

Biomass Development Zones & Biomass Supply Credit Rating Standards

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The BD Zone Initiative: Driving Investment to Low Risk Bio-Project Development Regions

How the BSCR Standards and BD Zones work to de-risk investment and accelerate bio-project market development



What are Bioeconomy Development Zones?

The BD Zone Program is an economic development tool to attract new biochemical, biofuel and bio-material plants to regions that are “biomass investment ready”.

- BD Zones have surpluses of biomass, low-risk supply chains to deliver it, and suitable infrastructure to support an operating plant.
- The BD Zone Program:
 - ✓ Awards a “AA” or “A” Ratings to designated zones that present low bio-project development risk.
 - ✓ Drives bio-business deal-flow to BD Zones by promotion through federal, provincial and local economic development bodies.
 - ✓ Supports our forestry companies, sawmills, paper companies and farmers by attracting new markets for biomass.

The City of Melville BD Zone



The City of Melville Bioeconomy Development Zone is 'A' rated for feedstock and infrastructure risk.



The BD Zone Initiative

Leveraging the BSCR Standards and Capital Markets Group to Drive Bio-based Investment and Jobs



BD Zone Investors

Investment capital for bio-projects located in BD Zones from the 65 members of the largest group of bio-based investors in North America.

Standards for Biomass Supply Chain

BD Zones are designated using the BSCR Standards: recognized by leading capital markets and developed over 5 years with support of Canadian and US and federal governments (NRCan and USDOE), National Labs, and over 150 industry stakeholders.



Canada's First BD Zone: The City of Melville, SK

Designation Date, November 2020

The City of Melville, SK is Canada's first BD-Zone. City Manager Ron McCullough says: "The City of Melville approached the **BD Zone initiative** because we are interested in attracting clean technology opportunities to Melville: opportunities like Red Leaf Pulp".

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: "Reliability of feedstock supply is key to our location decision and a BD Zone designation an important factor in our decision-making criteria."

"The first \$300M Red Leaf Pulp plant will transform 260,000 tons per year of wheat straw into compostable, renewable bio-products create 285 direct and indirect jobs in Saskatchewan. Saskatchewan alone can accommodate 4-5 additional Red Leaf Pulp facilities."

The Commercial Aviation Alternative Fuels Initiative (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**".



What Does a 'BD Zone Rating' Look Like?

The City of Melville BD Zone



The City of Melville Bioeconomy Development Zone is 'A' rated for feedstock and infrastructure risk.

Bioeconomy Development Zone Risk Rating Report | BD ZONE Designation: The City of Melville, SK
Date of Issue: 09-20-2020

Bioeconomy Development Zone Risk Rating

'A'

BD Zone Assets

- Stable long term outlook on feedstock price and quantity; low impact of seasonal variation on feedstock price and quantity.
- Large Biomass Availability Multiple (BAM) at a 38% participation rate and within 150 km.
- In the event of decreased wheat straw production, supply basin can be significantly expanded at marginal increased delivered cost.
- No large-scale competition for wheat straw.

BD Zone Liabilities

- Lack of suitable harvesting equipment for large-scale harvest at the present time. Moderate to high probability of necessity to engage third-party company to provide square bales.
- Complexity. Average farm size is relatively small. Supply chains for large quantities will require engagement with large numbers of farmers.
- Lack of initial interest from large growers.

The City of Melville Bioeconomy Development Zone is rated 'A'. Long term outlook on price and quantity for wheat straw is deemed stable. Key scale-up risks are likely addressable with reasonable mitigation measures.

Rating Parameters

| Feedstock Quantity | Feedstock Form | Feedstock Basin Radius |
|---------------------|--------------------|------------------------|
| 200,000-300,000 ODT | Square/round bales | 80 km |

BD Zone Risk Rating

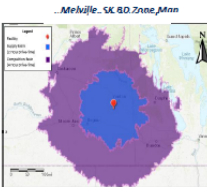
Risk Rating Grades are defined as follows: 'Aa' (very low), 'A' (low), 'Baa' (low-moderate), 'Ba' (moderate), 'B' (moderate-high) or 'C' (high).

The City of Melville, SK Bioeconomy Development Zone is rated 'A' or 'low risk'.

In assessing the biomass supply chain risk for the Melville BD Zone, we applied 54 Risk Indicators from the [Canadian Biomass Supply Chain Risk Standards](#). These 'BD Zone Risk Indicators' are the subset of BSCR Risk Indicators that were deemed applicable to gauging feedstock risk within a BD Zone.

Feedstock Quantity is expressed in oven-dried metric tonnes. Feedstock Price is expressed in Canadian dollars FOB plant gate assuming a plant located centrally in the BD Zone. Maximum Transport Distance is calculated assuming the maximum quantity in this BD Zone Rating (300,000 ODT) and may be used to gauge the size of the BD Zone.

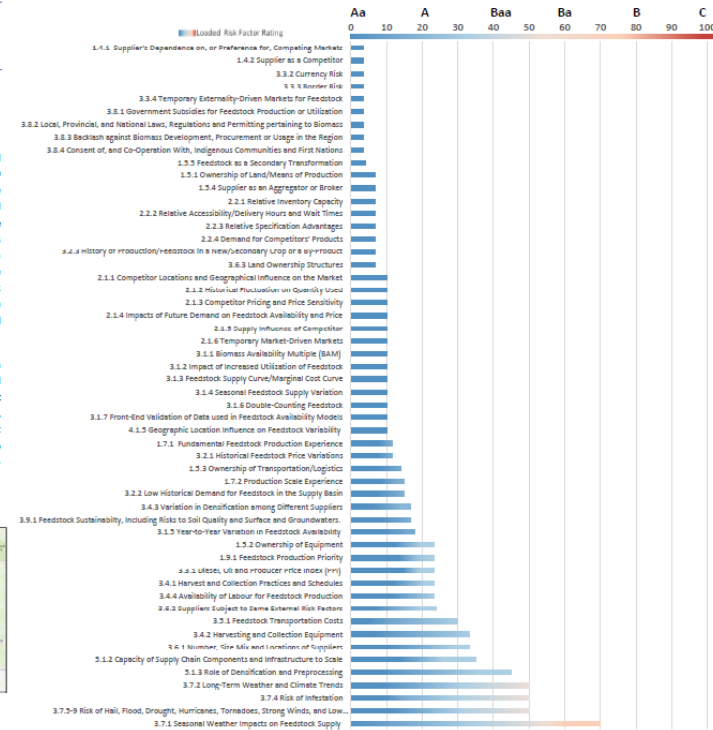
Scoring and Ratings Methodology First, each BD Zone Risk Indicator was given a 'Raw RI' score based on the current, undeveloped state of the supply chain. Raw Scores are scaled between 1 (low risk) and 10 (high risk).



Next, each Risk Indicator was notched based on the degree to which the BD Zone Liabilities outlined herein were deemed to be addressable, and whether we have a reasonable expectation that mitigation measures could be put into place at the price parameters for this rating. The likelihood of occurrence for each Risk Indicator, given reasonable mitigation measures, is termed 'Notched Saience'.

Finally, the impact on the supply chain of each Risk Indicator was assessed and weighted on a 10-point 'Impact Level' scale, as either low, moderate, or high, based on the assumption that key measures implemented to mitigate feedstock risk in the BD Zone failed to do so.

Bioeconomy Development Zone Risk Rating Report | BD ZONE Designation: The City of Melville, SK
Date of Issue: 09-20-2020



How BD Zones Drive Economic Development

BD Zone Rating

'AA' or 'A' rated for low feedstock risk.

Surplus of biomass, strong anchor suppliers, good supporting infrastructure.

Certified Risk Ratings using Canadian Standards for Biomass Supply Chain Risk

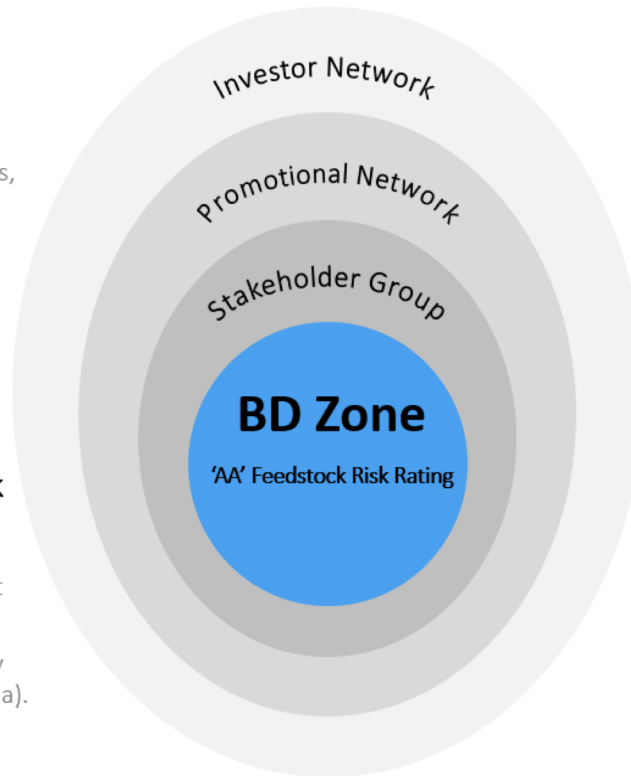
Ratings validated by BDO Zone Advisory Committee.

BD Zone Promotional Network

Accelerates BD Zone dealflow.

Federal, provincial economic development organizations (i.e. Invest-In-Canada),

National, provincial and local bio-economy associations (i.e. Advanced Biofuels Canada).



BD Zone Stakeholder Group

Accelerates ground-level economic development.

Local anchor suppliers and processors of biomass, transport and logistics companies, ports, equipment suppliers, local economic development organizations.

BD Zone Investor Coalition

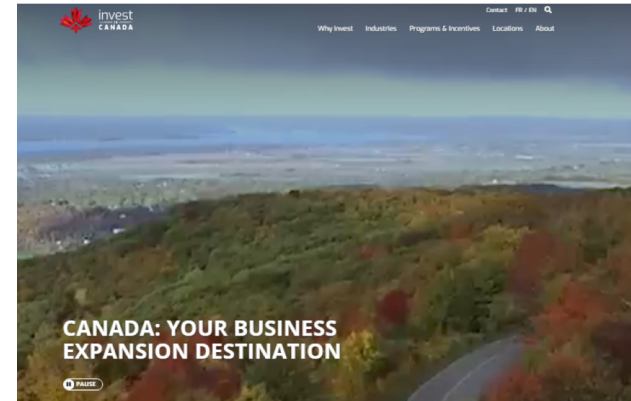
Accelerates BD Zone investment.

>\$60 B of investment capital designated for bio-projects by 60 key capital markets players.



BD Zones Leverage Local, Provincial and Federal Economic Development Agencies

- Invest In Canada is the federal government’s global investment attraction and promotion agency. It is the global investor’s primary point of contact to unlock business opportunities and facilitate job growth and expansion in Canada.
- *Invest in Canada has endorsed BD Zone Risk Ratings as a means to drive investment into Canada.*
- *Invest In Canada will promote BD Zone Ratings through over 160 offices around the world to help drive new bio-based investment.*



**MAKE MONEY.
REDUCE RISK.
MADE EASY.**

WE ARE YOUR PRIMARY CONTACT

Invest in Canada works directly with global investors to unlock business opportunities and facilitate expansion in Canada. We bring industry, community and government partners together to offer seamless services that make it easy for you to grow your operations in Canada.

[FIND OUT HOW >](#)



High Level Endorsement for the BD Zone Initiative

Ralph Goodale (Canada’s UK High Commissioner; former Minister of Agriculture and Agri-Foods, Minister of Natural Resources, Minister of Finance, Minister of Public Works).

“Serious investors need to be ready to roll. That’s where the idea of the **Bioeconomy Development Zones** can be really helpful, to have that independent, third party, standards-based legitimacy attached to, for example, the City of Melville, who now have a step up on all of its competition around the province.”

“Bioeconomy projects can pay farmers for their waste, get rid of some of the toughest crop residues, and offset job losses in the coal sector.”

John May (Managing Director Renewable Energy Investment, Hamilton Clark; formerly Co-Head of Stern Brothers & Co Investment Bank’s Renewable Energy Practice), Scaling Up Conference, Oct 2020.

“A BD Zone Designation makes it easier for sustainability-minded investors to feel less at risk regarding the money they are putting in, because it quantifies and qualifies the risk in a way that has never been done before. It’s a degree of certainty that was taken for granted in solar and wind and is now available in the bio-sector.”

