



The BDO Zone Initiative

Accelerating bio-based investment and infrastructure development in economically distressed areas

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BD OZ Initiative

BDO Zones are a nationally scalable answer to the administration’s call for initiatives that address decarbonization, social justice, and create jobs.

The BDO Zone Initiative is a regional risk-rating and certification program that enables distressed communities to leverage local biomass assets as engines to **attract new biofuel, bioenergy, renewable chemical and biogas manufacturing plants and create jobs.**

It does this by giving them the ability to credibly **demonstrate “AA-rated” biomass feedstock supply chains to plant developers and investors** around the world.

Led by Agricultural Technology Innovation Partnership Foundation (ATIP), and Advanced Fuels and Chemicals Coalition (AFCC) and Ecostrat.

Learn more: www.bdozone.org

BDO Zone Investment Coalition

April 22, 2021: Announced \$1 Billion for deployment into bio-based investment in BDO Zones



[BDO Zone Investment Coalition](#)¹ is a group of leading biobased investors, capital markets, and associations that finance new plants that produce alternative ground and sustainable aviation fuels, renewable chemicals, bioenergy, and biogas.

BSCR Risk Ratings Review Committee Members



See all BDO Zone Investment Coalition members: www.bdozone.org/us/support

See all 65 BSCR RC members: ecostrat.com/standards/participants

¹ Made up 15 members of the BSCR Review Committee

What are Bioeconomy Development Opportunity Zones?

- BDO Zones ratings are issued to low-income areas with **strong capability and appetite for bio-based development, sustainable surpluses of feedstock, and where new investment is eligible for powerful federal tax incentives**¹.
- BDO Zones undergo rigorous and extensive due diligence using a framework of over 100 standardized, transparent and validated risk indicators. “A” and “AA” BDO Zone Ratings identify optimal zones in the country for biobased development.
- BDO Zone Ratings help local project developers **identify and site projects**; they help investors **quickly deploy capital** in low risk regions; and they help economic development agencies and communities **attract bio-based development opportunities and create local jobs**.

The 3 Pillars of BDO Zone Designations

Feedstock surplus

Data indicating at least a 3x Biomass Availability Multiple of excess sustainable feedstock available to support typical intake of new biofuels, biochemical and biomaterial production plants.

Committed suppliers

Evidence supporting long-term commitment to supply both quantity and quality by local farmers, forestry companies, food waste generators, haulers and municipalities.

Sound infrastructure

The OZ must have suitable transportation, logistic, operating and supporting infrastructure to meet the requirements for new facility construction and operations.

¹ tax incentives apply to US BDO Zones only

What Does a BDO Zone Rating Look

The City of Melville BDO Zone



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

Bioeconomy Development Zone Risk Rating



BDO Zone Assets

- Stable long-term outlook on feedstock price and quantity
- Large Business Availability Multiple (BAM) at 38% gross participation rate and within 150 km.
- In the event of decreased wheat straw production, supply needs can be supported as a result of increased transportation cost.
- High agricultural competition for wheat straw.
- Profound rural infrastructure asset profile.

BDO Zone Liabilities

- Lack of suitable harvesting equipment for large-scale harvest of the present crop.
- Modest to high probability of mortality to major feedstock supply company to provide square bales.
- Average farm size is relatively small. Thus, limiting large quantities will require engagement of large numbers of growers.
- Lack of initial interest from BDO growers.

Rating Parameters

Quantity: 200,000-300,000 ODMT
Feedstock Form: Square/round bales

BDO Zone Risk Rating

The City of Melville, SK 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

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Feedstock Form: Square/round bales

Rating: A

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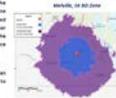
Rating Parameters

Quantity
200,000-300,000 ODMT

Feedstock Form
Square/round bales



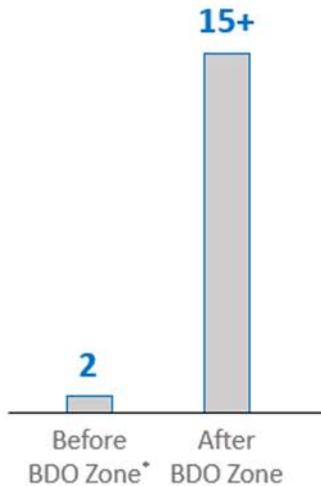
Risk Indicator	Business Availability Multiple (BAM)	Score
1.1.1	38%	2
1.1.2	150 km	2
1.1.3	High agricultural competition	2
1.1.4	Profound rural infrastructure asset profile	2
2.1	Average farm size	2
2.2	Lack of initial interest	2
3.1	Quantity	3.33
3.2	Feedstock Form	6.66



Impact of BDO Zone Designation: Before and After

Early Stages of BDO Zone Promotion

Potential Bio-development Opportunities in Melville



In the 5-month period after issue of the BDO Zone designation, the City of Melville generated a **750% increase in inquiries and discussions related to wheat straw utilization (versus the past 12 months)** by bio-based project developers, investors, other EDAs, research colleges and municipalities.

Melville's View

- Increased ability to reject investments that don't match up with their sustainability pillars – in part due to **increased deal flow**
- Looking at **growth and potential partnerships** in a way they couldn't previously; business economic development conversations were very limited prior to designation

Goals of Potential Projects

- 1 or more biobased manufacturing plant
- \$250M investment target
- 110 direct jobs
- 150 to 200 indirect jobs
- Long-term tax incentives partnerships possible

"I haven't seen this kind of activity in the seven years I've been here."

Chris Bruce, Director of Community Services, City of Melville

* In year prior to BDO Zone designation

The BDO Zone Ratings Framework is Credible...

- Based upon the investor *Standards and Ratings for Biomass Supply Chain Risk --the current state-of-the-science for quantifying feedstock risk.*
- >\$5MM funded by US Department of Energy / Bioenergy Technologies Office (BETO).
- 6 years of development led by Idaho National Labs, Ecostrat, a 150-member industry stakeholder group, and 65 member, \$60B capital market ratings review committee.
- ANSI accreditation in the US slated for 2022. Accredited *National Standard of Canada* in March 2021 by CSA and SCC.



Download PDF at
www.ecostrat.com/standards

John May, Managing Director Renewable Energy Investment, Hamilton Clark; formerly Co-Head of Stern Brothers & Co Investment Bank's Renewable Energy Practice.

(pioneer of the use of bonds for project finance debt in the renewables market with >\$10 billion in loan and par values financed)

“The Biomass Supply Chain Risk Standards are one of the great analytical frameworks that the bio-sector has seen. Before these criteria, there were no rating agency guidelines for how to measure the credibility of feedstock, so investors were left to guess. Now, there’s a quantitative model with qualitative aspects that has transformed bio, and the bioeconomy forever.”

BDO Zones Leverage NMTC and OZ Tax Incentives for Clean Energy Infrastructure

BDO Zones are force-multipliers for the New Markets Tax Credit and Opportunity Zone tax incentives to unlock billions of dollars for bio-energy development in low-income zones across the country

- **OZ tax incentive example:** Over \$15B has been invested into OZs. But almost none has gone to building new plants that produce renewable chemicals, sustainable aviation and ground transportation fuels, and biogas. **Why?**
- There are over 1000 OZs that have huge surpluses of biomass and are “investment ready” for bio-based development— but **without a BDO Zone designation, there is no way for investors or developers to quickly tell which ones they are.**
- The BDO Zone solves this problem and supercharges the ability of OZ and NMTC tax incentives to support the buildout of bio-based infrastructure and create jobs.



Benefits for Communities, Capital Markets & Developers, and Government



Communities

- Credibly promote “investment-grade” biomass assets to investors and developers around the world.
- Attract new plants that make advanced ground transportation biofuels, sustainable aviation fuels, renewable chemicals, biogas, and other biobased products.
- Create permanent local new energy jobs.



Capital Markets & Developers

- Accelerate capital flow to biobased projects.
- Faster investment decision-making.
- More accurate and less risky deployment of capital.



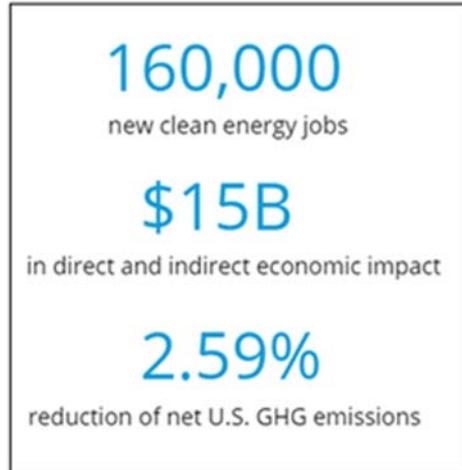
Governments

- Create clean energy jobs in low-income and rural and urban communities.
- Significantly decrease national GHG emissions.

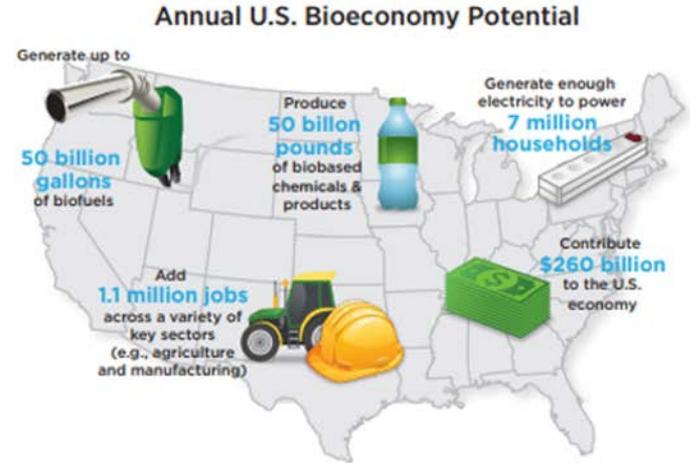
Economic and GHG Impact

The BDO Zone Initiative can ‘move the needle’ on jobs, decarbonization, and social justice

‘1000 BDO Zones in 4 Years’ Plan



- National economic impact potential is estimated at **160,500 direct, indirect and induced jobs and over \$15B annually in direct and indirect economic benefits.**
- Total annual GHG reduction impact is **the equivalent of removing 32,608,695 cars off the road or 11.8% of all passenger cars in the US.**
- Economic impact of a single new bio-based plant can be transformative for distressed communities: Every new SAF plant is expected to provide, on average, 321 jobs and \$29M/y to the local economy, as well as 300,000 mt CO₂e/y of greenhouse gas (GHG) reduction (CAAFI).



BDO Zone designations happening now: Gilliam/Sherman County, OR; Barnwell County, SC; Siloam Springs, AR; and Clarksville, AR

High level Endorsement

Steve Csonka, Executive Director Commercial Aviation Alternative Fuels Initiative (CAAFI): “The BDO Zone initiative will support investment in new SAF production plants throughout the United States and play a crucial role in a sustainable American economic recovery that will strengthen energy independence efforts and contribute to long term prosperity and create jobs. CAAFI fully supports the BDO Zone Program and strongly recommends the designation of as many BDO Zones as practicable in order to attract solid investment in SAF production facilities”.

Mark Riedy of Kilpatrick General Council Alternative Fuels and Chemical Coalition (AFCC): “\$1 billion is only the beginning. We expect the BDO Zone Initiative to supercharge the biobased job creation ability of the New Market Tax Credit Program, the Opportunity Zone program and other federal and state tax incentives like them in the U.S. to unlock billions to help ensure that the federal government’s commitment to clean energy, job creation and social justice are served.”

John May (Managing Director Renewable Energy Investment, Hamilton Clark; formerly Co-Head of Stern Brothers & Co Investment Bank’s Renewable Energy Practice): “A BDO 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.”

Discussion

- How well do BDO Zones fit with RMRI goals and mandate?
 - How many potential BDO Zones for woody biomass are there in CO? What about other biomass categories?
 - Is there funding in CO for communities that could benefit from BDO Zone designations?
 - ✓ Senate Bill 258 (SB21-258): \$25 million to the Department of Natural Resources (DNR) and the Colorado State Forest Service (CSFS).
 - ✓ HB21-1180: establishes a grant program to fund innovative uses of woody biomass,
 - ✓ Federal-State Marketing Improvement Program grant
- What infrastructure/mechanisms exist in CO to promote BDO Zone designations? How can BDO Zone communities leverage that infrastructure? Colorado Wood Utilization and Marketing?
- **Leverage existing USDA Grant Programs to support BDO Zone designations in CO:**

USDA Rural Development should *issue modified Administrative Guidance to Program Managers for the RBDG (and other) grant programs* so that they better respond to calls for BDO Zone designations from distressed communities. *Attend BDO Zone Summit (August 17, 2021)*

BD
OZ
Initiative

Learn more at www.bdozone.org



Rina Singh, Executive VP of Alternative Fuels & Chemicals Coalition (AFCC) says: “BDO Zones are hotbeds for alternative fuel and renewable chemical manufacturing facilities: sustainable feedstock surpluses, strong supply chain capability, community appetite for biobased development, and powerful tax incentives to derisk investment make BDO Zones some of the optimal places in the world for biobased economic development.”