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October 10, 2022

Standing Committee on Environment and Sustainable Development  
Sixth Floor, 131 Queen Street  
House of Commons  
Ottawa ON K1A 0A6  
Canada

### **Re: Study of Clean Technologies in Canada – Canada at a Clean Energy Crossroads**

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Further to the subject study, Advanced Biofuels Canada is writing to submit comments that expand upon our testimony to the Committee on October 4, 2022.

[Advanced Biofuels Canada](#) is the national voice for producers, distributors, and technology developers of advanced biofuels, renewable synthetic fuels, and renewable hydrocarbon fuels. Our members transform a wide range of sustainable residues, wastes, crops, or captured carbon feedstocks into low carbon renewable and synthetic fuel alternatives to gasoline, diesel, jet, marine, heating, and locomotive fuels. More information about how these clean fuels support Canada's climate action commitments can be found at [Net Zero Clean Fuels](#). For detailed analysis of transportation fuels use across Canada, including the impact of fuel regulations and carbon taxation on clean fuels use and consumer affordability, please visit the [Canadian Transportation Fuels Dashboard](#) on our website.

#### **Clean Technology Opportunity: Transportation**

We perceive the highest-leverage application of clean technologies to be in decarbonizing transportation. On an end-use basis, it is actually Canada's largest GHG emitter<sup>1</sup>, and is a sector that cannot be easily decarbonized.

Canadian companies have developed technologies now in use around the world to produce low carbon intensity fuels. We assert that Canada needs to have a comprehensive approach to incenting continued clean technology development and, specifically, ensure competitive conditions are in place to attract investment in the manufacture and use of low carbon fuels domestically.

#### **Recommendations: Summary**

Our organization presents the following recommendations, which we address in detail later in this submission. We conferred with other clean fuel sector organizations to ensure the relevance of these measures across a range of clean technology sectors.

*Recommendation 1* — Establish a refundable ‘*Clean Fuel Production Tax Credit*’ (CF PTC) in the *Income Tax Act* (ITA) to support capital investment in low-carbon intensity fuels (LCIF) production capacity.

*Recommendation 2* — Amend the *Greenhouse Gas Pollution Pricing Act* (GGPPA) to fully exempt LCIF registered under the *Clean Fuel Regulations* (CFR)<sup>1</sup> from the fuel charge.

*Recommendation 3* — Amend the *Excise Tax Act* (ETA) to reassess tax rates on all transportation fuels on the basis of energetic service.

*Recommendation 4* — Amend the ITA ‘*Zero-Emission Technology Manufacturing*’ (ZETM) federal income tax rate cut to apply to all LCIF manufacturing registered under the CFR.

*Recommendation 5* — Establish a ‘*Production Tax Credit*’ (PTC) for Carbon Capture, Utilization, and Storage’ (CCUS) in the ITA by converting the proposed CCUS ‘investment tax credit’<sup>2</sup> design to a ‘PTC’ that promotes utilization of CCUS by LCIF registered under the CFR.

These recommendations focus on two outcomes:

1. *Clean fuel capacity building*      Recommendations 1, 4, and 5 should establish competitive conditions to attract clean fuel production capacity in Canada;
2. *Expand clean fuel use*      Recommendations 2 and 3 will improve the affordability of clean fuels in Canada, driving down fuel costs for consumers and minimizing compliance costs for obligated parties.

### **Implications of the US Inflation Reduction Act<sup>7</sup>**

On August 16, 2022, the US *Inflation Reduction Act*<sup>ii</sup> (IRA) became law; the USD \$369 billion directed to clean energy provisions will have material adverse impacts on the competitiveness of clean energy capital investments and the production and use of clean fuels in the US and/or Canada.

The IRA has cross-cutting implications on clean fuel production (renewable diesel, biodiesel, and SAF), carbon capture and storage (CCS), hydrogen production, internal combustion engine fuel demand (per EV provisions), clean fuel infrastructure, and global standard setting such as lifecycle assessment (LCA) modelling. In short, the IRA has far-reaching implications regarding clean energy investments and operations in Canada.

Advanced Biofuels Canada is conducting a detailed analysis of the impacts of the IRA on the Canadian production and use of clean fuels, including consultations with members, clean fuel supply chain participants, other clean energy sectors, petroleum refiners, climate action stakeholders, governments in Canada, and US sector colleagues. Results of this analysis and recommendations will be brought back for review and discussion with federal/provincial governments.

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<sup>1</sup> GOC (September 22, 2022): [Clean Fuel Regulations](#)

<sup>2</sup> GOC (August 9, 2022): [Investment Tax Credit for Carbon Capture, Utilization and Storage](#)

Relevant to the current ENVI Standing Committee study, our organization has also filed submissions to NRCan and ECCC on their recent consultations (Oil and Gas Sector Cap and CCUS ITC, respectively).

### **Canada at a Clean Energy Crossroads**

Amongst other provisions, IRA will provide American clean fuel producers with substantial production incentives for which Canadian producers will be ineligible. Those incentives will be imbedded in exports to Canada. The financial advantages for a US producer will be of such magnitude that we perceive few scenarios in which a Canadian producer would be able to compete with US exporters to Canada. Without corrective action, Canadians will find itself increasingly reliant on imports of low carbon fuels; this is not aligned with an orderly transition to a low carbon transportation system and, more broadly, establishing clean energy security for Canadian manufacturing and exports.

Canada is at a crossroads in the global transformation of transportation systems. Act now – and build clean fuel production capacity to establish market share in the rapidly expanding global clean fuels marketplace. Or delay – and increasingly rely on clean fuel manufacturing outside of Canada to fuel our economy.

Climate and energy experts concur that future transportation systems will remain reliant on energy dense liquid fuels for decades to come. Despite increased adoption of electric mobility and hydrogen fuel cell vehicles under provincial and federal mandates, these technologies will be very challenged to sufficiently scale up to meet our 2030 emission targets, let alone achieve net-zero emissions in transportation by 2050.

Achieving the *2030 Emissions Reduction Plan (ERP)*<sup>3</sup> and *Net-Zero Emissions by 2050 (NZE)*<sup>4</sup> plan targets will require rapid scale up of very low carbon liquid clean fuels compatible with existing vehicles and infrastructure. Climate and energy system modelling confirms this need. Longer-term, even with steady adoption of ZEVs, hard-to-decarbonize transport sectors, such as aviation, marine, rail, and long-haul trucking, will rely on liquid or gaseous clean fuels to achieve net-zero emissions.

Support for clean fuel production translates to economic growth and resilience for Canada's refining, agriculture, forestry, and waste management sectors and – indeed – for our whole economy.

In a 'carbon-constrained' world, Canada has a generational opportunity to lead the low carbon economy ... with renewable electricity, low carbon hydrogen, and clean liquid fuels. At the energy transformation crossroads, Canada should capitalize on its clean energy resources - these recommendations represent the core elements of a comprehensive clean fuel strategy for Canada.

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<sup>3</sup> GOC (March 29 2022): [2030 Emissions Reduction Plan: Clean Air, Strong Economy](#)

<sup>4</sup> GOC (August 22, 2022): [Net-Zero Emissions by 2050](#)

**Recommendation 1** Establish a refundable ‘*Clean Fuel Production Tax Credit*’ (CF PTC) in the *Income Tax Act* (ITA) to support capital investment in low-carbon intensity fuels (LCIF) production capacity.

- i. The CF PTC provisions for biodiesel, renewable diesel, and SAF in the IRA present, absent trade action or economic intervention, an existential threat to the future production of these fuels in Canada. The magnitude of direct subsidies, effective January 1, 2025, to US-based manufacturers will impact supply chain inputs (crops, rendered fats, wastes) and North American clean fuel trade.
- ii. Enacting a refundable, performance-based (on carbon intensity) CF PTC for the production of LCIF in the ITA is the most effective means to establish competitive conditions for Canadian-based clean fuel capital investment and operations.
- iii. The design of the CF PTC should address the inherent design and rate structure in the IRA. The Quebec renewable fuel PTC system is, with some modifications, a useful template.
- iv. Advanced Biofuels Canada originally put forward this proposal in the *Clean Fuels Investment in Canada - Roadmap to 2030*<sup>5</sup> report in 2019, and each of our subsequent federal budget recommendations; it is now even more germane with the availability of IRA subsidies. The Canadian Fuels Association recently endorsed this recommendation.<sup>6</sup>

**Recommendation 2** Amend the *Greenhouse Gas Pollution Pricing Act* (GGPPA)<sup>7</sup> to fully exempt LCIF registered under the *Clean Fuel Regulations* (CFR)<sup>8</sup> from the fuel charge.

- i. The CFR was finalized in June 2022 and now establishes a robust national regulatory system for the use of LCIF in Canada. The eligibility, registration, tracking, verification, and audit provisions of the CFR ensure that the fuel supply system in Canada has the data system controls to support enforcement of sustainability and carbon emission performance under regulatory and tax policies on clean fuel use.
- ii. The GGPPA section 8(5) and 8(6) provisions remove the ‘fuel charge’ (carbon tax) on biofuels in blends above 10% in gasoline and 5% in diesel. These provisions should be amended to align with the CFR and enhance affordability of clean fuels use. Specific revisions include:

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<sup>5</sup> ABFC (November 2019): [Clean Fuels Investment in Canada – Roadmap to 2030](#)

<sup>6</sup> Canadian Fuels Association (September 23, 2022): [CFA Statement to the Standing Committee on Environment and Sustainable Development](#)

<sup>7</sup> GOC (September 22, 2022): [Greenhouse Gas Pollution Pricing Act](#)

<sup>8</sup> GOC (September 22, 2022): [Clean Fuel Regulations](#)

- a. Amend the definition of clean fuels; LCIF that are ‘registered’ and ‘in compliance’ with the CFR should replace the definitions of ‘biogasoline’ and ‘biodiesel’ in GGPPA.
- b. All LCIF use should be fully (100%) exempt from the fuel charge.

**Recommendation 3** Amend the *Excise Tax Act* (ETA)<sup>9</sup> to reassess tax rates on all transportation fuels on the basis of energetic service.

- i. The ETA system has evolved over time to place taxes on fuel use, based on the type and volume of fuel. (The exception is the class of ‘marked’ fuels which relieves taxes for certain users.)
- ii. Clean fuel use has raised ‘tax fairness’ issues due to the lower energy density of renewable fuel alternatives to gasoline (e.g., ethanol) and diesel (e.g., biodiesel, renewable diesel). Lower energy density means more volume is required to go a given distance. This means that clean fuel users pay a ‘tax penalty’ since excise taxes are applied volumetrically; this is exacerbated by application of sales taxes (GST, PST) on the excise taxes. (The same ‘tax fairness’ issue applies to carbon taxes, as they are applied volumetrically as well. This would be remediated by the exemption in recommendation 2 above.)
- iii. The ‘fair’ approach would be to apply excise taxes on the basis of the ‘energy service’ (density) of the fuel. A tax fairness review should also include consideration of how to properly tax ZEV fuels or vehicles, as they are currently exempt from carbon and excise fuel taxes.

**Recommendation 4** Amend the ITA ‘Zero-Emission Technology Manufacturing’ (ZETM)<sup>10</sup> federal income tax rate cut to apply to all LCIF manufacturing registered under the CFR.

- i. As industry broadly addressed in comments to Finance during the development of the ZETM measure, the ZETM income tax rate reductions for clean fuels manufacturing are unnecessarily restrictive due to capital and income eligibility tests, and a narrow definition of eligible feedstock materials.<sup>11</sup> Further, the tax cut should apply to feedstock processors as well, to enhance the development of supply chains and eliminate economic distortion between processors and fuel producers.
- ii. Similar to the arguments presented in recommendation 2 above, the CFR now establishes a robust regulatory system for the use of LCIF in Canada, including rigorous requirements for eligible feedstocks. Accordingly, ZETM should be amended to align with the CFR by recognizing eligibility for the manufacture of any LCIF that is ‘registered’ and ‘in compliance’ with the CFR.

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<sup>9</sup> GOC (September 22, 2022): [Excise Tax Act](#)

<sup>10</sup> GOC (September 22, 2022): [Income Tax Act](#) (ITA section 125.2)

<sup>11</sup> Joint Letter to Finance (June 11, 2021): [Budget 2021 Clean Fuel Tax Measures – Impact on Clean Fuel Production Capacity Building](#)

**Recommendation 5** Establish a ‘*Production Tax Credit*’ (PTC) for Carbon Capture, Utilization, and Storage’ (CCUS) in the ITA by converting the proposed CCUS ‘investment tax credit’<sup>12</sup> design to a ‘PTC’ that promotes utilization of CCUS by LCIF registered under the CFR.

- i. The IRA provisions have significantly altered the competitive landscape for CCS/CCUS investments in North America. Changes to the 45Q<sup>13</sup> (CCS tax credit) system design, scope, and credit rates under IRA are now vastly superior to the draft federal CCUS ITC originally proposed in Budget 2021. The new 45Q provisions advantage US-based production of clean fuels; these fuels can be exported to Canada and are eligible to receive CFR credits:
  - a. LCIF fuels with CCS (e.g., ethanol, renewable hydrocarbon fuels, SAF)
  - b. Hydrogen production from steam reforming natural gas with CCS (i.e., blue hydrogen)
  - c. LCIF fuels with blue hydrogen (e.g., renewable hydrocarbon fuels, SAF)
  - d. Refined petroleum products with blue hydrogen
- ii. Advanced Biofuels Canada’s detailed recommendations for the CCUS credit are in our recent submission to Finance Canada.<sup>14</sup> The recommendations seek to amplify and accelerate use of CCUS with LCIF production in Canada, as a critical path to net-zero emissions. As noted previously, the CFR framework can be leveraged by requiring registration and compliance with the CFR as a condition of eligibility for the CCUS PTC.

**Conclusions** The recent passage of the US IRA reset market signals for clean energy capital investment; Canada must respond with a suite of measures that, in aggregate, re-establish competitive investment and operating conditions for Canadian-based low carbon hydrogen and clean fuel manufacturing. The above recommendations reflect ‘core elements’ for priority action. They are, however, only part of the suite of climate action tools that are influencing the transformation of global transportation systems and future economic growth and resilience. For example, the final design of the federal *Clean Energy Regulations*<sup>15</sup>, *Zero-Emission Vehicle* sales targets<sup>16</sup>, and oil and gas sector cap regulations<sup>17</sup> are also central to firming the three pillars of the clean energy economy: renewable electricity, low carbon hydrogen, and clean liquid fuels.

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<sup>12</sup> GOC (August 9, 2022): [Investment Tax Credit for Carbon Capture, Utilization and Storage](#)

<sup>13</sup> US 45Q: [Credit for carbon oxide sequestration](#)

<sup>14</sup> ABFC (September 30, 2022): [CCUS ITC Additional Design Features Consultation](#)

<sup>15</sup> GOC (July 26, 2022): [Clean Electricity Regulations](#)

<sup>16</sup> GOC (June 20, 2022): [Zero-Emission Vehicle Sales Targets](#)

<sup>17</sup> GOC (August 3, 2022): [Oil and Gas Sector Cap Discussion Paper](#)



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<sup>i</sup> [IEA Implementation of bioenergy in Canada – 2021 update](#)

<sup>ii</sup> US Government (August 16, 2022): *Inflation Reduction Act*