



**FEEDSTOCK
SUPPLY
INSURANCE**
Powered by Ecostrat and NER

Enabling the Trillion Dollar Bioeconomy Market

BDO Zone Ratings® 2024 State of the Union

Feedstock Supply Insurance (FSI)®

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Ottawa, ON





BDO Zone Ratings certify 'regional readiness' for bio-manufacturing, create global connections, and ignite an influx of clean energy opportunities.

Empowering Communities. Enabling Biomanufacturing. Energizing the Bioeconomy.



What is a BDO Zone Rating?

A BDO Zone rating is a standards-based assessment of regional manufacturing readiness with respect to development potential of biofuels, renewable chemicals, biogas or bioproducts projects.

What do they do?

Investment grade ratings attract new bio-based manufacturing plants to areas where they are most likely to succeed-- and create jobs.



BDO Zone Rating Scale

The BDO Zone ratings scale ranges from the strongest indication “AAA” indicating very strong capacity of supply chain infrastructure to support biobased development; to the weakest indication “CC” indicating a very strong likelihood of biomass feedstock supply chain or infrastructure (“FS&I”) failure.

The **modifiers** “pluses” or “minuses” may be appended to a rating to denote relative status within major rating categories.

“**Outlooks**” are assigned to ratings which indicate the potential for change in the rating over a 5-year period. Outlooks can be stable, positive or negative.

When applied to BDO Zone Ratings, the terms “**investment grade**” is capital market shorthand to describe the categories “AAA+” to “BBB-”. “**Speculative grade**” refers to “BB+” to “C-”. Investment Grade BDO Zone Ratings are particularly attractive to bio-based development, with higher ratings carrying more weight.

BDO ZONE RATING SCALE

AA

Very High Quality

‘AA’ ratings denote very high prospective viability of FS&I and very low expectations of default risk in the Zone. They indicate very strong ongoing capacity of a region to support new biobased plant operations. This capacity is not significantly vulnerable to foreseeable events.

BDO ZONE RATING SCALE

AAA

Highest Quality

‘AAA’ ratings denote highest prospective viability of FS&I attributes in the BDO Zone and lowest expectation of default risk over time. They are assigned only in cases of exceptionally strong fundamental characteristics related to feedstock supply chain and infrastructure capacity. This capacity is highly unlikely to be adversely affected by foreseeable events.

BDO ZONE RATING SCALE

A

High Quality

‘A’ ratings denote high prospective viability of FS&I and low expectations of default risk in the Zone. The capacity to support new biobased plant operations is considered strong. This capacity may, nevertheless, be more vulnerable to adverse weather, supply chain, economic or infrastructure conditions than is the case for higher ratings.

BDO ZONE RATING SCALE

BBB

Good Quality

‘BBB’ ratings indicate good prospective viability of FS&I and that expectations of FS&I risk are generally low in the Zone. The capacity to support new biobased plant operations is considered strong. The ability to attract, sustain, expand or enhance investment conditions are more likely to improve. No capacity risk. Low level of investment considerations.

BDO ZONE RATING SCALE

BB

Speculative

‘BB’ ratings indicate moderate prospects for prospective FS&I viability with an elevated vulnerability to FS&I risk. The capacity to support new biobased plant operations is considered moderate. Investment conditions may be strong, but investment and expansion of facilities may be more difficult. The Zone may require investment of a functioning supply chain with additional support outside of rating body.

BDO ZONE RATING SCALE

B

Highly Speculative

‘B’ ratings denote weak prospects for establishment and ongoing viability of FS&I attributes in the Zone with elevated vulnerability to risk particularly in the event of adverse changes to weather, supply chain, economic or infrastructure conditions over time. Limited range of value remains but primarily through access through enhanced feedstock capacity or supply chain attributes within the same period. Capacity to establish or demonstrate in the business and economic environment.

BDO ZONE RATING SCALE

CCC

Substantial Risk

‘CCC’ ratings denote very weak prospects for establishment and ongoing viability of FS&I attributes in the Zone with high vulnerability to low FS&I risk indicators. Low range of value by a prospective plant, with supply chain, demand, expansion and growth, low supply vulnerability to low level of infrastructure attributes, or high estimates of delivered feedstock cost may drive CCC ratings.

BDO ZONE RATING SCALE

CC

High Risk

‘CC’ ratings denote extremely weak prospects for establishment and ongoing viability of FS&I attributes in the Zone with extremely high vulnerability to low FS&I risk indicators. Low supply vulnerability to very low plant capacity to attract feedstock and/or low level of supply chain investments or extremely high estimates of delivered feedstock cost may drive CC ratings. High level of supply chain vulnerability to supply chain and possible to establish and/or default default default.

BDO ZONE RATING SCALE

NR

No Rating

‘NR’ ratings are issued in cases where FS&I risk is deemed higher than ‘CC’.



BDO ZONES 2024



2024: BDO Zones by the Numbers...



43 BDO Zones

– 23 potential projects

14 BDO Zones currently in contract discussions with 23 biomanufacturing projects.

358% increase in BDO Zone ratings issued or in progress versus 2023.



69%
increase

in inbound inquiries from project developers, on average.



6.3 million

BDO Zone ratings promoted to over **6.3 million industry project developers, investors and sector stakeholders** worldwide.¹

\$4 Billion

BDO Zone ratings currently being used to **support over \$4 B of capital** by 4 projects.²



850 per rating

Average number of rating downloads/views by project developers, capital markets and other stakeholders per individual rating issue.

¹ Biofuels Digest (6.3M readers / viewers) and BDO Connect Webinars

² USA Bioenergy, TX- \$2B; Velocys, MS - \$1.5B; Azure KA-undisclosed. Estimated \$500M. Red Leaf Pulp, SK- undisclosed

Selected Bio-Project Capital Raises in BDO Zones



[USA BioEnergy Advanced Biorefinery](#). Bon Wier, TX. \$2B. Woody biomass-biofuels.



[Red Leaf Pulp](#). Regina, Sask. \$Undisclosed. Wheat straw to market pulp, bio-energy and bio-materials.



[Velocys Bayou Fuels Facility](#). Natchez, MS. \$1.5B. Woody biomass-SAF.



[Yosemite Clean Energy](#). Tulumne County CA. \$Undisclosed. Woody biomass-biofuels.



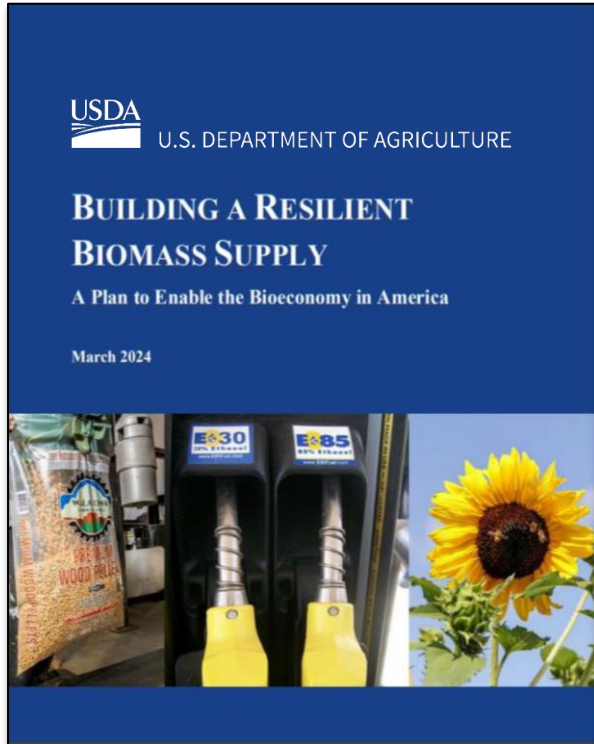
[Azure SAF Plant](#). Cherryvale, KA. \$Undisclosed. Corn stover-SAF.



[Louisiana Green Fuels \(LGF\) Project](#). Richland Parish. \$700M. Woody biomass-SAF

NOTE: selected public disclosures of project development in BDO Zones

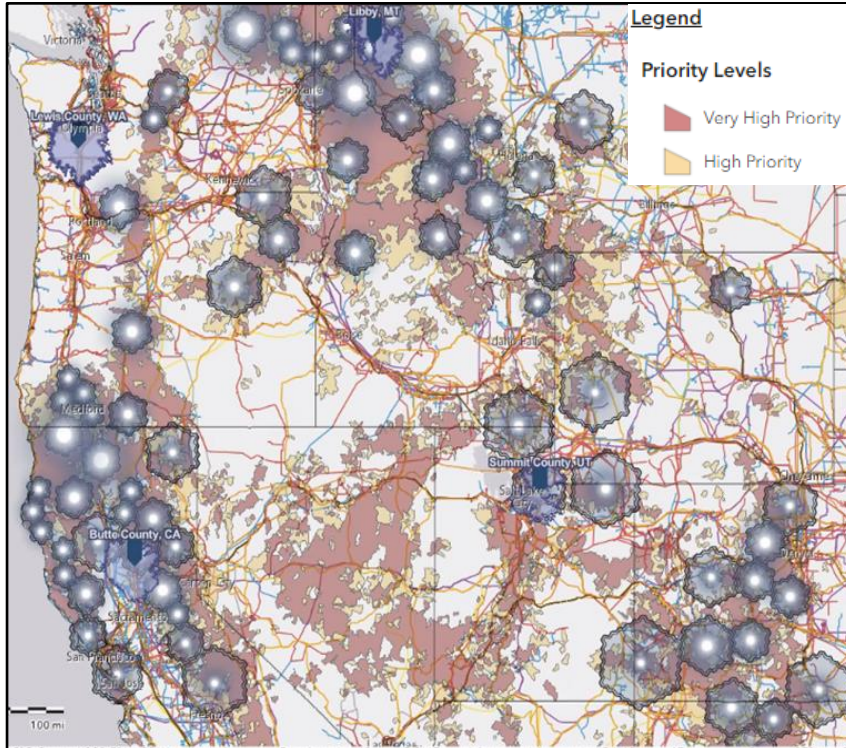
USDA Recognition as Important Bioeconomy Development Tools



- BDO Zone Ratings referenced four times in the US Department of Agriculture’s [“Plan to Enable the Bioeconomy in America: Building a Resilient Biomass Supply”](#) as important tools to accelerate biobased development (*March 2024; pp.4, 27, 28 and 29*).
- Plan is USDA’s response to *Executive Order 14081, “Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure Bioeconomy”*.
- USDA Rural Development has supported over 20 rural communities to obtain BDO Zone ratings. Canada’s *Clean Fuels Fund* has supported 7.

BDO Zones Can Help Mitigate Wildfire Risk

Supporting new market development for surplus fiber in at-risk regions



- ***B-RREADI Wildfire Challenge*** can help deliver on federal and provincial wildfire reduction goals *by increasing the number of* biomanufacturing projects in wildfire priority areas.
- 77 Potential “W-BDO Zones” in UFS Very High Priority Wildfire Risk Areas.
- Alignment with “Biofuels Plus”: W-BDO attract a wide range of bio-based manufacturing plants producing a range of value-added products that don’t require RINs.



Real Communities. Real People. Real Results.



Real Communities. Real People. Real Results.



“Before the BDO Zone rating, we had good uptake, but this has just increased it exponentially, and so for me, it’s an absolute win, and it’s definitely giving us access and visibility with companies in the foreign direct investment market that we didn’t have before. So if we were able to land all 4, the construction phase alone for the 4 of them total would be about a billion dollars.”

Shauna Carr, Economic Development Officer, Sarnia-Lambton Economic Partnership



“The two or three weeks post announcement of the certification tripled our deal flow in the forestry product side of things. We spoke to 10 or 12 different clients.”

Chandler Russ, Executive Director, Natchez Inc.



“We wouldn’t be approaching Phase 1 on a multi-million dollar project if not for the BDO Zone Rating.”

Stephen Houserman, Economic Development Director, City of Clarksville



“We could’ve tried to market ourselves, but we are a very small, rural county with a population of 20,000; we don’t have a lot of resources. I don’t think we would have been discovered at all had it not been for the BDO Zone Rating”

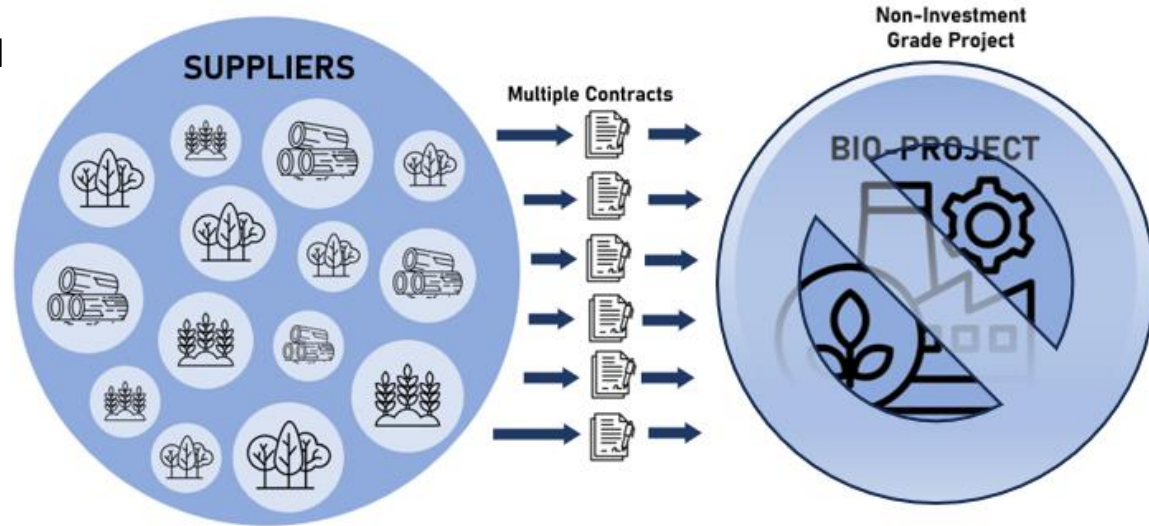
Mark Peck, Former Shared Stewardship Coordinator, Lincoln County Port Authority



The Problem

Bioenergy is a multi-billion dollar economic opportunity. But traditional balance sheet financing doesn't work. Why?

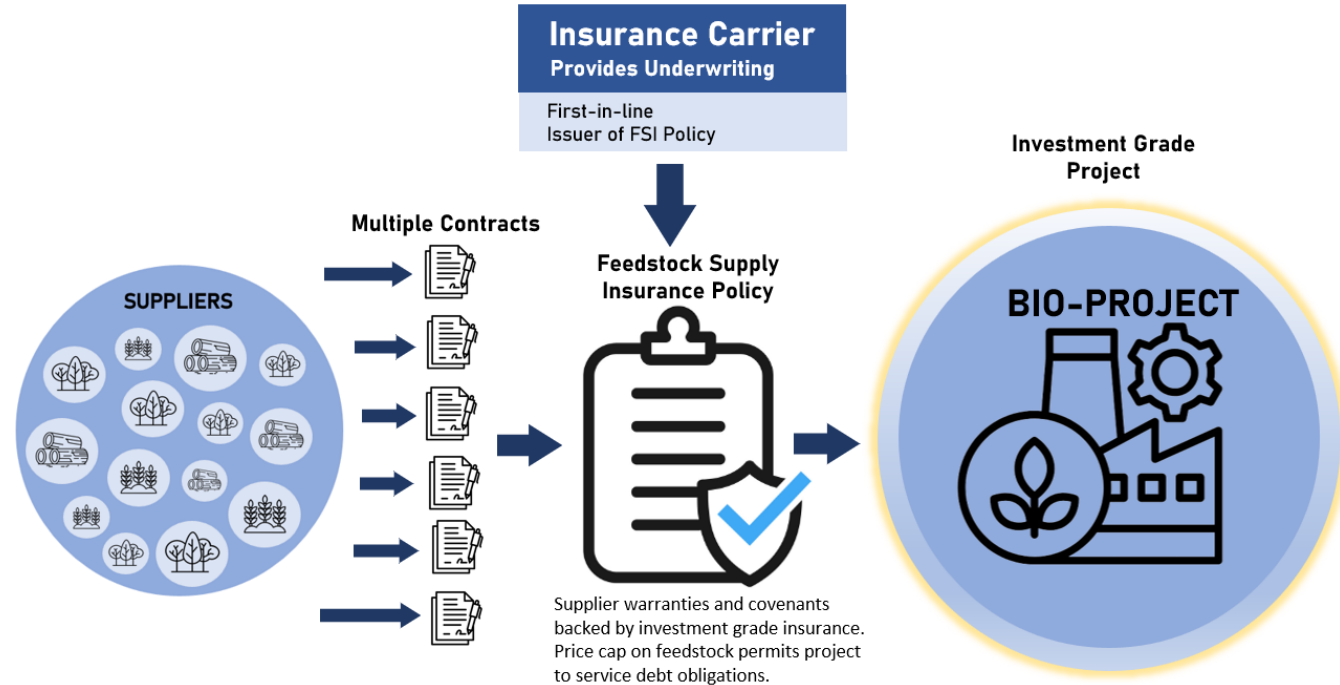
- Biomass supply chains composed of small-medium sized suppliers. [Almost never investment grade.](#)
- Multiple supply contracts with different terms make financing difficult.
- Supply chains are subject to risk from multiple factors.



Billions of dollars of investment are locked up. Project finance is challenging, costly, and slow.

The Solution

Investment grade protection against feedstock price volatility and supply disruption



The Product

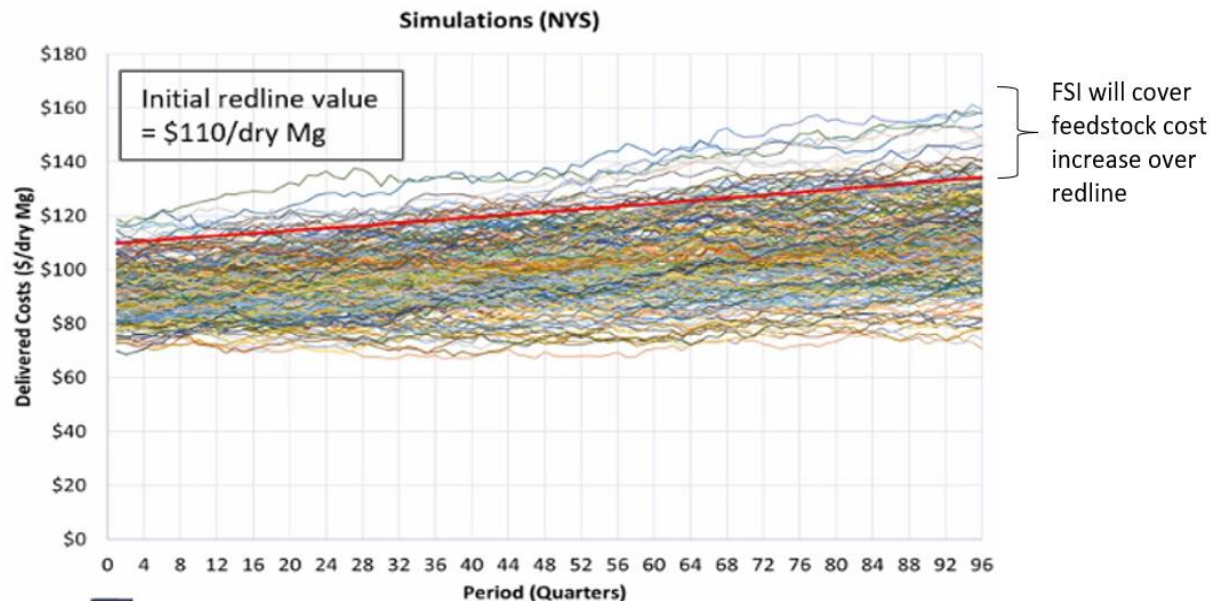
Feedstock Supply Insurance: Key Policy Terms (*in development*)

CAP: Cap feedstock costs at levels that guarantee debt repayment obligations.

COVERAGE: Difference between actual delivered feedstock cost and cap.

TERM: Unit-contingent with project debt terms.

TRIGGERS: Cost / Quantity of feedstock.



FSI® will support key market players



Capital Markets

- Help manage risk and prevent exposure.
- Enable capital to properly structure around feedstock risk.
- Faster and more accurate investment decision-making.



Governments

- Drive needed capital into biomass-based projects. Accelerate the rate of biomass project development.
- Prevent project failure and subsequent dampening effects on future investment in the sector.
- Enable government to accurately calibrate suitable levels of support.



Developers

- Enable access to a wider pool of less expensive capital.
- Gain clarity on feedstock risk and mitigation insights.
- Decrease likelihood of project failure due to feedstock risk.
- Create more resilient projects.

Feedstock Supply Insurance® in a nutshell...



The goal: decrease investor uncertainty around feedstock supply and reliability.

- ✓ Enable faster deployment of capital at lower risk.
- ✓ Derisk biomass supply chains, enabling bio-based projects to secure long-term debt repayment obligations.
- ✓ Create investment-grade biomass supply chains, which will catalyze and accelerate biomanufacturing project development, support decarbonization and create jobs.



Want to know more?

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