

**Written Submission for the Pre-Budget
Consultations in Advance of the 2019 Federal
Budget**

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List of Recommendations

Recommendation 1:

That the Government of Canada support the development of National Standards for Biomass Supply Chain Risk by investing \$300,000 and engaging Ecostrat to undertake the development. The standards will be a validated, best-of-kind set of indicators, guidelines, methods and tools to quantify supply chain risks and to rank and rate those risks on an objective and accepted scale.

Recommendation 2:

That the Government of Canada support the creation of the Institute for Biomass Supply Chain Risk (Institute) by investing \$3.75 million over 5 years. The Institute will train bodies in the application of the standards, guide bio-companies through the certification process, and act as the oversight body for award of certification of biomass supply chain risk. The Institute will transition by year 6 to be fully self-sustaining through user-generated revenues.

Ecostrat, a Canadian owned and operated company, has already invested significantly in the development of standards for biomass supply chain risk in the United States, in partnership with Idaho National Labs and the US Department of Energy. The intellectual property associated with the standards is in the public domain as the standards are intended to be made public. As its contribution to this important government-industry partnership, Ecostrat will undertake to develop biomass supply chain risk standards for Canada and will bring the IP necessary to the development – an estimated value of \$2.5 million in 2018 and increasing to 3.75 million in 2019 and a further 5 million in 2020.

The Context

Canadian forestry and agricultural residuals represent tremendous economic potential. Biomass from trees and agricultural crops can be converted into various lower-carbon consumer and industrial products including renewable biochemicals, bioenergy, biofuels and other bioproducts that are increasingly replacing fossil-fuel based products.

This is significant because biomass is a resource of rapidly growing importance in the expanding bioeconomy and Canada has the potential to be a global leader.

There are, however, significant – and unnecessary – financial risks hindering biomass project development. One key financial risk is that risks associated with biomass feedstock are not well understood by the capital markets. The main reason for this is that, currently, there are no established protocols, standards or recognized industry best-practices to rely upon to empirically quantify biomass supply chain risk. Therefore developers, investors, commercial lenders, insurance companies and rating agencies each use varied and inconsistent approaches and evaluation criteria to benchmark against. This inconsistent methodology leads to uncertainty in the capital and debt markets; and that uncertainty drives bio-project debt costs and slows or prevents projects from being built. It therefore represents a key barrier to biomass project development in this country

Without a standardized and recognized approach to risk assessment, debt and capital markets have no way to reliably assess biomass project risks. As a result, borrowing costs become a significant barrier to bio-industry investment, and often result in millions of dollars of financial drag on the projects that are eventually built, leading investment banks for the renewable energy industry estimate biomass projects face financing and debt costs up to 350 basis points higher than might otherwise have been required.

Current Initiatives to Address the Challenges

The US Department of Energy (US DOE) has recognized this key barrier to development of the bioeconomy and is taking material steps to address it. Two years ago, the US DOE funded the development of new US National Standards for Biomass Supply Chain Risk (BSCR). The BSCR Standards were formulated by Ecostrat and Idaho National Labs, with input from a large industry stakeholder group.

"The Council's report is another step toward Canada's bright energy future, but I am looking to all Canadians to continue to provide ideas, insights and views on how we can reach our destination of a reliable, affordable, inclusive low-carbon economy."*

Jim Carr, Minister of Natural Resources

*Generation Energy Council Report

The BSCR Standards are a validated, best-of-kind set of indicators, guidelines, methods and tools to quantify supply chain risks and to rank and rate those risks on an objective and accepted scale. These standards are based on the risk-rating methodologies of the major rating agencies – Standard & Poor’s, Fitch, and Moody’s – and will be made public in 2019.

When they are released, the standards will allow capital markets to empirically and consistently assess a project’s feedstock supply chain risk through an accepted rating system (i.e. BB, A-, AA). By enabling capital markets to more accurately quantify and price supply chain risk, the standards are expected to drive 150-350 basis points out of the current debt burden of biomass project development and materially accelerate the bio-economy

Opportunity: Proposal for Partnership

The most appropriate way to activate the BSCR Standards is to create an oversight body. Such a body would serve to implement, promote and administer the BSCR Standards, and provide independent third-party certification of biomass project supply chain risk.

The Government of Canada can unlock the potential of the bioeconomy by adapting the US DOE standards to the Canadian context, and by supporting the creation of a made-in-Canada Institute for Biomass Supply Chain Risk (IBSCR).

Such an institute will:

- Adapt the US national standards for the Canadian market;
- Incorporate Canadian research and knowledge to make the standards appropriate for biomass project development in Canada;
- Train certified bodies to guide companies through the certification process;
- Review 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.

"There is an enormous opportunity for Canadian businesses in clean technology to grow and capture a large share of global markets, while improving environmental outcomes. Clean technology can create jobs in Canada, grow the GDP and help scale up some of the great technology companies that are already in the Canadian market and exporting abroad."

Audrey Mascarenhas,
Questor Technology Inc.

Chair - Economic
Strategy - Clean
Technology Table

Impacts and Outcomes

By bringing a standardized and certified risk assessment process to Canada, the government can reduce the level of uncertainty associated with biomass project development. The IBSCR can unlock significant development potential in the Canadian bioeconomy, increase the rate of development of biomass projects in Canada, and incent projects from outside Canada that apply for certification to locate in Canada.

Support from the Canadian government for the adoption of the proposed standards and the establishment of a Canadian-based institute will:

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

As was indicated in the recent Interim report of the Government of Canada's Clean Technology Economic Strategy Table, innovation can be driven through regulations and standards.

Interim Report - Clean Technology Table

Priority Theme #3

Regulations and standards can be powerful tools for advancing innovation. Canada should seize the strategic opportunity to create regulatory frameworks that proactively encourage the demonstration of clean technologies, and also facilitate closer collaboration among regulators, innovators and adopters, to ensure that regulations keep pace with technology advances. Regulatory harmonization across jurisdictions, along with taking a leading role in setting international standards, will both strengthen Canadian sectoral growth and environmental outcomes. The Table will look to other jurisdictions to better understand how other countries are encouraging innovation through regulations and standards.

The Solution

Ecostrat is proposing an opportunity for the Government of Canada to advance its clean growth strategy by unlocking the potential of our significant forestry and agricultural residuals which represent tremendous economic potential. By reducing the level of uncertainty associated with biomass project development, the government can accelerate the development potential for various lower-carbon consumer and industrial products

including renewable biochemicals, bioenergy, biofuels and other bioproducts that can replace fossil-fuel based products.

Stakeholders

The following is a selection of Canadian companies, agencies and NGOs that have indicated a willingness to join an Industry Stakeholder Group to support the need for an industry standard for supply chain risk in Canada and the establishment of the Institute for Biomass Supply Chain Risk:

<ul style="list-style-type: none"> ○ S&P, Moody's, Fitch ○ Greenfield Ethanol ○ Ensyn ○ Iogen ○ Comet Biorefining ○ ArcelorMittal Dofasco ○ Stelco ○ EDF ○ Anaergia ○ Airex Energy ○ Index Energy ○ Messerschmidt Manufacturing ○ Torchlight Bioresources 	<ul style="list-style-type: none"> ○ InstarAGF Asset Management ○ ING Bank ○ CIBC ○ Canadian Standards Association (CSA) ○ FP Innovations ○ Bio Innovations ○ Alberta Innovates ○ Innovacorp ○ GE Capital ○ Macquarie Bank ○ Walker Industries 	<ul style="list-style-type: none"> ○ Bio industrial Innovation Canada ○ Sustainable Development Technology Canada (SDTC) ○ CAAFI (Commercial Aviation Alternative Fuels Institute) ○ International Institute for Sustainable Development (IISD) ○ Ontario Center of Excellence ○ University of Toronto
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