefits, while still supporting consumer choice and ensuring compliance flexibility and transparency for regulated parties.

Growth Energy and the USGC commend the Ministry's efforts thus far regarding the Proposal and appreciate this opportunity for stakeholder engagement. We would be pleased to discuss the additional recommendations set forth in this letter at your convenience, and we look forward to the Proposal's implementation.

Sincerely,

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