

Canada's Clean Fuel Strategy

COVID-19: Economic Recovery

Revised Version 2.0

Presented by:

Advanced Biofuels Canada

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CLEAN LIQUID FUELS INVESTMENT

- SUMMARY -

PREFACE

This document updates and replaces version 1.0 that was submitted to the Government of Canada on April 29, 2020. The revisions reflect bottom-up data, analysis of clean liquid fuels capital investment projects that were surveyed over May 2020. A total of 13 companies were surveyed, and information regarding 18 member and non-member capital investment projects was compiled. In addition, further detailed evaluation of biofuel blending infrastructure has been developed with fuel suppliers and equipment manufacturers.

Based on data gathered, we determined that capital investment projects in the sector are advanced and will be strongly responsive to co-investment stimulus. The primary recommendation in this brief seeks to leverage this private sector capital investment activity to create jobs and economic output in the short- to medium-term (2020 to 2023). Investment activity is divided into two discrete asset classes: clean liquid fuel production facilities and infrastructure.

In the May 2020 survey, capacity utilization rates at existing biofuel production plants in Canada were not strongly correlated to the previously proposed production credit facility. As a result, we have withdrawn the recommendation regarding the biofuel production credit program. However, small- and medium-sized enterprises (SME) that produce biofuels have seen operations curtailed or significantly cut back due to the COVID-19 economic shock; we are continuing to monitor their status and are evaluating the efficacy of the various Emergency Response Plan measures.

Finally, we recognize that efforts to manage and resolve the global COVID-19 pandemic will continue for some time. The economic consequences of this crisis are dynamic and not predictable. Government of Canada progress on developing and implementing key market-based regulations, such as the *Clean Fuel Standard*, has been delayed and regulatory design certainty is at least one year out. Global competitors to Canadian agricultural and forestry supply chains and biofuels production have implemented various economic response measures in their jurisdictions, with more anticipated in the future; impacts on Canadian competitiveness and trade are certain but cannot yet be defined. However, the global demand for clean fuels is expanding, and Canada can take a lead role in the production and use of clean fuels to meet domestic and international demand. Future revisions to this proposal will reflect current market data and sector information, and updated recommendations to inform Canada's fiscal policies relating to clean fuel investment.

With this context in mind, this brief has been revised to include a forward-looking, longer-term (beyond stimulus and recovery) recommendation to develop and implement structural sustainable finance mechanisms for clean fuel investments in Canada through the *Income Tax Act*.

CLEAN FUELS: NOTE TO READER

In this report, we refer to non-fossil, low-carbon fuels as 'clean fuels.' Clean liquid fuels are renewable fuels (e.g. biodiesel, ethanol, hydrogenation-derived renewable diesel), and synthetic fuels derived from non-biogenic wastes or CO₂ capture.

ISSUE

What role can Canada’s clean liquid fuel sector play in supporting economic recovery and durable, clean economic growth as we emerge from the COVID-19 pandemic downturn?

RECOMMENDATIONS

This report outlines two discrete ‘**Clean Liquid Fuels Investment Program**’ measures, totaling \$425 million of public investment. The measures target active capital investment projects of \$2.58 billion, supporting 16,800 jobs during construction phase (2020-2023), that will generate over \$6 billion in annual economic output and sustain 4,200 new jobs from production and use of clean liquid fuels in Canada. Our final recommendation reflects the need for sustainable finance measures to attract sufficient private sector capital investment in clean fuels production in Canada.

1. Innovation & Capacity Building: \$350 million

- Catalyze construction of active clean liquid fuel projects
- Innovation – process and energy efficiency, demonstration technologies
- Capacity – expansion and new facilities to supply domestic, export markets
- [Strategic Innovation Fund](#)

2. Biofuel Blending Infrastructure: \$75 million

- Install platform assets to support implementation of the *Clean Fuel Standard*
- Improve clean liquid fuel availability and reduce fuel costs for consumers
- [Electric Vehicle and Alternative Fuel Infrastructure Deployment \(EVAFID\)](#)

3. Clean Fuel Tax Policy Review – Budget 2021

- Conduct a multi-sectoral review in 2020 of clean fuel tax policy mechanisms to establish sustainable finance mechanisms for clean fuel investment to 2030+
- Clean fuel sectors: renewable energy, clean liquid fuels, zero emission vehicles, carbon sequestration and removal technology, batteries (ZEV and EV charging)
- Implement the clean fuel tax policies in Budget 2021

SECTOR ACTIVITY (2020 to 2023)

Direct new investment:	\$2.58 billion (\$425 million public, \$2.16 billion private)
Economic impact (construction):	\$3.45 billion (30-36 months)
Economic impact (operations):	\$6.15 billion (annual)
Direct jobs (construction):	16,800
Direct jobs (operations):	4,200
Sectors:	Manufacturing, agriculture, forestry, oil & gas, construction, professional services

CLEAN FUELS STIMULUS CONTEXT

Private sector companies are actively developing clean liquid fuel production projects, and fuel suppliers are implementing capital investment plans to meet compliance with the *Clean Fuel Standard* liquid class regulations in 2022. Leveraging existing investment activity can fast-track sector responsiveness to contribute to the post-COVID-19 economic recovery, and build durable, resilient clean energy assets to sustain economic growth.

The economic crisis dictates a new and dynamic reality for existing renewable fuel producers and planned capital investments. This brief analyzes two specific investment measures to stimulate job creation and economic recovery and growth over the next 30-36 months. The funding programs will drive immediate actions, with long-term benefits for Canadians: lower fuel costs for consumers, reduced compliance costs for fuel suppliers, lower greenhouse gas emissions, and set a clear path to exceed Canada's 2030 emissions reduction target and achieve net-zero emissions by 2050. Longer-term, stable and competitive sustainable finance measures must be in place to attract \$ billions in new clean fuel capital investments to Canada.

Detailed information on Canada's clean liquid fuels sector and comprehensive measures to support private sector investment and long-term, competitive growth to 2030 are available here:

- *Clean Fuels Investment in Canada (Liquid Fuels):* [Roadmap to 2030](#)
- Canada's [Clean Fuel Strategy](#)

CLEAN FUELS INVESTMENT PROGRAM - DETAIL & ANALYSIS

1. Innovation and Capacity Building - \$350 million

Status Global biofuels production has been [impacted](#) by fuel demand destruction caused by COVID-19, and global over-supply of crude oil. Further, dynamic [changes](#) to agriculture supply chains due to COVID-19 are impacting biofuel feedstock supply and costs. Global subsidy and recovery [measures](#) to farmers and businesses are benefitting foreign competitors.

The COVID-19 economic impact will delay some major capital investment projects, and cause others to terminate. However, based on a May 2020 survey of members, Advanced Biofuels Canada has identified significant near-term investment potential in medium to large scale clean liquid fuel capital projects. A co-investment (grant) program will support positive final investment decisions and move projects into active construction. Projects are long-life, providing resilient, clean energy jobs to support the Canadian economy in the years and decades ahead.

Impact A \$350 million innovation and capacity building program, delivered over 30-36 months, will generate significant economic stimulus during the construction period. Once in operation, annual economic activity occurs across agricultural and forestry supply chains, and waste management systems. Mobilizing supply chains will build resilience to Canada's agricultural, forestry, and oil and gas sectors in rural and resource-based Canadian communities.

At a 25% contribution grant level, direct program expenditures would total \$1.4 billion. Projects identified in the May 2020 survey represent \$2.46 billion of capital investment (note- this data set does not capture all clean liquid fuel project activity in Canada). The direct impact of this program would depend on the number and nature of eligible projects.

Based on the projects surveyed, aggregate estimated impacts from clean liquid fuel capital investment projects over 2020 to 2023 are as follows:

- Total projects 18
- Total capital investment \$2.46 billion
- Economic impact – construction \$3.20 billion (one time)
- Economic impact – operations \$6.15 billion (annual)
- Direct employment – construction 16,000
- Direct employment – operations 4,200
- Sectors: fabrication, cleantech, construction, trades, professional services, agriculture, forestry, waste management, manufacturing

Program Design

- Funding mechanism: [*Strategic Innovation Fund*](#)
- Scope: Clean liquid fuel innovation and capacity projects
- Total fund: \$350 million
 - FY 2020-2021: \$100 million
 - FY 2021-2022: \$125 million
 - FY 2022-2023: \$125 million
- Contribution level: 25%
 - Private/stacked 75%
- Application period: Summer 2020
 - Approval/contract October 2020
- Program period: October 2020 – September 2023 (36-months)
- Eligible expenses: Capital expenditures

2. Biofuel Blending Infrastructure - \$75 million

Status To achieve compliance with the *Clean Fuel Standard* (CFS) liquid class fuel regulations, which will be implemented in 2022, gasoline and diesel fuel supply systems will increase clean liquid fuel use and obtain compliance credits from other low carbon transportation platforms (renewable powered electric vehicles (EVs) and gaseous fuels (e.g. hydrogen, renewable natural gas)). Infrastructure upgrades to increase biofuel storage, blending, and pumps to dispense mid- and high-level biofuel blends are essential to: (i) enable CFS compliance; and (ii) exceed Canada’s 2030 greenhouse gas reduction targets.

The Government of Canada implemented an alternative fueling infrastructure program, termed *Electric Vehicle and Alternative Fuel Infrastructure Deployment* ([EVAFID](#)), in Budget 2016. Ultimately, funding of approximately \$225 million has been allocated to EVs and gaseous fueling infrastructure (hydrogen and natural gas). The EVAFID program has not yet provided support to biofuels, despite proven market acceptance and demand (see BC LCFS [reports](#)). The US has various established biofuel blend programs (e.g. [USDA](#), [Iowa](#)) and a USD \$600 million program was recently [proposed](#).

Impact Adding a \$75 million biofuel blending infrastructure program to EVAFID will stimulate action to build out supply chain infrastructure for biofuel blends. The program would target upgrades at retail/cardlock fuel stations (~13,200 in Canada) and primary terminals and bulk plants (~ 585 in Canada), supporting investments by fuel station owners and fuel distributors. These investments would increase CFS compliance credit generation, improve fuel market competition, reduce greenhouse gas emissions, and support lower fuel costs for consumers.

Based on differentiated contribution grant levels of 75% for retail and commercial station upgrades and 35% for wholesale terminals, transload, and bulk plant facilities, we estimate the direct economic activity over FY2020/21 and FY2021/22 to be as follows:

- Total projects 948 (921 retail, 27 wholesale)
- Total capital investment \$123 million
- Economic impact – construction \$ 255 million (one time)
- Direct employment – construction 799
- Sectors: fabrication, cleantech, equipment, construction, trades, professional services

Program Design

- Funding mechanism: [EVAFID Initiative](#)
- Scope: Biofuels blending infrastructure investments (B20, E15/85)
- Total fund: \$75 million
 - FY 2020-2021: \$10 million
 - FY 2021-2022: \$65 million
- Contribution level: 75% / 35% (retail / wholesale)
 - Private/stacked 25% / 65%
- Fuel stream:
 - Biodiesel – B20 20% of program (\$15 million)
 - Ethanol – E15/E85 80% of program (\$60 million)
- Application deadline: Summer 2020
- Program period: October 2020 - March 2022 (18-months)

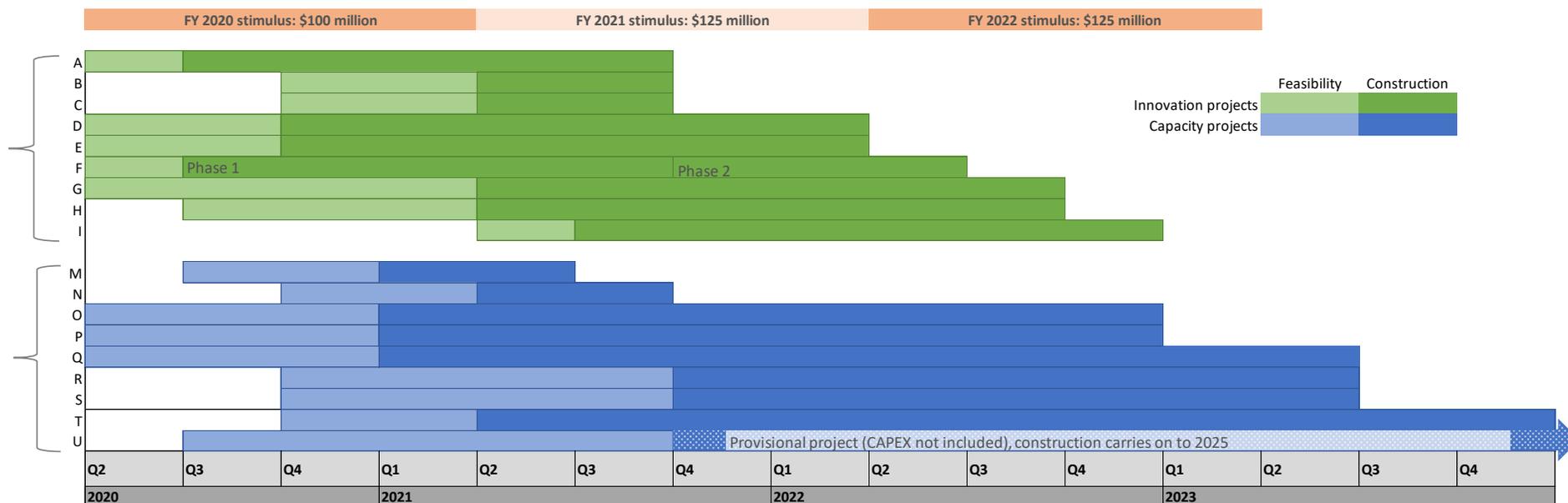
APPENDIX I: Clean Liquid Fuel Investment Program Analysis

A. Clean Fuels Investment Program: Clean Liquid Fuels Summary

Clean Fuels Program	Program		Funding Allotment				Net Benefit		Jobs		Industry
	Rate (%)	Funding (\$M)	FY 2020 ¹	FY 2021	FY 2022	Total CAPEX (\$M)	Constr. (\$M)	Annual (\$M)	Constr. (Qty)	Perm. (Qty)	CAPEX contribution
Innovation/Capacity Projects	25%	\$ 350	\$ 100	\$ 125	\$ 125	\$ 2,460	\$ 3,198	\$ 6,150	15,990	4,182	\$ 2,110
Infrastructure Retail/Commercial	75%	\$ 60	\$ 10	\$ 50	\$ -	\$ 80	\$ 166	\$ -	520	n/c	\$ 20
Wholesale Transload	35%	\$ 15	\$ -	\$ 15	\$ -	\$ 43	\$ 89	\$ -	279	n/c	\$ 28
Total		\$ 425	\$ 110	\$ 190	\$ 125	\$ 2,583	\$ 3,453	\$ 6,150	16,789	4,182	\$ 2,158

¹ fiscal year: Apr01 to Mar31

B. Clean Fuels Investment Program: Clean Liquid Fuels Innovation & Capacity Projects



INNOVATION
 Total CAPEX: \$235M
 Project count: 9
 Max. grant amount (25%): \$60M
 Capacity gain: 29MLY
 Jobs (construction): 1,525
 Jobs (permanent): 400
 Economic impact (construction): \$300M

CAPACITY
 Total CAPEX: \$2.2B
 Project count: 9
 Max. grant amount (25%): \$555M
 Capacity gain: 1,350MLY
 Jobs (construction): 14,465
 Jobs (permanent): 3,785
 Economic impact (construction): \$2.9B
 Economic impact (annual): \$5.6B

C. Clean Fuels Investment Program: Clean Liquid Fuels Infrastructure

Retail / Commercial Program	Retail & Commercial Sites	Retail & Commercial CAPEX (\$M)	Program Rate (%)	Program Allotment (\$M)	Fuel Type Allocated Percent of Total (%)
Fuel Type					
Biodiesel	168	\$ 16.00	75%	\$ 12.00	20%
Ethanol	753	\$ 64.00	75%	\$ 48.00	80%
	921	\$ 80.00		\$ 60.00	100%
			Economic impact	\$ 166.08	
			Jobs	520	

Wholesale Program	Wholesale Sites	Wholesale CAPEX (\$M)	Program Rate (%)	Program Potential (\$M)	Allocated Percent of Total (%)
Fuel Type					
Biodiesel	5	\$ 8.57	35%	\$ 3.00	20%
Ethanol	22	\$ 34.29	35%	\$ 12.00	80%
	27	\$ 42.86		\$ 15.00	100%
			Economic impact	\$ 88.97	
			Jobs	279	

SUMMARY - Biofuels Infrastructure

Total Funding	\$ 75.00
Total Invested CAPEX	\$ 122.86
Retail & Commercial Sites	921
Wholesale Terminal & Transload Sites	27
Total Impacts	Economic impact \$ 255.05
	Jobs 799