

Second-Party Opinion

Metsä Group

Green Finance Framework



Evaluation Summary

Sustainalytics is of the opinion that the Metsä Group Green Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the Green Loan Principles 2023. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – Renewable or Fossil Free Energy, Energy Efficiency Initiatives, Waste and Side Stream Management and Pollution Control, Sustainable Forest Management, Sustainable Water and Wastewater Management and New Circular Bioeconomy Solutions – are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 6, 7, 9, 12 and 15.



PROJECT EVALUATION AND SELECTION Metsä Group has established a Sustainable Funding Committee which meets at least once a year and is responsible for evaluating and selecting projects in line with the eligibility criteria. The committee comprises members from Metsä Group's management, treasury, sustainability and investment management and is chaired by the chief financial officer. Metsä Group has internal risk management policies to identify and mitigate environmental and social risks potentially associated with the eligible projects and activities. Sustainalytics considers the project selection process in line with market practice.



MANAGEMENT OF PROCEEDS Metsä Group's Treasury will be responsible for the management and allocation of proceeds and will track proceeds using a green funding register using a portfolio approach as well as a project approach. Metsä Group intends to allocate all proceeds within 36 months of issuance. Pending full allocation, proceeds will be temporarily placed in money market instruments and held as cash. Sustainalytics considers this process to be in line with market practice.



REPORTING Metsä Group commits to report on the allocation and impact of proceeds on its annual Green Debt report until full allocation. The Group has communicated to Sustainalytics that if it obtains revolving credit facilities under the Metsä Group Green Finance Framework, it will report on allocation until loan maturity. In addition, Metsä Group intends to report on relevant impact metrics. Sustainalytics views Metsä Group's allocation and impact reporting as aligned with market practice.

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|------------------------|----------------------------|
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Report Sections

| | |
|----------------------------------------|----|
| Introduction..... | 2 |
| Sustainalytics' Opinion | 3 |
| Disclaimer | 11 |
| About Morningstar Sustainalytics | 12 |

For inquiries, contact the Sustainable Corporate Solutions project team:

Titus Vilches (Amsterdam)
Project Manager

Titus.Vilches@morningstar.com

Maliha Taj (Mumbai)
Project Support

Astrid Bruchou (Amsterdam)
Project Support

Kibii Sisulu (London)

Client Relations

susfinance.emea@sustainalytics.com
(+44) 20 3880 0193

¹This is an update of a second-party opinion dated October 2019.

Introduction

Metsä Group (“Metsä” or “the Group”) is an international forest industry company headquartered in Helsinki.² Metsä specialises in the production of wood products, pulp, fresh fibre paperboards, and tissue and greaseproof papers. The Group consists of Metsäliitto Cooperative, a cooperative owned by more than 90,000 Finnish forest owners. The cooperative has two business units, Metsä Forest and Metsä Wood, and three subsidiaries, Metsä Fibre, Metsä Board and Metsä Tissue. As of 2023, Metsä had 9,500 employees in 28 countries.³

Metsä has developed the Metsä Group Green Finance Framework dated June 2024 (the “Framework”) under which it intends to issue green bonds, loans, commercial papers, bank loans other type of debt instruments⁴ (collectively “Green Debt”) and use the proceeds to finance or refinance, in whole or in part, existing or future projects that are expected to deliver a positive environmental and social impact and advance the Group’s sustainability strategy. The Framework defines eligibility criteria in six areas:

1. Renewable or Fossil Free Energy
2. Energy Efficiency Initiatives
3. Waste and Side Stream Management and Pollution Control
4. Sustainable Forest Management
5. Sustainable Water and Wastewater Management
6. New Circular Bioeconomy Solutions

Metsä engaged Sustainalytics to review the Framework and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)⁵ and the Green Loan Principles 2023 (GLP).⁶ The Framework has been published in a separate document.⁷

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁸ opinion on the alignment of the reviewed Framework with current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA, and the Green Loan Principles 2023, as administered by LMA, APLMA and LSTA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.16, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Metsä’s management team to understand the sustainability impact of its business processes and planned use of proceeds, as well as the management of proceeds and reporting aspects of the Framework. Metsä representatives have confirmed that: (1) they understand it is the sole responsibility of Metsä to ensure that the information provided is complete, accurate and up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

² Metsä Group, “Metsä Group Annual Review”, (2023), at: [metsa-group-annual-review-2023.pdf](https://www.metsa-group-annual-review-2023.pdf) ([metsagroup.com](https://www.metsagroup.com))

³ Ibid.

⁴ Sustainalytics’ assessment is limited to the type of instruments expressly listed in the Framework.

⁵ The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>.

⁶ The Green Loan Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association and are available at <https://www.lsta.org/content/green-loan-principles/>

⁷ The Metsä Group Green Finance Framework is available at: <https://www.metsagroup.com/investors/sustainable-financing/green-finance-framework/>

⁸ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Metsä.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond and loan proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond and loan proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Metsä has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Metsä Group Green Finance Framework

Sustainalytics is of the opinion that the Metsä Group Green Finance Framework is credible, impactful and aligned with the four core components of the GBP and GLP. Sustainalytics highlights the following elements of the Framework:

- Use of Proceeds:
 - The eligible categories – Renewable or Fossil Free Energy, Energy Efficiency, Waste Management and Pollution Control, Sustainable Forest Management, Sustainable Water and Wastewater Management, New Circular Bioeconomy Solutions – are aligned with those recognized by the GBP and GLP.
 - Metsä has defined a look-back period of three years for refinancing operating expenditures, which Sustainalytics considers to be in line with market practice.
 - Under Renewable Energy or Fossil Free Energy, the Group intends to finance or refinance the development, operation and maintenance of facilities for the production of bioenergy from forestry residues and side streams of the Group's operations, including barks from peeling, sawdust from sawmills, logging residues such as branches and treetops, and black liquor. Sustainalytics considers these investments to be in line with market practice.
 - Under the Energy Efficiency Initiatives category, Metsä intends to finance or refinance projects that reduce the energy consumption of operations, including the replacement of existing equipment with more energy-efficient alternatives, implementation of energy recovery and closed-loop processes, as well as investments in processes, technologies and facilities for its production units based on best available techniques (BAT) specifications.⁹
 - With respect to the replacement of equipment, Metsä intends to select projects that achieve at least a 10% improvement in energy efficiency. Sustainalytics encourages the Group to establish minimum quantitative thresholds for all energy efficiency-related projects.
 - Metsä intends to invest in the development or installation of energy recovery or closed-loop processes to minimize the use of resources, such as water, as well as utilize production side streams, which includes ash, sludge and lime, for the generation of energy and as raw material inputs for other industries.

⁹ European Commission, "Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board" (2015), at: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/PP_revised_BREF_2015.pdf

- Sustainalytics recognizes that the processes, technologies and facilities equipped with BAT can demonstrate significantly improved energy and resource efficiency as compared to older installations. Nevertheless, due to the diversity of operational areas in which Metsä is involved, it cannot be assumed that all BAT investments represent significant gains on existing processes, and encourages Metsä Group to demonstrate through its reporting that investments in this category are environmentally impactful.
 - Metsä has confirmed that financed projects under this category will not be powered by fossil fuels or related to emissions from fossil fuel processes or technologies.
 - Sustainalytics considers these investments to be in line with market practice.
 - Under the Waste and Side Stream Management and Pollution Control category, Metsä intends to finance or refinance projects that reduce emissions to air and water from the Group's operations, as well as improve the utilization of resources. Sustainalytics notes that the proceeds will be directed towards projects which:
 - Reduce air emissions, such as scrubbers, evaporators, bioboilers, turbines and generators in biopower plants, automation equipment, bark gasification, and new technology for electrification to replace fossil fuels. Metsä confirmed financed projects under this category will not be powered by fossil fuels.
 - Reduce emissions to water such as effluent treatment plants and reusing waste and residuals through sludge treatment and pelletizing.
 - Improve the utilization of side streams to make more efficient use of them and to reduce the amount of landfill waste.
 - Capture biobased CO₂ from the Group's bioproduct mills and transport it either for storage or further use in other industries. Sustainalytics notes that the current scope of the Framework is on CO₂ capture. In terms of potential use of captured biobased CO₂ in other industries, Metsä had confirmed that these are not applicable to the fossil fuel industry based on the type of CO₂ from the Group's operations. For the transport of captured CO₂, the Group has confirmed that a leakage detection system will be in place to minimize the leakage of CO₂ during transport.
 - Sustainalytics considers these investments to be in line with market practice.
 - Under the Sustainable Forest Management category, Metsä may finance or refinance the following sustainable and regenerative forest management projects:
 - Sustainable forest management practices in accordance with Forest Stewardship Council (FSC)¹⁰ and Programme for the Endorsement of Forest Certification (PEFC) standards.¹¹
 - Afforestation, reforestation and regenerative practices. Metsä confirmed to Sustainalytics that afforestation and reforestation projects will be certified by FSC or PEFC and only tree species that are well adapted to site conditions will be used.
 - Projects that restore ecosystems and support biodiversity outside of commercial forests in Finland.
 - These investments are in line with market practice.
 - Under the Sustainable Water and Wastewater Management category, Metsä may finance or refinance processes aimed at reducing water use and management of wastewater from the Group's operations. These include projects for reducing water intake and the use of process water; improving the recycling and reuse of process water and using cooling water to heat raw water; closed-loop water processes; filters, cooling towers, control and measurement equipment to reduce water heat load to sea; equipment for wastewater treatment to recycle and reuse water; biological wastewater treatment plants; and processes to use water to heat raw water. Metsä has communicated to Sustainalytics that projects, systems and equipment dependent on fossil fuels are excluded from financing under the Framework. Sustainalytics considers these investments to be aligned with market practice.
 - Under the New Circular Bioeconomy Solutions category, Metsä may finance or refinance pre-commercial or late stage R&D related expenditures for improving existing and developing new bio-based, recycled products, including developing fibre-based and wood-based products, biochemicals, packaging materials, textile fibres from wood, biocomposites, novel wood-based

¹⁰ Forest Stewardship Council: <https://fsc.org/en/about-us>

¹¹ Programme for the Endorsement of Forest Certification: <https://www.pefc.org/>

construction materials. Metsä has confirmed that these products will not be used or designed for fossil fuel industries. Sustainalytics views these expenditures to be consistent with market practice.

- Additional Considerations on Use of Proceeds
 - The pulp and paper industry is energy intensive, largely driven by the substantial amount of heat required in the chemical pulp production and paper drying processes, where drying accounts for approximately 70% of the total energy used.^{12,13} Despite the continued increase in the use of renewable energy in the sector, primarily from biomass inputs and process by-products such as black liquor, the pulp and paper sector continues to use fossil fuels, especially for the calcination process in lime kilns requiring high temperatures. As a result, the sector was responsible for approximately 2% of global industrial emissions in 2022.¹⁴
 - Sustainalytics notes that some expenditures under the Framework will finance systems, processes, technologies and equipment at production facilities that the Group is in the process of transitioning away from fossil fuel use. In its bid to decrease its reliance on fossil fuels, Metsä Group aims to achieve 100% reduction of scope 1 and 2 emissions and ensure 100% of fossil-free raw materials, packaging materials and purchased energy by 2030.¹⁵
 - Metsä’s plan for climate change mitigation focuses on the climate impacts from its production, supply chain and products, as well as the carbon balance of forests. This plan has been developed to align with the Paris Agreement. In addition, Metsä Board’s GHG emissions reduction target has been verified by the Science Based Targets initiative.¹⁶ Sustainalytics notes that Metsä Board’s GHG emissions made up 29% of Metsä Group’s GHG emissions in 2023, Metsä has confirmed to Sustainalytics that it has committed to reduce scope 1 and 2 emissions by 100% by 2030.¹⁷
- Project Evaluation and Selection:
 - Metsä has established a Sustainable Funding Committee which meets at least once a year and is responsible for evaluating and selecting projects in line with the Framework’s eligibility criteria. The committee comprises members from management, treasury, sustainability and investment management and is chaired by the Group’s Chief Financial Officer.
 - The Group has internal risk management policies to identify and mitigate environmental and social risks potentially associated with the eligible green projects and activities that may be financed under the Framework. Sustainalytics considers these environmental and social risk management system to be adequate and aligned with market expectation. For additional details, see Section 2.
 - Based on the established process for project selection and risk management system, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
 - The Group Treasury will be responsible for the management and allocation of proceeds and will track proceeds using a green funding register according to a portfolio approach as well as a project approach.
 - The Group intends to allocate all proceeds within 36 months of each issuance. Pending full allocation, proceeds will be temporarily placed in money market instruments and held as cash.
 - The Group has communicated to Sustainalytics that instruments issued under the Framework may include multi-tranche loan facilities. The Group intends to label only those tranches of such facilities whose proceeds will be allocated according to the eligibility criteria in the Framework.
 - Based on the use of an internal tracking system and the disclosure of the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- Reporting:
 - Metsä will report on the allocation of proceeds generated from the Green Debt and the corresponding impacts on its annual Green Debt report, published either standalone or integrated in Metsä’s annual review, until full allocation. The Group has communicated to

¹² Japan Ministry of Economy, Trade and Industry, “Technology Roadmap for “Transition Finance” in Pulp and Paper Sector”, (2022), at: https://www.meti.go.jp/policy/energy_environment/global_warming/transition/transition_finance_technology_roadmap_paper_eng.pdf

¹³ IEA, “Pulp and Paper”, at: <https://www.iea.org/reports/pulp-and-paper>

¹⁴ Ibid.

¹⁵ Metsä Group, “Metsä Group Annual Review”, (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

¹⁶ Science Based Targets Initiative : <https://sciencebasedtargets.org/>

¹⁷ Metsä Group, “Metsä Board Sustainability Review”, (2023), at: [metsa-board-sustainability-review-2023.pdf \(metsagroup.com\)](https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-board-sustainability-review-2023.pdf)

Sustainalytics that if it obtains revolving credit facilities under the Framework, it will report on allocation until loan maturity.

- Allocation reporting may include a summary of projects to which net proceeds have been allocated, outstanding amount of debt issued, total proportion of proceeds used to finance and refinance projects, total aggregated proportion of proceeds used per category and balance of unallocated proceeds.
- Impact reporting may include performance indicators such as renewable energy generated in MWh; reduction of fossil-based energy in MWh or avoided fossil CO₂ emissions; reduced energy consumption as MWh in relation to production; reduced or avoided fossil CO₂ emissions; reduced emissions to air per production; reduced emissions to water per production; reduction of landfill waste per production; share of certified wood; reduced amount of process water per production; externally validated life cycle calculations; and improvement in the environmental performance or carbon footprint compared to earlier technology in case of a new investment.
- The Group will appoint an independent external verifier to review the allocation report annually.
- Based on the commitments to allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with the Green Bond Principles 2021 and Green Loan Principles 2023

Sustainalytics has determined that the Metsä Group Green Finance Framework aligns with the four core components of the GBP and GLP.

Section 2: Sustainability Strategy of Metsä Group

Contribution to Metsä's sustainability strategy

Metsä Group's sustainability strategy focuses on three key environmental areas: i) regenerative forestry; ii) climate change mitigation and adaptation; and iii) efficient resource use. The implementation of Metsä's sustainability strategy is coordinated at the group level.¹⁸

Metsä commits to transition to fossil-free business operations to the extent possible, by reducing fossil-based energy in production and abandoning fossil-based raw materials. Additionally, the Group also aims to use energy and water more efficiently, safeguard forests and increase carbon storage by 2030.¹⁹ In order to achieve this, Metsä has set several targets which include: i) 100% retention trees on regeneration felling sites and stumps on harvesting sites; ii) score of 90 in its energy efficiency index out of 100²⁰ from a 2018 base-year; iii) reduce scope 1 and scope 2 emissions by 100% by 2030 from a 2018 baseline;²¹ iv) 100% fossil-free raw packaging; v) 30% increase in forest regeneration and young stand management areas from the 2018 baseline; vi) 35% reduction in water use per produced tonne from a 2018 baseline; and vii) zero process waste to landfills.²² These targets were set on the basis of the sustainability-related materiality assessment Metsä conducted in 2022-2023.²³ As of 2023, Metsä saved 460 GWh of energy through its energy efficiency actions, such as using 96% of its production waste and side streams as materials or energy; in addition, 96% of the water it uses is returned to waterbodies after treatment.²⁴

Further, Metsä aims to reduce its CO₂ emissions from wood supply in Finland by 30% by 2030 from a 2022 baseline.²⁵ Metsä has also created a roadmap for achieving fossil-free operations for each of its production units and aims to transition to fully renewable or fossil-free alternatives in its purchased energy. In 2023, Metsä began a Group-level project to calculate scope 3 emissions.²⁶ Metsä Group subsidiary, Metsä Tissue has published a carbon reduction plan in 2023, in which it commits to achieving net zero emissions by

¹⁸ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

¹⁹ Ibid.

²⁰ Metsä's energy efficiency index aims to monitor the energy efficiency of Metsä's mills. It is calculated as a ratio between all the electricity, heat and fuel used by production to the volume of production.

²¹ The target has been calculated in accordance with the GHG Protocol, and does not include buildings outside the mill areas or internal logistics, as the share of emissions is assessed to be non-material by Metsä.

²² Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

2050^{27,28} Metsä Tissue started collaborations with local logistics partners in Finland in 2022 and Sweden in 2023 to transport product generating less emissions. Metsä Tissue has also become a shareholder of *Modellfabrik Papier in Düren*, which focuses on research and development for sustainable paper technologies in the field of emission-free paper production. Metsä Tissue also reports its sustainability and social performance through the Ecovadis²⁹ platform and started disclosing its climate impacts in CDP in 2022.³⁰

In relation to responsible forest management, which is a core sustainability issue for the Group, Metsä developed principles of regenerative forestry in 2023, aiming to improve the state of nature of ecosystems and set guidelines to provide measurable and verifiable biodiversity impact data of its operations.³¹ The Group also launched the Metsä Group Plus forest management model for its owner-members as a regenerative forestry method to support biodiversity at felling and forest management sites in commercial forests. The model incentivizes leaving more retention trees and high biodiversity stumps per hectare of forest during felling, by offering an additional bonus per hectare for regeneration felling carried out according to its terms.³²

Metsä's sustainability report was prepared in accordance with the Global Reporting Initiative, and the Accounting Act for the reporting of non-financial information in accordance with the EU's Non-Financial Reporting Directive. As of 2024, Metsä Group is also subject to the EU's Corporate Sustainability Reporting Directive.

Sustainalytics is of the opinion that the Metsä Group Green Finance Framework is aligned with Metsä's overall sustainability strategy and initiatives and will further the Group's action on its key environmental priorities.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the proceeds from the instruments issued under the Framework will be directed towards eligible projects that are expected to have positive environmental or social impacts. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects may include issues involving: i) land use change and biodiversity; ii) emissions, effluents and waste generated in production; iii) occupational health and safety; iv) community relations; and v) supply chain risks.

Sustainalytics is of the opinion that Metsä is able to manage or mitigate potential risks through implementation of the following:

- Regarding land use change and biodiversity issues, Metsä has established an Environmental Policy³³ which sets guidelines for the policies and operating methods followed in all the Group's business areas aimed at: i) reducing all negative environmental impacts; ii) improving environmental efficiency; iii) transitioning to fossil-free production; and iv) assessing the environmental impacts of its business operations. In 2023, Metsä Group launched a multi-year action plan in which a biodiversity plan will be drawn up for each production unit. The plan encompasses nature-based solutions on the industrial site, as well as off-site land areas owned by the Group, which are used by the town for recreational purposes. The goal is to raise the level of biodiversity protection in the built environment and develop cooperation with local communities.
- Regarding emissions, effluents and waste generated in production, all of Metsä's production units are required to have valid environmental permits and its internal policies mandate that any deviation and related corrective actions be immediately reported to relevant authorities.³⁴ Metsä also assesses the environmental aspects of all of its operations as required in its Environmental Policy.³⁵ In addition, the Group's operations follow circular economy principles, in which the side streams generated in production processes are used primarily as raw material or energy, hence minimizing waste and emissions. In the cases in which waste from the mills are delivered to external waste

²⁷ According to the requirements of the PPN 06/21: <https://www.gov.uk/government/publications/procurement-policy-note-0621-taking-account-of-carbon-reduction-plans-in-the-procurement-of-major-government-contracts>

²⁸ Metsä Group, "Carbon Reduction Plan", (2023), at: <https://www.metsagroup.com/globalassets/metsa-tissue/attachments/uk/carbon-reduction-plan.pdf>

²⁹ EcoVadis: <https://ecovadis.com/>

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

³³ Metsä Group, "Environmental Policy", at: <https://www.metsagroup.com/globalassets/metsa-group/documents/policies/metsa-group-environmental-policy.pdf>

³⁴ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

³⁵ Metsä Group, "Environmental Policy", at: <https://www.metsagroup.com/globalassets/metsa-group/documents/policies/metsa-group-environmental-policy.pdf>

management companies, Metsä promotes the sustainability of waste management through its supplier agreements and its Supplier Code of Conduct.^{36,37}

- To address risks related to occupational health and safety, Metsä is committed to promoting the physical and mental well-being of its employees through its Code of Conduct and Safety Management System.³⁸ Metsä is also committed to acting in accordance with the UN Guiding Principles on Business and Human Rights³⁹ and respecting internationally recognized human rights principles such as those in the UN's Universal Declaration of Human Rights and the ILO's Declaration on Fundamental Principles and Rights at Work.⁴⁰ To monitor compliance, Metsä Group conducts an employee survey measuring job satisfaction, ethical conduct and the practical implementation of the Code of Conduct through its business units. The results are used in the workplace communities to agree on development measures.⁴¹ Metsä has an occupational health and safety committee which is responsible for the Group's annual occupational safety action plan.⁴²
- To address risks related to community relations, Metsä is guided by its Code of Conduct which includes commitments to human rights. Metsä conducts environmental impact assessments before the implementation of projects, which includes the commitment to engage with local communities and other stakeholders.⁴³ Affected communities can address concerns through the production unit's contact person, Metsä's Compliance and Ethics Channels, or by participating in open house events organized at production units. In addition, regarding product development, the Group organizes cooperation days for stakeholders to discuss scientific progress in Metsä products which offers stakeholders the opportunity to influence activities more broadly.⁴⁴
- To address risks related to its supply chain, Metsä's Supplier Code of Conduct outlines guidelines for Metsä's suppliers regarding adherence to human rights and labor laws, health and safety, responsible business practices, respect for the environment and continuous development. Metsä requires all suppliers to have appropriate controls to ensure all participants in the supply chain respect the principles outlined in the Supplier Code of Conduct. Metsä also integrates environmental considerations in its purchase agreements, including commitments to its environmental policy, and audits and assessments for monitoring supplier compliance with its policies.⁴⁵

Based on these policies, standards, and assessments, Sustainalytics is of the opinion that Metsä has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

The use of proceeds categories are aligned with those recognized by the GBP and GLP. Sustainalytics has focused below on where the impact is specifically relevant in the local context.

Importance of reducing GHG emissions in the pulp, paper and forestry products industry

The pulp and paper sector was responsible for approximately 2% of global industrial emissions in 2022.⁴⁶ The industries in this sector are highly energy intensive, requiring substantial amounts of heat for processes such as chemical pulp production and paper drying. The drying process by itself accounts for approximately 70%

³⁶ Metsä Group, "Supplier Code of Conduct", t: <https://www.metsagroup.com/globalassets/metsa-group/documents/contact-us/procurement/metsa-group-supplier-code-of-conduct.pdf>

³⁷ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

³⁸ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

³⁹ UN Guiding Principles on Business and Human Rights:

https://www.ohchr.org/sites/default/files/Documents/Issues/Business/Intro_Guiding_PrinciplesBusinessHR.pdf

⁴⁰ Internal Labor Organization, ILO Declaration on Fundamental Principles and Rights at Works and its Follow-up:

<https://www.ilo.org/resource/conference-paper/ilo-1998-declaration-fundamental-principles-and-rights-work-and-its-follow>

⁴¹ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

⁴² Ibid.

⁴³ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

⁴⁴ Metsä Group, "Metsä Group Annual Review", (2023), at: <https://www.metsagroup.com/globalassets/metsa-group/documents/investors/financial-reporting/annual-reports/2023/metsa-group-annual-review-2023.pdf>

⁴⁵ Metsä Group, Environmental Policy", at: <https://www.metsagroup.com/globalassets/metsa-group/documents/policies/metsa-group-environmental-policy.pdf>

⁴⁶ IEA, "Pulp and Paper", at: <https://www.iea.org/reports/pulp-and-paper>

of the total energy used in pulp and papermaking.^{47,48} In addition, the calcination process that takes place in lime kilns requires high temperatures and continues to be fuelled by fossil fuels along with process by-products, such as black liquor.⁴⁹

The reliance on fossil fuels highlights the need to find less carbon intensive solutions in the face of growing demand for pulp and paper. The global consumption of paper is projected to grow by approximately 17% from 2021 to reach 476 million tonnes by 2032.⁵⁰ As per the IEA, this growth must be accompanied by an annual decline in emissions intensity of paper production of 4% between 2021 and 2030 to achieve net zero emissions by 2050. Replacing fossil fuels with clean energy alternatives will be crucial in this process, with bioenergy already accounting for 40% of the sector's energy use in 2022.⁵¹

Finland is a major pulp and paper producing country, ranking 5th globally as of 2022.⁵² In 2021, Finland accounted for 1.5% of the EU's total GHG emissions⁵³ while it aims to become carbon neutral by 2035 and the first fossil-free welfare society in the world. Finland's 92% fossil-free electricity consumption is in line with this goal. Specifically in the paper and pulp industry, Finland has been able to increase the share of biofuels in its mix to 85% by 2017 and reduce emissions intensity by up to 58% (from 2022), by replacing fossil fuels in lime kilns and power boilers, as well as other measures to improve energy efficiency.⁵⁴

Based on the above, Sustainalytics is of the opinion that Metsä Group's investments under the Framework are expected to contribute to the reduction of GHG emissions from the pulp and paper sector in Finland, consequently supporting the transition towards a low-carbon economy.

Contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The instruments issued under the Metsä Group Green Finance Framework are expected to help advance the following SDGs and targets:

| Use of Proceeds Category | SDG | SDG target |
|--------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Renewable or Fossil Free Energy | 7. Affordable and Clean Energy | 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix |
| Energy Efficiency Initiatives | 9. Industry, Innovation and Infrastructure | 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities |
| Waste and Side Stream Management and Pollution Control | 12. Responsible Consumption and Production | 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment |

⁴⁷ Japan Ministry of Economy, Trade and Industry, "Technology Roadmap for "Transition Finance" in Pulp and Paper Sector", (2022), at: https://www.meti.go.jp/policy/energy_environment/global_warming/transition/transition_finance_technology_roadmap_paper_eng.pdf

⁴⁸ IEA, "Pulp and Paper", at: <https://www.iea.org/reports/pulp-and-paper>

⁴⁹ Japan Ministry of Economy, Trade and Industry, "Technology Roadmap for "Transition Finance" in Pulp and Paper Sector", (2022), at: https://www.meti.go.jp/policy/energy_environment/global_warming/transition/transition_finance_technology_roadmap_paper_eng.pdf

⁵⁰ Statista, "Paper consumption worldwide", (2022), at: <https://www.statista.com/statistics/1089078/demand-paper-globally-until-2030/>

⁵¹ IEA, "Pulp and Paper", at: <https://www.iea.org/reports/pulp-and-paper>

⁵² Statista, "Leading pulp for paper producing countries worldwide in 2022", (2022), at: <https://www.statista.com/statistics/1333386/pulp-for-paper-production-by-country/>

⁵³ European Parliament, "EU progress on climate action – How are the Member States doing? ", at :

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/696187/EPRS_BRI\(2021\)696187_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/696187/EPRS_BRI(2021)696187_EN.pdf)

⁵⁴ Lipiäinen, Satu, et al., "Pulp and paper industry in energy transition: Towards energy-efficient and low carbon operation in Finland and Sweden", (2022), at: <https://www.sciencedirect.com/science/article/pii/S2352550921003122>

| | | |
|---------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse |
| Sustainable Forest Management | 15. Life on Land | 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally |
| Sustainable Water and Wastewater Management | 6. Clean Water and Sanitation | 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity |
| New Circular Bioeconomy Solutions | 12. Responsible Consumption and Production | 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse |

Conclusion

Metsä Group has developed the Metsä Group Green Finance Framework under which it may issue green bonds, loans, commercial papers, bank loans and other type of debt instruments,⁵⁵ and use the proceeds to finance projects expected to deliver positive environmental impacts and advance the Group's sustainability strategy. Sustainalytics considers that the eligible projects are expected to provide positive environmental impacts.

The Metsä Group Green Finance Framework outlines a process for tracking, allocation and management of proceeds, and makes commitments for reporting on allocation and impact. Sustainalytics considers that the Metsä Group Green Finance Framework is aligned with the overall sustainability strategy of Metsä and that the use of proceeds will contribute to the advancement of the UN Sustainable Development Goals 6, 7, 9, 12, 15. Additionally, Sustainalytics is of the opinion that Metsä has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is confident that Metsä Group is well positioned to issue Green Debt and that the Metsä Group Green Finance Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2023.

⁵⁵ Sustainalytics' assessment is limited to the type of instruments listed in the Framework.

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