

AGENDA ITEM #X.A.



BDO Zone Ratings

Accelerating development of clean fuel production facilities in the U.S.:
Bioeconomy Development Opportunity Zone Ratings

Jordan Solomon
President & CEO, Ecostrat
Chairman, BDO Zone Initiative





A **BDO Zone rating** is a standards-based assessment of biomass feedstock and infrastructure attributes of a region with respect to development potential of new biofuel, renewable chemical, biogas or bioproduct manufacturing plants.

The **BDO Zone Initiative** enables regions to leverage local biomass assets to attract new bio-based manufacturing plants-- and create jobs.



www.bdozone.org

BDO Zone Ratings Due Diligence

- BDO Zones undergo rigorous and extensive due diligence using a standardized framework of over 100 transparent and validated risk indicators.

The 3 Pillars of BDO Zone Designations



- “A” and “AA” BDO Zone Ratings identify optimal zones for new biobased development.

Recognized, Credible, Transparent, Standards-based Ratings Framework



- BDO Zone Ratings are issued within the framework of the *US Standards for Biomass Supply Chain Risk*.
- 6 years development by US Department of Energy (USDOE)/ Idaho National Labs, Ecostrat, and a 65 member, \$60B capital market ratings review committee.
- >\$6MM funded by USDOE's Bioenergy Technologies Office (BETO).

Download at
www.ecostrat.com/standards



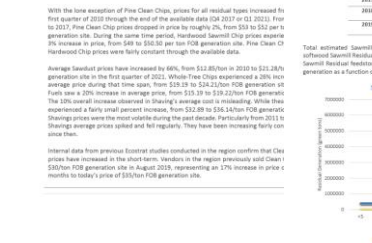
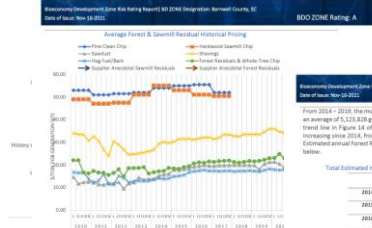
Barnwell County, SC BDO Zone 'A' Rating

- 'A' rated BDO Zone for woody biomass.
- Strong supply chain attributes; well-developed operating infrastructure for new plant development.
- Ratings upgrade to 600,000 bone dry tons Q3 2022
- Currently in discussion with major SAF company for \$1B plant development!

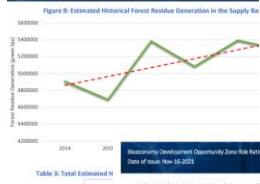
Bioeconomy Development Opportunity Zone Risk Rating



Bioeconomy Development Opportunity Zone Risk Rating Report | BDO ZONE Designation: Barnwell County, SC
Date of Issue: 10-20-2021



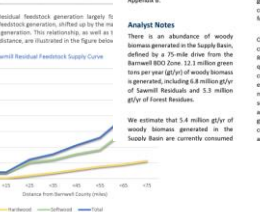
Bioeconomy Development Opportunity Zone Risk Rating Report | BDO ZONE Designation: Barnwell County, SC
Date of Issue: Nov-16-2021



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Bon Wier, TX BDO Zone 'AA' Rating

- First ever 'AA' rated BDO Zone
- Rated for 2 million gt/y of woody biomass 75 mile radius ex Bon Wier, Texas, USA.
- Strong growth to drain ratio. Strong harvest and delivery infrastructure. Broad access to additional supply beyond Zone.
- BDO Zone Rating supported by USA Biofuels and Citi Bank for \$1B capital raise for SAF project.

Bioeconomy Development Opportunity Zone Risk Rating | BDO Zone Designation: Bon Wier, TX Date of Issue: October 19, 2022 BDO Zone Rating: 'AA'

Bioeconomy Development
Opportunity Zone Risk Rating

'AA'

The Bon Wier, Texas Bioeconomy Development Opportunity Zone is rated 'AA'. Long-term outlook on feedstock quantity is deemed stable. Key supply chain risks are related to cyclic lumber markets and are likely addressable.

Bioeconomy Development Opportunity Zone Risk Rating | BDO Zone Designation: Bon Wier, TX
Date of Issue: October 19, 2022
BDO Zone Rating: 'AA'



APPENDIX B: INFRASTRUCTURE
Site selection of Bon Wier, Texas

Location:

- Existing property and facility have excellent infrastructure incl. water.
- Bon Wier is adjacent to Highway 363 between Kirbyville and Bo 12 miles west of the site with access to Highway 96, and 7 miles junction.
- An incentive package has been provided by state and local jurisdiction.



Population
Newton County has a population of median age and the Rural 12 county area has a population of approximately 386,000.

Education
Stephen F. Austin State University/Angelina College provides a university education. In the Bon Wier BDO Zone, 73% of the population has a high school diploma, which is 10% lower than the rate for the state of Texas.

Bioeconomy Development Opportunity Zone Risk Rating | BDO Zone Designation: Bon Wier, TX
Date of Issue: October 19, 2022
BDO Zone Rating: 'AA'

Impact Level: RI Impact Level is deemed Low.	Score
3.33	3.33
Loaded RI Score: Loaded RI Score (Weighted Salience + Impact Level) is 3.33 out of 100	Score
3.33	3.33

CATEGORY 3: SUPPLY CHAIN RISK

The degree of redundancy in a Proponent's ability to a project, at costs, timing, and in its feedstock requirements. ARI is a strong supply shortage and/or supplier breach.

Feedback within the Bon Wier BDO Zone includes pulpwood, pulpmud, and sawmill residuals.	Score
2	2

Notched Salience Risk Rating | BDO Zone Designation: Bon Wier, TX
Date of Issue: October 19, 2022
BDO Zone Rating: 'AA'

Notched Salience score corresponds to the likelihood of each Risk Indicator's described risk materializing given the implementation of reasonable mitigation measures. To arrive at the Notched Salience score, Raw RI scores are reduced based on the efficacy of the likely mitigation measures. If applicable, notching occurs at one of 3 levels: 20%, 50%, or 75%.

Level is deemed High	Score
9.99	9.99
Notched Salience + Impact Level is 5.99 out of 100	Score
5.99	5.99

RI can impact feedstock cost of harvest and collection over time. A scenario should be run.

RI from the US Energy Information Administration's Diesel database show Kite, Rite, and predict, and currently rising significantly ¹⁰ .	Score
7	7



Raw RI Score is 7 out of 10.

Notched Salience: Given the large availability multiples in the region, access to increasing multiples of additional feedstock with moderate increase to transportation costs, as well as access to fiber risk.

1.75	1.75
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Bon Wier, TX 'AA' BDO Zone Rating supports capital raise

Date of issue: October 2022



Bon Wier, TX Rated AA for 2Mgt/y of woody biomass

The 'AA' BDO Zone Rating for Bon Wier, TX supports the siting decision and \$1B capital raise for USA BioEnergy's development of an advanced biorefinery.



"Citi and USA BioEnergy have worked closely together for more than two years to develop an efficient, achievable plan and we look forward to delivering on this vision."

David Livingstone, Managing Director, Citigroup, BDO Zone Press Release Oct 19 2022



"USA BioEnergy is committed to delivering over 100M gallons of sustainable aviation fuel into LAX annually. Airlines using our sustainable aviation fuel will eliminate over 50M metric tons of greenhouse gas emissions over a 20-year period."

Nick Andrews, CEO, USA BioEnergy, BDO Zone Press Release Oct 19 2022

BDO Ratings supercharge bio-based economic development:

BDO ZoneCONNECT connects BDO Zones with >1000 project developers and investors worldwide

'Bio-Business Development' Webinars

Viewed by >1000 bio-project developers and investors worldwide

Access to TheDigest's >5 million unique online bioeconomy sector readers, 140,000 streaming viewers bio-industry stakeholders and 45,000 daily newsletter subscriptions.

'Rapid Accelerator' Meetings

Private, hosted discussion groups

Private zoom meetings with 50-100 pre-qualified bio-project developers, investors and strategic partner companies actively looking to build new bio-based plants in BDO Zones.

Click [here](#) to view **BDO ZoneCONNECT** for **Barnwell County, SC**

DIGESTCONNECT

Tuesday April 5, 12-1PM ET

BDOZONECONNECT **SILOAM SPRINGS, ARKANSAS** **MELVILLE, SASKATCHEWAN**

- SUSTAINABLE SURPLUSES OF BIOMASS FEEDSTOCK, SUPPORTIVE OF BIOBASED DEVELOPMENT, INFRASTRUCTURE TO SUPPORT NEW MANUFACTURING
- PART OF OUR SERIES EXPLORING BIOECONOMY DEVELOPMENT OPPORTUNITY ZONES
- NETWORKING THROUGHOUT THE HOUR
- POST-PRESENTATION DISCUSSION



RON MCCULLOUGH
CITY ADMINISTRATOR
MELVILLE,
SASKATCHEWAN



PHILLIP PATTERSON,
CITY ADMINISTRATOR
SILOAM SPRINGS,
ARKANSAS



JORDAN SOLOMON,
CEO, ECOSTRAT,
CO-FOUNDER,
BDO ZONES

BDO Zone Investment Coalition

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



The **BDO Zone Investment Coalition** is a group of leading capital markets¹ with a collective **goal of investing \$1 billion in BDO Zones** to build new biofuel, renewable chemical, biogas manufacturing plants.

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 16 members of the BSCR Review Committee

The BDO Zone Summit

PROGRAM AGENDA

1:00 OPENING REMARKS

How BDO Zones help communities leverage biomass assets to create jobs. Why BDO Zone Designations drive and unlock bio-investment and get new plants built faster.



Jordan Solomon
President & CEO
Ecostrat
Chairman of the BDO Zone Initiative



Mark Riedy
General Counsel & Co-Founder
Alternative Fuels & Chemicals
Coalition (AFCC)



Wes Jurey
CEO & Founder
Agricultural Technology Innovation
Partnership (ATIP) Foundation

1:10 COMMUNITY PANEL

Real communities speak about opportunities and barriers to attracting biobased investment and deal-flow. Grassroots support for BDO Zone Designations from local communities and EDAs. Moderated by Wes Jurey, ATIP Foundation.



Donna Gambrell
President & CEO
Appalachian Community
Capital



Sumesh Arora
Director of Energy &
Natural Resources Division
Mississippi Development Authority



Greg Norton
President
Golden State National
Resources Corporation



Mike McArthur
Executive Director
Community Renewable
Energy Association



John Lester
General Manager
Clarksville Connected
Utilities

1:40 CAPITAL MARKETS PANEL

Barriers to investing in rural and distressed communities. Why are BDO Zone designations meaningful for capital markets? How much capital is "investment ready" to stand up biobased plants across the country? Moderated by Jordan Solomon, Ecostrat.



Justin Goldstein
Vice President, Investment
Banking Division
Goldman Sachs



David Livingstone
Managing Director
Citigroup



Max Vernier
Head of Bioenergy
Live Oak Bank



Scott Chabina
CEO & Founder
Chabina Energy Partners

2:00 PROJECT PANEL

Why BDO Zone Designations help create efficiencies for project developers. Why they help projects succeed. How they make developers develop more biobased projects faster. Moderated by Mark Riedy, AFCC.



Nick Andrews
CEO & Founder
USA Bioenergy



Chris Whitworth
Project General Manager
Northwest Advanced Biofuels



Seth Ginther
Executive Director
US Industrial Pellet
Association



Patrick Serfass
Executive Director
American Biogas Council

2:20 USDA REMARKS



Dr. Karama Neal
Administrator, Rural Business-
Cooperative Service
USDA Rural Development

View the BDO Zone Summit here:

<https://bdozone.org/the-bdo-zone-summit-2021/>

In a nutshell, BDO Zone Ratings...

- ✓ **Pre-vet, and quantify** key regional biomass feedstock and infrastructure “success” characteristics.
- ✓ **Connect BDO Zones** with bio-based project developers and investors around the world
- ✓ **Link BDO Zones with \$1B** of private capital to get new plants built.
- ✓ **Drive new biobased manufacturing to rural communities– and create jobs!**





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Want to know more?

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