

Market-Based Tools to Grow the Bioeconomy BDO Zone Ratings®

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About Ecostrat

- The Ecostrat Biomass Supply Group has over 25 years of experience in sourcing and supplying over 5 million tons of biomass feedstock for bioenergy, biofuel, and renewable chemical projects across North America.
- The Ecostrat Biomass Advisory Group is the North American market leader in biomass feedstock supply due diligence for investors, capital markets and project developers.
- State-of-the science forecasting models and risk quantification tools for biomass supply chains.
- Biomass Supply Chain Risk (BSCR) Standards: used by CSA in 2021 CSA to produce a National Standard of Canada (CSA W209:21) and U.S. ASTM standard is slated for 2025.
- Launched the BDO Zone Initiative in 2021.





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, and bioproducts.

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.

BDO ZONE RATING SCALE



'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 foreseable events.





'AA' ratings denote very high prospective viability of FS&I and very low expectations of defaul Zone. They indicate very strong ongoing capacity of a region to support new biobased plant ope capacity is not significantly unlerable to foreseeable event. BDO ZONE RATING SCALE



Ar 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.









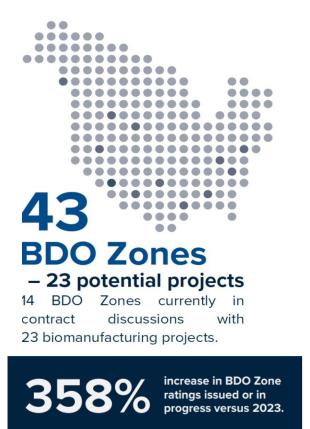


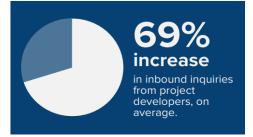






2024: BDO Zones by the Numbers...







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

\$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





Quesnel, BC BDO Zone 'A' Rating Issue

- 100,000 bone-dry tonnes of forest residue
- **Established forest products industry:** Eight large sawmills and four pulp mills with combined intake of over 10 million tonnes of roundwood and sawmill byproducts annually
- **Regional production experience:** Forest residue supply chains have been established previously within the BDO Zone
- **Project-ready infrastructure:** Former sawmill site with access to neighbouring pulp mill assets, including rail spur and renewable steam, heat, and electricity

Bioeconomy Development Opportunity Zone Rating: Quesnel, BC Date of Issue: February 14, 2024 Rating Grade: 'A'

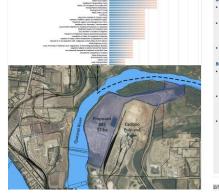


Rating Parameters:

Category

Rated Quantit











Selected Project Capital Raises in BDO Zones



<u>USA BioEnergy Advanced Biorefinery</u>. Bon Wier, TX. \$2B. Woody biomass-biofuels.



<u>Velocys Bayou Fuels Facility</u>. Natchez, MS. \$1.5B. Woody biomass-SAF.



<u>Yosemite Clean Energy</u>. Tulumne County CA. \$Undisclosed. Woody biomass-biofuels.



Azure SAF Plant. Cherryvale, KA. \$Undisclosed. Corn stover-SAF.



<u>Louisiana Green Fuels (LGF) Project</u>. Richland Parish. \$700M. Woody biomass-SAF



The "B-RREADI for Wildfire Challenge"

The "Biomanufacturing Regional Readiness for Industry (B-RREADI) for Wildfire Challenge" is a market-based initiative that uses **W-BDO Zones** to reduce wildfire risk across the nation.

"Harnessing the power of markets to make our forests and communities safer and more prosperous."





W-BDO Zones: Turning Wildfire Risk into Regional Prosperity

W-BDO Zones...

... add the critical wildfire risk reduction to the other benefits of economic development, rural job creation, and sustainability included in the BDO Zone ratings.

... attract new biomanufacturing plants to strategically selected regions that have been independently certified as having biomass surpluses, strong supply chains, and infrastructure suitable for biobased development.

Quesnel, Williams Lake, PG, etc.?

... inject market demand, making it economically viable to reduce wildfire fuel loads and convert resulting biomass into biofuels and other valuable products.





Want to know more?

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