

2021 Federal Pre-Budget Submission

Ecostrat Inc.

Immediate practical steps are needed to reach Canada's bio-economy potential. Canada has over 120 million tonnes of available biomass. Using this asset to produce alternative fuels, renewable chemicals, bio-based products and clean hydrogen can create [132,000 jobs and nearly \\$31B of economic benefits](#) and act as a key lever to drive economic recovery. This activity supports the Canadian Fuel Standard (CFS) as well as rural forestry and agriculture communities. However, capital markets must have the right data and receive the right signals in order to move.

Recommendation: Support Canada's leadership in the bio-economy nationally by creating innovative, market-based tools to create an integrated investment platform, retain technology leadership and build clusters of excellence with three simple steps:

Support the Creation of Biomass Ratings Canada (BRC): \$5M over 5 years.

Create BRC to fill the need for a credible independent third-party agency to designate feedstock risk for bio-based projects and to attract bio-based project development across the country. BRC will be created collaboratively with Bioindustrial Innovation Canada (BIC) and will be fully self-sustaining by year 5.

Complete work on Canadian Biomass Supply Chain Ratings (BSCR) Standards by developing Risk Rating Mechanisms and Protocols. \$450K

Facilitates the development, validation and integration of a Risk Ratings Framework to provide capital markets with necessary tools to de-risk and drive bio-based investment.

Support a BD-Zone program nationally to stimulate immediate investment: \$5M

Create a \$5M BD-Zone Fund to support BD-Zone Designation by providing matching funds from provinces and local regions. This would allow certification of over 50 sites in Canada over 2 years to drive bio-economic development, investment and jobs. Will be managed collaboratively with BIC in cooperation with regional economic development agencies.

This approach is supported by individuals from the following organizations:

<ul style="list-style-type: none"> ○ Scotiabank ○ Goldman Sachs ○ TMX Exchange (TSX) ○ BMO ○ Desjardins ○ TD Bank ○ CIBC ○ Citi Bank ○ Rabo Bank ○ BNP Paribas ○ Live Oak Bank ○ TransCanada ○ Standards Council of Canada (SCC) ○ Shell 	<ul style="list-style-type: none"> ○ Total ○ Direct Energy ○ TransCanada ○ InstarAGF Asset Management ○ Alberta Innovates ○ Innovacorp ○ Greenfield Global ○ WestJet ○ United Airlines ○ CAAFI (Commercial Aviation Alternative Fuels Institute) ○ Nawitka Capital Advisors ○ Invest-In-Canada ○ CanMet Energy 	<ul style="list-style-type: none"> ○ Advanced Biofuels Canada ○ Canada Cleantech ○ Bioindustrial Innovation Canada ○ International Institute for Sustainable Development (IISD) ○ Ontario Center of Excellence ○ University of Toronto ○ Queens University ○ Red Leaf Pulp ○ ArcelorMittal Dofasco ○ City of Melville, Saskatchewan
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The Context

Canadian biomass represents tremendous and largely untapped economic potential: **132,000 jobs and nearly \$31 billion of economic benefits** would be created by using forestry residues, agricultural crops farm and food wastes and MSW to manufacture alternative fuels, renewable chemicals, bio-based products, sustainable aviation fuels and clean hydrogen. Accelerating investment into these sectors is an imperative in order to create clean energy jobs for the recovery, to support deployment of Canada bio-based policies such as the CFS, and to creating Canada's low carbon future.

However, investor capacity to assess biomass supply chain risk is limited, particularly in the fast-paced capital finance markets. In 2018 NRCan and Ecostrat funded development of the [Canadian Standards for Biomass Supply Chain Risk \(BSCR Standards\)](#) and in 2019 the Standards Council of Canada (SCC) funded accreditation as a National Standards of Canada by the Canadian Standard Association. Accreditation is expected in 2021.

Now, it is important to build-out and leverage the federal governments investment in the BSCR Standards and to further de-risk and accelerate investment in the Canadian bio-economy by:

1. integrating a risk ratings framework with the BSCR Standards,
2. developing an independent body to issue accredited risk ratings to bio-projects, and
3. implementing a program to identify low-risk, investment ready BD-Zones with federal, provincial, and local economic development agencies across the country.

The need to address these barriers through improved way of identifying and rating feedstock risk is recognized and supported by the [BSCR Ratings Review Committee](#), the largest bio-based capital markets group in the world with over \$55 billion of deployable capital into the sector and 60 members including key Canadian capital markets.

BSCR Committee Members (selected)



Alignment with Government Priorities

These standard and ratings-based initiatives are consistent with federal and industry priorities.

CLEAN FUEL STEERING COMMITTEE- SOLID BIOMASS FUELS

- ✓ “There is a need for mechanisms to de-risk ... feedstock supply chains and their impact on the cost of capital for associated energy projects. Higher perceived feedstock risk results in a higher cost of capital, which can derail promising projects. Mechanisms that lower feedstock risk for investors drive capital into these projects and support demand for solid fuels.”

Solid Biomass Fuels in Canada’s Low Carbon Energy Future, p.14

ADVANCED BIOFUELS CANADA & CLEAN FUEL STEERING COMMITTEE – LIQUID BIOMASS FUELS

- ✓ “Develop Canadian standards that enable clean liquid fuel market growth, such as:
 - Biomass Supply Chain Risk Standards (BSCRS) – biomass credit rating system”

Advanced Biofuels and Synthetic Liquid Fuels – Roadmap to 2030, p.35

THE PAN-CANADIAN FRAMEWORK ON CLEAN GROWTH AND CLIMATE CHANGE

- ✓ “... key needs exist in terms of accessing venture capital as well as working capital and support for first, large-scale commercial projects or deployments.” p.39.

THE FOREST BIOECONOMY FRAMEWORK FOR CANADA

- ✓ “Clear processes for establishing new standards would accelerate the growth of the bioeconomy, as would standards for biomass feedstock.” Objective 2A p.22

Opportunity: A National Market-Based Partnership

The Government of Canada can unlock the full job-creation potential of the bio-economy by three related initiatives which together can function as a bio-based investment platform to galvanize, accelerate bio-based investment, project development and economic development across the country.

BSCR Ratings Development and Integration with BSCR Standards

The purpose of this project is to powerfully leverage NRCan's initial investment in the BSCR Standards and improve the market competitiveness of Canada's forest resources by developing, testing and integrating a Biomass Supply Chain Risk Ratings Framework with the Canadian BSCR Standards.

By reliably, effectively and efficiently signaling biomass feedstock risk to the capital markets, BSCR Risk Ratings will help drive 150-250 basis points out of the current debt burden worn by most bio-projects, thereby accelerating existing bio-project development, attracting additional bio-industry development to Canada and driving increased utilization of Canada's woody and agricultural biomass resources.

Biomass Ratings Canada

BRC will serve to implement, promote and administer the BSCR Standards, and to provide necessary independent third-party certification of biomass supply chain risk for projects and regions. BRC will:

- Train certified bodies to guide companies through the certification process;
- Review ratings applications and issue certified supply chain risk ratings and certifications of supply chain risk;
- Develop sector-specific guidance and update the BSCR Standards on a regular basis; and,
- Collaborate with the financial and insurance industry sectors to develop new products that can further de-risk project development based on the BSCR Standards.

The "BD-Zone" Program

The Program will:

- Identify and rate low risk Bio-Economy Development Zones in a way that capital markets understand and trust and that economic development agencies can promote.
- Have three attributes: a surplus of biomass, low-risk supply chains to deliver it, and suitable infrastructure to support an operating plant.
- Be risk rated "AA" or "A" using the [BSCR Standards](#) and integrated risk ratings.
- Drive bio-based economic development and investment by leveraging:
 - ✓ North America's largest bio-based group of investors: [the \\$55 billion BSCR Ratings Review Committee](#).
 - ✓ Canada's federal, provincial and local economic development organizations (Invest-In Canada has indicated that it will promote BD-Zones globally. Trade and Invest BC; Invest Alberta; Manitoba Growth, Enterprise and Trade; and Investissement Quebec have all endorsed BD-Zones as an important new economic development tool for the recovery).

The City of Melville, SK has begun the designation process to become Canada's first BD-Zone. City Manager Ron McCullough says that "as a sustainable economic development strategy, the City of Melville is interested in leveraging its plentiful wheat straw and great infrastructure to attract more bio-based business investments to our community. We believe BD-Zones can help us reach this goal."

[Red Leaf Pulp](#) is looking to locate the first Canadian wheat straw to pulp plant in a BD-Zone. Martin Pudlas, CEO of Red Leaf Pulp says this: “Our plant will transform 260,000 tons per year of wheat straw into compostable, renewable, pulp and bio-products, while providing millions of dollars in local economic activity. Reliability of feedstock supply is key to our location decision, and we will give serious consideration to BD-Zones when choosing to site this plant.”

The [Commercial Aviation Alternative Fuels Institute](#) (CAAFI) says: “CAAFI recognizes the unique challenges facing development and financing of new sustainable aviation fuel facilities, particularly given the economic downturn brought on by COVID 19. **CAAFI fully supports the BD-Zone Program and strongly recommends the designation of as many BD-Zones as practicable in order to attract solid investment in SAF production facilities**”.

- Examples of potential BD-Zones:

Woody Biomass

- ✓ Drayton Valley, AB
- ✓ Brompton, QC
- ✓ Quebec City, QC
- ✓ Thurso, QC
- ✓ New Richmond, QC
- ✓ Portage-Du-Fort, QC
- ✓ Pictou, NS
- ✓ Mackenzie, BC
- ✓ The Pas, MB
- ✓ Bathurst, NB
- ✓ Red Deer, SK

Wheat Straw

- ✓ Red Deer Central, AB
- ✓ Camrose/Vegreville, AB
- ✓ Saskatoon/Prince Albert, SK
- ✓ Regina East, SK
- ✓ Brandon Central, MN
- ✓ Winnipeg West, MN

Corn Stover

- ✓ London/Aylmer, ON
- ✓ Sarnia, ON
- ✓ Montreal South/Vareennes. PQ

Manure

- ✓ Perth, ON
- ✓ Oxford, ON
- ✓ Wellington, ON

MSW and Food Waste

- ✓ Toronto, ON
- ✓ Montreal, PQ

Impacts and Outcomes

Investors can be expected to reward biomass-based projects with supply chain risk ratings with simpler capital stacks, lower borrowing costs and faster deployment of necessary capital. Biomass Supply Chain will reduce friction in the capital markets and facilitate necessary capital for bio-based investments that utilize Canadian biomass.

This approach appreciably de-risks forest and agricultural value chains by providing a more accurate means of quantifying feedstock risk, which will in turn help deploy less expensive capital into new production facilities. By supporting more effective and faster deployment of capital into new bio-economy manufacturing facilities, this platform supports a higher, optimal level of activity in Canada's forest and agriculture sectors.

Development of Biomass Risk Rating mechanisms based upon the BSCR Standards is the next important step in accelerating needed capital flow to Canada's forest and agricultural bioeconomy. Just as credit ratings help financial markets better understand credit risk and are essential to the efficient flow of trillions of dollars of capital through the economy, a Biomass Risk Ratings Framework based on the BSCR Standards will simplify analyses of feedstock risk for investor markets and drive capital into the bio-sector.

This bio-based investment platform supports the Canadian government's goal of producing a viable, sustainable domestic biomass industry that produces renewable biofuels, bioproducts and biopower using made-in-Canada biomass. The impact of this project is accretive and immediately transferable across the full spectrum of bio-based industries: the benefits will impact bioenergy, advanced biofuels, bio-based heat and power, clean hydrogen production and others.

Government funding of this three-part investment platform will accelerate development of workable solutions to challenges faced by the bioenergy industry in Canada, enable dissemination of those solutions to industry, and support government objectives around climate change, clean energy production, and new economy job creation for the economic recovery.

Investments in biomass development not only create new revenue streams for agriculture and forestry but also provide ample bio-based feedstock for Canada's clean energy sectors. By supporting this market-based approach, the government will:

- Accelerate job creation and economic development, particularly in rural Canada
- Help drive greater investment in renewable energy across Canada
- Support the country's decarbonization goals; and
- Consolidate Canada's position as an innovative leader in the global bio-economy