



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 2018 and the Green Loan Principles 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics is of the opinion that investments in renewable energy, energy efficiency, pollution prevention and control, sustainable water and wastewater management, circular economy adapted products, production technologies and processes, and environmentally sustainable management of living natural resources and land use will lead to positive environmental impacts and advance various UN Sustainable Development Goals.



PROJECT EVALUATION / SELECTION Metsä Group’s internal process in evaluating and selecting projects is overseen by the Sustainable Funding Committee (SFC), which is comprised of relevant members of the management and is chaired by the Group CFO. Each Metsä Group company will identify and select potential projects, which are then presented to the SFC who makes the final review of proposed projects and determines eligibility for financing. This process is aligned with market practice.



MANAGEMENT OF PROCEEDS Metsä Group’s process for management of proceeds is handled by Metsä Group Treasury. Metsä Group will establish a Green Funding Register for each Metsä Group company for the purpose of tracking and monitoring eligible assets and projects and the allocation of proceeds. Metsä Group will strive to ensure the amount of eligible assets match the total value of proceeds. If the total amount of outstanding proceeds exceeds the eligible assets, unallocated proceeds will be held in accordance with Metsä Group’s normal liquidity management policy. This process is aligned with market practice.



REPORTING Metsä Group intends to report on the allocation of proceeds on its Group website on an annual basis. The allocation report will include a list and description of all eligible assets and projects funded, the total amounts allocated and the amounts of financing vs refinancing. In addition, Metsä Group is committed to reporting on relevant impact metrics. Sustainalytics views Metsä Group’s allocation and impact reporting as aligned with market practice.

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Introduction

Metsä Group (or the “Group”) is a Finnish-based forest industry company. The Group consists of Metsäliitto Cooperative, with its business areas Metsä Forest and Metsä Wood; Metsä Board Corporation, Metsä Fibre Ltd., Metsä Tissue Corporation, and innovation company Metsä Spring. Metsä Group’s business is focused on wood supply and forest services, including wood products, wood pulp, paperboard, tissue and greaseproof papers. The Group sells products in over 130 countries.

Metsä Group has developed the Metsä Group Green Finance Framework (the “Framework”) under which it intends to issue green debt and use the proceeds to finance/refinance, in whole or in part, existing/future projects that will further advance to Group’s mission to develop operations sustainably, ranging from investments into renewable energy and energy efficiency to sustainable resource management and the circular economy. The Framework defines eligibility criteria in six areas:

1. Renewable Energy
2. Energy Efficiency
3. Pollution Prevention and Control
4. Environmentally Sustainable Management of Living and Natural Resources
5. Sustainable Water and Wastewater Management
6. Circular Economy Products, Production Technologies and Processes

Metsä Group engaged Sustainalytics to review the Metsä Group Green Finance Framework, dated October 2019, and provide a second-party opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2018 (GBP)¹ and Green Loan Principles 2018 (GLP).² This Framework has been published in a separate document.³

As part of this engagement, Sustainalytics held conversations with various members of Metsä Group’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of Metsä Group’s green financing. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Metsä Group Green Finance Framework and should be read in conjunction with that Framework.

¹ 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/>

² The Green Loan Principles are administered by the Loan Market Association and are available at: https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf

³ The Metsä Group Green Finance Framework is available on Metsä Group’s website at: www.metsagroup.com/gff

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 and impactful and aligns with the four core components of the Green Bond Principles 2018 and Green Loan Principles 2018. Sustainalytics highlights the following elements of Metsä's Green Finance Framework:

- Use of Proceeds:
 - Metsä Group intends to finance/refinance projects and activities related to the following use of proceeds categories: (i) renewable energy; (ii) energy efficiency; (iii) pollution prevention and control; (iv) environmentally sustainable management of living natural resources and land use; (v) sustainable water and wastewater management; (vi) circular economy adapted products, production technologies and processes. These categories are aligned with the GBP and GLP and viewed by Sustainalytics as credible and impactful.
 - Refinancing of eligible projects will have a three-year look-back period.
 - Metsä Group's financing of renewable energy will be focused on the utilization of forestry waste biomass. The feedstock for the biomass energy generation will come from harvesting residues or side streams of the bioproduct and pulp mills, sawmills, paperboard mills and tissue mills, which are viewed by Sustainalytics as sustainable inputs. Sustainalytics notes that best practice in the market is to track the carbon intensity of biomass energy generation, to ensure that lifecycle emissions are less than 100g CO_{2e}/kWh.
 - Energy efficiency financing will be aimed at projects to develop production technology and processes to reduce the energy consumption of operations. These include replacing equipment with more energy efficient solutions; implementation of energy recovery and closed loop processes; and the selection of best available technology (BAT) for new facilities.
 - With respect to the replacement of equipment Sustainalytics notes positively that Metsä Group intends to select projects that achieve at least a 25% increase in energy efficiency. Sustainalytics encourages the Group to establish minimum quantitative thresholds for all energy efficiency-related projects.
 - Sustainalytics recognizes that new 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 Group 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 Group will finance pollution prevention and control projects to reduce its own operational environmental impact; for example, closed loop process that allow for the reutilization of chemicals will mitigate air emissions, the implementation of wastewater treatment processes will mitigate water pollution, and increased utilization of side streams, such as ash and dreg fragments will mitigate landfill waste. Sustainalytics highlights the importance of Metsä Group's holistic approach to pollution prevention and control.
 - Metsä Group will finance development projects related to sustainable forest management practices, harvesting, regeneration and transport.⁴ Sustainalytics views positively that the Group has indicated that international forest certification schemes, such as PEFC or FSC, will be applied throughout the value chain. (Refer to Appendix 1 for Sustainalytics' assessment of these certification schemes.) Sustainalytics further notes that Metsä Group's procurement is limited to areas with well-established forest legislation practices in place, namely Finland (80% of wood sourcing), Sweden, Russia and the Baltic countries, and implements robust internal procurement policy.⁵
 - The Framework allows for investments in sustainable water and wastewater management financing, namely projects that lead to reduced intake of water and use of process water;

⁴ Sustainalytics notes that Metsä Group does not have direct ownership over the forests in which these activities may be financed.

⁵ Metsä Group, "Procurement", (2019), at: <https://www.metsagroup.com/en/Contact/procurement/Pages/default.aspx>

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- improved water recycling and reuse; and the use of cooling water to heat intake water. Sustainalytics views positively these project types, while encouraging the Group to establish minimum quantitative thresholds for water or energy savings, in line with market practice.
- Investments within the category of circular economy adapted products, production technologies and processes relate mainly to those of Metsä Spring, the Group's venture capital arm, however investments might go towards other group companies as well.
 - R&D activities will be aimed at enabling more sustainable and more efficient resource production and improve materials efficiency. While noting the difficulties of quantifying the impact of R&D activities, Sustainalytics recognizes the importance of conducting research in this area and as such, views positively this use of proceeds category. Sustainalytics also notes that the GBP are focused on project finance, while acknowledging that OPEX related to green innovation in R&D will be impactful (see section 3)
 - Metsä Group has provided to Sustainalytics examples of recent investments by Metsä Spring, which include a company which produces waterproof wood composite products from underutilized side-stream products (e.g. wood residues) and a pilot plant for the creation of wood-based textile fibres which are projected to be more environmentally friendly than conventional textiles.
 - Project Evaluation and Selection:
 - Metsä Group's project evaluation and selection process is overseen by the Sustainable Funding Committee (SFC), which is comprised of members from the management team, treasury department, sustainability and investment management, Metsä Group's CFO is the chair of the committee. Each Metsä Group company is independently responsible for pre-screening of potentially eligible assets and projects against the eligibility criteria. Proposed projects are then submitted to the SFC, who makes the final review and determines eligibility. For any major investments, the respective Group's Board of Directors are involved in the decision-making process.
 - Sustainalytics views the process as aligned with market practice and highlights the strong approach to oversight by including the CFO on the SFC and including the Board of Directors in major investment decisions.
 - Management of Proceeds:
 - Metsä Group's treasury department is responsible for the management of proceeds. A Green Funding Register will be established to track and monitor the allocation of proceeds to eligible assets and projects. Green Notes will be allocated to specific eligible assets and projects. Metsä Group will strive to maintain an aggregate amount of assets and projects that is at least equal to the total outstanding Green Debt. Unallocated proceeds will be managed in accordance with the Group's liquidity management policy.
 - Based on the use of a formal register and the commitment to ongoing monitoring, Sustainalytics views this process as aligned with market practice.
 - Reporting:
 - On an annual basis, Metsä Group will publish on its website an annual allocation and impact report. To the extent feasible, the allocation reporting will include a list and description of all eligible assets and projects, including the amounts allocated to each respective project category and the shares of financing vs refinancing. For impact reporting, Metsä Group will strive to report on environmental impact for each of the project categories, for a list of possible impact indicators, see Appendix 2. The Group acknowledges that, in certain cases, it may be difficult to obtain quantitative impact data and, as such, will report on estimated impact.
 - Sustainalytics highlights that Metsä Group will seek third-party verification of the Group's sustainability report, which is viewed as a best practice approach.

Alignment with Green Bond Principles 2018 and Green Loan Principles 2018

Sustainalytics has determined that Metsä Group's Green Finance Framework aligns to the four core components of the Green Bond Principles 2018 and Green Loan Principles 2018. For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Performance of Metsä Group

Contribution of framework to Metsä Group's sustainability strategy

As an organization with sustainability embedded in its business strategy, Metsä Group is committed to working towards a more sustainable future and the shift from fossil to a renewable-based economy. As a signatory to the UN Global Compact sustainability initiative since 2003, Metsä Group supports the ten principles regarding human rights, labor, environment and anti-corruption.⁶ The Group has instituted 2030 objectives including: increasing the amount of carbon stored in forests and products; promoting biodiversity in forests; investing into mill operations to generate no fossil-fuel based CO₂ emissions; utilization of side stream resources; and working towards fossil-free raw materials for all products. Metsä Group has established the four following sustainability themes:

- We Bring the Forest to You
 - Increasing the amount of carbon stored in forests and products
 - Safeguarding biodiversity
- We Create Well-Being
 - Responsible corporate culture
 - Accident-free work environment
- We Work for a Better Climate and Environment
 - Fossil-free mills
 - Resource efficient production
- We Offer Sustainable Choices
 - Fossil-free raw materials
 - Sustainable supply chain

Some of the 2018 progress towards the 2020 goals include:

- 100% traceable and (88%) certified or controlled wood;
- 94% of production side streams were utilized as materials or renewable energy production;
- 45% reduction in fossil CO₂ emissions per product tonne since 2009;⁷
- 7% energy efficiency improvement since 2009;⁷
- 19% reduction in water use per product tonne since 2010.⁸

As part of the Group's efforts to optimize the utilization of all resources and reduce waste, there is a strong focus on circular economy products and solutions and aims to ensure each part of the tree is used for the highest value products. For example, in consideration of recyclability, all Metsä Group's fibre-based products are recyclable. Based on the above, Sustainalytics is of the opinion that the types of projects and activities that will be financed via this Framework will contribute to Metsä Group's overarching sustainability goals and that the Group is well-placed to issue green debt.

Well positioned to address common environmental and social risks associated with the projects

Sustainalytics notes the overall positive impact of the projects and activities that will be financed under this Framework. However, as with any large-scale projects, it is important to ensure that common environmental and social risks are mitigated to minimize any potential adverse impacts. The two primary risks related to the use of proceeds are land use change and worker health and safety. For land use change, the risks come from forest management activities while for worker health and safety they include operational activities ranging from operating equipment to the installation or construction of new technologies.

Regarding land use change risks, Metsä Group has committed to financing sustainable forest management operations that are certified either under PEFC or FSC, both of which are credible certification schemes that mitigate controversial land use change activities, such as deforestation and conversion of high value conservation forests, and the implementation of riparian buffer zones and a variety of other environmental management controls. Sustainalytics provides an overview of these two schemes in Appendix 1.

Metsä Group is committed to a long-term goal of zero accidents⁹ and a short-term goal to reduce the annual lost-time accident rate (LTA) by 10% compared to the previous year. In 2018, the LTA rate was 6.4, compared to 5.9 in 2017, representing a 7% increase. To address this outcome, in 2018 the Group launched a safety development program to provide all supervisors with the safety knowledge and skills they need to address

⁶ UN Global Compact, "The Ten Principles of the UN Global Compact", (2019), at: <https://www.unglobalcompact.org/what-is-gc/mission/principles>

⁷ Compared to 2009 baseline.

⁸ Compared to 2010 baseline.

⁹ No timeline has been established for this goal.

any methods being used by employees that may compromise safety. In 2019 the Group is committed to further reporting on the LTA severity rate and the total recordable injury frequency (TRIF), as well as third-party related accidents. Sustainalytics notes that, although the Group has experienced an increase in accident rates, adequate measures have been implemented to mitigate concern.

Based on the above, Sustainalytics is of the opinion that Metsä Group has established robust and credible risk mitigation measures that address the potential environmental and social risks. As such, the Group is well-positioned to mitigate environmental and social risks associated with the initiatives financed under the Framework.

Section 3: Impact of Use of Proceeds

All six use of proceeds categories are recognized as impactful by the GBP and GLP. Sustainalytics has focused on two below where the impact is specifically relevant in the local context.

Impact of Metsä Group's emissions reduction efforts and renewable energy

The overarching aim of Metsä Group's sustainability strategy, and the projects and activities that will be financed through green debt is to reduce the Group's overall impact in terms of carbon emissions and pollutants. At the beginning of this year, Finland's new government made a commitment to reduce the country's fossil-fuel consumption and invest into renewable energy.¹⁰ Specifically, the country has committed to becoming carbon neutral by 2035; as part of the country's efforts to decarbonize, investments will be made into renewable energy and electrified transport. Although Finland is recognized as one of the world's leading countries in terms of environmental protection standards, the country's environmental footprint continues to grow due to high levels of material and energy consumption as well as excessive GHG emissions.¹¹ As such, the role of private forestry companies, such as Metsä Group, has become increasingly important to achieve Finland's national climate targets. In 2016, the forest industry accounted for 3.1 mtonnes/CO₂-e, making it one of the largest industrial contributors to GHG emissions in Finland.¹² Sustainalytics notes that by financing operational improvements, renewable energy projects and pollution prevention and control activities, Metsä Group's activities are making important contributions to Finland's national climate goals.

Importance of fostering circular economy

Over the past decade, the Finnish forest industry has been aimed at developing processes for maximum efficiency.¹³ For example, the utilization of side streams from the production processes of forest products is one of the largest sources for bioenergy in Europe, and while it account for 20% of the total biomass energy used across Europe, in Finland the share of biomass originating from the processes in the energy production of the pulp and paper sector reached 73%.¹³ As one of Finland's four focus sectors for advancing the circular economy, it is recognized that the forestry sector has significant opportunities for resource utilization and contributing to the development of business models that are suitable for the circular economy. One of the challenges faced regarding development of circular products is that, in the short term, investments might not be financially attractive and thus companies tend to maintain their stable product portfolios. As such, companies need to commit to long-term investments into activities that may take years to develop and, in some cases, even a century. Metsä Group's investment to improve efficiency and develop circular activities are critically important to making this push towards more circular products and processes and the Group is positioning itself as a leader in the circular economy movement. As such, Sustainalytics is of the opinion that Metsä Group's investments into the development of circular products, production technology and processes are credible, impactful and will contribute to Finland's Bioeconomy Strategy.¹⁴

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. Metsä Group's Green debt advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
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¹⁰ De Zeen, "Finland announces plans to become carbon neutral by 2035", (2019), at: <https://www.dezeen.com/2019/06/07/finland-climate-change-carbon-neutral-2035-news/>

¹¹ This is Finland, "Environmental Protection in Finland", (2014), at: <https://finland.fi/life-society/environmental-protection-in-finland/>

¹² Statistics Finland, "Greenhouse gas emissions in energy supply and transportation grew in 2016", (2018), at: https://www.stat.fi/til/tilma/2016/tilma_2016_2018-09-26_tie_001_en.html

¹³ European Parliament, "Sustainable Forestry in Finland", (2016), at:

[http://www.europarl.europa.eu/RegData/etudes/STUD/2016/578979/IPOL_STU\(2016\)578979_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/578979/IPOL_STU(2016)578979_EN.pdf)

¹⁴ Ministry of Employment and the Economy, "The Finnish Bioeconomy Strategy", (2014), at: https://biotalous.fi/wp-content/uploads/2014/08/The_Finnish_Bioeconomy_Strategy_110620141.pdf

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Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Pollution Prevention & Control	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
Environmentally sustainable management of land and natural resources	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	6.4 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
Circular economy products, production technologies and processes	12. Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources

Conclusion

The Metsä Group Green Finance Framework will contribute to the Company's sustainability targets and overall vision to help facilitate the global shift from fossil-fuels to a renewable energy-based economy. By using the proceeds to finance improvements related to energy efficiency, reuse of chemicals, reduction of pollution and utilization of side streams, the Group will reduce its overall impact on the environment. Additionally, by financing renewable energy generation based on utilization of production side streams and investing into the circular economy, Metsä Group is not only contributing to the sustainability of its own operations but is further advancing national climate targets and SDGs. The project evaluation and election process, management of proceeds and reporting process are all aligned with market practice.

Based on the above, Sustainalytics is of the opinion that Metsä Group is well-positioned to issue green finance and that the Metsä Group Green Finance Framework is credible, impactful and aligned with the Green Bond Principles 2018 and the Green Loan Principles 2018.

Appendices

Appendix 1: Sustainalytics' Analysis of FSC and PEFC Certifications

	FSC	PEFC
Background	Founded in 1993 after the 1992 Earth Summit in Rio failed to produce any international agreements to fight against deforestation, FSC aims to promote sustainable forest management practice.	PEFC was founded in 1999 in response to the specific requirements of small- and family forest owners as an international umbrella organization providing independent assessment, endorsement and recognition of national forest certification systems.
Basic Principles	<ul style="list-style-type: none"> • Compliance with laws and FSC principles • Tenure and use rights and responsibilities • Indigenous peoples' rights • Community relations and workers' rights • Benefits from the forests • Environmental impact • Management plans • Monitoring and assessment • Special sites – high conservation value forests (HCVF) • Plantations 	<ul style="list-style-type: none"> • Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle • Maintenance and enhancement of forest ecosystem health and vitality • Maintenance and encouragement of productive functions of forests (wood and no-wood) • Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems • Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water) • Maintenance of socioeconomic functions and conditions • Compliance with legal requirements
Governance	<p>The General Assembly, consisting of all FSC members, constitutes the highest decision-making body.</p> <p>At the General Assembly, motions are proposed by one member, seconded by two more, and deliberated and voted on by all members. Members are entitled to vote to amend the bylaws, initiate new policies, and clarify, amend or overturn a policy decision by the board.</p> <p>Members apply to join one of three chambers – environmental, social, or economic – that are further divided into northern and southern sub-chambers.</p> <p>Each chamber holds 33.3% of the weight in votes, and within each chamber the votes are weighted so that the North and South hold an equal portion of authority, to ensure influence is shared equitably between interest groups and countries with different levels of economic development.</p> <p>The votes of all individual members in each sub-chamber represent 10% of the total vote of the sub-chamber, while the votes of</p>	<p>PEFC's governance structure is formed by the General Assembly (GA) which is the highest authority and decision-making body. It is made up of all PEFC members, including national and international stakeholders.</p> <p>Members vote on key decisions including endorsements, international standards, new members, statutes and budgets. All national members have between one and seven votes, depending on membership fees, while international stakeholder members have one vote each.</p> <p>The Board of Directors supports the work of the GA and together the GA and the Board make the formal approval of final draft standards. Standards are developed by working groups.</p> <p>In general, PEFC's governance structure is more representative of industry and government stakeholders than of social or environmental groups, which gives industry and governments more influence in the decision-making process. However, the organization does include stakeholders from all sectors.</p>

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	<p>organizational members make up the other 90%.</p> <p>The members vote for the board of directors, which is accountable to the members. There is an international board elected by all members and a US board, elected by the US-based members.</p>	
Scope	<p>FSC is a global, multi-stakeholder owned system. All FSC standards and policies are set by a consultative process. There is an FSC Global standard and for certain countries FSC National standards. Economic, social, and environmental interests have equal weight in the standard setting process. FSC follows the ISEAL Code of Good Practice for Setting Social and Environmental Standards.</p>	<p>Multi-stakeholder participation is required in the governance of national schemes as well as in the standard-setting process. Standards and normative documents are reviewed periodically at intervals that do not exceed five years. The PEFC Standard Setting standard is based on ISO/IEC Code for good practice for standardization (Guide 59)¹⁵ and the ISEAL Code of Good Practice for Setting Social and Environmental Standards.</p>
Chain-of-Custody	<ul style="list-style-type: none"> • The Chain-of-Custody (CoC) standard is evaluated by a third-party body that is accredited by FSC and compliant with international standards. • CoC standard includes procedures for tracking wood origin. • CoC standard includes specifications for the physical separation of certified and non-certified wood, and for the percentage of mixed content (certified and non-certified) of products. • CoC certificates state the geographical location of the producer and the standards against which the process was evaluated. Certificates also state the starting and finishing point of the CoC. 	<ul style="list-style-type: none"> • Quality or environmental management systems (ISO 9001:2008 or ISO 14001:2004 respectively) may be used to implement the minimum requirements for chain-of-custody management systems required by PEFC. • Only accredited certification bodies can undertake certification. • CoC requirements include specifications for physical separation of wood and percentage-based methods for products with mixed content. • The CoC standard includes specifications for tracking and collecting and maintaining documentation about the origin of the materials. • The CoC standard includes specifications for the physical separation of certified and non-certified wood. • The CoC standard includes specifications about procedures for dealing with complains related to participant’s chain of custody.
Non-certified wood sources	<p>FSC’s Controlled Wood Standard establishes requirements to participants to establish supply-chain control systems, and documentation to avoid sourcing materials from controversial sources, including:</p> <ul style="list-style-type: none"> a. Illegally harvested wood, including wood that is harvested without legal authorization, from protected areas, without payment of appropriate taxes and fees, using fraudulent papers and mechanisms, in violation of CITES requirements, and others, b. Wood harvested in violation of traditional and civil rights, 	<p>The PEFC’s Due Diligence System requires participants to establish systems to minimize the risk of sourcing raw materials from:</p> <ul style="list-style-type: none"> a. forest management activities that do not comply with local, national or international laws related to: <ul style="list-style-type: none"> o operations and harvesting, including land use conversion, o management of areas with designated high environmental and cultural values,

¹⁵ ISO, “ISO/IEC Guide 59:2019”, (2019), at: <https://www.iso.org/standard/23390.html>

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	<ul style="list-style-type: none"> c. Wood harvested in forests where high conservation values are threatened by management activities, d. Wood harvested in forests being converted from forests and other wooded ecosystems to plantations or non-forest uses, e. Wood from management units in which genetically modified trees are planted. 	<ul style="list-style-type: none"> o protected and endangered species, including CITES species, o health and labor issues, o indigenous peoples' property, tenure and use rights, o payment of royalties and taxes. b. genetically modified organisms, c. forest conversion, including conversion of primary forests to forest plantations.
Accreditation/verification	<p>FSC-accredited Certification Bodies (CB) conduct an initial assessment, upon successful completion companies are granted a 5-year certificate. Companies must undergo an annual audit every year and a reassessment audit every 5 years. Certification Bodies undergo annual audits from Accreditation Services International (ASI) to ensure conformance with ISO standard requirements.</p>	<p>Accreditation is carried out by an accreditation body (AB). Like a certification body checks a company meets the PEFC standard, the accreditation body checks that a certification body meets specific PEFC and ISO requirements. Through the accreditation process PEFC has assurance that certification bodies are independent and impartial, that they follow PEFC certification procedures.</p> <p>PEFC does not have their own accreditation body. Like with the majority of ISO based certifications, PEFC relies on national ABs under the umbrella of the International Accreditation Forum (IAF). National ABs need to be a member of the IAF, which means they must follow IAF's rules and regulations.</p>
Conclusion	<p>Sustainalytics views both FSC and PEFC as being robust, credible standards that are based on comprehensive principles and criteria that are aligned with ISO. Both schemes have received praise for their contribution to sustainable forest management practices¹⁶ and both have also faced criticism from civil society actors.^{17,18} In certain instances, these standards go above and beyond national regulation and are capable of providing a high level of assurance that sustainable forest management practices are in place. However, in other cases, the standards are similar or equal to national legislation and provide little additional assurance. Ultimately, the level of assurance that can be provided by either scheme is contingent upon several factors including the certification bodies conducting audits, national regulations and local context.</p>	

¹⁶ FESPA, "FSC, PEFC and ISO 38200", (2018), at: <https://www.fespa.com/en/news-media/blog/fsc-pefc-and-iso-38200>

¹⁷ Yale Environment 360, "Greenwashed Timber: How Sustainable Forest Certification Has Failed", (2018), at: <https://e360.yale.edu/features/greenwashed-timber-how-sustainable-forest-certification-has-failed>

¹⁸ EIA, "PEFC: A Fig Leaf for Stolen Timber", (2017), at: <https://eia-global.org/blog-posts/PEFC-fig-leaf-for-stolen-timber>

Appendix 2: Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Metsä Group
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable: <i>[specify as appropriate]</i>	Metsä Group Green Finance Framework
Review provider's name:	Sustainalytics
Completion date of this form:	October 10, 2019
Publication date of review publication: <i>[where appropriate, specify if it is an update and add reference to earlier relevant review]</i>	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarize the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBPs:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other <i>(please specify)</i> : | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)*:

The eligible categories for the use of proceeds are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics is of the opinion that investments in renewable energy, energy efficiency, pollution prevention and control, sustainable water and wastewater management, circular economy adapted products, production technologies and processes, and environmentally sustainable management of living natural resources and land use will lead to positive environmental impacts and advance various UN Sustainable Development Goals.

Use of proceeds categories as per GBP:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Renewable energy | <input checked="" type="checkbox"/> Energy efficiency |
| <input checked="" type="checkbox"/> Pollution prevention and control | <input checked="" type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input type="checkbox"/> Clean transportation |
| <input checked="" type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |
| <input checked="" type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs | <input type="checkbox"/> Other <i>(please specify)</i> : |

If applicable please specify the environmental taxonomy, if other than GBPs:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

Metsä Group's internal process in evaluating and selecting projects is overseen by the Sustainable Funding Committee (SFC), which is comprised of relevant members of the management and is chaired by the Group CFO. Each Metsä Group company will identify and select potential projects, which are then presented to the SFC who makes the final review of proposed projects and determines eligibility for financing. This process is aligned with market practice.

Evaluation and selection

- | | |
|---|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
|---|---|

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- | | |
|--|--|
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- | | |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

Metsä Group's process for management of proceeds is handled by Metsä Group Treasury. Metsä Group will establish a Green Funding Register for each Metsä Group company for the purpose of tracking and monitoring eligible assets and projects and the allocation of proceeds. Metsä Group will strive to ensure the amount of eligible assets match the total value of proceeds. If the total amount of outstanding proceeds exceeds the eligible assets, unallocated proceeds will be held in accordance with Metsä Group's normal liquidity management policy. This process is aligned with market practice.

Tracking of proceeds:

- | |
|---|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure:

- | | |
|---|---|
| <input type="checkbox"/> Allocations to future investments only | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |
| <input checked="" type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other (<i>please specify</i>): |

4. REPORTING

Overall comment on section (*if applicable*):

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Metsä Group intends to report on the allocation of proceeds on its Group website on an annual basis. The allocation report will include a list and description of all eligible assets and projects funded, the total amounts allocated and the amounts of financing vs refinancing. In addition, Metsä Group is committed to reporting on relevant impact metrics. Sustainalytics views Metsä Group's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (<i>please specify</i>): |

Information reported:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts | <input type="checkbox"/> Green Bond financed share of total investment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Frequency:

- | | |
|---|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Impact reporting:

- | | |
|--|--|
| <input type="checkbox"/> Project-by-project | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (<i>please specify</i>): |

Frequency:

- | | |
|---|--------------------------------------|
| <input checked="" type="checkbox"/> Annual | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Information reported (expected or ex-post):

- | | |
|---|---|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input checked="" type="checkbox"/> Energy Savings |
| <input checked="" type="checkbox"/> Decrease in water use | <input checked="" type="checkbox"/> Other ESG indicators (<i>please specify</i>): |
- Renewable Energy
 - Total Renewable Energy generated in MWh
 - Total Reduction of fossil-based energy in MWh or avoided fossil CO2 emissions
 - Energy Efficiency
 - Reduced energy consumption as MWh in relation to production (in tons or m3)
 - Reduced / avoided fossil CO2 emissions
 - Pollution prevention and control
 - Reduced emissions to air in relation to production
 - Reduced emissions to water in relation to production

- Reduction of landfill waste in relation to production (in tons and in tons/production)
- Improved utilisation of side streams for higher value-added end-uses (share)
- Sustainable Water Management
 - Reduced amount of process water in relation to production (m3/ton)
- Sustainable Forest Management
 - Share of FSC or PEFC certified wood (used/delivered certified wood per all used/delivered wood, %)
- New circular bioeconomy solutions
 - in case of investment to a new technology, better environmental performance or carbon footprint in comparison to earlier technology (e.g. textile)
 - externally validated lifecycle calculations

Means of Disclosure

- | | |
|---|---|
| <input type="checkbox"/> Information published in financial report | <input type="checkbox"/> Information published in sustainability report |
| <input type="checkbox"/> Information published in ad hoc documents | <input checked="" type="checkbox"/> Other (please specify): Annual Report |
| <input type="checkbox"/> Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): | |

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

www.metsagroup.com/gff
<https://www.metsagroup.com/en/Documents/Publications/Metsa-Group-sustainability-report-2018.pdf>
<https://www.metsagroup.com/en/Contact/procurement/Pages/default.aspx>

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**Type(s) of Review provided:**

- | | |
|--|--|
| <input type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification / Audit | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (please specify): | |

Review provider(s):**Date of publication:****ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP**

- i. Second Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within

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the institution to ensure the independence of the Second Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.

- ii. **Verification:** An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognized external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialized research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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Sustainalytics

Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that support investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, the firm partners with institutional investors who integrate ESG information and assessments into their investment processes. Spanning 30 countries, the world's leading issuers, from multinational corporations to financial institutions to governments, turn to Sustainalytics for second-party opinions on green and sustainable bond frameworks. Sustainalytics has been certified by the Climate Bonds Standard Board as a verifier organization and supports various stakeholders in the development and verification of their frameworks. In 2015, Global Capital awarded Sustainalytics "Best SRI or Green Bond Research or Ratings Firm" and in 2018 and 2019, named Sustainalytics the "Most Impressive Second Party Opinion Provider". The firm was recognized as the "Largest External Reviewer" by the Climate Bonds Initiative as well as Environmental Finance in 2018, and in 2019 was named the "Largest Approved Verifier for Certified Climate Bonds" by the Climate Bonds Initiative. In addition, Sustainalytics received a Special Mention Sustainable Finance Award in 2018 from The Research Institute for Environmental Finance Japan and the Minister of the Environment Award in the Japan Green Contributor category of the Japan Green Bond Awards in 2019.

For more information, visit www.sustainalytics.com

Or contact us info@sustainalytics.com

