

# FS Indústria de Biocombustíveis Ltda.

**Type of Engagement:** Annual Review

**Date:** 24 July 2025

**Engagement Team:**

Bhakti Chikhalikar, [bhakti.chikhalikar@morningstar.com](mailto:bhakti.chikhalikar@morningstar.com)

## Introduction

Between September 2021 and March 2025, FS Indústria de Biocombustíveis Ltda. ("FS" or the "Issuer") issued nine green bonds (collectively the "Green Bonds") to finance or refinance projects related to the production of biofuels and sustainable management of forests. In July 2025, FS engaged Sustainalytics to review the projects financed with proceeds from the Green Bonds (the "Nominated Expenditures") and provide an assessment as to whether they meet the use of proceeds criteria and whether FS complied with the reporting commitments in the FS Green Bond Framework (the "Framework").<sup>1</sup> Sustainalytics provided a Second-Party Opinion on the Framework in August 2021.<sup>2</sup> This is Sustainalytics' fourth annual review of the allocation and reporting of instruments issued under the Framework, following previous reviews in 2022, 2023 and 2024.<sup>3,4,5</sup>

## Evaluation Criteria

Sustainalytics evaluated the Nominated Expenditures and FS's reporting based on whether they:

1. Meet the use of proceeds and eligibility criteria defined in the Framework; and
2. Reported on at least one key performance indicator (KPI) for each use of proceeds category defined in the Framework.

**Table 1: Use of Proceeds Categories, Eligibility Criteria and Associated KPIs**

Use of Proceeds Category	Eligibility Criteria	KPIs
<b>Bioenergy<sup>6</sup></b>	<p>Projects related to the production of hydrous and anhydrous corn-ethanol biofuel, including:</p> <ol style="list-style-type: none"> <li>i. Capital expenditures for development, construction, operation and maintenance of biofuel production facilities; or</li> <li>ii. Operational expenditures or refinance of purchased corn feedstock for biofuel production. Feedstock will be purchased from suppliers in compliance with FS Sustainability Protocol and/or certified against the Climate Bonds Standard Agriculture Criteria Version 1.</li> </ol>	<ol style="list-style-type: none"> <li>i. tCO<sub>2</sub> avoided</li> <li>ii. Volume of ethanol production</li> </ol>
<b>Sustainable Forestry</b>	<p>Projects related to the purchase, development and maintenance of forests and biomass from forests, including:</p>	<ol style="list-style-type: none"> <li>i. Standing forest area</li> </ol>

<sup>1</sup> FS, "Green Bond Framework", (2021), at: <https://api.mziq.com/mzfilemanager/v2/d/34aeec8a-d08e-440f-ad7f-324e1e1e7745/3f71d04b-17b5-d486-a0ad-0bc79e4863db?origin=2>

<sup>2</sup> Sustainalytics, "Second-Party Opinion: FS Green Bond Framework", (2021), at: [https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/fs-green-bond-framework-second-party-opinion.pdf?sfvrsn=aa9827fb\\_1](https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/fs-green-bond-framework-second-party-opinion.pdf?sfvrsn=aa9827fb_1)

<sup>3</sup> Sustainalytics, "Annual Review: FS Agrisolutions Indústria de Biocombustíveis Ltda.", (2022), at: <https://www.fs.agr.br/wpcontent/uploads/sites/1010/2022/11/FS-Green-Bond-Framework-Annual-Review-21.22.pdf>

<sup>4</sup> Sustainalytics, "Annual Review: FS Agrisolutions Indústria de Biocombustíveis Ltda.", (2023), at: <https://api.mziq.com/mzfilemanager/v2/d/34aeec8ad08e-440f-ad7f-324e1e1e7745/491e4c8d-aaeb-5b6b-e767-0c94a605868a?origin=2>

<sup>5</sup> Sustainalytics, "Annual Review: FS Agrisolutions Indústria de Biocombustíveis Ltda.", (2024), at: <https://api.mziq.com/mzfilemanager/v2/d/34aeec8a-d08e-440f-ad7f-324e1e1e7745/db90b0e3-8257-f66c-bdc3-9ed143ec1ae6?origin=2>

<sup>6</sup> Excludes fossil biofuel production and blending facilities

	<ul style="list-style-type: none"> <li>i. Capital expenditures for the development, purchase, planting and maintenance of exotics forests (such as eucalyptus and bamboo plantations) to produce biomass feedstock for cogeneration of steam and electricity primarily dedicated to biofuel production facilities; or</li> <li>ii. Operational expenditures or refinancing of exotic forest biomass raw material acquired for the cogeneration of steam and electricity, mainly dedicated to biofuel production facilities.</li> </ul>	<ul style="list-style-type: none"> <li>ii. Carbon inventory per hectare of standing forest</li> </ul>
--	--	---

## Issuer's Responsibility

FS is responsible for providing accurate information and documentation relating to the details of the projects, including descriptions, amounts allocated and impact.

## Independence and Quality Control

Sustainalytics, a leading provider of ESG research and ratings, conducted the verification of the use of proceeds from the Green Bonds. The work undertaken as part of this engagement included collection of documentation from FS and review of said documentation to assess conformance with the Framework.

Sustainalytics relied on the information and the facts presented by FS. Sustainalytics is not responsible, nor shall it be held liable, for any inaccuracies in the opinions, findings or conclusions herein due to incorrect or incomplete data provided by FS.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight of the review.

## Conclusion

Based on the limited assurance procedures conducted,<sup>7</sup> nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the Nominated Expenditures do not conform with the use of proceeds criteria and reporting commitments in the Framework. FS has disclosed to Sustainalytics that 87.48% of the proceeds from the Green Bonds were allocated as of March 2025 and that it intends to allocate the remaining 12.52% of the proceeds by March 2027.

<sup>7</sup> Sustainalytics' limited assurance process includes reviewing documentation relating to details of projects, as provided by the issuing entity, which is responsible for providing accurate information. These may include descriptions of projects, estimated and realized costs, and reported impact. Sustainalytics has not conducted on-site visits to projects.

## Detailed Findings

Table 2: Detailed Findings

Framework Requirements	Procedure Performed	Factual Findings	Error or Exceptions Identified
<b>Use of Proceeds Criteria</b>	Verification of the Nominated Expenditures to determine alignment with the use of proceeds criteria outlined in the Framework.	The Nominated Expenditures comply with the use of proceeds criteria.	None
<b>Reporting Criteria</b>	Verification of the Nominated Expenditures or assets to determine if impact was reported in line with the KPIs outlined in the Framework.	FS reported on at least one KPI per use of proceeds category.	None

## Appendices

### Appendix 1: Allocation of Proceeds

Table 3: Allocation of proceeds from the Green Bonds<sup>8</sup>

Use of Proceeds Category	Project Description	Amount Allocated (BRL million)
<b>Bioenergy</b>	Capital expenditures for developing, constructing, operating and maintaining biofuel production facilities, as well as operational costs or refinancing related to corn feedstock used in biofuel production.	6,368.47
<b>Sustainable Forestry</b>	Capital expenditures for developing, purchasing, planting and maintaining eucalyptus forests.	71.24
<b>Total Amount Allocated</b>		<b>6,439.71</b>
<b>Total Amount Unallocated</b>		<b>921.49</b>
<b>Outstanding Proceeds from the Green Bonds as of March 2025</b>		<b>7,361.20</b>

<sup>8</sup> Sustainalytics notes that FS raised BRL 7,824 million, of which BRL 462.8 million were repaid during 2023 and 2024, leaving an outstanding balance of BRL 7,361.2 million available for project financing as of March 2025.

Appendix 2: Reported Impact

Table 4: Reported Impact of proceeds from the Green Bonds

Use of Proceeds Category	Environmental Impact Reported
Bioenergy	<b>Anhydrous ethanol:</b> <ul style="list-style-type: none"><li>i. Carbon intensity of anhydrous ethanol produced between April 2024 and March 2025: 18.7 gCO<sub>2</sub>e/MJ</li><li>ii. Percentage of emissions reduction compared to fossil fuel (gasoline) from anhydrous ethanol: 78.6%</li></ul>
	<b>Hydrous ethanol:</b> <ul style="list-style-type: none"><li>i. Carbon intensity of hydrous ethanol produced between April 2024 and March 2025 18.5 gCO<sub>2</sub>e/MJ</li><li>ii. Percentage of emissions reduction compared to fossil fuel (gasoline) from hydrous ethanol: 78.9%</li></ul>
	Volume of ethanol produced: 2,378,148 m <sup>3</sup>
Sustainable Forestry	Standing eucalyptus forest area: 6,750.73 hectares

---

## About Morningstar Sustainalytics

Morningstar Sustainalytics is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. For more than 30 years, the firm has been at the forefront of developing high-quality, innovative solutions to meet the evolving needs of global investors. Today, Sustainalytics works with hundreds of the world's leading asset managers and pension funds, which incorporate ESG and corporate governance information and assessments into their investment processes. Sustainalytics also works with hundreds of companies and their financial intermediaries to help them consider sustainability in policies, practices and capital projects. For more information, visit [www.sustainalytics.com](http://www.sustainalytics.com).

## Disclaimer

**Copyright ©2025 Sustainalytics, a Morningstar company. All rights reserved.**

The information, methodologies, data and opinions contained or reflected herein (the “Information”) are proprietary to Sustainalytics and/or its third-party content providers and may be made available to third parties only in the form and format disclosed by Sustainalytics. The Information is not directed to, nor intended for distribution to or use by India-based clients and/or users, and the distribution of Information to India resident individuals and entities is not permitted.

The Information is provided for informational purposes only and (1) does not constitute an endorsement of any product, project, investment strategy or consideration of any particular environmental, social or governance related issues as part of any investment strategy; (2) does not constitute investment advice nor recommends any particular investment, nor represents an expert opinion or negative assurance letter; (3) is not part of any offering and does not constitute an offer or indication to buy or sell securities, to select a project nor enter into any kind of business transaction; (4) is not an assessment of the economic performance, financial obligations nor creditworthiness of any entity; (5) is not a substitute for professional advice; (6) has not been submitted to, nor received approval from, any relevant regulatory or governmental authority. Past performance is no guarantee of future results.

The Information is based on information made available by third parties, is subject to continuous change and no warranty is made as to its completeness, accuracy, currency, nor the fitness of the Information for a particular purpose. The Information is provided “as is” and reflects Sustainalytics’ opinion solely at the date of its publication.

Neither Sustainalytics nor its third-party content providers accept any liability in connection with the use of the Information or for actions of third parties with respect to the Information, in any manner whatsoever, to the extent permitted by applicable law.

Any reference to third party content providers’ names is solely to acknowledge their ownership of information, methodologies, data and opinions contained or reflected within the Information and does not constitute a sponsorship or endorsement of the Information by such third-party content provider. For more information regarding third-party content providers visit <http://www.sustainalytics.com/legal-disclaimers>

Sustainalytics may receive compensation for its ratings, opinions and other services, from, among others, issuers, insurers, guarantors and/or underwriters of debt securities, or investors, via different business units. Sustainalytics maintains measures designed to safeguard the objectivity and independence of its opinions. For more information visit [Governance Documents](#) or contact [compliance@sustainalytics.com](mailto:compliance@sustainalytics.com).

This deliverable, in particular the images, text and graphics contained therein, and the layout and company logo of Sustainalytics are protected under copyright and trademark law. Any use thereof shall require express prior written consent. Use shall be deemed to refer in particular to the copying or duplication of the opinion wholly or in part, the distribution of the opinion, either free of charge or against payment, or the exploitation of this opinion in any other conceivable manner.

The issuer is fully responsible for certifying and ensuring the compliance with its commitments, for their implementation and monitoring.