



Sustainability Progress Report 2025



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Introduction

Impact= Innovation+ Integrity

Spiber's Sustainability Progress Report 2025 provides an annual update on our sustainability journey, building upon the goals and commitments set forth in our inaugural 2022 Sustainability Impact Report. It covers the period from September 2024 to June 2025 and details our progress in relation to our core sustainability framework: "Impact = Innovation + Integrity".

Sustainability remains central to Spiber's mission, and we continue to pursue innovative and responsible approaches in everything we do. This report highlights significant achievements in key areas including climate action, renewable energy, Diversity, Equity, and Inclusion, and sustainable sourcing, all of which hold critical importance for our stakeholders.

Additionally, a comprehensive GRI disclosure for the full calendar year 2024 will be published separately later in 2025.



Impact

At Spiber, we measure impact through meaningful partnerships, product innovation, and commercial growth of sustainable solutions. Our progress this year continues to reinforce our mission of shaping a sustainable future through the increased adoption and application of Brewed Protein™ materials.

Our progress

Increased adoption of Brewed Protein™ fibers

We have expanded partnerships with globally recognized brands and manufacturers, successfully integrating Brewed Protein™ fibers into diverse product categories such as outerwear, knitwear, and denim. Notably, The North Face's Orbit McMurdo Parka marked a major milestone as the first commercial product featuring Brewed Protein™ fiber in the fur trim of a hood, exemplifying our commitment to sustainability in the fashion industry.



Iris van Herpen - Haute Couture Fall/Winter 2025-2026

Our progress

Enhanced productivity

Over the past year, innovations in our protein polymer production processes resulted in an almost twofold increase in commercial-scale fermentation productivity compared to 2022.

This substantial improvement has lowered production costs, reduced environmental impact, and strengthened the potential for Brewed Protein™ materials to achieve broader market adoption and deliver substantial societal benefits.



Our progress

Developing various formats of Brewed Protein™

Spiber is continuously advancing the development of Brewed Protein™ materials beyond traditional textile fibers. Our progress includes:

Leather alternatives and membrane films

In collaboration with Komatsu Matere, a leading Japanese expert in advanced textile processing, we are developing plant-derived alternatives to leather and advanced waterproof membrane films, significantly expanding the potential uses of Brewed Protein™ materials.

Animal fur alternatives

Building upon the commercial success of the Orbit McMurdo Parka's eco-fur trim, developed jointly with Goldwin and renowned eco-fur producer Okada Orimono, we are continuing to advance the creation of plant-derived, high-quality faux-fur textiles. These include eco-fur, fleece, and boa fabrics, a range that will help ensure our sustainable material solutions cater to a broad range of consumer needs.



Innovation

Innovation is central to Spiber's approach towards sustainability, enabling us to take proactive steps to reduce our environmental footprint, promote circular practices, and foster an inclusive organizational culture.

1. Greenhouse gas emissions and energy

Commitments

Create a mitigation plan by 2024 to reduce emissions intensity to 10kg CO₂ equivalent per kg Brewed Protein™ fiber by 2029

Progress

In 2024, we conducted a comprehensive cross-functional engineering analysis to identify feasible and impactful emission reduction opportunities. This exercise resulted in a prioritized list of potential carbon mitigation projects with estimated timelines, costs, and mitigation impacts. These projects are designed to support our target of reducing carbon intensity to 10 kg CO₂e per kg Brewed Protein™ fiber by 2029.

We remain on track to meet this target through diligent execution of the identified projects, supplemented by strategic emission offsets as necessary, contingent upon timely securing of the required funding and resources.



2. Circularity

Commitments

1. Develop processes to utilize various types of agricultural waste and by-products as feedstock
2. Replace at least 50 tonnes (dry weight) of sugarcane sugar with non-edible, biomass-based sugar as feedstock annually for Brewed Protein™ polymer production in Thailand by 2026

Progress

In early 2025, we successfully completed commercial-scale trial production batches incorporating up to 30% sugars derived from agricultural waste (bagasse). We are also evaluating additional feedstocks, such as cellulosic sugars from textile waste like cotton and man-made cellulosic fibers (MMCF). Given our current trajectory, we expect to surpass our goal of replacing at least 50 tonnes of cane sugar annually with biomass-based alternatives by 2026.

Additionally, Spiber launched and now leads the BioCircular Materials Alliance, which currently includes over 20 members. This alliance collaborates to develop bio-circular product design guidelines. Further details can be found on the Alliance's official [website](#).



3. Diversity, Equity, and Inclusion in the workplace

Amid increasingly polarized global discourse surrounding Diversity, Equity, and Inclusion (DEI), Spiber reaffirms its unwavering commitment to these principles. We firmly believe that diversity drives innovation and growth, equity fosters respect and meaningful engagement from all stakeholders, and inclusion is essential to the wellbeing of our employees and the human communities we serve.

Commitments

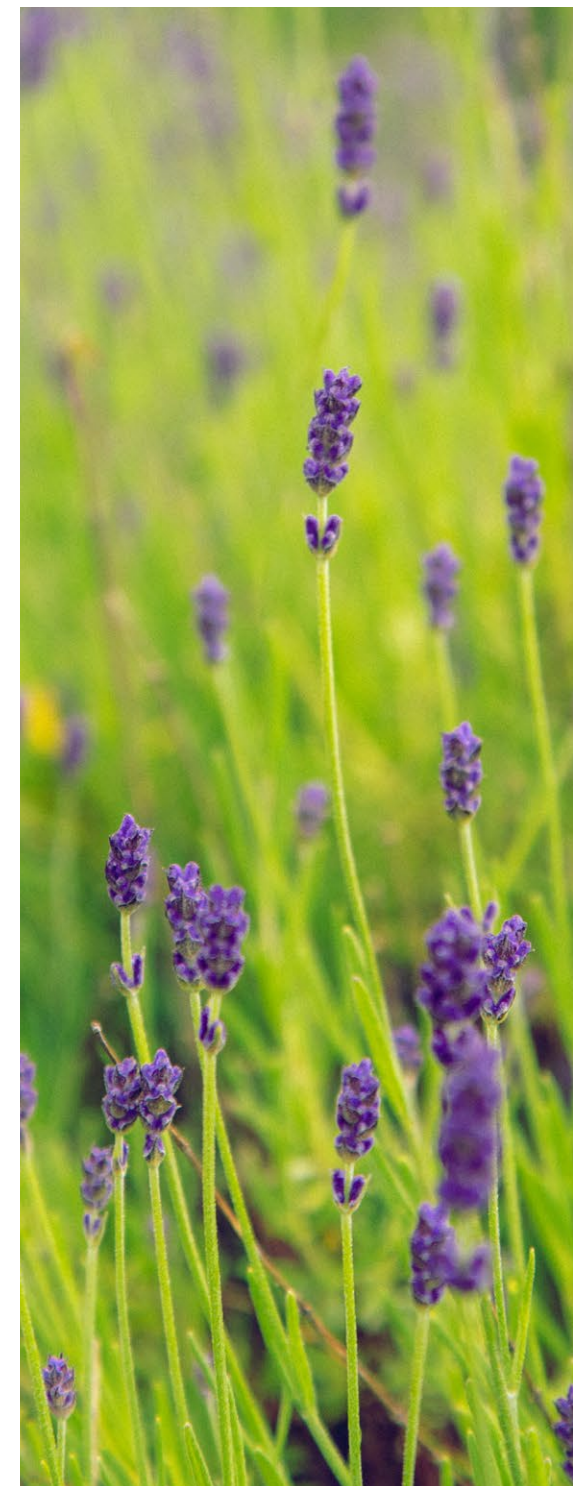
1. Provide DEI training to raise awareness and help create a more inclusive culture

We conduct mandatory company-wide training seminars twice a year, including DEI topics focusing on discrimination and harassment prevention, as well as inclusive workplace practices. Comprehensive DEI surveys have been conducted in 2023 and 2025, guiding our continuous efforts to raise awareness and promote the further evolution of our culture.

2. Bring the ratio of women in management positions (senior manager level and above) at the Spiber Group to at least 30% by 2025

In 2024, we appointed three new women to senior leadership positions, raising the proportion of women in management positions to 27.6% by June 2025. We remain well on track to surpass our goal of 30% representation by the end of 2025.

Progress



Integrity

Integrity underpins our sustainability efforts. We uphold transparency, accountability, and continuous improvement in managing our environmental impacts, our supply chains, and our operational quality.

1. Greenhouse gas emissions and energy

Commitments

1. Use 100% renewable electricity through direct use and support for construction of new facilities for renewable electricity generation aiming for 2025, and at the latest by 2027
2. Calculate and report carbon intensity, energy used, and % renewable energy used

Progress

Since 2023, we have maintained 100% renewable electricity usage at all owned facilities through iRECs in Thailand and non-fossil fuel certificates in Japan. In 2025, we plan to include leased facilities, representing roughly 1% of total consumption.

Recognizing that the renewable energy certificates that we currently purchase lack "additionality" (i.e., they do not directly support new renewable energy projects), we continue exploring alternatives such as Thailand's Utility Green Tariff and potential Power Purchase Agreements (PPAs) in Japan. We aim for implementation within 2027.

Furthermore, we published our first Life Cycle Assessment (LCA) results in 2023 and continue transparently disclosing our global energy use through annual GRI reports. In 2024, our 2023 emissions and energy data submission to CDP achieved the highest attainable SME rating (B). Comprehensive 2024 energy data will be reported in our upcoming GRI disclosure later this year.



Our progress

ISO9001/14001 Certification

In early 2025, Spiber Inc. (“Jiro” and “Saburo”, referring to our R&D headquarters and crimping process equipment facility, respectively) and Spiber (Thailand) Ltd. achieved ISO 9001:2015 (Quality Management) and ISO 14001:2015 (Environmental Management) certifications. These certifications validate our rigorous standards for quality management, customer satisfaction, and environmental responsibility, reinforcing trust with stakeholders and customers worldwide.



2. Sourcing

Commitments

1. Identify risks within supply chains through Human Rights Impact Assessment (HRIA) by 2023 Q2
2. Increase number of suppliers that adhere to our Sustainable Sourcing Policy

Progress

In 2023, we completed a comprehensive Human Rights Impact Assessment (HRIA) across our supply chains, reaffirming our understanding that cane sugar (sucrose) sourcing represents the most significant area of potential risk within our operations. To proactively manage this risk, we continue to source exclusively Bonsucro-certified cane sugar, to help ensure adherence to high standards of social and environmental practices in sugarcane production. Following our HRIA, we conducted an in-depth assessment of our sugarcane supply chain in early 2024, including farm site visits and supplier interviews, to deepen our understanding of their practices and enhance our ability to collaboratively manage and mitigate risks.

Since 2024, an ongoing supplier questionnaire continues to assess environmental and social risks among our upstream raw material suppliers, achieving **over 50% participation** thus far with no critical issues identified. We have secured commitments to our Sustainable Sourcing Policy from 100% of downstream suppliers (processors converting fibers into yarns, fabrics, or slivers) and over 99% (based on total purchase value) of upstream raw material suppliers. Continuous efforts are underway to achieve full compliance across our entire supply chain.



