

Metsä Group
Annual review 2023



Metsä Group
promotes wellbeing
in everyday life by
producing recyclable
products from
northern wood in a
way that respects
the environment.





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This is Metsä Group

We are an international forest industry Group firmly rooted in Finnish forests. We use northern wood to produce recyclable products for the everyday use of millions of people. Our main market areas are Europe, Asia and North America.

Our business areas

■ Wood Supply and Forest Services

Metsä Group's Wood Supply and Forest Services provides and develops the services offered to the members of Metsä Group's parent company, Metsäliitto Cooperative. It procures the wood used by Metsä Group from the Baltic Sea region, mainly from its owner-members in Finland.

■ Wood Products Industry

Metsä Group's Wood Products Industry, Metsä Wood, produces engineered wood products. The company's main products are Kerto® LVL, birch and spruce plywood and upgraded wood products.

■ Pulp and Sawn Timber Industry

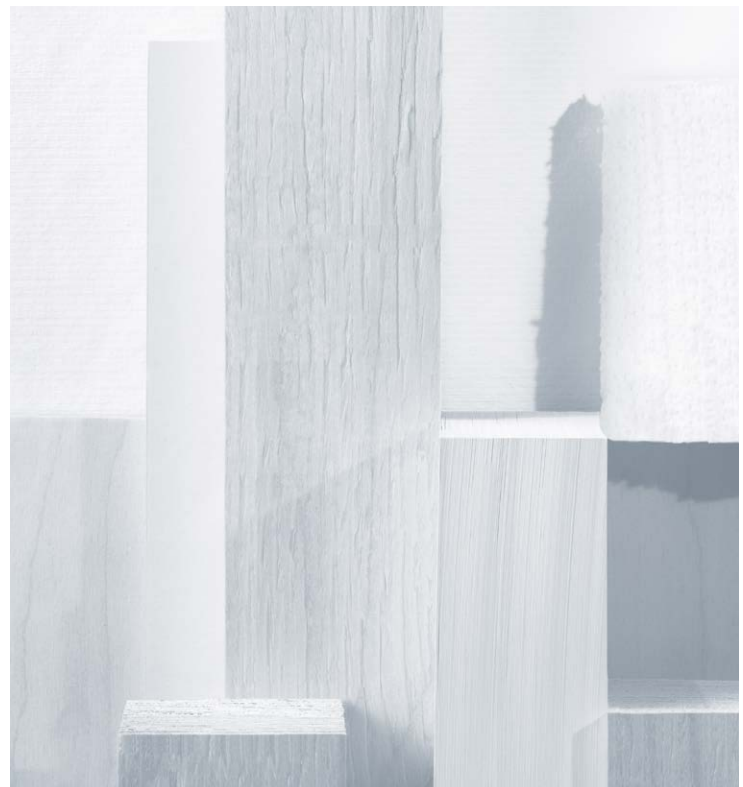
Metsä Group's Pulp and Sawn Timber Industry, Metsä Fibre, produces pulp, sawn timber and other bioproducts and bioenergy. The company is the world's largest producer of softwood market pulp.

■ Paperboard Industry

Metsä Group's Paperboard Industry, Metsä Board, produces fresh fibre paperboards and has its main markets in Europe. Metsä Board focuses on lightweight and high-quality folding boxboards and food service boards as well as white kraftliners. Metsä Board's shares are listed on the Nasdaq Helsinki.

■ Tissue and Greaseproof Papers

Metsä Tissue, in charge of Metsä Group's tissue and greaseproof paper business, supplies tissue papers and greaseproof papers to households and professionals in Europe. The company's brands are Lambi, Serla, Mola, Tenta, Katrin and Saga.



Wood-based products play an important role in achieving a low-carbon economy and combating climate change.

Wood products ensuring long-term carbon storage for construction

Light and strong packaging boards as an alternative to plastic

Pulp and other bioproducts as raw material for renewable materials

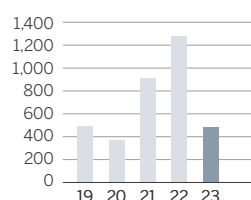
Cleaner every day with tissue and greaseproof papers

Forest management services ensuring vitality and greater value for forests

Key figures 2023

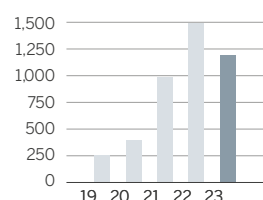
COMPARABLE OPERATING RESULT

EUR million



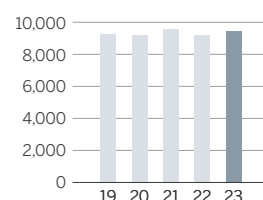
TOTAL INVESTMENTS

EUR million



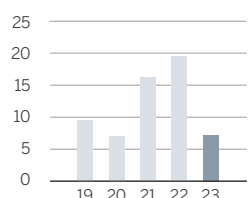
PERSONNEL

at the end of year



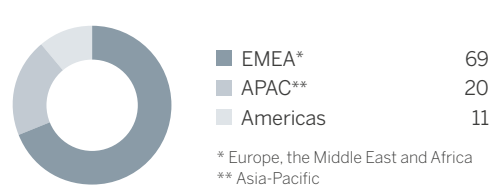
COMPARABLE ROCE

%



SALES BY MARKET AREA

%



METSÄ GROUP

The parent company Metsäliitto Cooperative is composed of more than 90,000 Finnish forest owners.

Sales
6.1 billion

Comparable operating result
488 EUR million

Personnel
9,500

Wood supply and forest services

METSÄ FOREST

OWNERSHIP
Metsäliitto Cooperative
100%

Wood products

METSÄ WOOD

Metsäliitto Cooperative
100%

Pulp and sawn timber

METSÄ FIBRE

Metsäliitto Cooperative
50.1%
Metsä Board 24.9%
Itochu Corporation 25.0%

Paperboard

METSÄ BOARD

Metsäliitto Cooperative
52% (69% of votes)
The company is listed on Nasdaq Helsinki.

Tissue and grease-proof papers

METSÄ TISSUE

Metsäliitto Cooperative
100%

METSÄ SPRING Innovation company

Metsä Group's financial position remained strong

2023 was a challenging year. Demand was weakened by the sluggish European economy in our main market. Raw material costs also weighed on earnings. Despite this, the Group's financial position remained strong.

For the global economy – and especially for Europe – 2023 was a period of weak economic growth. The previous two unusual years – 2021 and 2022 – along with the pandemic-related recovery measures led to an exceptionally good economic cycle in our industry. Demand began to wane in late 2022, and the mood remained largely sombre throughout 2023. The key reason for weakening demand was the poor economic development of our main market area, Europe, and European consumers' lower confidence in positive economic development. The higher raw material prices resulting from the economic boom continued to weigh on our result. Metsä Group aims to boost its competitiveness in its key market areas and diversify the structure of its businesses to reduce susceptibility to economic fluctuations.

Continuous improvement maintains competitiveness

The Group's financial position has remained strong. Metsä Group is committed to the long-term renewal of its business in line with the principles of sustainability. Our development actions cover the value chain from the forest to the customers who use our products. We assess our ways of working continuously and comprehensively. We are a signatory to the 2003 Global Compact initiative and have pledged to comply with the initiative's Ten Principles concerning human rights, labour, the environment and anti-corruption. In 2023, we initiated a project to develop ESG reporting. We have drawn up our 2023 Sustainability Report in accordance with the reporting directive that will take effect a year from now. This ensures we can meet the evolving demands of ESG reporting in our operations. Up-to-date business information systems and a harmonised data architecture are the cornerstones of operational efficiency. In 2018, we launched a project to specify the core processes of Metsä Group's business areas. These efforts have now progressed to the implementation of our ERP solution. In 2023, Metsä Group deployed centralised systems in Finance and Wood Supply. In our other operations, deployment will progress in stages and will mainly be completed by the end of 2025.

Metsä Group has continued to persistently renew its industry since the early 2010s. We are planning and implementing development investments – and have already implemented

investments of seven billion euros – to improve the environmental efficiency and competitiveness of our operations. Investments completed in 2023 included the Kemi bioproduct mill, the capacity expansion of the Kemi linerboard mill improving the mill's environmental and energy efficiency, as well as the 50% capacity increase of the Husum folding boxboard machine. We decided on new investments in tissue paper and Kerto® LVL production. The Mariestad tissue paper mill will be expanded with a new paper machine, three converting lines and an automated storage and dispatch system. A new LVL mill featuring two production lines will be constructed in Äänekoski. Pre-engineering is underway for a new folding boxboard mill in Kaskinen and the production of new Muoto fibre packaging in connection with the mills in Rauma.

New approaches to promote biodiversity in commercial forests

The guiding principle of Metsä Group's parent company Metsäliitto Cooperative is to increase the value of its owner-members' forest assets. In 2023, the company had more than 91,000 owner-members, who own approximately 5.5 million hectares of forest. Forests and forest management are under pressure from various development goals. In commercial forests, a balance must be achieved between profitable economic forest use, targets related to climate change preparations and mitigation, and the specification of actions promoting biodiversity. The national identification of primary and old-growth forests carried out to meet the obligations set by the EU Biodiversity Strategy is nearing completion. The Cooperative's management and members engage in broad discussions about the development of forestry. Securing and increasing the value of forests requires an active approach in scientific research, social debate and practical work in our owner-members' forests. Metsä Group has set itself the goal of implementing regenerative forestry by 2030. This means that forestry measures carried out in commercial forests promote the positive development of biodiversity in the forests. The Metsä Group Plus service, which increases elements essential to biodiversity such as decaying wood, retention trees and buffer zones, is an important measure leading towards this goal. In



”

Metsä Group
has set itself the
goal of adopting
regenerative forestry
by 2030.

2022, Metsä Group stopped purchasing rare broadleaved trees, which strongly supports biodiversity and forest vitality. During their life-cycle, Finnish forests will have to deal with a significant temperature increase and related environmental factors straining forest health. Measures strengthening the resilience of forests play a key role for the economy, climate impacts and biodiversity.

Material efficient production in partnership

Metsä Group converts Finnish wood for the global markets to meet people's daily needs. As the world's population continues to grow and economies strengthen, the sufficiency of the planet's resources becomes a challenge. Renewable resources such as wood are part of the solution to this problem. Another solution lies in efficient resource use across the value chain. When designing our products and processes, it is important to understand the functionality that product users need in their daily lives. Kerto LVL

is a good example of this: it is a renewable raw material replacing fossil materials. It also offers greater material efficiency than other wood structures. A cubic metre of Kerto LVL offers a larger construction surface and volume than other wood structures. Another practical example comes from folding boxboard, the development of which aims for increasingly light packaging with fewer fossil-based components to reduce food waste.

We will continue to cooperate with Metsä Group employees, our owner-members and our partners to meet the goals of societies. This will also promote our goal to create value for Finnish forests.

Ilkka Härmälä
President and CEO

Sustainable growth strategy

Our mission is to increase the value of the owner members' forests by converting northern wood into products for the everyday use of millions of people, using our raw materials as efficiently as possible.

Renewable products for the world

Our operations are based on wood from northern forests, which we convert into renewable products for the everyday use of millions of people. Wood-based products play an important role in combating climate change. They offer an alternative to products made from fossil-based materials and in construction products which store carbon. We focus on wood supply and forest services, wood products, sawn timber, pulp, paperboard, and tissue and greaseproof papers, in which we have a good growth outlook, competitiveness and skills. We are also exploring new applications for wood fibre and by-products from production. The projects furthest along in this respect are our textile fibre and moulded fibre-based packaging, developed in demo plants. We are also studying carbon capture.

Cooperative offers stability

The essence of Metsä Group lies in our unique company structure – our various complementary business operations cover much of our value chain from forest to home. Our parent company



A company like
Metsä Group is good
for society as a whole:
jobs, livelihoods and
security.

Metsäliitto is a cooperative owned by more than 90,000 Finnish forest owners. We procure most of our wood raw material from the cooperative's owner-members, adding a long-term perspective to our operations and creating stability across generations.

Regenerative forestry marks a significant change

Our goal is to work with forest owners to measurably improve the state of forest nature by 2030. In 2023, we adopted the principles of regenerative forestry, which are more comprehensive than established forestry practices. Our regenerative forestry measures are significant for all of Finland. We encourage forest owners to plant only grow native tree species, diversify forests, increase the amount of decaying wood and burnt trees in forests, and safeguard waterbodies and littoral forests. As our owner-members own more than half of Finland's private forests, every action we take to improve the sustainability of forests has an impact on the environment.

Investments create growth

We aim for world-class efficiency in our businesses, delivering the goods we need to meet the needs of all of us. Well-maintained and modern factories produce more products from less wood. In addition to resource efficiency, we invest in fossil free and environmentally efficient production. New investments will be designed around high levels of automation, best available technology and economies of scale. Our investments will reach around seven billion euros, counting completed, ongoing and planned investments since 2015.

Our environment is changing

Our operating environment is changing rapidly. Population growth, urbanisation, climate change, biodiversity loss and digitalisation are some of the most powerful phenomena of the 2020s. They challenge our operations and provide us with opportunities for growth.

Our purpose

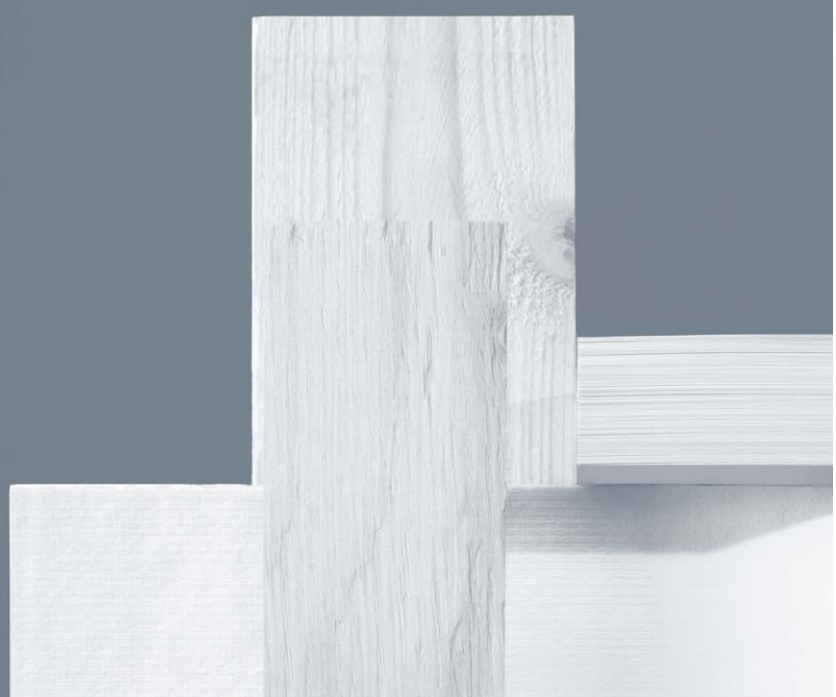
Advancing bioeconomy and circular economy by sustainably and efficiently processing northern wood into first-class products.

Our vision

To be the preferred partner in developing sustainable business.

Our values

- Reliability
- Cooperation
- Renewal
- Responsible profitability



Completed and ongoing investments

2016–2019

- Plywood and Kerto LVL investments
- New paperboard machine at Husum
- Bioproduct mill in Äänekoski

2020

- Demo plant for the Kuura textile fibre in Äänekoski

2022

- Demo plant for the Muoto fibre product in Äänekoski
- Renewal of the tissue paper machine in Mänttä
- New sawmill in Rauma
- Recovery boiler investment for the pulp mill in Husum

2023–2024

- Bioproduct mill and renewal of linerboard mill in Kemi
- Expansion of the Husum paperboard mill
- Expansion of the Mariestad tissue paper mill*
- Kerto LVL mill in Äänekoski*
- Investment programme at Mänttä tissue paper mill*

Planned potential investments

- Paperboard mill in Kaskinen
- Renewal of the fibre line at the Husum pulp mill
- Tissue paper mill in Goole
- Mill for the Muoto fibre product in Rauma
- Textile fibre mill
- Carbon capture facility
- Demo plant for a lignin product

* Under construction

The cooperative creates a strong foundation for sustainable operations

Our ownership base and business structure differentiate us from other operators in the industry. The cooperative's owner-members provide us with access to substantial volumes of wood raw material of Northern forests, which creates a solid basis for our operations and development. We are actively looking for opportunities to grow profitably and sustainably, and to create value for all our stakeholders through our operations.

Resources

People and partnerships

- Approximately 9,500 (number of staff converted to full-time equivalents) employees in 28 countries
- Approximately 1,000 summer employees, apprentices and trainees
- Active cooperation with local communities and educational institutions
- More than 90,000 Metsäliitto Cooperative owner-members
- Approximately 13,000 suppliers

Raw materials and supply chain

- 29 million m³ of wood procured
- 89% of the wood we use comes from Finland, 11% from elsewhere in Northern Europe, and 0.1% from Central Europe.
- 93% of the wood procured is certified
- Every part of the wood is used efficiently and for the most valuable purpose
- The wood we use is entirely traceable, and 94% of our overall raw material purchases are traceable

Production

- 34 production units in 7 countries
- Total energy consumption 27.4 TWh
- Fossil free energy accounts for 91% of total energy consumption
- Process water intake approximately 21.5 m³ per tonne produced

Economic capital

- Total liquidity EUR 2,311.6 million
- Equity ratio 55.9%
- Net gearing ratio 11.7%
- Capital employed EUR 7,832.8 million
- Investments EUR 1,193.2 million
- Research and development EUR 38.5 million

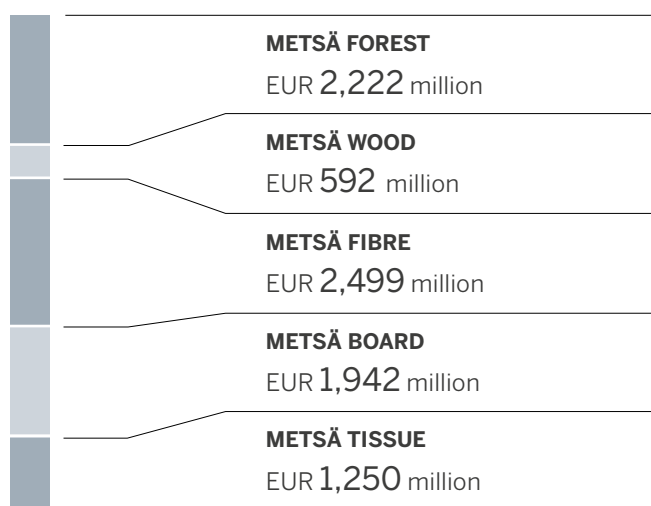
Business model

Business

Metsä Group is an internationally operating Finnish forest industry company. We manufacture fossil free products from sustainably grown renewable wood. We invest in growth, the development of new bio-based products and a fossil free future. Our parent company Metsäliitto is a cooperative owned by more than 90,000 Finnish forest owners.

METSÄ GROUP SALES

EUR 6 110 million



Comparable operating result EUR 488 million

Comparable return on capital employed 7.2%

Outputs

Products and services

- Regenerative and sustainable wood trade, forest management and nature management services for forest owners. We conclude around 35,000 wood trade transactions annually.
- Recyclable products for the needs of the global population, made from renewable resources and offering long-term carbon storage. The raw materials and packaging materials of our products are 99.3% fossil free. We supply products to 110 countries.
- 2,131,740 m³ of material-efficient wood products that store carbon in buildings throughout their service lives, for example
- 3,748,205 t of pulp and bleached high-yield pulp as raw material for recyclable products such as paper, paperboard, textile fibre and other circular bioeconomy products
- 1,318,766 t of lightweight fresh fibre paperboard as recyclable packaging material for food and food service packaging, for example
- 538,240 t of tissue and greaseproof papers to ease daily life and improve hygiene
- 121,684 t of renewable wood-based biochemicals such as tall oil and turpentine to replace fossil-based materials and fuels
- 17.3 TWh renewable electricity and heat

Emissions and waste

- 911,270 tCO₂e greenhouse gas emissions to air from our own production (Scope 1, market-based Scope 2)
- 5,891,347 tonnes of greenhouse gas emissions to air from our value chain (Scope 3)
- We use 96% of production waste and side streams as materials or energy. 16,739 tonnes of landfill waste.

Environmental impact

- The impacts of the services we offer our owner-members are visible in the statistics of the biodiversity roadmap for all Finnish forests ([link](#)). Examples of the positive impacts include the diversification of tree species and increase in decaying wood. Metsäliitto Cooperative's owner-members own around half of Finland's private forests (some 5.5 million hectares).
- In 2023, to increase our positive environmental impacts, we set ourselves the goal of regenerative forestry to ensure that Finnish forest assets are transferred in a more vibrant, diverse and climate-resilient condition from one generation to the next.
- We promote the climate change adaptation of Finnish forests by recommending mixed forests. After the young stand management we carried out, spruce was the only tree species in 25% of the forests
- In 2023, we saved 460 GWh of energy through our energy efficiency actions
- We aim to abandon fossil-based fuels by 2030
- 96% of the water we use is returned to waterbodies after treatment
- We promote the circular economy by making efficient use of side streams and producing recyclable products

Social impact

- We paid our employees worldwide appr. EUR 707 million in wages, salaries and benefits
- We create approximately 15,000 jobs indirectly in Finland. Our employment impact is especially visible in rural areas.
- 92% of our employees have a permanent contract. They serve an average of 14.6 years, and their engagement rate is 96%
- 99% of our purchases are from suppliers committed to our Supplier Code of Conduct

Economic impact

- EUR 763 million to Finnish forest owners from wood sales
- EUR 498 million to Finnish harvesting, transport and forest management entrepreneurs
- EUR 101 million proposed profit distribution to Metsäliitto Cooperative's owner-members (to be confirmed at Metsäliitto Cooperative's Representative Council in April 2024)
- In addition to wood supply, other purchases for approximately EUR 4 billion
- The value of exports from our Finnish mills is EUR 3.5 billion, accounting for approximately 5% of Finland's overall exports
- We paid EUR 242.1 million in taxes and tax-like charges, of which EUR 155.1 million was in Finland, EUR 36.6 million in Sweden and EUR 50.4 million in other countries



Metsä Group's net sales were EUR 6.1 billion and the operating result was EUR 488 million. Investments progressed as planned.

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■ Governance

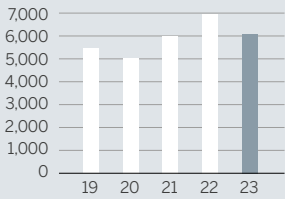
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*part of the Report of the Board of Directors

Metsä Group key figures

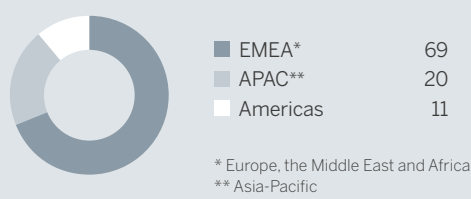
SALES

EUR million



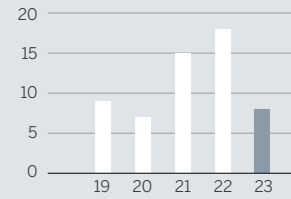
SALES BY MARKET AREA

%



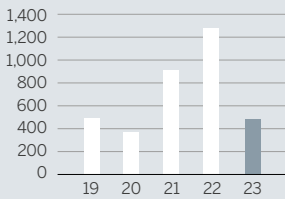
COMPARABLE OPERATING RESULT

%



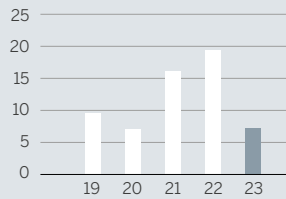
COMPARABLE OPERATING RESULT

EUR million



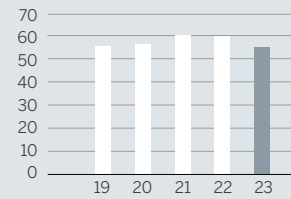
COMPARABLE ROCE

%



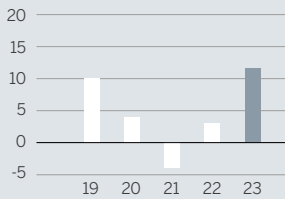
EQUITY RATIO

%



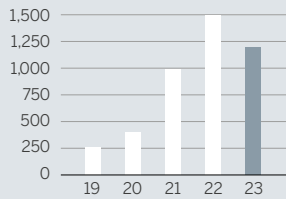
NET GEARING RATIO

%



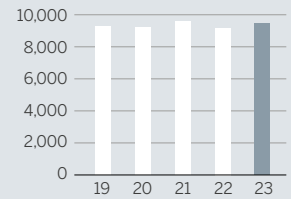
TOTAL INVESTMENTS

EUR million



PERSONNEL

at the end of year



Report of the Board of Directors 2023

Sales and result

EUR million	2023	2022	2021
Sales	6,110.4	6,980.2	6,017.0
EBITDA	845.3	1,636.4	1,213.7
- comparable EBITDA	833.0	1,564.4	1,211.2
Operating result	498.1	1,301.9	873.6
- comparable operating result	487.9	1,276.4	913.8
% of sales	8.0	18.3	15.2
Result before taxes	487.8	1,269.8	831.7
Result for the period	383.6	998.7	657.0

Metsä Group's sales in January–December 2023 were EUR 6,110.4 million (1–12/2022: 6,980.2).

The comparable operating result was EUR 487.9 million (1,276.4), or 8.0% (18.3) of sales. Reasons for the weaker operating result include the decline in delivery volumes and the increase in variable costs.

After hedging, exchange rate fluctuations had a positive impact of approximately EUR 153 million on the operating result for the period compared to the previous year.

Items affecting the comparability of the operating result in January–December totalled EUR 10.2 million (25.6). Of the most significant items, EUR 12.5 million is related to the sale of the land area in Konstancin in Poland, EUR 10.3 million to terminated lease agreements related to the discontinuation of operations in Russia, EUR -2.5 million to write-downs and closure cost provisions of the Future tissue paper mill programme, EUR 2.7 million to the sale of a land area unrelated to business operations, EUR -10.1 million to items related to the closure of the old mill in Kemi, EUR -6.2 million to the loss on sales of property, plant and equipment, and EUR 3.9 million to the gains on the sale of a property in Grangemouth.

Metsä Group's operating result (IFRS) was EUR 498.1 million (1,301.9). The share of the results of associated companies and joint ventures was EUR -1.2 million (-4.8), financial income was EUR 50.4 million (7.3), exchange rate differences in financing were EUR -1.1 million (-4.6), and financial expenses totalled EUR 58.4 million (30.1).

The result before taxes was EUR 487.8 million (1,269.8), and taxes including changes in deferred tax liabilities totalled EUR 104.2 million (271.1). The Group's effective tax rate was 21.4% (21.4). The result for the review period was EUR 383.6 million (998.7).

The return on capital employed was 7.3% (19.9), and the return on equity was 6.8% (19.0). The comparable return on capital employed was 7.2% (19.5), and the comparable return on equity was 6.7% (18.9).

%	2023	2022	2021
Return on capital employed	7.3	19.9	15.5
- comparable ROCE	7.2	19.5	16.2
Return on equity	6.8	19.0	15.1
- comparable ROE	6.7	18.9	16.0

Balance sheet and financing

	2023	2022	2021
Equity ratio, %	55.9	60.6	61.1
Net gearing ratio, %	11.7	3.1	-3.8
Interest-bearing net liabilities, EUR million	662.9	177.0	-184.7

Metsä Group's liquidity has remained strong. Total liquidity at the end of December was EUR 2,311.6 million (31 December 2022: 2,555.3). This consisted of EUR 1,511.6 million (1,265.0) in liquid assets and investments, and EUR 800 million (1,290.3) in off-balance sheet committed credit facility agreements.

The Group's liquidity reserve is complemented by uncommitted commercial paper programmes and credit facilities amounting to EUR 360.0 million (31 December 2022: 161.4) and by undrawn pension premium (TyEL) funds amounting to EUR 440.4 million (31 December 2022: 392.5).

Net cash flow from operations was EUR 925.6 million (1,226.8). A total of EUR 240.8 million in working capital was released (17.7 tied up). The decrease of EUR 142.1 million in trade and other receivables, the decrease of EUR 56.2 million in inventories, and the addition of EUR 42.5 million in trade payables and other liabilities decreased working capital.

The Group's equity ratio at the end of December was 55.9%, and its net gearing was 11.7% (31 December 2022: 60.6 and 3.1). Net interest-bearing liabilities were EUR 662.9 million (31 December 2022: 177.0).

At the end of December, the equity ratio of the parent company Metsäliitto Cooperative was 87.4%, and net gearing was -22.8% (31 December 2022: 86.4 and -27.9 respectively).

In January–December, Metsäliitto Cooperative's members' capital increased by a total of EUR 86.0 million (73.9). The value of participation shares decreased by EUR 5.7 million (4.9), and that of Metsä1 additional shares by EUR 188.7 million (828.2). The value of A additional shares declined by EUR 60.4 million (-741.1), and the value of B additional shares declined by EUR 48.1 million (-18.1).

In May–June 2023, Metsäliitto Cooperative acquired Metsä Board Corporation B shares to a value of EUR 50.1 million from the market based on the Board of Directors' authorisation at an average price of EUR 7.22 per share.

Personnel

	2023	2022	2021
Personnel, average	9,751	9,587	9,619
Personnel expenses, EUR million	706.5	720.6	680.4
Personnel at year end	9,464	9,155	9,533
- based in Finland	5,538	5,135	5,329

In January–December, Metsä Group had an average of 9,751 employees (9,587). Personnel expenses totalled EUR 706.5 million (720.6). At the end of December, the group employed 9,464 people (31 December 2022: 9,155), of whom 5,538 (5,135) were based in Finland, and 3,926 (4,020) abroad. The parent company Metsäliitto Cooperative employed 2,220 people at the end of December (31 December 2022: 2,106).

The turnover of permanent employees was 7.5% (12.2), and the average duration of employment for the whole personnel was 14.6 years (14.8). Personnel expenses totalled EUR 706.5 million (720.6), of which paid salaries and remuneration, including share-based payments, were EUR 468.6.0 million (491.0).

Resource plans are made in preparation of future retirements and investment plans. If required, Metsä Group initiates apprenticeship training and invests in job rotation and competence development.

Members

At the end of December, Metsäliitto Cooperative had 91,694 members (31 December 2022: 91,607). During January–December, 3,194 new members joined the Cooperative, and 3,107 members cancelled their memberships. At the end of December, the forest area owned by the members totalled 5,467 million hectares (31 December 2022: 5,335).

Investments

EUR million	2023	2022	2021
Total investments	1,193.2	1,500.4	994.2
% of sales	19.5	21.5	16.5
Total investments in Finland	922.0	1,249.4	768.4

Metsä Group's total investments in January–December totalled EUR 1,193.2 million (1,500.4), of which investments in owned property, plant and equipment were EUR 1,132.1 million (1,440.0), and investments in leased property, plant and equipment were EUR 53.8 million (28.0). Total investments include EUR 7.3 million (32.5) of acquired business operations.

Some Metsä Group companies are party to legal proceedings concerning disputes about the responsibilities and liabilities arising from the supply agreements of the Group's most significant investment projects. These investment projects also involve unresolved disputes that may lead to the commencement of new arbitration or legal proceedings.

A comprehensive renewal of the ERP system is under-way at Metsä Group. The project began with the specification of business processes in 2018, and the last parts of the new system will be completed in 2026. To date, the central financial system and the information system for wood supply have been implemented as planned. The first industrial business area's, i.e. Metsä Wood's systems implementation project is underway.

The most significant investment projects are covered in more detail under section "Business Development".

Business development

In June, Metsä Group decided to construct a new Kerto LVL mill in Äänekoski. The value of the investment is EUR 300 million, and the mill is expected to begin production in late 2026. The mill's annual production capacity is approximately 160,000 cubic metres, which represents a 50% increase in the company's total Kerto LVL capacity. At the end of the year, the mill building's frame was being erected, roof elements were being installed, and earthworks were underway on the site. In August, Metsä Group and SRV, a construction company, signed an agreement on the mill's construction. In the last quarter, the company also concluded equipment supply agreements for the new mill with Raute Corporation, Ferroplan Oy and Pinomatic Oy, as well as an agreement on implementation planning with Sweco Finland Ltd.

The new Kemi bioproduct mill started up as planned in September 2023, and pulp deliveries to customers began in October 2023. The bioproduct mill will annually produce 1.5 million tonnes of softwood and hardwood pulp, as well as numerous other bioproducts. It is the largest investment in Finland in the history of the Finnish forest industry. Operations at the old Kemi pulp mill were wound down when the new bioproduct mill came online. The old mill's demolition began in October 2023, and the project will last until 2025.

The Kemi paperboard mill's development programme, launched in 2021 to increase the annual production capacity of white kraftliner by approximately 40,000 tonnes, was concluded in September. Following the investment, the paperboard mill's annual production capacity is now around 465,000 tonnes, which is expected to be fully available to the market in 2025. The development programme included a series of renewal and bottleneck investments in the paperboard production line, which will enhance the mill's water use by 40% and energy use by 5% per tonne of paperboard produced. As part of the programme, Metsä Board will buy a modernised production line for unbleached pulp from Metsä Fibre. The production line's annual capacity is roughly 180,000 tonnes a year. The total value of the investment is around EUR 110 million.

At the Husum integrated mill in Sweden, folding box-board capacity will be increased by 200,000 tonnes. Following the investment, the annual production capacity of folding boxboard machine BM 1 will be 600,000 tonnes, which is expected to be fully available to the market in 2026. The total value of the investment is around EUR 230 million. The investment is expected to increase Metsä Board's annual sales by approximately EUR 200 million and improve its comparable EBITDA by approximately EUR 50 million. The company expects to achieve the increase in sales and improved result in full in 2026. Due to the growing logistics volumes of the Husum integrated mill, the port concept will also be renewed. The value of the investments is approximately EUR 20 million. The investments mainly involve new warehouse capacity and are expected to be completed in 2024.

Metsä Group has initiated pre-engineering for the construction of a new folding boxboard mill with an annual capacity of around 800,000 tonnes in Kaskinen. The pre-engineering includes technical planning, planning of

infrastructure and logistics solutions, and tendering of the main machinery procurements. The project's environmental impact assessment (EIA) was completed in September. The environmental permit process is still underway. Any investment decision will be made in 2024 at the earliest.

In early 2023, Metsä Group decided to increase its fresh fibre tissue paper production at the Mariestad mill in Sweden by renewing and expanding the mill in 2023–2025. The mill's foundation work is extensively under-way, and the first buildings for the new expansion are beginning to rise. Equipment installation will begin in the summer of 2024. The value of the investment is approximately EUR 370 million.

In September, Metsä Group announced its plans to invest hundreds of millions of euros in a tissue paper mill in Goole in the UK. The planned investment would create more than 400 jobs in the area and thousands more indirectly in the supply chain. The planned tissue paper production capacity is 240,000 tonnes, and the intention is to construct the mill in phases over the next decade.

Business areas

■ Wood Supply and Forest Services

The sales of Wood Supply and Forest Services, i.e. Metsä Forest, in January–December totalled EUR 2,221.7 million (1–12/2022: 2,133.3), and the comparable operating result was EUR 18.7 million (23.7).

Wood Supply and Forest Services	2023	2022
Sales, EUR million	2,221.7	2,133.3
EBITDA, EUR million	35.2	28.2
- comparable EBITDA	24.9	31.5
Operating result, EUR million	29.0	-10.9
- comparable operating result	18.7	23.7
% of sales	0.8	1.1
Comparable ROCE, %	10.9	13.8
Total investments, EUR million	9.8	17.1
Personnel at end of period	691	745

The higher wood prices seen in 2023 increased sales year-over-year. Wood deliveries were at a lower level, clearly decreasing sales and the operating result.

In Finland, private forests engaged in active wood trade in the first half of the year, but after the summer season, trade dropped to a lower level than the previous year. The prices of log wood and pulpwood decreased in the latter half but were higher than in the previous year for the year as a whole.

In the Baltics, the wood market situation changed clearly from the comparison period, and the prices of pulp-wood and energy wood plunged in the early part of the year. In Sweden, the market situation for softwood pulpwood was balanced.

Metsä Group bought all grades of wood across Finland through standing and delivery sales. Purchases met the mills' needs, with the exception of birch logs. Especially in the summer, demand focused on thinning stands suitable for summer harvesting and on wood from delivery sales. Purchases of energy wood focused on crown wood.

The majority of wood in Finland was purchased from members of Metsäliitto Cooperative. The share of felling sites where log pricing and pricing based on stem volume were used increased notably and was approximately a third of all trades. Introduced in June, the voluntary Metsä Group Plus forest management model, which safeguards forest biodiversity even better, increased in popularity over the year.

In the last quarter, wood delivery volumes were clearly lower than in the corresponding period the previous year, as the slowdown continued in the product market. In 2023, Metsä Group delivered a total of 30.4 million cubic metres (33.9) of wood. Approximately 88% of this went to the industrial sector in Finland. Wood deliveries for the Kemi bioproduct mill's continuous operation began in September.

Forest services sales increased year-over-year. Forest owners' customer experience was at a record high in 2023.

In August, Metsä Group reduced the minimum diameter of harvested pulpwood from six to five centimetres for a fixed term until the end of the year. The experiences of the change were good, and the use of the smaller diameter was extended into the new year.

By 2030, Metsä Group aims to have reduced fossil carbon dioxide emissions from wood supply in Finland by 30 per cent. One way to do so is to introduce electric and biogas lorries to the Kemi bioproduct mill's wood transports.

■ Wood Products Industry

The sales of the Wood Products Industry, i.e. Metsä Wood, in January–December were EUR 591.6 million (1–12/2022: 662.3), and the comparable operating result was EUR 61.8 million (54.8).

Wood Products Industry	2023	2022
Sales, EUR million	591.6	662.3
EBITDA, EUR million	86.6	76.3
- comparable EBITDA	83.6	76.3
Operating result, EUR million	64.9	54.8
- comparable operating result	61.8	54.8
% of sales	10.4	8.3
Comparable ROCE, %	16.9	15.8
Total investments, EUR million	62.9	19.2
Personnel at end of period	1,550	1,590

In 2023, the company's sales declined by 11% year-over-year. The sales of engineered wood products decreased by 8%, and the sales in euros of the UK business decreased by 17%. Delivery volumes decreased across all product categories and in the UK business. The sales prices of Kerto LVL

and birch plywood increased, while those of spruce plywood decreased from the comparison period.

Profitability improved significantly from the previous year, especially thanks to the achieved price increases and the improved profitability of the UK business. Profitability also received a boost from the year-over-year decrease in energy costs. However, higher wood raw material prices and the increase in maintenance and other fixed costs had a negative impact on profitability. The production of birch plywood was curtailed because of the poor availability of birch logs. Following the general decline in construction in Europe, the production of spruce plywood was curtailed throughout 2023, as was the production of Kerto LVL in the last quarter.

Following adjustment measures, the operating result for the UK upgrading business increased significantly from the comparison period, although product demand remained weaker than the long-term average.

In September, the company initiated change negotiations on winding down its upgrading business in Widnes in the UK. The change negotiations were concluded in December, and production in Widnes will end during the spring of 2024. The UK upgrading business will be centralised in the Boston unit. The change will affect all 74 employees at Widnes.

■ Pulp and Sawn Timber Industry

The sales of the Pulp and Sawn Timber Industry, i.e. Metsä Fibre, in January–December totalled EUR 2,498.6 million (1–12/2022: 3,070.7), and the comparable operating result was EUR 127.9 million (894.1).

Pulp and Sawn Timber Industry	2023	2022
Sales, EUR million	2,498.6	3,070.7
EBITDA, EUR million	274.4	978.9
- comparable EBITDA	286.5	1,013.3
Operating result, EUR million	114.6	845.5
- comparable operating result	127.9	894.1
% of sales	5.1	29.1
Comparable ROCE, %	4.2	35.0
Total investments, EUR million	714.9	1,065.0
Personnel at end of period	1,577	1,297

The sales and operating result decreased from January–December 2022, mainly due to the decline in sales prices and volumes and the increase in wood raw material prices.

The sales volume of pulp in 2023 was 2,747,000 tonnes (2,880,000). During 2023, the average sales prices of Metsä Group's softwood market pulp decreased by 10% in Europe and 19% in China compared to January–December 2022.

Compared to the previous year, market pulp delivery volumes to China and elsewhere in Asia increased, while those to Europe and North America decreased. In China, the overall production of paper and paperboard increased thanks to new capacity and increased exports. In Europe, pulp demand decreased due to the significant decline in paper and paperboard production. In the US, the demand for market pulp remained at a reasonable level, especially thanks to demand in the tissue paper segment.

In 2023, sawn timber sales volumes were 1,447,000 m³ (1,476,000). During 2023, the average market prices of Metsä Group's sawn timber were 27% lower than in the comparison period.

Throughout the year, the demand for sawn timber was weaker than usual in all the main markets. In Europe, the demand for industrial end uses of sawn timber is low due to the small construction volumes. In North Africa, deliveries have been delayed by a lack of clarity in the countries' foreign exchange control. In China, demand has been low in both the wood products industry and the export-driven furniture industry.

■ Paperboard Industry

The sales of the Paperboard Industry, i.e. Metsä Board, in January–December were EUR 1,941.9 million (1–12/2022: 2,479.6). The comparable operating result was EUR 122.2 million (520.7).

Paperboard Industry	2023	2022
Sales, EUR million	1,941.9	2,479.6
EBITDA, EUR million	214.6	614.6
- comparable EBITDA	216.0	602.8
Operating result, EUR million	120.8	531.5
- comparable operating result	122.2	520.7
% of sales	6.3	21.0
Comparable ROCE, %	5.1	20.9
Total investments, EUR million	228.7	304.1
Personnel at end of period	2,240	2,248

Total deliveries of paperboard were 1,373,000 (1,817,000) tonnes. The company's market pulp deliveries were 394,000 tonnes (503,000).

The comparable operating result was weakened especially by the lower price level of market pulp and the decreased delivery volumes. Paperboard delivery volumes also decreased notably. Metsä Board adjusted its paperboard, pulp and BCTMP production to match the low level of demand, and production volumes were clearly below capacity levels. Profitability was supported by the higher prices of paperboards, especially folding boxboard.

Exchange rate fluctuations, including hedges, had a positive impact of around EUR 95 million on the operating result.

The cost level was higher than in the previous year. Over the year, the highest rise was seen in wood costs, as stumpage prices increased in Finland and Sweden. Cost changes were smaller in chemicals and energy. In the second half, the result was affected by extensive annual maintenance and investment shutdowns at the Kemi and Husum paperboard mills, for example. The completion of investments increased depreciation by around EUR 12 million from the comparison year.

Unused emission allowances were sold for approximately EUR 55 million (EUR 29 million) in the review period.

The associated company Metsä Fibre's share of Metsä Board's comparable operating result in January–December was EUR 28.2 million (174.7).

Earnings per share were EUR 0.27 (1.15), and comparable earnings per share were EUR 0.27 (1.13).

Tissue and greaseproof papers

The sales of Tissue and Greaseproof Papers, i.e. Metsä Tissue, in January–December totalled EUR 1,250.2 million (1–12/2022: 1,197.0). The comparable operating result was EUR 188.6 million (-3.4).

Tissue and Greaseproof Papers	2023	2022
Sales, EUR million	1,250.2	1,197.0
EBITDA, EUR million	243.2	41.7
- comparable EBITDA	232.3	41.2
Operating result, EUR million	198.7	-3.0
- comparable operating result	188.6	-3.4
% of sales	15.1	-0.3
Comparable ROCE, %	27.4	-0.4
Total investments, EUR million	127.3	50.6
Personnel at end of period	2,488	2,449

Profit development remained positive as margins continued to improve. Sales volumes for the full year and the last quarter were lower than in the previous year. In the last quarter, sales prices decreased by 5% from the corresponding period in the previous year. Marketbased production curtailment continued. The result improved from the comparison period thanks to internal efficiency improving, while costs remained under control. Energy subsidies that were retroactively allocated to the previous year also had a positive impact on the result.

Production costs remain at a high level compared to previous years. The company continued its temporary production curtailments during the year to ensure the continuity of its production and its ability to supply hygiene products to the market.

Research and development

Metsä Group's research, development and innovation operations develop high value added products made from northern wood and promote industrial efficiency based on the circular economy. In 2023, research and development costs totalled EUR 38.5 million (31.1), or 0.6% (0.4) of sales. The costs include direct expenses, excluding depreciations, and operational investments. Research and development costs increased significantly after Metsä Spring took over MI Demo, which operates the Kuura textile fibre's demo plant activities. In addition, research and development picked up across Metsä Group's operations.

EUR million	2023	2022
R&D expenses	38.5	31.1
% of sales	0.6	0.4

The goal of our research and development work is to create new products and services, exploit new technologies, and ensure the competitiveness of Metsä Group's current business operations. Research and development operations play an important role in the achievement of Metsä Group's sustainability objectives.

In 2023, work continued in Metsä Group's five strategic R&D programmes, established in 2022, which involve broad cooperation across

the company's business areas and with various partners. The programme themes are related to fossil free raw materials, coatings, side streams, fibre products and the optimal use of northern wood. In 2023, Metsä Group launched a major initiative to explore the recovery and upgrading of wood-based carbon dioxide from bioproduct mills in cooperation with partners. Over the year, Metsä Group conducted several development projects to verify the climate impacts of forests and products. Metsä Group also adopted regenerative forestry principles and began to develop research-based methods for measuring the principles' impacts. In cooperation with partners, Metsä Group is developing new ways to scientifically verify the impacts of regenerative forestry measures. On its mill sites, the company is also developing regenerative land use measures that are entirely new in the industry.

Metsä Group participated in several research and development projects focusing on digital solutions and continued to test new technologies.

Metsä Group engages in active cooperation with universities, research institutes, providers of technical solutions and high-growth companies. Metsä Group intensified and expanded its cooperation with the University of Helsinki and the University of Oulu in line with its partnership agreements. It also continued to cooperate with nearly all other Finnish universities. Metsä Group is also active in both national and the EU's research and development networks. The innovations and development programmes of these networks and partners play a key role in the development of new processes and products.

Metsä Group continues research and the building of innovation ecosystems as a co-driver, alongside Fortum, of the EUR 50 million ExpandFibre cooperation project, which advances the circular bioeconomy. The cooperation aims to develop technologies and business concepts for producing textile fibres and other new bioproducts from straw and wood. At the end of the year, the ExpandFibre innovation ecosystem included around 100 organisations and 24 R&D projects that share information about targets and results.

Metsä Group's innovation company Metsä Spring is tasked with finding and developing new forest-based bioeconomy and circular economy business concepts in cooperation with partners. The innovation company invests competence and funds in business ideas that renew the Group over the long term. The innovation company has a demo plant where it produces wood-based Kuura® textile fibre from paper pulp using a direct dissolution method. According to a life-cycle analysis, the greenhouse gas emissions of the new method are smaller than those of other textile fibre production methods. The Kuura textile fibre also placed well in the Hot Button audit organised by Canopy, an environmental organisation. In early 2023, changes were made to the textile fibre demo plant in Äänekoski, and test runs continued in May. The innovation company is running several textile fibre research projects as part of the ExpandFibre ecosystem.

At Metsä Group and Valmet's joint 3D fibre product demo plant in Äänekoski, a new production method for Muoto™ packaging is being tested and developed. The wood-based fibre product can replace packaging made of plastic and aluminium. The year's highlights included the establishment of customer cooperation and first place in the international Quality Innovation Award competition.

The innovation company continued to support its portfolio companies Montinutra (Boreal Bioproducts), Innomost and Woodio in various ways and invested in three new start-ups: Fiberwood (Finland), which develops wood-based insulation materials; Adsorbi (Sweden), which develops pulp-based air purification materials; and FineCell (Sweden), which produces CellOx, a dry pulp-based powder. Woodio, which has been in the portfolio since 2019, raised funding in excess of EUR 16 million in the summer. In early 2023, Metsä Group was nominated Finland's most start-up friendly company in 2022. It received the nomination for the second time in a row.

■ Metsä Forest

Metsä Group launched the Metsä Group Plus forest management model for its owner-members as a tangible regenerative forestry method. The new voluntary management model supports the improvement of forest biodiversity on felling and forest management sites in commercial forests. Owner-members receive an additional bonus for using the model.

In cooperation with CollectiveCrunch, Metsä Group developed an application that uses artificial intelligence and satellite data to help identify insect damage in owner-members' forests. This enables felling and other measures to be carried out before the damage spreads. Excellence Finland granted the application the 2023 Quality Innovation Award.

Metsä Group drew up a roadmap for reducing fossil-based emissions from wood supply and initiated related development action. In wood logistics, the company is developing solutions based on electricity and biogas. To reduce fossil-based carbon dioxide emissions, the company has launched a pilot project to test the use of electric lorries in wood transports between the Kemi bioproduct mill and wood terminals. In addition, charging infrastructure for electric lorries is being built at the Kemi bioproduct mill. The project encourages entrepreneurs in various ways to switch to lorries running on fossil free fuels.

In cooperation with Risutec, we developed a new accessory that enables soil preparation to be combined with the forest transports of crown wood and wood. The solution improves the efficiency of operations and reduces emissions, as it reduces the need for machine transports. The combination of work stages also eases the busy forest management season in the spring.

The company introduced the revised Metsäverkko mobile application. Thanks to this, all the functionality of Metsäverkko is now available on mobile devices. In the renewal process, we used feedback from our own personnel and the developer community consisting of Metsä Group's owner-members.

The harvesters used by Metsä Group's harvesting contractors feature precise positioning instruments that provide the location of the harvester's clamp at an accuracy of a few centimetres. This means we know the boundaries of felling sites more accurately, which in turn makes operations more efficient, as it saves the working time of Metsä Group's employees, who no longer need to mark the boundaries in the field. Harvester operators can also work more efficiently, as they do not need to leave the cabin to check the boundaries.

At the Kemi bioproduct mill, the company successfully introduced new operating models for wood measuring, transports and storage, which were specifically developed for wood supply.

■ Metsä Wood

In Metsä Group's wood products business, research and development focused on large strategic projects such as the replacement of fossil-based raw materials, the more efficient use of wood raw material, and the investigation of new products and technologies.

In 2023, the company's production carried out several test runs on new glue alternatives and studied and tested many other chemicals. The company is also involved in an EU-level joint research undertaking (SuperBark), which aims for new fossil free adhesives and coating solutions that use industrial side streams as raw materials.

The wood products business also conducted test runs for a more efficient and optimised use of the raw material base, especially in Kerto® LVL products. Research focuses on both the wood raw material arriving at mills and the side streams generated from it, as well as the utilisation of side streams in mill processes. In development projects, process technology was developed jointly with suppliers, and potential new products supporting more efficient wood use were explored.

The company also initiated research into a material-efficient wall element technology suitable for multi-storey construction. The company also started cooperation with Swedish concrete manufacturer Heidelberg Materials Precast Contiga with the aim of combining the best properties of concrete and wood in future building solutions. The aim is to develop and bring to market a hybrid element with a low carbon footprint.

■ Metsä Fibre

Metsä Group's pulp and sawn timber industry continued to develop new fibre-based products in the ExpandFibre collaboration project, including work on a biocomposite fibre and fibre solutions for construction. The company is developing new fibre products for both existing and new applications and value chains.

Metsä Group's pulp business and Andritz began planning a demo plant for an oxidised lignin product in connection with the Äänekoski bioproduct mill. The product's suitability for the construction industry will be developed in cooperation with Dow Chemicals. Regarding the development of future pulp technology, the company continued its long-term project that aims for a bioproduct mill with zero wastewater discharges in collaboration with partners.

In the first half of 2022, Metsä Group's pulp and sawn timber business and Veolia signed a long-term partnership agreement on the refining of crude methanol generated in pulp production at the Äänekoski bioproduct mill into commercial biomethanol. Veolia is building a crude methanol refinery in Äänekoski which will be closely integrated into the bioproduct mill processes. Production at the refinery operated and owned by Veolia is slated to begin in the spring of 2024.

■ Metsä Board

Metsä Group's paperboard business produces premium fresh fibre paperboards as resource-efficiently as possible and helps replace fossil-based materials and reduce the carbon footprint of packaging. Ensuring and developing the recyclability and compostability of paperboards is of key importance.

Reducing the weight of paperboard is one of the focal areas of product development in the paperboard business. Apart from the use of fossil free energy in production, the light weight of paperboard plays a significant role in reducing the carbon footprint. In 2023, the company conducted tailored life-cycle and carbon footprint calculations and comparisons for its customers as part of its sustainability services. The calculations demonstrated that the folding boxboard produced by Metsä Group's paperboard business had a clearly smaller carbon footprint than many other packaging materials on the market. The company will continue to verify life-cycle analyses according to the environmental product declaration (EPD) jointly with its partner.

More lightweight packaging and resource efficiency also play a key role in the pre-engineering of the Kaskinen folding boxboard mill, which aims for significantly lower wood, energy and water consumption per tonne of folding boxboard produced than in current production units.

Another focal area in product development is the development of recyclable protective coating for paperboards used in food packaging. In the biobarrier programme launched in 2021, the company continued to study new products that reduce the use of plastic. Production testing has been carried out on various product alternatives, and the company is currently exploring the most promising products for commercialisation.

The Excellence Centre in Äänekoski offers an active collaboration environment for the research, innovation and testing of packaging materials and solutions. In 2023, the Excellence Centre hosted 46 development workshops, organised jointly with customers, focusing on topics such as reducing the environmental impacts of packaging.

The company's research and development costs in 2023 totalled EUR 7.3 million (6.1), or 0.4% (0.2) of sales. The costs include direct expenses, excluding depreciations and operational investments.

■ Metsä Tissue

Metsä Group's tissue paper business uses fresh fibre, or pulp, as the main raw material for its products. Recycled fibre is also used in production, but the availability and quality have declined rapidly.

The company's research and development focuses on fresh fibre, as increasing its share plays an important role for improving the energy efficiency of production, for example. The expansion and modernisation project currently underway at the Mariestad mill in Sweden focuses on fresh fibre-based production and will increase the share of fresh fibre in the mill's production to 80%. At the planned new tissue paper mill in the UK, production is to be fully based on fresh fibre. In 2023, the company also accelerated the transition to fresh fibre in other markets.

Jointly with the Fraunhofer Institute, the company assessed the environmental footprint of pulp used as raw material for tissue paper. The study focused on the environmental impacts of pulp produced at the Äänekoski bioproduct mill. The production emissions of the modern mill using northern pulpwood were notably lower, and the environmental footprint of pulp significantly smaller, than the average values for pulp production at mills in Europe and South America.

The company announced its participation in the "Modellfabrik Papier in Düren" network in Germany. Established in 2020, Modellfabrik is a research and development community for sustainable paper technologies, in which Metsä Tissue and other network participants actively invest in the development of a carbon neutral society and more sustainable business.

Risk management and risks

Metsä Group's risk management is systematic and proactive, and it assesses and manages business-related risks, threats and opportunities. Risk management is governed by the risk management policy confirmed by the Board of Directors of Metsä Group's parent company Metsäliitto Cooperative, and by Metsä Group's corporate governance system. Metsä Group systematically assesses its strategic, operational and financial risks. Key risks are accounted for in the business operations' planning processes, and management measures are drawn up to prepare for the risks. In addition, the Metsä Group's Executive Management Team reviews the most significant risks as part of its executive management work.

Risks that exceed the Group's risk-bearing capacity have been transferred with insurance, derivatives and other contracts to insurance companies, banks and other counterparties.

The risks identified and their management are regularly reported to the Board of Directors at least twice a year. The risk assessments conducted in 2023 identified the following risks and uncertainties with a potential impact on Metsä Group's business operations and profitability.

■ Development of the world economy

The development and growth of the global economy continues to be marked by uncertainty. A higher cost level and the resulting rapid increase in interest rates have slowed down global growth and especially the growth of the European economy. Low consumer confidence in the economy and weaker purchasing power have reduced demand for consumer products. A prolonged situation may further decrease the demand for Metsä Group's products and weaken the Group's profitability.

Central banks sought to curb inflation with several interest rate increases in 2023. While expectations of interest rate cuts have picked up, interest rates may also remain at the current level or even increase. This could have negative impacts on the economy, the most significant of which are a continued weak growth outlook and a prolonged risk of recession, lower real income due to high inflation, and a further decrease in consumers' purchasing power. All these may negatively affect demand for Metsä Group's products, business continuity or the company's profitability.

■ Changes in the competitive and operating environment

In the global market for forest industry products, the balance of supply and demand has a significant impact on the market prices of products. Changes in the economic situation, an increase in the capacity of competitors or competition over market shares may reduce the market prices of products. Significant currency fluctuations also have an impact on the market balance of forest industry products and companies' competitiveness.

Changes in regulations such as the EU's climate and environmental policy and increasing new requirements to limit carbon dioxide, sulphur or other emissions may negatively affect the Group's operating conditions and profitability. Various regulatory risks are also related to the acceptability of single-use food and food service packaging.

■ Significance of the Chinese market

China is a significant market area for Metsä Group and especially for Metsä Fibre. China's slower economic growth and lower domestic consumer demand, along with continued challenges in the real estate market, may affect the demand for Metsä Group's products on the Chinese market and thus the Group's profitability. Increasing geopolitical tensions may also influence China's economic growth. Weaker relations between China and the EU could have a negative impact on the demand for Metsä Group's products in China and thus on profitability.

■ Pulp market situation

The result of the pulp business has a significant impact on the profitability of Metsä Group as a whole. Metsä Fibre's pulp production capacity is around 4 million tonnes of bleached softwood and hardwood pulp per year. In addition, Metsä Board produces pulp in Husum for both internal paperboard production and the market. Structural changes in customers' pulp use, increasing competition and new production capacity in the global pulp market may have a negative impact on the market price of pulp and the group's delivery volumes and thereby on the results of Metsä Group.

■ Geopolitical risks

Russia's continued military aggression in Ukraine has maintained global geopolitical tension and has had a negative impact on the economy. The impact of Russian sanctions and countersanctions, as well as the risks caused by the crisis, affect areas such as the costs and availability of production inputs, energy infrastructure and cybersecurity. The ultimate effects of Russia's attack on the world economy and the Group's business will only become clear over a longer period.

Potential changes in the industrial and trade policies of leading industrialised countries, the materialisation of geopolitical risks or an escalation of geopolitical risks may lead to more extensive measures restricting trade or the use of international sanctions. The possible consequences of these include a further slowdown in the recovery and growth of the world economy and even a curtailment of global trade flows. Any sanctions and restrictions on international trade may have an impact on the demand for Metsä Group's products and the group's profitability.

■ Sustainability

Sustainability is an integral part of Metsä Group's business, and we aim to be a forerunner in ecological and operational sustainability. The various areas of sustainability such as climate change, biodiversity and increasing EU regulation also involve risks.

Sustainability-related risks and their impacts on the company are separately discussed in this report's Sustainability statement.

■ Operational risks

Cost and availability risks of production inputs

Significant or unforeseen changes in the cost of Metsä Group's most important production inputs such as wood, energy and chemicals and problems with their availability may reduce profitability, threaten the continuity of operations, and place the implementation and life-cycle profitability of planned development investments at risk.

The discontinuation of Metsä Group's wood supply from Russia has tightened the market for wood raw material across the Baltic Sea region. Challenges in the availability of wood could impact production continuity and thus the sales of the Group's products and its profitability.

The earlier increase in energy prices continues to influence the prices of other commodities and services. Should the conflict in the Middle East spread, it may affect the price of oil and natural gas. Potential limitations to the availability of natural gas and electricity, fluctuating electricity market prices or changes in the prices of emission allowances may negatively affect Metsä Group's profitability.

Restrictions to the availability of transport capacity or an increase in market prices may have a negative impact on Metsä Group's profitability. The conflict in the Middle East and its impacts in the Red Sea cause uncertainty about ocean transports. A prolonged unstable security situation in the region may have a negative impact on the transports of Metsä Group's products and thus the company's profitability.

Changes in exchange rates may also have an effect on the costs of some production inputs. Metsä Group aims to hedge against these risks with long-term delivery agreements and the related derivative agreements.

Continuity risks

The continuity of mills' production may be impacted by, for instance, large-scale fires, significant equipment malfunctions, serious accidents, extreme weather phenomena and environmental damage. Furthermore, risks such as labour disputes, malware and attacks against IT systems, or any persisting malfunctions in IT systems, significant absences of employees caused by infectious diseases, availability issues in the most important raw materials, and disruptions in the logistics chain may suspend the entire business or parts of it.

Interruptions in production or the supply chain may influence the continuity of customer service and delivery reliability. If such interruptions continue for a long period, the resulting financial losses may be substantial and result in the loss of customers.

Business areas, mills and Group Services have drawn up contingency plans in preparation for the realisation of continuity risks. In this context, regular risk management is also carried out with insurance companies to reduce continuity risks. Metsä Group's crisis management plan guides management in crisis situations within the Group, business areas and mills.

■ Business development

The objectives of business development projects and investments include growing the business, expanding the product portfolio, strengthening the market position and promoting sustainability objectives. The development and growth of business require strategic choices that involve risks. The uncertainties in question involve the selection and timing of growth investments, for example, as well as the development of sales and the customer portfolio.

The growth of business and the introduction of new production to the market depend on successful sales. The commercialisation of new products involves uncertainties that, should they be realised, could have a negative impact on the demand for Metsä Group's products and the company's profitability. Increasing sales on a global scale also involves cost and exchange rate risks.

Metsä Group's business operations are also developed with the aid of new production technology, efficiency programmes, product development, and the development and harmonisation of business processes and the information systems supporting them. Should the costs of the development projects and investments substantially exceed the estimates, should their completion be delayed or should the production-related or commercial targets not be reached, the impact could be adverse on the results of the business and the whole Group.

The Group's venture capital company Metsä Spring seeks and develops new business ideas with the potential of functioning as part of Metsä Group's business ecosystem in the future. Metsä Spring invests in the further development of the Group's own ideas and in external start-ups that are aiming to introduce new products to the market. Investments are made in high-risk ventures such as the textile fibre demo plant and the 3D fibre product demo plant in Äänekoski. If the development projects invested in are technically or commercially unsuccessful, there may be a risk of a write-down of the investment.

■ Corporate and information security risks

Risks to corporate security include shortcomings and neglect in personal safety and security and safety at work and in the management of financial misconduct, any negative information manipulation and cyberattacks, threats affecting the supply chains, and the adequacy of internal control. A cyberattack on information systems could lead to a leak of sensitive information and damage the company's reputation. Operating processes related to corporate security and the guidelines, training and internal control related to the management of threat factors are developed continuously, and exercises on the management of crisis situations are organised on a regular basis.

■ Personnel availability and retention

Metsä Group pays attention to ensuring the availability and retention of qualified personnel. The Group prepares for risks related to generational shifts and other personnel risks by means of management coaching, personnel development programmes, successor plans and the development of its employer image. The maintenance of working capacity, successor planning and having multiskilled employees are also part of the management of personnel risks. Metsä Group also prepares for the resource needs of any new units by initiating personnel planning and recruitment processes well in advance. Factors threatening the employees' health security are monitored regularly, and any required measures are adopted to protect the personnel and ensure business continuity.

■ Liability risks

The business involves liability risks, such as contractual, environmental and product liability risks. Liability risks are mitigated by way of unified business processes, contract training, management practices, quality control and transparent operations.

■ Risks associated with the availability of financing

At Metsä Group, the main financial risks in business operations are primarily related to currencies, interest rates, liquidity, counterparty risks and the use of derivative instruments. Financial risks are governed according to the financial policy confirmed by the Board of Directors of Metsäliitto Cooperative. The goal is to secure sales margins, reduce uncertainty, improve predictability, balance the cash flow and give business units time to adjust their operations to the changed circumstances.

Access to capital and the price of capital are largely dependent on the conditions prevailing in the financial market and the Group's own financial situation. Metsä Group's good financial situation and well-functioning financial markets have kept the availability and price of financing at a good level. Should access to financing grow weaker or were its price to increase significantly, it could also have a negative impact on the cost and availability of the external capital needed by the Group.

Metsä Group prepares for the refinancing risk by utilising a variety of financing sources, by scheduling loans to have a balanced maturity profile and by starting refinancing processes well before the loans mature. The Group's liquidity is strong. At the end of 2023, Metsä Group had committed credit facilities of EUR 800 million.

■ Changes in members' capital and additional members' capital

A member of Metsäliitto Cooperative who wishes to cancel their membership is entitled to receive a refund of their participation share payment and the additional contribution payment. The member may also receive a refund of the additional contributions based on a written claim. Based on the Cooperative's rules, the amount of members' participation share payments and additional contributions that can be refunded is equivalent to one third of the distributable equity in accordance with the most recent balance sheet adopted by the Annual General Meeting. Refunds of members' capital that are larger than usual may have an adverse effect on Metsä Group's financial position.

■ Credit risks and other counterparty risks

The management of credit risks related to commercial activities is the responsibility of the business areas and Metsä Group's centralised credit control. Credit control defines the internal credit limits set for customers and the payment terms together with the management of business operations. Metsä Group's customer credit risk was at a normal level in 2023.

The main principles of credit control are defined in the credit guidelines approved by the Group's Board of Directors. The operational management of the Group and the business operations participate in the assessment of credit risks and in making final decisions on credit, if needed.

In money market investments, derivatives and loans, only counterparties that have been defined in the Group's financial policy, meet the creditworthiness criteria or have been separately designated by a Board decision are approved.

Governance

Metsäliitto Cooperative is a Finnish cooperative and the parent company of Metsä Group. It is owned by 91,694 forest-owner members. On 31 December 2023, the combined forest area owned by the members totalled 5,467,000 hectares.

Metsäliitto Cooperative's governing bodies are the Representative Council, the Supervisory Board, the Board of Directors and the CEO, who acts as the President and CEO of Metsä Group. The members of Metsäliitto Cooperative elect the members of the Representative Council in an election held every four years. The members of the Supervisory Board are elected by the Representative Council. The Supervisory Board elects the members of Metsäliitto Cooperative's Board of Directors, and the Board of Directors appoints the CEO of Metsäliitto Cooperative and the President and CEO of Metsä Group.

The Representative Council uses the supreme decision-making power belonging to the members of Metsäliitto Cooperative in matters it is responsible for pursuant to the law and the rules of Metsäliitto Cooperative. The rules of Metsäliitto Cooperative specify the tasks of the Supervisory Board. Its main task is to ensure that Metsäliitto Cooperative is managed in accordance with the rules and the decisions of the Representative Council and the Supervisory Board.

According to the rules of Metsäliitto Cooperative and in accordance with legislation, the Board of Directors is charged with ensuring that Metsäliitto Cooperative and Metsä Group's operations and governance are appropriately arranged. The Board of Directors has authority over strategic and other decisions with far-reaching consequences. In the 2023 financial period, Metsäliitto Cooperative's Board of Directors was composed of eight members. According to the overall assessment by the Board of Directors, all members of the Board were independent of Metsäliitto Cooperative. The Board of Directors convened 15 times in 2023, and the percentage

of attendance in the meetings by Board members was 98%. Metsäliitto Cooperative has a CEO, who also acts as the President and CEO of Metsä Group.

The President and CEO is charged with the management of the operations of Metsä Group in accordance with the law and the rules of the Cooperative, as well as the decisions and instructions of the administrative bodies. The President and CEO is assisted by the Group's Executive Management Team.

Metsäliitto Cooperative's Board of Directors has determined the principles applicable to the diversity of the Board. According to the principles, the successful management of the tasks of the Board of Directors requires a diverse composition, diverse competence and experience. It is Metsäliitto Cooperative's goal that both genders be represented on the Board of Directors. The Supervisory Board's Nomination Committee observes the principles concerning diversity when preparing proposals for the Supervisory Board on the composition of the Board of Directors. The realisation of the principles is reported on yearly in the Corporate Governance Statement. A separate Corporate Governance Statement has been issued and published simultaneously with the financial statements and this Report of the Board of Directors.

■ Events after the review period

In January, Metsä Group announced it was planning to discontinue sawn timber production in Merikarvia. According to the plans, production will end by the summer of 2024.

In January 2024, Metsäliitto Cooperative signed a ten-year lease agreement for the new headquarters. Metsä Group's head office will move to the new premises in Keilaniemi, Espoo, during 2027. An explanation of non-financial information is provided as part of the sustainability report.

Near-term outlook

The demand for wood will focus particularly on thinning stands, birch logs and roundwood out of delivery sales. In energy wood, the demand will focus on crown wood and small trees. The demand for forest management services is expected to remain strong.

Construction activity has remained weak in all the main markets in Europe, and no turn for the better is expected in the demand for wood products in the near future. This will have a negative impact especially on the demand for spruce plywood and Kerto LVL products. However, construction activity is expected to continue more strongly in the US than in Europe. The economic slowdown is reflected in weaker demand in the industrial customer segments for birch plywood, while the demand for standard grades remains higher.

In the UK, the demand for upgrading is expected to continue at a level that is normal for the season in the next few months.

In the early part of the year, Metsä Group's market pulp deliveries to China will be affected by various paper and paperboard production shutdowns because of the Chinese New Year. The supply of softwood market pulp will be reduced by the announced pulp mill closures and the poor availability of wood raw material, especially in North America. The price of softwood market pulp is expected to increase during the first quarter. The demand for sawn timber is expected to increase slightly during the second quarter of 2024, and sawn timber prices are also expected to rise.

The paperboard industry's global market environment will remain uncertain, and the visibility of near-term paperboard sales development will remain weak. The increase in the cost of living affects consumers' purchasing behaviour and may reduce the general demand for consumer products. The management measures for inventories in the value chain are expected to mirror the market situation. In the first quarter of 2024, the delivery volumes of Metsä Group's paperboards are expected to increase from the previous quarter. The currency-denominated sales prices of folding boxboard are expected to slightly decrease, and those of white kraftliners to remain stable. If required, the company will continue its production adjustment measures and temporary layoffs of personnel at the Finnish mills in 2024. In the first quarter, total costs, excluding pulp costs, are expected to remain quite stable.

The business environment for tissue papers will continue to be unstable, as underlying inflation remains high. If required, the company will opt for commercial shut-downs to secure adequate product profitability when demand begins to normalise.

Result guidance for January–March 2024

In January–March 2024, Metsä Group's comparable operating result is expected to improve from October–December 2023.

Proposal of the Board of Directors on the use of the surplus on the balance sheet

Metsäliitto Cooperative's Board of Directors has decided to propose to the Representative Council convening on 25 April 2024 that for 2023 interest of 6.5% (7.0 for 2022) be paid on the participation share capital invested by members, and that interest of 6.0% (6.5) be paid on Metsä1 additional shares, 3.0% (4.0) on additional capital A, and 1.0% (1.0) on additional capital B. The Board of Directors also proposes that a surplus reimbursement of EUR 0.30 per cubic metre of industrial roundwood received from a member over the past four concluded financial periods be distributed. The surplus reimbursement will be paid primarily as Metsä1 additional shares, but in money for the part corresponding to the tax-at-source to be carried in terms of each member. If the right to the shares has been transferred to another person in accordance with the statutes of the cooperative, the interest is paid to the person who is registered as the owner on the reconciliation date, 31 March 2024. The proposed payment date is 10 May 2024. If the member entitled to the surplus reimbursement resigns from the cooperative before the date of payment, this share of the surplus reimbursement will not be distributed. In total, the proposed profit distribution would be approximately EUR 101 million (101), of which the surplus reimbursement based on wood trade would be approximately 16%.

Sustainability statement

General information

Reporting principles

■ Sustainability statement reporting principles

Basic information

Metsäliitto Cooperative and its subsidiaries comprise a group (“Metsä Group” or “Group”) in which operations are organised into five business segments: Wood Supply and Forest Services, Wood Products Industry, Pulp and Sawn Timber Industry, Paperboard Industry, and Tissue and Greaseproof Papers. Reporting covers the entire group, including the parent company Metsäliitto Cooperative and all the companies in which the Group directly or indirectly holds more than 50% of the votes unless otherwise stated in connection with the disclosed information.

In the Sustainability statement, reporting mainly focuses on Metsä Group at the Group level. Business area-specific key figures related to the environment and employees are disclosed on pages 79–83.

The Sustainability statement is published annually. The reporting period coincides with that of financial reporting, that is, the financial period from 1 January 2023 to 31 December 2023.

The reporting principles for metrics related to each topic are described at the end of each section.

Basis for preparation

This Sustainability statement complies with the requirements of the Global Reporting Initiative (GRI) 2021 standard. It also meets the reporting requirements of the Accounting Act for the reporting of non-financial information in accordance with the EU’s Non-Financial Reporting Directive (NFRD). The progress made in Metsä Group’s strategic 2030 targets is also reported in this Sustainability statement. As of 2024, Metsä Group is bound by the EU’s Corporate Sustainability Reporting Directive (CSRD) and its reporting requirements, which have guided the content and structure of this 2023 report.

The disclosed sustainability matters and key figures are based on Metsä Group’s double materiality assessment, conducted in two stages in 2022–2023. The GRI reporting requirements that are material to the company’s operations, products and stakeholders were chosen based on the materiality assessment. The material topics and sustainability targets based on the materiality assessment were approved in early 2023, and reporting based on them was initiated in 2023. The materiality assessment was supplemented in 2023, with attention paid to the requirements of the EU’s sustainability reporting standards. Further information about the materiality assessment and its results is provided on pages 29–31.

Selected sustainability information and related claims have been externally assured (limited assurance) by KPMG Oy Ab, an independent third party. Assurance was conducted in accordance with the international assurance standards ISAE 3000 (Revised) and ISAE 3410.

The reported GRI and SASB information, Metsä Group’s own metrics and their location in the Sustainability statement are indicated in a separately published *index*. The index presents any deviations and omissions from the GRI requirements along with the relevant explanations. The indices also contain further details about the indicator-specific information that has been assured.

■ Risk management and internal controls over sustainability reporting

Sustainability reporting complies with Metsä Group’s group-level principles and processes for statutory reporting, risk management and internal control. In sustainability reporting, internal control is based on risk identification, analysis and a focus on the most material risks identified, as well as the best practices of internal control. Metsä Group’s internal control unit and internal control processes, as well as its risk management process, comply with the principles of the COSO (ERM) framework. The sustainability reporting control environment emphasises Metsä Group’s values, management’s commitment to sustainable operations, a corporate culture emphasising ethics and sustainability, policies promoting sustainable operations, centralised business processes, professional employees, and transparent operations.

Sustainability reporting is centrally handled by the company’s finance department in Group Services, where Group Accounting is in charge of the Sustainability statement. Sustainability reporting is handled by specialists in sustainability reporting and related standards.

The risks identified in sustainability reporting include the accuracy of information and the timing of reporting. To ensure that the disclosed information is accurate and appropriately timed, Metsä Group has defined and adopted a governance model that specifies the roles and responsibilities in sustainability reporting. Metsä Group has included the capabilities required to produce the disclosed information in the Group’s common business processes, which all the business units and Group services follow in their operations.

The owners of business processes ensure that Metsä Group’s process environment can transparently produce the required information for disclosure. The responsibility for the accuracy of content, as well as compliance with reporting schedules and the provision of material to Group Accounting, is assigned to the roles in Metsä Group’s business areas and head office functions specified in the governance model.

To ensure the accuracy and timeliness of disclosed information, internal controls have been adopted as part of the common business processes. Their systematic monitoring is part of the internal control unit’s reporting.

The internal control unit reports on the efficiency of the sustainability reporting controls according to the specified schedule monthly, quarterly, twice a year or once a year in compliance with the common governance model and process of internal control. The results of internal control are monitored, and control is supervised by Metsä Group’s business areas and Group Services, the process development management team, the Group’s Executive Management Team and the Audit Committee. Internal audit inspects sustainability reporting controls and internal control practices as part of its audit work. The governance model for internal control is described in the Corporate Governance Statement.

Sustainability governance and strategy

■ The role of, information provided to and sustainability matters addressed by the administrative, management and supervisory bodies

This sustainability statement provides details about sustainability governance. Further information about the general duties, composition, diversity and experience of the administrative and supervisory bodies, as well as the processes of internal control, internal audit and risk management, is available in the *Corporate Governance Statement*.

Board of Directors and Board Committees

Metsäliitto Cooperative's Board of Directors is the entire Group's highest body overseeing sustainability, and it approves the Group policies guiding the Group's operations and internal control. Principles concerning sustainable business are defined in the Code of Conduct, as well as the policies related to procurement, HR, antitrust, quality, risk management, contracts, legal, data protection, information security, taxation, communication, equality, environmental and corporate security approved by the Board of Directors, and in more detailed guidelines issued based on them. The targets and policies are updated should any changes that must be addressed take place in the operating environment.

The Board of Directors also approves Metsä Group's strategic sustainability targets. Metsä Group's President and CEO is responsible for the targets' implementation. The progress made in targets is regularly reported to the Board of Directors every quarter. Sustainability is incorporated into the Group's business strategy approved by the Board of Directors, as well as in long-term business and investment plans, risk assessments, and annual action plans.

The Group's risk management results, including sustainability-related risks, are presented to the Board of Directors twice a year. At their meetings, the Board of Directors and Board Committees regularly discuss reviews related to different areas of sustainability, presented by the Group's executive management and specialists. The reviews offer Board members information about the material impacts, risks and opportunities related to the company's sustainability, and of the progress made in the company's sustainability targets. The reviews also ensure the Board's understanding and competence are up to date in sustainability matters. The Group's sustainability targets are taken into account in the Board of Directors' decision-making concerning matters such as investments. The Board of Directors has also organised seminar events, featuring external experts discussing sustainability-related matters.

In the 2023 financial period, the reviews handled at the meetings of the Board of Directors and its Committees focused on topics such as:

- Updates to the 2030 sustainability targets
- Updates to Group policies
- Regenerative forestry
- The Group's nature programme
- Employees' wellbeing and development

- Development measures for an ethical workplace and business environment
- Development work concerning diversity, equality and inclusion (DEI)
- Occupational safety
- Development work concerning the Know Your Business Partner process
- Information security
- Summary of non-compliance incidents' investigations
- Regulatory development concerning sustainability
- Sustainability reporting and related regulatory development
- Review of internal control, including the effectiveness of internal controls in areas such as forest certification, occupational safety, emissions, supplier control and product information

The Group's President and CEO and Executive Management Team

The President and CEO is responsible for the implementation of the Board-approved sustainability targets in the Group. The President and CEO also reports to the Board on material sustainability-related impacts, risks and opportunities. The Group's Executive Management Team discusses sustainability targets before the President and CEO presents them to the Board of Directors and for its part, supervises the implementation of the approved sustainability measures and sustainability-related impacts, risks and opportunities regularly at its meetings.

Based on the Group's sustainability targets, the management teams of each business area prepare their sustainability targets to be presented for approval to the Boards of Directors of the Group's subsidiaries. The heads of business areas are responsible for the implementation of business area-specific sustainability targets, and the targets' achievement is monitored by the Group companies' Boards of Directors and the business areas' management teams. In addition, the company's CFO is the head of Metsä Group's Risk Committee, which handles sustainability risks as part of the company's general risk assessment.

At the Executive Management Team's meetings in the 2023 financial period, the reviews presented by Group management and sustainability experts focused on sustainability-related topics such as:

- Updates to Group policies
- Regenerative forestry
- Employees' wellbeing and development
- Development measures for an ethical workplace and business environment
- Development work concerning diversity, equality and inclusion (DEI)
- Occupational safety
- Development work concerning the Know Your Business Partner process
- Information security
- Regulatory development concerning sustainability
- The biodiversity plans for the Group's mill areas
- Work life reforms
- Supervision of antitrust compliance
- Sustainability reporting and related regulatory development
- Review of internal control, including the effectiveness of internal controls in areas such as forest certification, occupational safety, emissions, supplier control and product information

Sustainability process management team and sustainability working group

The realisation of the strategic 2030 sustainability targets is reviewed quarterly in Metsä Group's sustainability process management team, composed of the directors in charge of sustainability matters in the business areas and in Group Services. The sustainability process management team ensures that the work towards sustainability targets progresses as planned, taking corrective action if required. The work of the sustainability process management team is supported by the Group-level working group of sustainability specialists, which is tasked with promoting practical sustainability projects. The working group meets once a month.

Good governance

Metsäliitto Cooperative's Board of Directors and the President and CEO are responsible for Metsä Group's governance. At Metsä Group, good governance is ensured with clear management and leadership, internal control, and internal auditing. Company's auditor is responsible for external auditing. Internal control, internal audit and external audit are discussed in more detail in the Corporate Governance Statement.

Integration of sustainability-related performance in incentive schemes

Metsä Group's remuneration principles and the overall remuneration of the administrative, management and supervisory bodies are described in the Remuneration Report.

Metsäliitto Cooperative's Board of Directors decides on the remuneration and other financial benefits of the Group's President and CEO and the members of the Group's Executive Management Team employed by Metsäliitto Cooperative, as well as on the principles of the short and long-term remuneration systems based on the HR Committee's preparation. The remuneration of Metsäliitto Cooperative's Board of Directors is not tied to Metsä Group's performance.

In 2023, sustainability was included in the annual personal targets of every Metsä Group employee. The target-setting model will continue to encourage the continuous assessment and improvement of sustainability matters. The maximum level of remuneration available in the President and CEO's short-term remuneration system in 2023 is, accounting for Metsä Group's EBIT multiplier, 75% of the annual base salary. The reward is based on Metsä Group's operating result (50% weighting) and the strategic targets defined by the Board of Directors including sustainability targets (50% weighting), as well as the realisation of Metsä Group's EBIT multiplier. The President and CEO's sustainability-related goals deal with, for example, the 2030 sustainability targets, divided into three themes: the environment, social responsibility and sustainability governance. These goals include aspects such as the reduction of fossil-based CO₂ emissions in the company's own operations and the use of fossil free raw materials and packaging materials.

In 2023, the maximum level of remuneration available in the short-term remuneration system for other Executive Management Team members was, accounting for Metsä Group's EBIT multiplier, at most 75% of the fixed

annual salary. The reward is based on the relevant company's operating result (50% weighting) and the strategic targets defined by the Board of Directors (50% weighting), as well as the realisation of Metsä Group's EBIT multiplier. In 2023, the Executive Management Team members' personal sustainability goals were related to the 2030 sustainability targets, such as safety and strategic projects aimed at reducing CO₂ emissions in the company's own operations, increasing the number of fossil free products, as well as the number of retention trees on regeneration felling sites and the number of high biodiversity stumps on harvesting sites.

Strategy, business model and value chain

Strategy

Metsä Group's key target is to create value for the forest assets of Metsäliitto Cooperative's owner-members and develop business in line with economic, social and ecological sustainability. Metsä Group advances the bioeconomy and circular economy by sustainably and efficiently converting northern wood into first-class products. Regenerative forestry, climate change mitigation and adaptation, efficient resource use, and the development and wellbeing of employees are key elements of the Group's strategy of profitable growth and its operational activities.

In terms of sustainability, Metsä Group's business environment is especially affected by the changing regulatory environment and the role of forests and wood-based products in climate change mitigation. The actions related to Metsä Group's strategic 2030 sustainability targets answer these challenges while offering Metsä Group new opportunities in a changing business environment.

The targets were defined based on the seven themes guiding Metsä Group's sustainability work. Transitioning to fully fossil free energy in production, abandoning fossil-based raw materials, using energy and water more efficiently, and adopting measures in line with regenerative forestry principles to safeguard forests' strong growth and carbon storage are at the core of the targets. Regenerative forestry also plays a key role in managing the physical risks caused by climate change, as improving the state of forest nature also improves forests' resilience to climate change. Metsä Group's products offer important properties for climate change mitigation, including the recyclability of packaging boards, the potential to replace fossil-based raw materials, and the long-term carbon storage provided by wood products.

The achievement of ambitious targets requires investment, operational development and the use of the best available technology. Metsä Group's investments such as Metsä Fibre's Kemi bioproduct mill, completed in 2023, promote the bioeconomy and circular economy. Investments are discussed under *Business Development*. Research, development and innovation activities are discussed under *Research and development*.

Sustainability-related risks and opportunities are discussed theme-specifically in each section of this Sustainability statement and under *Risk management and risks*.

The sustainability-related materiality assessment was used to set the themes and targets guiding sustainability work. The seven themes guiding

sustainability work, the 2030 sustainability targets, as well as the summary and process of the materiality assessment, are described under *Material sustainability-related impacts, risks and opportunities*.

Business model and value chain

Metsä Group consists of Metsäliitto Cooperative, its two businesses Metsä Forest and Metsä Wood, and the Cooperative's subsidiaries Metsä Fibre, Metsä Board and Metsä Tissue. Metsä Group's parent company Metsäliitto Cooperative is owned by more than 90,000 forest owners. At the end of 2023, Metsäliitto Cooperative held around 52% of the listed company Metsä Board's shares and around 69% of the votes. Metsäliitto Cooperative's holding in Metsä Fibre's shares is approximately 50%. Metsä Tissue is a fully-owned subsidiary of Metsäliitto Cooperative.

Through the Cooperative's owner-members, Metsä Group has access to a considerable reserve of premium wood raw material, providing a stable foundation for operations and the long-term development of production units. The goal of the forest management services provided to owner-members is to ensure that their forest assets are transferred in a more vibrant, diverse and climate resilient condition from one generation and owner to the next. In the reporting year, the proposed profit distribution to Metsäliitto Cooperative's owner-members totals EUR 101 million (to be confirmed at the meeting of Metsäliitto Cooperative's Representative Council in April 2024). EUR 763 million was paid to Finnish forest owners in income from wood sales.

Metsä Group's wood raw material supply chain employs a considerable number of contract entrepreneurs that are generally small. In the reporting year, Metsä Group's purchases from Finnish harvesting, transport and forest management entrepreneurs amounted to EUR 498 million.

Metsä Group's industrial business focuses on wood products, pulp, fresh fibre paperboards, and tissue and greaseproof papers. Its production units are located in Finland, Sweden, Estonia, Poland, Slovakia, the United Kingdom and Germany. The Group's main market area is Europe, and it pursues growth especially in North America, Asia and Oceania. Approximately 69% of turnover derived from the EMEA region, while 20% of turnover derived from the APAC region and 11% from the Americas.

Metsä Group's products create value for customers, consumers and end-users in the following ways:

- Vitality and higher value for forests with forest management services
- Wood products offering long-term carbon storage
- Pulp and other bioproducts as raw material for consumer products
- Lightweight and strong packaging boards and greaseproof papers as alternatives to plastic
- Better hygiene from tissue papers

Business areas' significant business events in the reporting year are discussed in the Board of Director's report under *Business areas*. Significant product segments and their financial development in the reporting year are discussed in the Notes to consolidated financial statements, under *Segment information*.

Metsä Group employs around 5,800 people in Finland, and overall around 9,900 people in 30 countries. The number of employees per country is described under *S1 – Own workforce*. Metsä Group indirectly creates around 15,000 jobs in Finland. In 2023, Metsä Group paid around EUR 707 million in salaries, wages and fringe benefits.

In 2023, Metsä Group generated 17.3 TWh of renewable energy.

Interests and views of stakeholders

Metsä Group interacts with its key stakeholders and develops its operations based on stakeholder feedback. In 2023, Metsä Group developed its operating model for stakeholder engagement by defining management processes for it. The processes will be implemented during 2024. They will enable the increasingly systematic identification and active engagement of key stakeholders and the collection and processing of stakeholder feedback. The processes will also ensure that the feedback is taken into account in operational development and decision-making. Stakeholder feedback is used in risk management and as a basis for new cooperation projects, examples of which are included in section *S3 – Affected communities*. According to the process, stakeholders' main messages and key feedback are regularly reported to Metsä Group's management, administration and control bodies.

The views of stakeholders were used in the double materiality assessment carried out in 2022, based on which Metsä Group determined the sustainability themes material to the company's operations. These themes serve as the focal areas for Metsä Group's development. The materiality assessment was updated in 2023. The materiality assessment is discussed in more detail under *Material sustainability-related impacts, risks and opportunities*.

Interests and views of stakeholders

This table includes a summary of Metsä Group's key stakeholders, and of how themes important to them are considered in the company's strategy and business model.

Stakeholder	Stakeholder engagement	Themes important to stakeholders	Impact on operations, business model and strategy
Owner-members	<ul style="list-style-type: none"> • Representative Council • Supervisory Board • District committees • Developer Community • Membership Coordinators and other experts • Metsäverkko service • Magazine for members 	<ul style="list-style-type: none"> • Profitability and sustainability of wood production • Societal value creation • Profitable and competitive profit-sharing models and member benefits • Leadership in sustainable development 	<ul style="list-style-type: none"> • New investments • Concentrating wood procurement in the forests of owner-members • Comprehensive and customer-focused wood supply and forest management services, for example the Metsä Group Plus service introduced in 2023 • Regenerative forestry principles and Ecological sustainability programme • Efficient utilisation of information
Own workforce	<ul style="list-style-type: none"> • Employee survey and Pulse survey • Ethics barometer • Cooperation with employee representatives • Safety and health at work and related observations • Compliance and Ethics Channel 	<ul style="list-style-type: none"> • Health and safety • Diversity, equality and inclusion (DEI) • Competence development and good leadership • Working conditions and other work-related rights 	<ul style="list-style-type: none"> • Externally certified safety management systems • Metsä for all vision • Anonymous recruitment • Metsä Group's academies and other training • Development of leadership and key capabilities • Measures determined based on the ethics barometer
Customers, consumers and end-users	<ul style="list-style-type: none"> • Customer experience surveys • Customer feedback forms • Contact forms on web pages • Materiality assessment 	<ul style="list-style-type: none"> • Sustainable products • Product safety and quality • Product information 	<ul style="list-style-type: none"> • Products that replace fossil-based materials and are recyclable • Resource-efficient production • Product safety and quality • Wider use of product information
Supplier and supply chain employees	<ul style="list-style-type: none"> • Supplier days • Cooperation forums for occupational safety • Cooperation survey for suppliers • Compliance and Ethics Channel • Sustainability working group activities with partner suppliers • Bilateral meetings • Materiality assessment 	<ul style="list-style-type: none"> • Safety and health • Working conditions and other work-related rights • Climate change • Safeguarding biodiversity • Sustainable forest management • Circular economy • Sustainable supply chain 	<ul style="list-style-type: none"> • Certified safety management systems • Proactive operating model to prevent grey economy in construction projects • Joint sustainability targets with partner suppliers • Measures defined based on the cooperation survey for suppliers • Assessment of suppliers' sustainability as part of the supplier selection process and during cooperation
NGOs	<ul style="list-style-type: none"> • Bilateral meetings • Project cooperation • Compliance and Ethics Channel • Materiality assessment 	<ul style="list-style-type: none"> • Forest protection and rehabilitation of forest nature • Old-growth forests • Carbon balance of forests • Forest management methods • Forestry's impact on waterbodies • Rights of indigenous peoples 	<ul style="list-style-type: none"> • Regenerative forestry, Metsä Group's nature programme and biodiversity plans on mill sites • Forest protection (incl. METSO programme) • Biodiversity roadmap of the Finnish Forest Industries Federation and the Finnish Sawmills Association • Forest management operating models for peatlands
Policymakers	<ul style="list-style-type: none"> • Public hearings • Bilateral meetings • Events, seminars and panels • Organisation of visits • Compliance and Ethics Channel • Materiality assessment 	<ul style="list-style-type: none"> • Circular bioeconomy • Climate change mitigation • Reducing fossil emissions • Safeguarding biodiversity • Logistics and public infrastructure • New products and innovation • Renewal and jobs 	<ul style="list-style-type: none"> • New investments • Fossil free energy • Resource-efficient production, waste-free production • Recyclable products with a small carbon footprint that replace fossil-based materials • Regenerative forestry, Metsä Group's nature programme and biodiversity plans on mill sites
Lobbying and industrial associations	<ul style="list-style-type: none"> • Bilateral meetings • Events, seminars and panels • Materiality assessment 	<ul style="list-style-type: none"> • Safeguarding biodiversity • Climate change adaptation • Climate change mitigation • Advocacy cooperation 	<ul style="list-style-type: none"> • Regenerative forestry, Metsä Group's nature programme and biodiversity plans on mill sites • Biodiversity roadmap of the Finnish Forest Industries Federation and the Finnish Sawmills Association
Researchers, educational institutions and students	<ul style="list-style-type: none"> • Surveys • Cooperation projects • Cooperation events • Organisation of visits • Recruitment events • Thesis assignments and traineeships • Materiality assessment 	<ul style="list-style-type: none"> • Research and development cooperation • Training and competence • Investments and jobs • Learning and education • Working life • DEI 	<ul style="list-style-type: none"> • Joint research and development projects • Metsä Group's nature programme • Education and training cooperation and partnerships • Jobs and traineeships

Material sustainability-related impacts, risks and opportunities

■ The identification and assessment of material impacts, risks and opportunities

Metsä Group follows the company's risk management process to identify sustainability-related impacts, risks and opportunities and to assess their materiality. The risk management process complies with the COSO Enterprise Risk Management methodology. The key goal is to identify and assess the risks, threats and opportunities potentially significant to the implementation of the company's values and strategy and to the achievement of long-term targets, as well as to identify and assess the company's impacts on society and the environment. In addition to the company's own operations, the identification and assessment of impacts, risks and opportunities encompasses the upstream and downstream value

chain and any other parties that the company's operations affect. Metsä Group's risk management process and its responsibilities are described in more detail in the *Corporate Governance Statement*.

Metsä Group updated its materiality assessment of sustainability matters in 2022–2023. The updating of the materiality assessment proceeded in two phases. In the first phase, in 2022, the views of external and internal stakeholders of the company's real and potential impacts, risks, and opportunities were collected through interviews and surveys. The stakeholders interviewed included the company's own employees, as well as its customers, investors, goods and service suppliers, and NGOs. Based on the material collected, the impacts, risks and opportunities were prioritised in management workshops. The prioritisation was based on double materiality, meaning that the workshop participants paid attention to Metsä Group's impacts on the environment, society, employees and other stakeholders, as well as on the qualitative and financial risks to and opportunities for Metsä Group's business related to sustainability matters.

Material sustainability topics

Theme	Topic	Sub-topic	Materiality	2030 target set
E – ENVIRONMENT				
1. Safeguarding biodiversity and the ecological sustainability of forest use 2. Mitigating climate change and reducing emissions 3. Resource efficiency and sustainable production	E1 Climate change	Climate change mitigation	10	✓
		Climate change adaptation	10	✓
		Energy	9	✓
	E2 Pollution	Pollution of air, water and soil	7	
		Microplastics	6	
	E3 Water and marine resources	Water	6	✓
	E4 Biodiversity and ecosystems	Direct impact drivers of biodiversity loss	10	✓
		Impacts on the state of species and the extent and condition of ecosystems	11	✓
		Impacts and dependencies on ecosystem services	12	✓
	E5 Resource use and circular economy	Resources inflows, including resource use	9	✓
Resource outflows related to products and services		10		
		Waste and side streams	6	✓
S – SOCIAL RESPONSIBILITY				
4. Doing the right thing and respecting each other 5. Promotion of occupational safety and wellbeing.	S1 Own workforce	Equal treatment and opportunities for all	9	✓
		Health and safety	11	✓
		Other working conditions	7	✓
		Other work-related rights	5	
	S2 Workers in the value chain	Health and safety	12	✓
		Other working conditions	8	✓
		Other work-related rights	7	✓
	S3 Affected communities	Communities' economic, social and cultural rights	6	
		Rights of indigenous peoples	9	
	S4 Consumers and end-users	Personal safety of consumers and end-users	8	
Information-related impacts on consumers and end-users		6		
G – GOVERNANCE				
6. Innovation and open-minded cooperation 7. The significance of forest-based bioeconomy to society	G1 Business conduct	Corporate culture	8	✓
		Corruption and bribery	8	
		Management of relationships with suppliers including payment practices	8	✓
		Protection of whistle-blowers	6	
		Political influence and lobbying activities	6	

The likelihood and scope of the impact, risk or opportunity were considered in prioritisation.

At the end of the first phase, seven themes guiding sustainability work were determined. They are described in the summary of the materiality assessment on page 29. The themes were used as the basis for updating the strategic 2030 sustainability targets, which also guided Metsä Group's target-setting. The Board of Directors of Metsäliitto Cooperative adopted the themes and the updated targets in early 2023. The framework of the EU's sustainability reporting standards was not yet used in the first phase to classify sustainability themes.

The second phase of the materiality assessment was initiated in 2023, the goal being to include the classification of impacts, risks and opportunities in line with the EU's sustainability reporting standards (topics, sub-topics and sub-sub-topics) and consider the directive's guidelines on the prioritisation of impacts, risks and opportunities in

the materiality assessment. As part of the work carried out in 2023, an assessment scale, found on page 30, was drawn up. The scale standardised for Metsä Group's risk management process was used to assess likelihood. Impacts are assessed based on their scale, scope, duration and remediability. Risks and opportunities to Metsä Group's business were assessed based on the monetary values defined in the risk management process, as well as on reputational impacts and remediability. The assessment of impacts, risks and opportunities was expanded from the previous year to cover the sub-topics and sub-sub-topics specified in the EU's sustainability reporting standards. As a result, the impacts on workers in the value chain, affected communities, consumers and end-users could be better accounted for. Remediability was assessed on the following scale: short-term (less than one year), medium-term (1–5 years), long-term (5–10 years), very long-term (10–30 years) and irremediable.

Assessment scale for impacts, risks and opportunities

Likelihood	Very likely	In the next year	5	5	10	15	20	25
	Likely	In the next three years	4	4	8	12	16	20
	Possible	In the next six years	3	3	6	9	12	15
	Unlikely	In the next ten years	2	2	4	6	8	10
	Very unlikely	Unlikely in the next ten years	1	1	2	3	4	5
			1	2	3	4	5	
Financial impact			Very limited	Limited	Moderate	Significant	Very significant	
Reputation			Local mention, quickly forgotten	Local harm to reputation, impact on local operations	Short-term national concern, long-term impact on reputation	Long-term national concern, significant change in market share, significant operations restricted	Long-term international concern, decisive change in market share	
Impact on the wellbeing of society, nature and other stakeholders			Very limited impact on individuals and/or the local environment	Limited impact on a group of people and/or the regional environment	Moderate short-term impact on society and/or the environment	Significant short-term impact on society and/or the environment	Severe long-term impact on society and/or the environment	
			Impact					

The work carried out in 2023 did not lead to any changes to the seven sustainability themes guiding sustainability work or the 2030 sustainability targets. Based on the results of the materiality assessment, Metsä Group's key sustainability matters include climate change, biodiversity, the environmental impacts of products, and the occupational safety of the company's own workforce and value chain workers.

The results of the materiality assessment are presented on page 29. Sub-topics classified as moderate (a value of 5–9) or high (a value of 10–25) were determined as material sub-topics. The table does not include sub-topics of low materiality.

The results of the materiality assessment and the general annual risk assessment process guide the management of sustainability risks in the Group. Metsä Group's internal control unit monitors and reports on sustainability risks to business operations, the Executive Management Team and Audit Committee in accordance with the Group's general internal control governance model and the annual cycle. The control of sustainability risks is planned, described and implemented on a risk basis in business processes, and it is carried out in accordance with the company's general model for internal control. Internal controls are described in more detail in the *Corporate Governance Statement*.

Metrics and targets

TARGET	2030 TARGET	2023 ACTUAL	2023 PROGRESS	UN SDG
E – ENVIRONMENT				
1. Safeguarding biodiversity and the ecological sustainability of forest use				
Retention trees on regeneration felling sites, %	100	96	●	13, 15
High biodiversity stumps on harvesting sites, %	100	92	●	13, 15
Spruce as the only tree species after young stand management, %	0	25	●	13, 15
Measures promoting biodiversity, number	10,000	816	●	13, 15
2. Mitigating climate change and reducing emissions				
Energy efficiency index, base year 2018	90	102	●	7, 12, 13
Fossil-based carbon dioxide emissions (Scope 1 + Scope 2 market-based), t	0	806,683	●	12, 13
Fossil free raw materials and packaging materials, share of dry tonnes, %	100	99.3	●	9, 12
Amount of forest regeneration and young stand management from the 2018 level, %	+30	+14	●	13, 15
Amount of forest fertilisation from the 2018 level, %	+50	-26	●	13, 15
Share of continuous cover forestry in peatland forest regeneration, %	30	17	●	13, 15
Amount of carbon stored in wood products from the 2018 level, %	+30	-21	●	12, 13
3. Resource efficiency and sustainable production				
Reduction in process water use per produced tonne from the 2018 level, %	-35	-0.5	●	6, 12
Process waste delivered to landfills, t	0	16,207	●	12
S – SOCIAL RESPONSIBILITY				
4. Respecting everyone and doing the right thing				
Anonymous recruitment for vacancies open to all, %	100	80	●	5, 8
Women in management positions, %	>30	20	●	5, 8
5. Promoting safety and wellbeing at work				
Total recordable incident frequency, own employees (TRIF)	0	6.1	●	8
Employee job satisfaction	AAA	A+	●	5, 8
G – GOVERNANCE				
6. Innovation and open-minded cooperation and 7. The significance of forest-based bioeconomy to society				
Implementation of ethics barometer measures, %	100	86	●	5, 8
Traceability of raw materials, share of total purchases, %	100	94	●	9, 12
Share of certified wood, %	>90	93	●	15
Suppliers' commitment to the Supplier Code of Conduct, share of total purchases, %	100	98.7	●	8, 12
Supplier assessments and audits of core suppliers, %	100	57	●	8, 12
Joint sustainability target with partner suppliers, %	100	100	●	12, 13

Targets will be reached by the end of 2030. For example, fossil fuels will be abandoned by 31 December 2030. Metsä Group's target of "0 accidents at work" also applies to service suppliers. In future, service suppliers will be included in the performance figure. The targets for different topics are described in more detail in the topic-specific sections of this Sustainability statement.

Progress in 2023 compared with the previous year.

Exceeds target (significant progress) ●

On target (progress as planned) ●

Short of target (no progress or weaker progress) ●

E – Environment

The EU Taxonomy

■ General

The Taxonomy is a classification system for the financial market based on Regulation (EU) 2020/852, valid as of the beginning of 2022, listing economic activities sustainable in terms of climate and the environment.

The goal of the Taxonomy is to direct money to sustainable investments so that the EU can achieve its ambitious emission reduction targets.

The Taxonomy's technical screening criteria do not currently cover Metsä Group's core business and sustainable products. As a result, taxonomy-eligible economic activities account for only a minor share of the turnover. Metsä Group's main businesses include wood supply and forest services, wood products, pulp, paperboard, and tissue and greaseproof papers.

■ Taxonomy reporting

The taxonomy defines six main environmental objectives against which the company's different economic activities are assessed. These environmental objectives are: (a) climate change mitigation, (b) climate change adaptation, (c) sustainable use and protection of water and marine resources, (d) transition to a circular economy, (e) pollution prevention and control, and (f) protection and restoration of biodiversity and ecosystems.

For the 2023 financial period, Metsä Group discloses its taxonomy-eligible business activities in terms of all six environmental targets, as well as its taxonomy-aligned business activities in terms of climate change mitigation and adaptation. Business disclosures include the share of turnover, capital expenditure and operating expenditure.

The taxonomy-aligned disclosures indicate how the economic activity in question supports the confirmed environmental objectives. An economic activity is considered taxonomy-aligned if it contributes substantially to one of the defined environmental objectives and causes no significant harm to the other objectives. In addition, the activity must meet minimum social safeguards.

Metsä Group has carried out its assessment of taxonomy eligibility and taxonomy alignment based on the EU Taxonomy Regulation, the Climate Delegated Act and the best interpretation of the currently available guidelines issued by the European Commission. Metsä Group's specialists in each topic have assessed whether the financial operations indicated in the Taxonomy meet the criteria of taxonomy alignment. For each financial operation, the assessment considered the criteria for "significant contribution" and "no significant harm" to determine taxonomy alignment. Minimum safeguards were examined at the Group level. Metsä Group was also supported by external specialists in the assessment. The assessment and its results have also been externally assured.

Metsä Group considers that it fulfils the taxonomy's minimum social safeguards, which cover human rights, corruption and bribery, fair competition, and taxation. The company has reviewed each of these from two perspectives: the presence of relevant processes and the addressing of violations. For example, human rights due diligence is described in more detail under this Sustainability statement's sections *S – Social responsibility* and *G – Governance*.

■ Reporting principles

Turnover

In the calculation of the key figure for turnover, Metsä Group applies the same IFRS-compliant accounting principles applied in the consolidated financial statements. The overall turnover used to calculate the key figure corresponds to the turnover disclosed in the consolidated financial statements. The accounting principles used for turnover are discussed in Note 2.2 to the consolidated financial statements.

In category 4.20 (cogeneration of heat/cool and power from bioenergy), the Group's taxonomy-aligned turnover includes the turnover of combined heat and power produced with bioenergy at Metsä Fibre's Äänekoski bioproduct mill and the turnover of electric power produced with bioenergy at Metsä Board's Husum pulp mill.

In category 4.9 (transmission and distribution of electricity), taxonomy-aligned turnover includes the transmission and distribution of electricity by Metsä Fibre's Ääneverkko.

Categories 5.1. (construction, extension and operation of water collection, treatment and supply systems) and 5.6. (anaerobic digestion of sewage sludge) include the taxonomy-aligned turnover of Metsä Fibre's Äänekoski bioproduct mill concerning the activity in question.

The Group's taxonomy-eligible turnover in category 1.3. (forest management) includes the turnover of raw wood that originates from forests owned by Metsä Group and is sold to third parties. In 2023, Metsä Group only owned approximately 2,000 hectares of forest. Most of the Group's wood supply came from individual members of Metsäliitto Cooperative.

Taxonomy-eligible turnover in category 4.20 includes the turnover of district heat produced at Metsä Wood's Kumpuniemen Voima and Metsä Board's Simpele and Kyro power plants to the nearby regions. Taxonomy-eligible turnover in category 4.20. also includes turnover from external electricity sales from Metsä Fibre's Joutseno, Kemi and Rauma mills as well as heat from Rauma pulp mill.

In category 4.24, taxonomy-eligible turnover includes the turnover of heat produced by Metsä Wood's Punkaharju power plant and Lohjan Biolämpö and Metsä Fibre's Äänekoski biopower plant, and power plants at the Merikarvia and Lappeenranta sawmills.

Capital expenditure

Metsä Group's taxonomy-eligible capital expenditure includes additions to tangible and intangible fixed assets, including any additions to right-of-use assets recognised based on long-term lease agreements. Any increase in goodwill recognised for acquisitions is not included in the capital expenditure specified in the Taxonomy. These items are handled in accordance with IAS 38 Intangible Assets, IAS 16 Property, Plant and Equipment, and IFRS 16 Leases. Additions to intangible assets are presented in Note 4.1, and additions to property, plant and equipment in Note 4.2, to the consolidated financial statements.

Taxonomy-aligned capital expenditure in category 4.20 includes investments made at Metsä Fibre's Äänekoski bioproduct mill related to the reliability of combined heat and power production, and investments made in the modernisation of the recovery boiler and turbine at Metsä Board's Husum pulp mill.

In category 5.6. (anaerobic digestion of sewage sludge), the taxonomy-aligned investments of Metsä Fibre's Äänekoski bioproduct mill concerning the activity in question are disclosed.

Taxonomy-eligible capital expenditure also includes maintenance investments made in Metsä Board's Simpele and Kyrö power plants in category 4.20, as well as maintenance investments made in Metsä Board's Kaskinen power plant and chemicals recovery plant and Metsä Wood's Punkaharju power plant and Lohjan Biolämpö in category 4.24.

Taxonomy-eligible capital expenditure in category 2.4. (remediation of contaminated sites and areas) is related to the required remediation of contaminated areas in connection with mill investments, for example. The most significant share of taxonomy-eligible capital expenditure is included in category 3.2. (renovation of existing buildings), which includes renovation investments in the Group's real estate.

Taxonomy-eligible capital expenditure is reported in category 3.3. (demolition and wrecking of buildings and other structures), if demolition and wrecking are required before a new building or structure can be constructed.

Capital expenditure is not disclosed in categories 5.1. (construction, extension and operation of water collection, treatment and supply systems) and 5.5 (collection and transport of non-hazardous waste in source segregated fractions) if the activities do not generate turnover.

Operating expenditure

Metsä Group's taxonomy-eligible operating expenditure includes research and development expenditure recognised as costs and the maintenance costs of production units and property, supplemented by the costs of waste management and short-term lease agreements. The reported expenses include both external service costs and the wages, including indirect employee costs, of the company's own employees responsible for the listed activities. In the Group's income statement, the operating expenditure specified in the Taxonomy is included in materials and services, employee expenses and other operating expenses. Operating expenses are disclosed in Note 2.4 to the consolidated financial statements.

Expenses related to the recovery of chemicals and heat at the Äänekoski bioproduct mill and the Husum pulp mill in category 4.20 make up the most significant part of the taxonomy-aligned operating expenditure.

The taxonomy-aligned operating expenditure of Metsä Fibre's Äänekoski bioproduct mill is disclosed in categories 5.1. (construction, extension and operation of water collection, treatment and supply systems) and 5.6. (anaerobic digestion of sewage sludge).

The most significant part of taxonomy-eligible operating expenditure is accounted for by the expenses of Metsä Fibre pulp mills' chemicals and heat recovery in category 4.20.

Taxonomy-eligible operating expenditure under category 3.2 includes the repair costs for the Group's real estate assets.

To avoid double counting, external turnover has been included in the Taxonomy operations only once. In addition, it has been ensured that capital expenditure and operating expenditure are separate for each function.

Operating expenditure is not disclosed in categories 5.1. (construction, extension and operation of water collection, treatment and supply systems) and 5.5 (collection and transport of non-hazardous waste in source segregated fractions) if the activities do not generate turnover.

Proportion of turnover from products or services associated with Taxonomy-aligned economic activities
– disclosure covering year 2023

Financial year 2023	Year		Substantial contribution criteria							DNSH criteria (Does not significantly harm)							Proportion of Taxonomy-aligned (A.1) or eligible (A.2) turnover, year 2022	Category enabling activity	Category transitional activity
	Code	Turnover	Proportion of turnover, 2023	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular economy	Biodiversity	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular economy	Biodiversity	Minimum safeguards			
		EUR million	%	Y;N; N/ EL	Y;N; N/ EL	Y;N; N/ EL	Y;N; N/ EL	Y;N; N/ EL	Y;N; N/ EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1 Environmentally sustainable activities (Taxonomy-aligned)																			
Transmission and distribution of electricity	CCM 4.9.	0.2	0%	Y	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL	Y	Y	Y	Y	Y	Y	Y	0%	E	
Combined production of heat/cool and power from bioenergy	CCM 4.20.	45.6	1%	Y	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL	Y	Y	Y	Y	Y	Y	Y	1%		
Construction, expansion and operation of water supply, treatment and distribution systems	CCM 5.1.	0.0	0%	Y	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL	Y	Y	Y	Y	Y	Y	Y	0%		
Turnover from environmentally sustainable activities (Taxonomy-aligned) (A.1)		45.8	1%	1%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	1%		
Of which enabling		0.2	0%	0%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	0%	E	
Of which transitional			0%	0%													0%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/ EL	EL; N/ EL	EL; N/ EL	EL; N/ EL	EL; N/ EL	EL; N/ EL										
Forest management	CCM 1.3.	0.4	0%	EL	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL								0%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20.	43.4	1%	EL	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL								1%		
Production of heat/cool from bioenergy	CCM 4.24.	14.1	0%	EL	N/ EL	N/ EL	N/ EL	N/ EL	N/ EL								0%		
Turnover from Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		57,9	1%	1%	0%	0%	0%	0%	0%								1%		
A. Turnover of Taxonomy eligible activities (A.1+A.2)		103,7	2%	2%	0%	0%	0%	0%	0%										
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		6,006.7	98%																
TOTAL		6,110.4	100%																

Proportion of CapEx from products or services associated with Taxonomy-aligned economic activities
– disclosure covering year 2023

Financial year 2023	Year			Substantial contribution criteria						DNSH criteria (Does not significantly harm)						Proportion of Taxonomy-aligned (A.1) or eligible (A.2) CapEx, year 2022	Category enabling activity	Category transitional activity	
	Code	CapEx	Proportion of CapEx, year 2023	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular economy	Biodiversity	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular economy	Biodiversity				Minimum safeguards
Economic activities		EUR million	%	Y;N;N/EL	Y;N;N/EL	Y;N;N/EL	Y;N;N/EL	Y;N;N/EL	Y;N;N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1 Environmentally sustainable activities (Taxonomy-aligned)																			
Cogeneration of heat/cool and power from bioenergy	CCM 4.20.	271	2%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	8%		
Anaerobic digestion of sewage sludge	CCM 5.6.	0.3	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		275	2%	2%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	8%		
Of which enabling		0.0	0%	0%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	0%		
Of which transitional			0%	0%													0%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
Cogeneration of heat/cool and power from bioenergy	CCM 4.20.	112.4	9%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								16%		
Production of heat/cool from bioenergy	CCM 4.24.	2.2	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Remediation of contaminated sites and areas	PPC 2.4.	0.3	0%	N/EL	N/EL	N/EL	EL	N/EL	N/EL										
Renovation of existing buildings	CE 3.2.	12.6	1%	N/EL	N/EL	N/EL	N/EL	EL	N/EL										
Demolition and wrecking of buildings and other structures	CE 3.3.	0.0	0%	N/EL	N/EL	N/EL	N/EL	EL	N/EL										
CapEx of Taxonomy eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		127,6	11%	10%	0%	0%	0%	1%	0%								17%		
A. CapEx of Taxonomy eligible activities (A.1+A.2)		155,0	13%	12%	0%	0%	0%	1%	0%										
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
CapEx of Taxonomy-non-eligible activities		10381	87%																
TOTAL		11932	100%																

Proportion of OpEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2023

Financial year 2023	Year			Substantial contribution criteria						DNSH criteria ('does not significantly harm')									
	Code	OpEx	Proportion of OpEx, year 2023	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular economy	Biodiversity	Climate change mitigation	Climate change adaptation	Water	pollution	Circular economy	Biodiversity	Minimum safeguards	Proportion of Taxonomy-aligned (A.1) or eligible (A.2) OpEx, year 2022	Category enabling activity	Category transitional activity
Economic activities		EUR million	%	Y;N; N/EL	Y;N; N/EL	Y;N; N/EL	Y;N; N/EL	Y;N; N/EL	Y;N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1 Environmentally sustainable activities (Taxonomy-aligned)																			
Cogeneration of heat/cool and power from bioenergy	CCM 4.20.	27.0	6%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	5%		
Construction, expansion and operation of water supply, treatment and distribution systems	CCM 5.1.	0.7	0%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	0%		
Anaerobic digestion of sewage sludge	CCM 5.6.	3.5	1%	Y	N/EL	N/EL	N/EL	N/EL	N/EL	Y	Y	Y	Y	Y	Y	Y	1%		
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		31.2	8%	8%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	7%		
Of which enabling		0.0	0%	0%	0%	0%	0%	0%	0%	Y	Y	Y	Y	Y	Y	Y	0%		
Of which transitional			0%	0%													0%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL	EL; N/EL										
Forest management	CCM 1.3.	0.5	0%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20.	41.1	10%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								11%		
Production of heat/cool from bioenergy	CCM 4.24.	8.9	2%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								2%		
Renovation of existing buildings	CE 3.2.	3.0	1%	N/EL	N/EL	N/EL	N/EL	EL	N/EL										
Demolition and wrecking of buildings and other structures	CE 3.3.	1.3	1%	N/EL	N/EL	N/EL	N/EL	EL	N/EL										
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		54.8	13%	12%	0%	0%	0%	1%	0%								13%		
A. OpEx of Taxonomy-eligible activities (A.1+A.2)		86.1	21%	20%	0%	0%	0%	1%	0%										
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
OpEx of Taxonomy-non-eligible activities		330.2	79%																
TOTAL		416.3	100%																

Form 1 for the economic activities of certain energy sectors – Nuclear energy and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to the research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	NO
3.	The undertaking carries out, funds or has exposures to the safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	NO
Fossil gas related activities		
4.	The undertaking carries out, funds or has exposures to the construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	NO
5.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	NO
6.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO

E1 – Climate change

Material impacts, risks and opportunities related to climate change mitigation and energy

Impacts	Risks and opportunities for Metsä Group	Management
Greenhouse gas emissions in own operations		
<p>↓ Metsä Group's production generates climate-warming greenhouse gas emissions (Scope 1 and Scope 2), p. 42</p> <p>↔ The company's biogenic carbon dioxide emissions are classified as carbon-neutral, p. 42.</p> <p>↑ Metsä Group is a nationally significant producer of renewable energy. The bio-based renewable fuels that Metsä Group uses mainly consist of wood-based production side streams and logging residue.</p>	<p>↑ Market opportunity: By generating and consuming renewable energy, Metsä Group can replace fossil-based energy sources. Renewable energy already accounts for 86% of the energy used in Metsä Group's production (Scope 1 and Scope 2), p. 43. Most of the energy generated at Metsä Group is used in the company's own production, and some of Metsä Group's production units are energy self-sufficient.</p> <p>↑ Market opportunity: In 2023, Metsä Group studied technical and business opportunities for recovering biogenic carbon dioxide and reusing it as a raw material for renewable bioproducts.</p> <p>↓ Regulatory risk: Regulation sets significant requirements for new production technology reducing emissions or affects the sustainability criteria of biogenic carbon dioxide emissions in terms of climate neutrality. This may cause changes in the pricing of energy and greenhouse gas emissions, increasing expenses in both production and transports.</p>	<ul style="list-style-type: none"> • Metsä Group's strategic target is to improve energy efficiency and the transition to entirely fossil free fuels, as well as fossil free purchased electricity and heat. • During the financial year, a survey was conducted on the feasibility of technological carbon sinks in Metsä Group's operations. • Active dialogue with policymakers develops the operating environment. Political influencing is discussed in more detail in section G1 – Business conduct.
Greenhouse gas emissions in the upstream and downstream value chain		
<p>↓ Metsä Group's upstream and downstream value chain generates climate-warming greenhouse gas emissions (Scope 3), p. 42.</p>	<p>↑ Market opportunity: Metsä Group's main raw material, wood, is mainly procured (p. 75) from Finnish forests, and mostly from the forests of Metsäliitto Cooperative's owner-members, keeping transport distances moderate.</p> <p>↓ Regulatory and market risk: Regulation and customer requirements increase the demands to reduce greenhouse gas emissions in the value chain. A comprehensive identification, accurate measurement and reduction of climate impacts is more challenging in the value chain than in the company's own operations.</p>	<ul style="list-style-type: none"> • During the financial year, a Group-level project to calculate Scope 3 emissions was initiated. • Suppliers are encouraged to set emissions reduction targets, for example, in line with the SBTi. Metsä Board has a Scope 3 target approved by the SBTi for supplier commitment. • Joint emissions reduction projects are agreed with suppliers. They are related to the company's strategic target of setting a joint sustainability target with partner suppliers. • Active dialogue with policymakers develops the operating environment. • By 2030, Metsä Group aims to have reduced fossil carbon dioxide emissions from wood supply in Finland by 30 per cent from the 2022 level. One way to reduce emissions is to introduce electric and biogas lorries to the Kemi bioproduct mill's wood transports. • Metsä Tissue aims to produce all its tissue paper products as close as possible to consumers. More than 90% of the deliveries are within a radius of 500 kilometres.
Carbon balance of forests		
<p>↔ Metsä Group provides forest management services in line with regenerative forestry to Metsäliitto Cooperative's owner-members, thus promoting carbon storage in commercial forests. Metsä Group is developing a calculation to verify the impact of wood supply and forest management on the carbon balance. Most of the wood is procured from owner-members' forests, and owner-members own 31 per cent of Finnish forests.</p>	<p>↓ Regulatory risk: Regulation concerning the use of forests as carbon storage restricts harvesting volumes.</p> <p>↓ Market risk: Consumers' critical view of forest use, as forests are seen as carbon storage.</p> <p>↑ Market opportunity: Wood is Finland's most significant processed natural resource, providing a good basis for the bioeconomy, circular economy and innovations based on a renewable raw material.</p>	<ul style="list-style-type: none"> • Metsä Forest has a regenerative forestry strategy that aims to measurably strengthen the state of nature by 2030. • Metsä Forest has strategic targets, the achievement of which increases carbon storage in commercial forests and promotes forest biodiversity. • Raw materials are used resource efficiently to avoid waste in production. The goal is to make full use of production side streams. • The calculation and reporting of the carbon balance of forests is being developed in cooperation with partners. • Active dialogue with policymakers develops the operating environment.
Products		
<p>↑ Metsä Group uses mainly fossil free raw materials and packaging materials, p. 39</p> <p>↑ Metsä Group's long-lived products store carbon, p. 39</p>	<p>↑ Regulatory opportunity: Regulation that acknowledges that forest industry products can replace materials made from fossil-based raw materials, or the production of which generates substantial amounts of fossil-based emissions.</p> <p>↑ Market opportunity: Consumers favour easily recyclable packaging made from a renewable, fossil free raw material.</p>	<ul style="list-style-type: none"> • The main raw material of products is renewable wood, and the goal is for all raw materials and packaging materials to be fossil free by 2030. • The use of fossil free energy in production reduces the carbon footprint of products. • The carbon footprint calculation of products is being developed. • Active dialogue with policymakers develops the operating environment.

Risks related to climate change adaptation

Physical risks and their management

Risks for Metsä Group	Management
Acute hazards	
<p>↓ Storms, drought and floods cause disruptions in production or complicate the transport of raw materials and products.</p>	Metsä Group prepares for the risks arising from extreme weather phenomena in both company and mill-level risk assessments. Examples of such measures include sufficient reserves of wood, the control of water levels with dam arrangements, and ensuring power distribution in exceptional situations. The supply chain is preparing for alternative partners or transport routes.
Chronic hazards	
<p>↓ The increased frequency of droughts weakens the availability of the process and cooling water needed by mills and causes production breaks.</p>	Metsä Group's mills are not located in areas at high overall water risk, which supports the company's competitiveness in the face of climate change. However, two of Metsä Tissue's mills withdraw water from areas of high water stress (WRI Aqueduct Water Risk Atlas). The water quantity in the river is managed by a local water association. As the minimum water quantity in the river is adequate for the area's industrial use, water sufficiency is not a material risk for Metsä Tissue, and the mills' water withdrawal does not cause material harm to the availability of water in the area. Metsä Group's goal of reducing process water use and enhancing the recycling of water within the process reduces the water risk.
<p>↓ Harvesting conditions are complicated due to a lack of snow and frost and because of increased precipitation.</p>	Metsä Group's wood supply always considers weather conditions and related changes in harvesting. Wood is harvested only in suitable conditions. If required, wood terminals can be used to smooth out any variation caused by harvesting conditions.
Chronic hazards	
<p>↓ Damage caused by snow, storms, drought, forest fires, insects and fungi are increasing in forests, and changes are occurring in the prevalence of tree species. Alien species are likewise causing problems in forests.</p>	Metsä Forest provides sustainable forest management services which support forests' adaptation to climate change and help promote forest biodiversity. Metsä Group's wood supply has strategic targets for promoting forest biodiversity, and Metsä Group is committed to the principles of regenerative forestry, which aim to strengthen the state of nature and comprehensively manage ecosystem services, or the benefits obtained from nature. As a result, forests can better adapt to climate change. An example of regenerative forestry is the Metsä Group Plus service offered to owner-members.
<p>↑ Positive impact on the environment and society or on Metsä Group's business</p> <p>↓ Negative impact on the environment and society or on Metsä Group's business</p> <p>↔ Neutral impact on the environment and society or on Metsä Group's business</p>	

Metsä Group's 2030 sustainability targets

	2030 target	2023	2022	2018
Energy efficiency index, base year 2018	90	102	99	100
Fossil-based carbon dioxide emissions (Scope 1 and Scope 2 market-based)	0 t	806,683 t	1,090,669 t	1,449,234 t
Fossil free raw materials and packaging materials, share of dry tonnes	100%	99.3%	99.2%	-
Amount of forest regeneration and young stand management from the 2018 level	+30%	+14%	+2.8%	33,265 ha
Amount of forest fertilisation from the 2018 level	+50%	-26%	-	9,115 ha
Share of continuous cover forestry in peatland forest regeneration	30%	17%	-	-
Amount of carbon stored in wood products from the 2018 level	+30%	-21%	-12%	1,651,505 t

Comparative data have not been provided for all the new targets set in 2023. Information for 2018 is not disclosed in the case of fossil free raw materials and packaging materials due to changes in calculation. Further information is provided under Reporting principles for metrics.

Progress in targets

- Improvement in energy efficiency index from the 2018 level –** The production curtailments caused by the market situation and investment shutdowns weakened energy efficiency in 2023. However, energy efficiency measures saved 460 GWh of energy as well.
- Fossil-based carbon dioxide emissions (Scope 1 and Scope 2 market-based) –** The production curtailments caused by the market situation and investment shutdowns significantly reduced fossil-based CO₂ emissions in 2023. Completed investments and energy efficiency measures also reduced emissions.
- Fossil free raw materials and packaging materials, share of dry tonnes –** The share of fossil free raw materials and packaging materials remained at a good level.
- Amount of forest regeneration and young stand management from the 2018 level –** In 2023, progress in the target was better than expected. The amount of young stand management especially increased.
- Amount of forest fertilisation –** Development was not in line with the target in 2023. This was caused by the supply of fertilisers decreasing, among other things, because the import of fertiliser raw materials from Russia ended.
- Share of continuous cover forestry in peatland forest regeneration –** In 2023, progress in the target was as planned.
- Amount of carbon stored in wood products from the 2018 level –** The market situation has led to production curtailments at many production units, reducing the production volumes of wood products and thus the amount of carbon stored.

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to climate change have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Ensuring undisturbed and uninterrupted operations in all conditions is key in the risk assessment of production units. The assessment process of production units' environmental risks is guided by the ISO 14001 and ISO 50001 management systems. The key identified risks are included in the company-level risk management process. ISO 14001 also guides the assessment and identification of risks in wood supply.

In accordance with the risk management process, the environmental impacts of production units are assessed in connection with the environmental impact assessments of investment projects, for example. The need for environmental impact assessments is determined by the local EIA authority. Risks related to climate change have been taken into account in the environmental impact assessments of the most recent investments.

The regulatory risks associated with forest use are identified, assessed and managed in cooperation with Metsä Forest and the Group's Corporate Affairs unit.

■ Policies

In its Environmental policy, Metsä Group is committed to transitioning to fully fossil free fuels at its production units, developing its production methods to support this transition, replacing purchased electricity and heat with fossil free alternatives, and finding fossil free alternatives to all the company's raw materials and packaging materials. The company is also committed to the continuous improvement of its environmental and energy efficiency. Environmental management and continued environmental performance are guided by the requirements of the production units' certified quality, environmental and energy management systems, and the Principles of Environmental Management.

Forest use is guided by Metsä Group's principles for forest use and management, in which the company commits to increasing the amount of carbon bound in forests and to promoting forest biodiversity, among other things. Certified quality and environmental management systems are in use in Metsä Group's wood supply.

Suppliers are required to commit to Metsä Group's Supplier Code of Conduct or to their own equivalent codes. In the Supplier Code of Conduct, suppliers are encouraged to set reduction targets for greenhouse gas emissions, for example, in accordance with the principles of the Science Based Targets initiative, and to continuously improve their environmental performance and efficient energy use. Suppliers are required to adopt a certified environmental management system where applicable.

■ Actions

Climate change mitigation and energy

Metsä Group's plan for climate change mitigation includes action plans for the climate impacts from production, the supply chain and products, as well as the carbon balance of forests. The plan supports the Paris Agreement's target of limiting global warming to 1.5 °C above pre-industrial levels and promotes the Group's adaptation to a low-carbon future.

Greenhouse gas emissions and energy in the company's own operations

Concerning its own production, Metsä Group's plan for climate change mitigation comprises investments and measures for replacing fossil fuels with renewable fuels and fossil free electricity at all the Group's production units and power plants. A roadmap for achieving fossil free operations has been drawn up for each production unit. The measures apply to the fuels and backup fuels used at power plants and to the process fuels used at production units. The company will also transition to fully renewable or fossil free alternatives in its purchased energy. In addition, Metsä Group will improve the efficiency of its energy and water use through continuous development and investment. Reducing water use is a way of mitigating climate change, as process water use and wastewater treatment consume energy, causing greenhouse gas emissions. Measures related to water use are discussed under *E3 – Water and marine resources*.

In the reporting year, the single largest measure reducing fossil emissions and improving energy efficiency was the start-up of production at the Kemi bioproduct mill. As the mill uses zero fossil fuels, fossil-based CO₂ emissions will decrease by approximately 68,000 tonnes compared to those of the former mill (2022 emissions from the old Kemi pulp mill). The new mill's production process is significantly more energy efficient. The mill will annually generate 2.0 TWh of renewable electricity, and it will have an electricity self-sufficiency rate of 250%. The surplus electricity will be supplied to the national grid, and the renewable electricity generated by the mill will account for 2.5% of all the electricity produced in Finland. Another example from 2023 is the renewal of the Husum pulp mill's turbine and generator, which will increase bioenergy generation at the Husum integrated mill and increase the mill's electricity self-sufficiency rate from 50 to more than 80 per cent. These actions are expected to reduce fossil-based carbon dioxide emissions by around 136,000 tonnes annually.

At all Metsä Group production units, energy efficiency work is managed by an energy efficiency coordinator, supported by the ISO 50001-compliant energy management system. Energy efficiency measures are documented, and their calculated savings are reported as part of annual reporting. In 2023, most of the measures were operational, meaning that they did not require monetary investment but were implemented as changes in operating methods or through communication.

The market situation has led to production curtailments at several mills, which is why relative energy use has increased. Even if production is at a standstill, some of the equipment cannot be turned off completely, and mill facilities must also be lit up and heated. Relatively more energy is used when processes are started up, and during start-up, product quality does not always match the quality requirements for products sold, leading to waste.

Metsä Group's long-term efforts to promote renewable energy and energy efficiency can be seen in the good results from product life-cycle analyses. The life-cycle analysis published in 2023 by the Fraunhofer Institute for Microstructure of Materials and Systems demonstrated that the Äänekoski bioproduct mill's fossil-based carbon dioxide emissions per tonne produced were approximately 30% lower than those of European pulp mills running Elemental Chlorine Free (ECF) production processes, and 45% lower than those of average Total Chlorine Free (TCF) production.

In 2023, Metsä Group studied technological carbon sinks in a joint project with Fortum. The project explored the potential production of biomethanol at one of Metsä Group's production units. The investigation

focused on the equipment and production method, logistics, mill area, safety, and environmental permits. As a continuation to the project, Metsä Group is exploring possibilities to construct a carbon capture facility. The wood-based carbon dioxide and hydrogen, produced by using renewable energy, could be used to produce methanol for use as fuel or chemical industry raw material.

Greenhouse gas emissions in the value chain

Metsä Group encourages suppliers to set emission reduction targets to mitigate climate change. The recommendation is part of the Supplier Code of Conduct, and its achievement is monitored in supplier assessments and audits, as well as through the website of the Science Based Targets initiative.

Greenhouse gas emissions in Metsä Group's value chain are curbed by Metsä Group's wood supply target of reducing fossil-based carbon dioxide emissions from wood supply in Finland by 30% from the 2022 level by 2030. Emissions are reduced by introducing electric and biogas lorries, for example.

The value chain's greenhouse gas emissions are also reduced through emissions reduction targets jointly set by Metsä Group and its suppliers. For example, the joint 2030 target of Metsä Group and VR, a logistics group, will halve emissions from transports covered by the cooperation. For Metsä Group, these actions mean an annual emissions reduction of approximately 14,000 tonnes of carbon dioxide equivalent, corresponding to more than 25,000 average lorry transports. VR handles Metsä Group's rail transports in Finland. Furthermore, the joint target with Royal Wagenborg, a Dutch maritime logistics company, is to reduce Metsä Group products' carbon dioxide emissions from marine transports by 30% (per tonne per mile) from the 2021 level by 2030.

Logistics emissions are reduced by planning efficient routes, minimising transport distances, optimising fill rates and favouring rail connections on selected routes. In the latest investments, the Kemi bioproduct mill and the Rauma sawmill, the load size of transport units is maximised, and fossil free fuels are used when transporting products from the production units to ports.

Carbon balance of forests

In 2023, Metsä Group adopted regenerative forestry principles. They include measures in wood supply and forest services with which the state of nature will begin to improve verifiably in Finland. Regenerative forestry practices will increase forests' carbon sequestration, biodiversity and ability to adapt to climate change.

Forest certification demonstrates that the forest has been managed sustainably. Forest certification has two key elements: sustainable forest management and the wood supply chain. The international forest certification systems used by Metsä Group are PEFC (Programme for the Endorsement of Forest Certification, PEFC/02-31-03) and FSC® (Forest Stewardship Council®, FSC-C014476). Metsä Group aims to increase the share of certified wood to 90% by 2030.

All the wood purchased by Metsä Group comes from either certified forests or forests that meet the requirements of controlled origin (PEFC Controlled Sources, FSC® Controlled Wood). The origin of the wood is always known.

Key practical actions related to climate change mitigation include the following:

- Forests are swiftly renewed after regeneration felling. The faster and with better quality a new forest is established, the sooner it begins to store carbon from the atmosphere. Cultured seeds and seedlings of domestic tree species are used in renewal whenever available. Domesticated trees grow better than naturally generated trees.
- Young stand management and thinning ensure that stands remain vital, and growth is focused on the best trees.
- Forest fertilisation improves tree growth, maintains the growth conditions of the soil and ensures the vitality of trees.
- Increasing the share of continuous cover forestry helps curb and adapt to climate change, as it minimises the GHG emissions of peatland forests. The goal of continuous cover forestry is to maintain a steady surface level of groundwater to prevent the carbon stored in peat being released into the atmosphere and to minimise impacts on waterbodies.

Strategic sustainability targets have been set for all these measures, and they are presented in the table on page 39.

Products

Many Metsä Group products mitigate climate change through a substitution effect: they replace materials produced from non-renewable raw materials. The share of fossil free raw materials and packaging materials is presented in the table on page 39. Metsä Group aims to replace the fossil-based raw materials and packaging materials still in use with fossil free alternatives by 2030. Replacing a raw material made from fossil carbon with a bio-based alternative increases the amount of carbon stored in products and promotes society's transition to a fossil free economy. The Group-wide strategic development programme for R&D and procurement includes three sub-areas that support the transition to fully fossil free raw materials:

- Long-term laboratory- and pilot-scale research and the implementation of mill trials with new raw materials, supporting the development of fossil free products conducted by the scientific community and raw material suppliers.
- Mill-scale packaging material trials and the tracking of customer and global market needs to help produce durable packaging that protects products and is based on recycled and bio-based raw materials.
- The development of procurement systems so that the share of fossil-based raw materials can be monitored reliably and accurately.

In 2023, mill trials were conducted with new raw materials and other materials such as binders for paperboard coating, adhesives and coatings for wood products, and wrapping protecting our products. The trials provided a great deal of information about the materials' usability in Metsä Group's products and product packaging, and about their suitability for process equipment. In addition, various bio-based wrapping solutions and solutions based on recycled plastic were comprehensively compared to provide support for future decision-making.

In the best case, Metsä Group's products currently under development may have important impacts on climate change mitigation. The new products often replace products made from fossil-based plastic or chemicals. Further information about Metsä Group's R&D activities can be found in the Board of Director's report, under *Research and development*.

Climate change adaptation

Climate change adaptation calls for adaptation to both acute hazards such as extreme weather phenomena and chronic hazards, caused by the impacts of climate change on water availability, harvesting conditions, the growth conditions of different tree species, or snow, storm, drought, forest fire, insect, and fungi damage in forests.

Metsä Group prepares for hazards from extreme weather phenomena at both the company and mill levels. Examples of actions include controlling water levels with dam arrangements and ensuring power distribution in exceptional situations. The supply chain is preparing for alternative transport routes or partners. Most of the Group's mills are not located in areas at high overall water risk, which supports competitiveness in the face of climate change. Metsä Group's target of reducing the use of process water and enhancing the recycling of water within the process also reduces the water risk.

Metsä Group's wood supply always considers weather conditions and related changes in harvesting. Wood is harvested only in suitable conditions. If required, wood terminals can be used to smooth out any variation caused by harvesting conditions. Metsä Group's regenerative forestry principles and sustainable forest management services help forests adapt to climate change and promote forest biodiversity.

Regenerative forestry is discussed in more detail under *E4 – Biodiversity and ecosystems*.

Energy consumption and combination of energy sources

MWh	2023	2022
FUELS		
Oil	764,712	834,029
Gas	1,206,930	1,471,532
Coal	71,937	181,612
Waste	57,419	86,588
Peat	52,485	143,499
Wood-based fuels	24,481,590	25,319,470

PURCHASED ENERGY

Purchased electricity and heat, renewable wood-based	464,504	623,386
Purchased electricity and heat, other renewable	32,933	168,373
Purchased electricity and heat, fossil-based	448,276	679,944
Purchased electricity and heat, nuclear power	1,321,964	1,406,269

CONSUMPTION OF OTHER SELF-GENERATED RENEWABLE ENERGY

Consumption of self-generated hydropower	29,349	25,238
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ENERGY SOLD

Energy sold, renewable wood-based	748,016	950,807
Electricity sold, fossil-based	10,886	19,823
Energy sold, renewable wood-based	743,942	769,066
Heat sold, fossil-based	30,650	31,936

TOTAL ENERGY CONSUMPTION

Total energy consumption, renewable wood-based	23,454,136	24,222,983
Total energy consumption, other renewable	62,282	193,611
Total energy consumption, fossil-based	2,560,223	3,345,444
Total energy consumption, nuclear	1,321,964	1,406,269
Total energy consumption	27,398,605	29,168,306

ENERGY INTENSITY (MWh/turnover)

Energy intensity	0.004	0.004
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GHG emissions

tCO ₂ e	2023	2022
Direct GHG emissions (Scope 1)	601,239	736,648
Location-based indirect GHG emissions (Scope 2)	444,520	437,895
Market-based indirect GHG emissions (Scope 2)	310,031	435,965
GHG emissions in the value chain from material categories (Scope 3)	5,891,347	-
1 Purchased goods and services	1,429,254	-
2 Capital goods	260,511	-
3 Fuel and energy-related activities (not included in Scope 1 or Scope 2 emissions)	180,828	-
4 Upstream transportation and distribution	840,658	-
5 Waste generated in operations	5,669	-
6 Business travel	3,198	-
7 Employee commuting	7,889	-
9 Downstream transportation and distribution	26,401	-
10 Processing of sold products	1,402,027	-
11 Use of sold products	26,626	-
12 End-of-life treatment of sold products	1,702,147	-
15 Investments	6,139	-
Location-based total GHG emissions	6,937,106	-
Market-based total GHG emissions	6,802,617	-

Scope 3 emissions are reported for the first time for 2023. No comparison data is therefore disclosed for 2022.

GHG intensity

	2023	2022
GHG intensity based on turnover, Scopes 1 and 2 (market-based) tCO ₂ e / euros	0.0001	0.0002
GHG intensity based on turnover, Scopes 1, 2, 3 (market-based), tCO ₂ e / euros	0.0011	-

Wood-based biogenic carbon dioxide emissions

tCO ₂	2023	2022
Wood-based biogenic carbon dioxide emissions	9,694,710	10,026,510

Total energy consumption by energy source and business area

	Metsä Wood	Metsä Fibre	Metsä Board	Metsä Tissue	Metsä Group	Metsä Group 2022
Renewable, wood-based energy	72	97	73	28	86	83
Other renewable energy	3.3	0	0.5	0.8	0.2	0.7
Nuclear power	3.6	0	16	12	4.8	4.8
Fossil-based fuels	21	3.0	10	59	9.3	12
Total energy consumption, MWh	602,466	17,586,082	7,648,406	1,948,719	27,398,605	29,168,306

GHG emissions by business area

tCO ₂ e	Wood Supply and Forest Services	Metsä Wood	Metsä Fibre	Metsä Board	Metsä Tissue
Direct GHG emissions (Scope 1)	-	4,986	235,441	201,984	158,827
Location-based indirect GHG emissions (Scope 2)	-	39,514	82,593	300,726	164,758
Market-based indirect GHG emissions (Scope 2)	-	65,044	4	5,108	245,026
Value chain GHG emissions (Scope 3)	2,111,598	355,338	3,359,256	792,006	462,135
Location-based total GHG emissions	-	399,838	3,677,290	2,294,716	785,720
Market-based total GHG emissions	-	425,368	3,594,701	1,999,098	865,988

Reporting principles for metrics

The amount of forest regeneration and young stand management covers, in hectares, the soil preparation and young stand management, or early cleaning and thinning, carried out by Metsä Group's Wood Supply and Forest Services (Metsä Forest). The amount of forest fertilisation includes, in hectares, the growth, boron and ash fertilisation carried out by Metsä Forest. The share of continuous cover forestry in peatland forest regeneration covers Metsä Forest's standing sales, as well as the group selection cutting, selection cutting and strip felling carried out to regenerate peatlands, and it is calculated based on the amount of harvesting.

The amount of carbon stored in wood products is calculated for mechanical wood products. The carbon content is calculated using tree species-specific database factors to ensure comparable results between tonnes of wood (CO₂equivalent).

The amount of fossil free raw materials and packaging materials covers the raw materials and packaging materials of products produced by Metsä Group. The weight of raw materials is converted to dry tonnes using the factors provided by the suppliers. A raw material is considered fossil free if none of its main raw materials contains fossil-based oil. Materials that do not remain in the product, such as process chemicals, are not taken into account in calculation. In 2023, the dry tonne factor for raw wood was adjusted, and as a result, the 2022 comparison figure was retroactively calculated in accordance with the new factor.

Energy consumption encompasses all Metsä Group's production units. The calculation accounts for the Group's internal energy trade to avoid double counting. Energy consumption is expressed as final energy consumption, which means that the efficiency factors of electricity and heat are not taken into account. Final energy consumption is obtained by summing up the fuel consumed at mills, self-generated hydropower and the amount of purchased electricity and purchased heat, and then deducting sold heat and electricity. Internal logistics and the electricity purchased for buildings outside mill areas, such as warehouses and office facilities, is excluded from the calculation, as their

share of total energy consumption, and thus of Scope 1 and Scope 2 emissions, is assessed to be non-material. Local factors are used to calculate the energy contained in different fuels. Metsä Group's heat consumption is mainly based on steam.

The Energy Efficiency Index is determined as specific energy consumption, meaning the ratio of energy consumption and production volume. Specific energy consumption is calculated for individual production lines, including the consumption of electricity, heat and fuels as megawatt hours (MWh). Tonnes and cubic metres are both used as units in production volume calculations. They are considered to be of equal value. The energy efficiency of Metsä Group's power plants is not taken into account in calculations. Discontinued lines are included in the calculations for as long as they are used in production. New production units are included in the calculations from the year in which their production begins. The 2022 Energy Efficiency Index was retroactively adjusted because one of the mills made changes to the energy consumption data for the base year, 2018, and for 2022. The errors in reporting were due to manual errors and a fault in the reporting system that has already been fixed.

GHG emissions include the emissions of all Metsä Group production units. The emissions calculation accounts for the Group's internal energy trade to avoid double counting. GHG emissions are calculated in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The scope of reporting is based on operational control. An exception to this is the Lohjan Biolämpö Oy and Katrinefors Kraftvärme AB joint operations, where operational control cannot be assigned to a single party. Of their emissions, a share corresponding to the Group's holding is included in the calculation. Reporting covers direct GHG emissions (Scope 1) from Metsä Group's own operations, indirect GHG emissions (Scope 2) from the production of purchased energy, and indirect GHG emissions from other parts of the value chain (Scope 3), including upstream and downstream. Power plant emissions are allocated to the mills that use the energy generated by the plants.

The calculation includes all the greenhouse gases covered by the GHG Protocol (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃). Emissions have been converted into carbon dioxide equivalents. The figures for previous years have been adjusted retroactively, as Metsä Group has previously included only carbon dioxide emissions in the calculation. In addition, the Scope 1 emissions for 2022 were retroactively adjusted by 8,116 tonnes due to changes in emissions factors.

Scope 1 emissions have been calculated from the fuels used by production units. The calculation is based on supplier-specific emission factors for fuels or on national emission factors. Two different methods are used for Scope 2 carbon dioxide emissions. The market-based method uses supplier-specific emissions factors, supplemented with national residual mix emission factors for untracked purchased electricity. In the location-based method, country-specific average emission factors for electricity are used. The residual mix factors and country-specific factors have been obtained from the AIB (Association of Issuing Bodies) report on emission factors.

Metsä Group's 2030 sustainability target, "0 tonnes of fossil-based carbon dioxide emissions", concerns Scope 1 and Scope 2 emissions and only encompasses carbon dioxide emissions, excluding other greenhouse gases. In other respects, the target has been calculated in accordance with the GHG Protocol. The target does not include buildings outside the mill areas or internal logistics, as their share of emissions is assessed to be non-material.

The company's biogenic carbon dioxide emissions originate in wood-based fuels. A CO₂ emission factor of 396 tonnes of CO₂/GWh, provided by Statistics Finland, has been used in their calculation.

The materiality of each of the 15 Scope 3 categories was determined using a spend-based materiality assessment. All the categories assessed to be material to at least one of the Group's business areas were calculated. Categories in which the amount

of greenhouse gases was insignificant were also included in the Scope 3 inventory. The categories included in the calculation are listed in the table on page 42. Only three categories were excluded from the calculation – upstream leased assets, downstream leased assets and franchising – as they were assessed to be non-material. Metsä Group does not have significant leased assets under Scope 3 that are not already included in Scope 1 and Scope 2. Metsä Group does not engage in franchising.

The Scope 3 inventory has been calculated as tonnes of CO₂ equivalent, excluding biogenic CO₂. The operational data used in the calculation are obtained from the Group's internal systems. In the absence of accurate data, assumptions have been used. The emission factors used are mainly from global databases, including ecoinvent 3.9.1, EXIOBASE 3, DEFRA's GHG conversion factors (full set 2022) and IEA's Life Cycle Upstream Emission Factors (2023). In addition, supplier-specific emission factors have been used for logistics (59% of operational data) and raw materials and packaging materials (25% of operational data, excluding raw wood). Some of the supplier-specific emission factors in logistics only cover CO₂ in current calculations, but they will be updated to include other essential greenhouse gases in the next few years as the international disclosure guidelines for logistics develop. Currently, many of the supplier-specific emission factors in logistics only cover TTW (tank-to-wheel) emissions. As a rule, WTW (well-to-wheel) emission factors are used if available from suppliers.

Emissions data related to Metsä Board's investments are based on the company's share of Metsä Fibre's Scope 1 and Scope 2 emissions, corresponding to Metsä Board's holding (24.9%) in Metsä Fibre, excluding the emissions associated with pulp raw materials procured from Metsä Fibre that have been assigned to the first category of the Scope 3 inventory.

A more detailed description of calculation methods is available on the company's *website*.

E2 – Pollution

Pollution-related impacts, risks and opportunities

Impacts	Risks and opportunities for Metsä Group	Management
Pollution of air, water and soil		
<p>↓ In addition to GHG emissions, Metsä Group's production generates other emissions to air. Most of the emissions to air originate in the pulp mills' and power plants' combustion process. Metsä Group's production also generates wastewater discharges. Emissions to air and water, as well as environmental permit deviations at mills in the reporting year, are presented in the tables on pages 46–47.</p> <p>Soil pollution may occur as a result of technical defects or human errors in Metsä Group's or its service providers' operations. The Group's business areas have environmental liabilities related to former activities on industrial sites that have since been closed, sold or leased, and from decommissioned landfill sites.</p>	<p>↓ Risk: Deviations in emissions may cause a liability to pay compensation and costs from corrective action. In addition, the image of Metsä Group as a sustainable operator may suffer.</p>	<ul style="list-style-type: none"> • Emissions to air are reduced with a meticulous control of the combustion processes and the purification of flue gases. • Emissions to water are reduced through reduced water use, more efficient processes and efficient wastewater treatment. • The best available techniques are used and systematically operated in production. Environmental performance is monitored continuously. Proactive measures aimed at preventing interruptions include comprehensive preventive maintenance and observations in production. • Any deviations in emissions and related corrective actions are immediately reported to the authorities.
Microplastics		
<p>↑ Metsä Group's products, produced mainly from renewable raw materials, are an alternative to plastic packaging and thus enable the reduction of microplastics.</p>	<p>↑ Opportunity: Demand for Metsä Group's products increases.</p>	<ul style="list-style-type: none"> • Nearly all Metsä Group products are fossil free. Active research and development is being conducted to replace the remaining fossil-based raw materials.

↑ Positive impact on the environment and society or on Metsä Group's business

↓ Negative impact on the environment and society or on Metsä Group's business

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to pollution have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Ensuring undisturbed and uninterrupted operations in all conditions is key in the risk assessment of production units. The assessment process of production units' environmental risks is guided by the ISO 14001 and ISO 50001 management systems. The key identified risks are included in the company-level risk management process.

In accordance with the risk management process, the pollution-related impacts of production units are assessed in connection with the environmental impact assessments of investment projects and during the environmental permit processes, for example. The need for environmental impact assessments is determined by the local EIA authority.

After any environmental impact assessment and environmental permit process, the production units operate in accordance with their environmental permit and the company's operational management system. The environmental permit and the related programme for monitoring emissions and impacts set the minimum requirements for the observation of environmental impacts. In addition to emissions, observations typically focus on waterbodies, fish stock, air quality and noise. Regular risk assessments and official inspections ensure the adequate scope of observations and performance of production units.

■ Policies

In its Environmental policy, Metsä Group is committed to protecting the environment, preventing environmental pollution and continuously developing production processes by employing the best available methods and techniques.

Environmental management and continued environmental performance are guided by the requirements of the production units' certified quality, environmental and energy management systems. The production units' environmental management practices are described in more detail in the environmental management policies. A key goal is to actively engage in preventive environmental work, which is the most effective way of preventing leakage and disruptions. Production unit employees must continuously observe their work environment, actively make HSEQ observations and adopt immediate corrective action if required. Regular environmental walks are carried out at Metsä Group. In addition, employees are offered regular info sessions on environmental topics and training opportunities.

All Metsä Group employees have the right and responsibility to report a situation that may cause a leakage or malfunction. Any infringement of environmental permit limits and significant deviations are investigated, and corrective actions are determined. The production unit's management is always in charge of the investigations, as well as the adequacy and implementation of corrective actions.

The terms and conditions of maintenance and investment project agreements for production unit sites contain minimum requirements regarding the environment for goods and service suppliers. Suppliers are required to immediately report any observed hazards, accidents or other

equivalent matters to Metsä Group's contact person. Suppliers must participate in the investigation of any environmental deviation or damage resulting from their operations, determine corrective actions and take part in compensating for the damage in accordance with the applicable law and the "polluter pays" principle.

■ Actions

Pollution of air, water and soil

All production units have a valid environmental permit. The company uses the best available techniques in production and continuously monitors that its production units operate in compliance with the environmental permits issued to them. Any deviations and related corrective actions are immediately reported to the authorities. Production processes are developed in line with continuous improvement and the targets set. In process change projects, the resulting impact on environmental risks, emissions and impacts is assessed.

Most of the company's emissions to air originate in the pulp mills' and power plants' combustion process. The primary emissions are carbon dioxide, sulphur dioxide, nitrogen oxides and particles. Small amounts of reduced sulphur compounds are generated at pulp mills. In addition to carbon dioxide, the combustion processes generate small amounts of other greenhouse gases such as methane and nitrous oxide. Emissions to air are reduced with a meticulous control of the combustion processes and the purification of flue gases.

Wastewater discharges primarily consist of nutrients (phosphorus and nitrogen), organic substances measured as chemical and biological oxygen demand, as well as suspended solids. The wastewaters of pulp production also contain organic chlorine compounds, sodium and sulphates.

Emissions to water are reduced through reduced water use, more efficient processes and efficient abatement technology.

The Group's business areas have environmental liabilities related to former activities on industrial sites that have since been closed, sold or leased, and from decommissioned landfill sites. Financial provisions for the costs of land rehabilitation work have been made in cases where it has been possible to measure the Group's liability for land contamination and any post-treatment obligations.

In the reporting year, a fuel oil leak caused by a service provider's actions took place at Metsä Fibre's Äänekoski bioproduct mill. Corrective action was taken, and a root cause analysis prepared, jointly with the service provider in accordance with the Group's processes.

No significant environmental impacts, claims or compensation related to the pollution of air, water and soil were recorded in 2023, nor was any significant media visibility related to these topics seen. Environmental permit deviations are presented in the table on page 47.

The deployment of new technology reduces emissions to air and water. The emissions level of Metsä Fibre's Kemi bioproduct mill, which started up in 2023, is lower than that of its predecessor, the Kemi pulp mill, even though the new mill's production volume will be approximately 2.5 times larger. A similar development can be seen in other launched, implemented or planned investment projects such as the expansion of Metsä Tissue's tissue paper mill in Mariestad in Sweden.

Metsä Fibre is studying opportunities to further increase the recycling rate of the main chemicals used at bioproduct mills. The goal is to explore ways to reduce the need to deliver chemicals to production units while reducing wastewater load and load to the air. Methods for converting extraneous matter, introduced into the process with wood, into a form enabling its increased utilisation will also be surveyed.

The life-cycle analysis published in 2023 by the Fraunhofer Institute for Microstructure of Materials and Systems indicated that the particle emissions from the Äänekoski bioproduct mill were approximately 45% lower than those of European pulp mills using ECF technology and as much as 70% lower than those of average TCF mills. In terms of acidification, the Äänekoski bioproduct mill's impact was 38% smaller than that of European TCF pulp mills and 17% smaller than that of European ECF pulp mills.

Microplastics

Metsä Board's products, produced mainly from renewable raw materials, are alternatives to plastic packaging and enable the reduction of microplastics. Products are described in more detail under *E5 – Resource use and circular economy*.

Emissions to air

tn	2023	2022
Sulphur (SO ₂)	501	750
Nitrogen oxides (NO _x)	5,935	6,800
Particles (PM2.5)	460	810

Emissions to water

tn	2023	2022
Nitrogen (N)	478	551
Adsorbable organic halogen (AOX)	385	408
Chemical oxygen demand (COD)	41,947	42,416
Biological oxygen demand (BOD)	1,460	1,260
Phosphorus (P)	44	49
Suspended solids	3,815	3,465

Environmental permit deviations at Metsä Group's mills

Business area	Mill	Date of incident	Incident	Corrective actions
Metsä Board	Simpele	7/2023	Wastewater nitrogen emission exceeded the permit limit	Adjustment of nutrient dosage at the treatment plant
Metsä Board	Kaskinen	8/2023	Wastewater nitrogen emission exceeded the permit limit	COD load matched to the nutrient situation
Metsä Fibre	Joutseno	1/2023	Suspended solids in wastewater exceeded the permit limit	Adjustments to the process at the treatment plant
Metsä Fibre	Rauma	1/2023	Particle concentration of lime kiln exceeded the permit limit	Adjustment of combustion process
Metsä Fibre	Joutseno	2/2023	Suspended solids in wastewater exceeded the permit limit	Process adjustments at the treatment plant
Metsä Fibre	Kemi	3/2023	Cl concentration from the exhaust duct at the chlorine dioxide plant exceeded the permit limit	Process adjustment
Metsä Fibre	Joutseno	7/2023	Suspended solids in wastewater exceeded the permit limit	Balancing of mill operations
Metsä Fibre	Rauma	7/2023	SO ₂ concentration in recovery boiler exceeded the permit limit	Adjustment of combustion process
Metsä Fibre	Kemi	8/2023	NO _x concentration in bark boiler exceeded the permit limit	Adjustment of oxygen level
Metsä Fibre	Kemi	9/2023	Treatment rate of mild odorous gases was below the permit limit	Investigation of process disruptions
Metsä Fibre	Kemi	9/2023	NO ₂ concentration in bark boiler exceeded the permit limit	Optimisation of operating conditions
Metsä Fibre	Joutseno	9/2023	Treatment rate of mild odorous gases was below the permit limit	Equipment repair
Metsä Fibre	Kemi	10/2023	Suspended solids in wastewater, COD and BOD exceeded the permit limit	Mill start-up and process adjustment
Metsä Fibre	Kemi	10/2023	Treatment rate of mild odorous gases was below the permit limit	Investigation of process disruptions
Metsä Fibre	Kemi	10/2023	NO _x concentration in bark boiler exceeded the permit limit	Optimisation of operating conditions
Metsä Fibre	Kemi	11/2023	Suspended solids in wastewater exceeded the permit limit	Process adjustment
Metsä Fibre	Kemi	11/2023	SO ₂ concentration in bark boiler exceeded the permit limit	Optimisation of operating conditions
Metsä Fibre	Kemi	12/2023	NO _x concentration in bark boiler exceeded the permit limit	Optimisation of operating conditions
Metsä Fibre	Kemi	12/2023	SO ₂ concentration in bark boiler exceeded the permit limit	Optimisation of operating conditions

Reporting principles for metrics

Emissions to water and air include the material emissions from Metsä Group's production units. Emissions are also reported to the authorities.

Water discharges are determined based on laboratory measurements. Emissions to water are calculated as a combination of waterflows and concentrations. Any wastewater discharges of third parties handled in the wastewater treatment plants are excluded from reporting. Emissions to air are determined based on continuous and/or one-off measurements. The final emission is calculated as a combination of airflows and concentrations.

Emissions are allocated to internal and external inflows by first making an assumption, based on prior measurements, of the

reduction in chemical oxygen demand (COD) for each inflow, and later adjusting them to correspond to the unit's actual COD reduction. Other emissions are allocated based on the flow. At integrated mills, the amount of COD is allocated to parties using the wastewater treatment plant based on the quality of COD. Discharges fed through external (usually municipal) wastewater treatment plants are taken into account, with the assumption of an 85% reduction in COD.

Biological oxygen demand (BOD) and emissions of phosphorus and suspended solids are calculated based on the flow, using the following residual concentrations: BOD 10 mg/l, total phosphorus 0.5 mg/l and suspended solids 10 mg/l. Total nitrogen emissions are considered to be zero, as municipal wastewater contains excess nitrogen and the reduction of BOD binds nitrogen to biomass, reducing the unit's total nitrogen emissions. A seven-day measuring period (BOD7) is used to determine BOD.

E3 – Water and marine resources

Impacts, risks and opportunities related to water and marine resources

Impacts	Risks and opportunities for Metsä Group	Management
Water		
<p>↔ Water withdrawals: Most of Metsä Group's production units are in areas at low water risk and with large surface water reserves. Two of Metsä Tissue's mills are in areas at high water risk. The water withdrawal of these two mills accounts for 0.9% of the Group's total water withdrawals, and the mills' water withdrawal does not have a material impact on water sufficiency in the area. Metsä Group's operations are designed so they do not affect other parties' rights or opportunities to use water. Water withdrawals are presented in the table on page 49.</p>	<p>↑ Opportunity: The location of nearly all mills in areas at low water risk supports the Group's competitiveness in a changing climate. The Group's target of reducing process water use offers cost benefits, improves energy efficiency and helps minimise water risk. By reducing its water use, Metsä Group can strengthen its reputation as a sustainable operator.</p>	<ul style="list-style-type: none"> • Most of the mills are in areas at low water risk. • Process development and the adoption of new techniques reduces water use and increases water recycling in the production process, decreasing the need to withdraw more raw water. • The best available techniques are used and systematically operated in production. Environmental performance is monitored continuously. Actions related to water discharges are described in more detail under <i>E2 – Pollution</i>.
<p>↔ Water consumption: The production process of pulp, paperboard and paper products requires a great deal of water. However, water consumption is low in relation to the volume of water used. Of all the water consumed, approximately 96% is returned to waterbodies after use, and the remaining 4% evaporates in the process or is bound to the products.</p>	<p>↓ Risk: If the Group does not succeed in reducing its water use in line with the target, it will lose the cost benefits from reduced water use and fail to minimise water risks. Metsä Group's reputation as a sustainable operator will suffer.</p>	
<p>↓ Wastewater discharges: Metsä Group's production generates water discharges. The impacts, risks and opportunities, as well as management methods related to water discharges, are discussed under <i>E2 – Pollution</i>.</p>		

- ↑ Positive impact on the environment and society or on Metsä Group's business
- ↓ Negative impact on the environment and society or on Metsä Group's business
- ↔ Neutral impact on the environment and society or on Metsä Group's business

Metsä Group's 2030 sustainability target

	2030 target	2023	2022	2018
Reduction in process water use per produced tonne from the 2018 level	-35%	-0.5%	-7.4%	22 m ³ /t

Progress in targets

- **Reduction in process water use per produced tonne from the 2018 level** – Production curtailments caused by the market situation and investment shutdowns weakened the efficiency of process water use in 2023.

The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to water and marine resources have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Ensuring undisturbed and uninterrupted operations in all conditions is key in the risk assessment of production units. The assessment process of production units' environmental risks is guided by the ISO 14001 and ISO 50001 management systems. The key identified risks are included in the company-level risk management process.

In accordance with the risk management process, the production units' impacts on water resources are assessed in connection with the environmental impact assessments of investment projects and during the environmental permit processes, for example. The need for environmental impact assessments is determined by the local EIA authority.

Matters considered include water withdrawal, the thermal stress caused by the water returned or the impact of emission parameters on waterbodies. The impacts are also assessed in connection with process development and environmental risk mapping. Several mills have waterbody monitoring obligations and commitments. These are often regionally comprehensive long-term programmes for monitoring the long-term consequences of operations.

Metsä Group's operations are designed so they do not affect other parties' rights or opportunities to use water. Production processes account for roughly a third of Metsä Group's water use, and cooling purposes for the rest. The cooling water circulates in a separate system and does not need to be treated. However, the cooling water returned to waterbodies has a local heating impact. Process water is carefully treated before it is returned into waterbodies.

Most of Metsä Group's mills are located in areas at low water risk and large surface water reserves. None of Metsä Group's mills is in an area at high overall water risk (WRI Aqueduct Water Risk Atlas). Overall water risk indicates the risks related to all water resources, taking the volume and quality of water resources and regulation in the area into account.

However, two of Metsä Tissue's mills, Kreuzau and Düren, withdraw water in areas of high water stress. Water stress indicates the proportion

of overall water need and renewable surface water and groundwater reserves in the area. At both mills, water is withdrawn from a river, the water quantity of which is managed by a local water association. As the minimum water quantity in the river is adequate for the area's industrial use, water sufficiency is not a material risk for Metsä Tissue, and the mills' water withdrawal does not cause material harm to the availability of water in the area.

■ Policies

Environmental management and continued environmental performance are guided by the requirements of the mills' certified quality, environmental management and energy management systems, and the Principles of Environmental Management. The Environmental policy lays the foundation for environmental target setting. Resource efficiency is a key part of the policy, and in compliance with it, Metsä Group is committed to reducing its water use.

■ Actions

Water withdrawals and water consumption

Increasing the efficiency of water use supports the circular economy, energy efficiency and minimised emissions. Metsä Group's actions to reduce process water use in line with the 2030 sustainability target include investments in processes and wastewater treatment, as well as adjustments to and optimisation of water use. In addition to the Group-level target, all production units have targets for water use, which are regularly monitored. Metsä Group's water consumption is low in relation to the volume of water used. Of all the water used, approximately 96% is returned to waterbodies after use, and the remaining 4% evaporates in the process or is bound to the products.

New production lines are built to be efficient in their process water consumption, and operational investments are made in existing production lines. For example, the production of Metsä Fibre's bioproduct mill completed in Kemi is approximately 2.5 times larger than that of the old pulp mill. However, its water use has not increased.

The development programme of the Kemi paperboard mill, completed in 2023, reduces the mill's water use by roughly 40% per tonne produced, while increasing the mill's production capacity by 40,000 tonnes annually.

Wastewater discharges

The impacts, risks and opportunities, as well as management methods related to wastewater discharges, are discussed under *E2 – Pollution*.

Water withdrawals and consumption and wastewater discharges

1 000 m ³	2023	2022
WATER WITHDRAWALS		
Surface water	365,100	404,373
Groundwater	870	954
Total water withdrawals	365,970	405,327
WATER WITHDRAWALS IN AREAS OF WATER STRESS		
Surface water	3,397	4,624
Groundwater	0	0
Total water withdrawals in areas of water stress	3,397	4,624
WATER CONSUMPTION		
Water consumption	13 907	15 402
Water consumption in areas of water stress	130	175
WASTEWATER		
Wastewater discharges	118,958	136,022
Wastewater discharges in areas of water stress	1,901	2,436

The 2022 water consumption figures have been estimated retroactively and have not been assured.

Reporting principles for metrics

Water withdrawals include the withdrawal of process and cooling water at all Metsä Group production units.

Process water use per tonne produced is measured as cubic metres from the process water used by Metsä Fibre, Metsä Board and Metsä Tissue and is calculated per tonne of product produced. Metsä Wood's production units and Metsä Fibre's sawmills have been excluded from the calculation, as the production of pulp, paperboard, and tissue and greaseproof papers consumes considerably more water than that of wood products.

Water consumption is an estimate of the amount of water that has evaporated in production and wastewater treatment and water bound in products and wastewater treatment sludge. The calculation is based on an estimate, which considers the matters mentioned above, as well as direct water withdrawal, the water contained in raw materials and the water returned to waterbodies.

The amount of water withdrawn in 2022 has been retroactively adjusted from 394,827 thousand cubic metres to 405,327 thousand cubic metres because the figure for one production unit was not included in the 2022 consolidated data disclosures to the Group and because of an error in the report's publication.

E4 – Biodiversity and ecosystems

Material impacts, risks and opportunities related to biodiversity and ecosystems

Impacts	Risks and opportunities for Metsä Group	Management
Direct impact drivers of biodiversity loss		
<p>↓ Climate change: Metsä Group's production generates greenhouse gases that cause global warming.</p> <p>↔ The company's biogenic carbon dioxide emissions are classified as carbon-neutral.</p>	<p>↓ The risks, opportunities and actions related to climate change are discussed under <i>E1 – Climate change</i>.</p>	<p>• The risks, opportunities and actions related to climate change are discussed under <i>E1 – Climate change</i>.</p>
<p>↓ Pollution: The emissions to water, air and soil from Metsä Group's production units can have a negative impact on species and ecosystems in the area.</p>	<p>↓ The risks, opportunities and actions related to pollution are discussed under <i>E1 – Pollution</i>.</p>	<p>• The risks, opportunities and actions related to pollution are discussed under <i>E1 – Pollution</i>.</p>
<p>Direct exploitation: Metsä Group uses wood as its raw material. However, Metsä Group does not own forests. Instead, all the raw material is procured from forests whose owners always decide how they are used. The impact of wood supply on biodiversity and ecosystems is described in this table, under Impacts on the state of species and the extent and condition of ecosystems.</p>	-	-
Impacts on the state of species and the extent and condition of ecosystems		
<p>↓ Commercial forest use reduces the amount of dead wood and changes forest structure, leading to changes in species and the state of ecosystems.</p>	<p>↓ Risks:</p> <ul style="list-style-type: none"> • Regulation that emphasises the protection of forest nature to promote biodiversity restricts harvesting volumes or increases wood supply costs. • A complex regulatory environment sets conflicting requirements for the forest industry. • Ecological compensation may increase the protection of commercial forests, as industries exploiting non-renewable materials strive to compensate their negative impacts. Meanwhile, the use of non-renewable materials continues. • Consumers view forests as protected sites and reduce their consumption of wood-based products. • If the state of nature continues to weaken, the legitimacy of the forest industry, as well as the reputation of Metsä Group as a sustainable operator, will suffer. 	<ul style="list-style-type: none"> • Metsä Group's Wood Supply has adopted the principles of regenerative forestry, which aim to measurably improve the state of nature by 2030. Examples of regenerative forestry actions: <ul style="list-style-type: none"> - The Metsä Group Plus service that compensates forest owners for the costs incurred from safeguarding nature values - Diversifying tree species in forests - Increasing the number of old trees - Diversifying and adding more decaying wood - Increasing the structural diversity of forest stands - Protecting valuable habitats • Forest certification can be used to demonstrate that the forest has been managed sustainably and responsibly. The international forest certification systems in use are: PEFC (Programme for the Endorsement of Forest Certification, PEFC/02-31-03) and FSC® (Forest Stewardship Council®, FSC-C014476). • Regulatory risks are managed through active dialogue with policymakers, discussed in more detail under <i>G1 – Business conduct</i>.
<p>↑ Metsä Group aims to measurably and verifiably strengthen the state of nature in commercial forests by 2030. If achieved, this will have a positive impact on the state of nature.</p>	<p>↑ Opportunities:</p> <ul style="list-style-type: none"> • As a result of the improved state of nature and the comprehensive management of ecosystem services, or benefits obtained from nature, forests will be better able to adapt to climate change. • Metsä Group's compliance with the principles of regenerative forestry and success in strengthening the state of nature will improve Metsä Group's image as a sustainable operator. 	
Impacts on the state of species and the extent and condition of ecosystems		
<p>↓ The draining of peatland forests causes changes in habitats and can lead to biodiversity loss.</p>	<p>↓ Risk: Regulation that emphasises the special role of peatlands as large carbon reservoirs, sources of GHG emissions, and potential restoration and protection sites restricts felling volumes.</p>	<ul style="list-style-type: none"> • The goal of peatland forestry is to protect natural bog environments and maintain the water economy and water quality of water ecosystems, as well as to protect their species. New drainage is not created, and old drainage is improved only if necessary. Bog environments suitable for active restoration will be determined and selected on a case-by-case basis. Continuous cover forestry is proposed to forest owners on suitable sites.
<p>↓ If valuable habitats are not identified or taken into account in wood supply and forest management, fewer forests will offer special biodiversity and ecological value.</p>	<p>↓ Risk: If the state of nature continues to deteriorate, the forest industry's legitimacy and the image of Metsä Group as a sustainable operator will suffer.</p>	<ul style="list-style-type: none"> • Metsä Group procures wood from commercial forests. Forest certification and controlled origin also require the company to consider valuable nature sites in commercial forests. Metsä Group's nature site service helps focus the protection required by the FSC on the sites most valuable in terms of nature.
<p>↑ Biodiversity and the condition of waterbodies improve outside commercial forests.</p>	<p>↑ Opportunity: The image of Metsä Group as a sustainable operator strengthens.</p>	<ul style="list-style-type: none"> • Metsä Group annually funds development projects with a regional impact that improve biodiversity and the condition of waterbodies and are implemented outside commercial forests in Finland.
<p>↑ Metsä Group offers consumers products based on naturally occurring tree species.</p>	<p>↑ Opportunity: Regenerative forestry offers a competitive advantage over competitors who use foreign tree species in their products.</p>	<ul style="list-style-type: none"> • In line with the principles of regenerative forestry, spruce, pine, silver birch, downy birch and aspen – all species that spread to Finland after the last Ice Age – are grown as industrial trees.

Impacts	Risks and opportunities for Metsä Group	Management
<p>↑ Metsä Group will draw up biodiversity plans for its mill sites to increase the biodiversity of the sites, taking special local features into account and combining local industrial history and nature solutions.</p>	<p>↑ Opportunities:</p> <ul style="list-style-type: none"> • Metsä Group's reputation as a sustainable operator strengthens. • Metsä Group can more comprehensively monitor the environmental impact of its production units, with the built environment's biodiversity impacts included in monitoring. • Cooperation with stakeholders and local residents develops in the localities of mills. 	<ul style="list-style-type: none"> • In 2023, Metsä Group launched a multi-year action plan in which a biodiversity plan will be drawn up for each production unit. The project was launched as a pilot project at the mills in Kemi. The plan encompasses areas on the industrial site, as well as offsite land areas owned by the company.
Impacts and dependencies on ecosystem services		
<p>↓ Finnish forests produce a diverse range of tangible and intangible services, with a local, regional, national and international impact. Commercial forest use reduces the amount of dead wood and number of old trees and makes forest structure more one-sided, weakening the state of species and ecosystems.</p>	<p>↓ Risk: For Metsä Group as a forest company, wood production is one of nature's key ecosystem services. If the state of forest nature deteriorates, forests become more vulnerable to weather phenomena caused by climate change.</p>	<ul style="list-style-type: none"> • The goal of regenerative forestry is to develop forestry so that nature's various benefits from carbon sinks to pollinators – that is, ecosystem services – can be measured, and that wood is produced as part of a developing production model with multiple targets and based on ecosystem services.
<p>↑ Metsä Group aims for the state of nature to strengthen measurably and verifiably by 2030. If this is achieved, it will have a positive impact on the state of nature.</p>	<p>↑ Opportunities: As a result of the improved state of nature and the comprehensive management of ecosystem services, or benefits obtained from nature, forests can adapt better to climate change.</p>	

- ↑ Positive impact on the environment and society or on Metsä Group's business
↓ Negative impact on the environment and society or on Metsä Group's business
↔ Neutral impact on the environment and society or on Metsä Group's business

Metsä Group's 2030 sustainability targets

	2030 target	2023	2022
Retention trees on regeneration felling sites, %	100	96	95
High biodiversity stumps on harvesting sites, %	100	92	90
Spruce as the only tree species after young stand management, %	0	25	27
Measures promoting biodiversity, number	10,000	816	-

Comparative data have not been provided for all the new targets set in 2023.

Progress in targets

- **Retention trees on regeneration felling sites** – In 2023, progress in the target was as planned.
- **High biodiversity stumps on harvesting sites** – In 2023, progress in the target was as planned.
- **Spruce as the only tree species after young stand management** – The progress made is insufficient for achieving the 2030 target. Metsä Group will provide more training to its employees and forest management entrepreneurs and enhance communication with forest owners.
- **Measures promoting biodiversity** – Most of the measures comprise Metsä Group Plus agreements. The Metsä Group Plus service was introduced in mid-2023, and the number of agreements is expected to increase in the next few years. Progress is as planned to achieve the 2030 target.

The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to biodiversity and ecosystems have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Metsä Group's key impacts, risks and opportunities related to biodiversity and the state of ecosystems involve wood supply and

forest services. Metsä Group itself does not own many forests. Instead, it procures most of the wood it uses from its owner-members, who together own around half of Finnish private forests and 31% of all Finnish forests. Metsä Group wood supply's certified ISO 14001 environmental management system guides operations towards environmental targets and supports risk management as part of daily operations.

Regulatory impacts on forest use are one of the risks identified in Metsä Group's wood supply. Regulatory risks are identified and assessed in accordance with Metsä Group's standardised risk management process, and assessments are conducted regularly. Identification and assessment, as well as management, are handled jointly by Metsä Forest and the Group's Corporate Affairs unit.

Metsä Group's production units may also have negative impacts on the mill sites' biodiversity and ecosystems due to the units' emissions. The methods for identifying and managing the impacts of pollution are discussed under *E2 – Pollution*.

As part of the risk management process, the mill's environmental impacts are assessed in connection with the environmental impact assessments of investment projects and during the environmental permit processes. The need for environmental impact assessments is ultimately determined by the local EIA authority. After any environmental impact assessment, the production units operate in accordance with their environmental permit and the company's operational management system.

■ Policies

The Environmental policy lays the foundation for environmental target setting. In its Environmental policy, the company is committed to obtaining wood raw material from sustainably managed forests and to paying attention to the economic, social and environmental aspects of forest management and wood supply. Environmental management and continued environmental performance at mills are guided by the requirements of the mills' certified quality, environmental and energy management systems.

In 2023, Metsä Group adopted regenerative forestry principles. It aims to create a system of regenerative forestry measures that verifiably strengthens the state of Finnish nature as part of Metsä Group's wood supply and the forest services it provides. With its target of strengthening the state of nature, Metsä Group wants to set an example in the private sector and support international and EU-level biodiversity targets, as well as biodiversity targets for Finnish nature. The regenerative forestry programme was approved by the Group's Board of Directors, and it was presented to all owner-members.

Forest certification can be used to demonstrate that the forest has been managed sustainably and responsibly. Forest certification has two key elements: sustainable forest management and the wood supply chain. The international forest certification systems used by Metsä Group are PEFC (Programme for the Endorsement of Forest Certification, PEFC/02-31-03) and FSC® (Forest Stewardship Council®, FSC-C014476). Metsä Group aims for certified wood to account for at least 90% of all the wood the company uses.

All the wood purchased by Metsä Group comes from either certified forests or forests that meet the requirements of controlled origin (PEFC Controlled Sources, FSC® Controlled Wood). The origin of the wood is always known.

Metsä Group' wood supply does not cause deforestation. All the countries from which the company procures wood have issued legislation requiring forests to be renewed after harvesting. Metsä Group procures most of its wood from Finland and some of it from Sweden and the Baltic countries. A breakdown of wood supply by country is presented in the table on page 75. Metsä Group requires all partners to comply with legislation, and operations adhere to the European Timber Regulation (EUTR), US Lacey Act and UK Timber Regulation (UKTR). Wood supply is described in more detail under *G1 – Business conduct*.

The main communities affected by Metsä Group include forest owners, mill localities and local residents, the nature around the mills and the people who earn their livelihood from it, as well as other interested parties such as indigenous peoples, that is, the Sámi, and NGOs. In wood supply, the local significant stakeholders are taken into account, and compliance with certification requirements is ensured. In the home region of the Sámi, Metsä Group engages in local dialogue about the coordination of reindeer husbandry and forestry with key stakeholders, including forest owners and reindeer owners' associations. Communication with the Sámi is typically related to practical questions. Metsä Group has an operating model for the active engagement of stakeholders, as well as processes for managing stakeholder engagement, which are described in more detail under *S3 – Affected communities*.

■ Actions

Direct impact drivers of biodiversity loss

Actions related to climate change mitigation and adaptation, as well as pollution, are discussed under *E1 – Climate change* and *E2 – Pollution*.

Impacts on the state of species and the extent and condition of ecosystems

Regenerative forestry

Wood raw material is used as efficiently as possible to ensure high added value and minimise the forest area needed for harvesting. The utilisation of side streams is described in more detail under *E5 – Resource use and circular economy*.

The goals of regenerative forestry are discussed under *Policies*. As part of the regenerative forestry programme, monitoring systems are being developed with stakeholders so the impacts of operations on the state of nature can be measured and disclosed.

In September 2023, the Finnish Forest Industries Federation and the Finnish Sawmills Association published a biodiversity roadmap. Metsä Group, in cooperation with other operators, was actively involved in its preparation. The roadmap is a research-based joint survey of the Finnish wood processing industry, detailing the state of forest nature and the impacts of the forest sector's long-term biodiversity work. Metsä Group's regenerative forestry principles are in line with the roadmap.

Forest and nature management and harvesting methods are based on current research results, and Metsä Group engages in active cooperation with a diverse research community. Some of the key biodiversity-promoting measures that follow the principles of regenerative forestry include the following:

- Wood is procured only from certified forests or sources of controlled origin (see *Policies* for further information). Metsä Group actively participates in the development of global PEFC and FSC forest management standards. Owner-members are offered the opportunity to certify their forest in accordance with the PEFC and FSC system, and a higher price is paid for certified wood.
- For industrial use, Metsä Group only procures tree species naturally occurring in the area, that is, spruce, pine, silver birch, downy birch and aspen. In their natural habitats and areas of distribution, trees can live in interaction with other species.
- Mixed forests increase forest biodiversity and forest resilience against storm and insect damage, for example. Metsä Group offers forest owners a forest regeneration service, in which both spruce and pine are planted on the same site. Broadleaved trees such as birch, which spreads to stands naturally, must also be retained in forests.
- Decaying wood is added by retaining dead trees, leaving retention trees preferably in groups, and by making high biodiversity stumps during thinning and regeneration felling.
- In herb-rich forests, the company recommends nature management methods for forest owners – and voluntary protection for the most valuable sites. Nature management measures are thus focused on places where they have the greatest impact on biodiversity. Although

herb-rich forests account for only 1–2% of the Finnish forest area, they are home to approximately 45% of threatened forest-dwelling species. Protective thickets are left for animals at all stages of forest management.

- The nature site service contributes to focusing protection on the most valuable nature sites.
- Buffer zones along waterbodies promote biodiversity and prevent the runoff of soil and nutrients. A buffer zone is a strip of land along waterbodies where forest management is carried out in a lighter form or not at all.
- Continuous cover forestry is chosen as the procedure for sites that it is suited for.

A tangible example of the practical implementation of regenerative forestry measures is the Metsä Group Plus service introduced in June 2023, which is a forest management model designed for Metsäliitto Cooperative's owner-members. The model includes measures that safeguard and improve the state of forest nature more comprehensively than is required by current standard practices. The use of these measures is agreed in connection with wood trade and orders for young stand management. Under the model, more retention trees and high biodiversity stumps are left per hectare of forest during harvesting. To accelerate the creation of decaying wood and to secure the living conditions of species that inhabit burnt environments, more retention trees will be burned. As concerns valuable habitats and littoral forests, the model represents the highest level of requirements currently in use. Metsä Group pays its owner-members a bonus per hectare for Metsä Group Plus wood to compensate the lost wood income due to the additional measures.

Metsä Group has identified the key legislative initiatives that may affect forest use or the production of the forest industry's products. Regulatory risks are managed by actively engaging in policy dialogue and targeting key messages based on the identified regulatory risks. Advocacy is discussed under *G1 – Business conduct*. Regenerative forestry creates business resilience to impacts related to legislation, the markets and climate change. It also involves the implementation of a goal-oriented action programme to decouple the degradation of natural capital and economic growth.

Biodiversity outside commercial forests

Metsä Group's nature programme annually funds development projects that improve biodiversity and the state of waterbodies regionally and are implemented outside commercial forests in Finland. Projects are selected for Metsä Group's nature programme once a year. In 2023, twenty-three projects were selected for funding to manage and restore Finland's biodiversity.

- Sandy beach project in South Saimaa
- Management of traditional landscapes in Salo, Taivassalo and the Archipelago Sea
- Restoring sunlit areas in Kankaanpää
- Invasive predator trapping in the Archipelago Sea and a national invasive predator project
- Invasive species projects in Uusimaa and Loimaa

- Restoration of flowing waters and migratory fish projects in Lieksa, Kuusamo, Äänekoski, Viitasaari, Lapland, South Savo and South Karelia
- Projects related to the condition of waterbodies in Mänttä-Vilppula, Central Finland, Ikaalinen, Southern Lapland, South Karelia and Kukkipajärvi

The funding for these projects totalled EUR 600,000.

Biodiversity in areas around production units

In 2023, Metsä Group launched a multi-year systematic action plan in which a biodiversity plan will be drawn up for each production unit. The project was launched in Kemi, which will serve as the pilot site for the entire project. The plan encompasses nature-based solutions on the industrial site, as well as off-site land areas owned by the company, which are used by the town for recreational purposes. The special features of local nature will be taken into account in the project, and the living conditions of endangered species will be improved.

Impacts and dependencies on ecosystem services

For Metsä Group as a forest company, wood production is one of nature's key ecosystem services. If the state of forest nature deteriorates, forests become more vulnerable to weather phenomena caused by climate change and to invasive species. The improvement in the state of nature achieved through regenerative forestry, and the comprehensive management of ecosystem services, or benefits obtained from nature, will make forests more resilient to climate change. The goal of the forest management services offered by Metsä Group is to safeguard locally, nationally and internationally significant ecosystem services. The more diverse the forest assets are when transferred from one generation to the next, the better the forest owners' ability to create added value for their forest assets.

Reporting principles for metrics

The calculation of high biodiversity stumps left on harvesting sites covers the direct standing sales carried out by Metsä Forest. The harvesting sites include intermediate and regeneration felling sites. The calculation of retention trees left on regeneration felling sites covers the direct standing sales carried out. Forest certification criteria set minimum requirements for the number of retention trees. The calculation is based on the number of regeneration felling sites. Stands containing only spruce after young stand management are determined based on the young stand management work carried out. The calculation takes spruce-dominated sites into account where spruce accounts for more than 50% of the remaining trees. Spruce is considered to be the only tree species if other species account for less than 10% on the site. The number of measures promoting biodiversity is calculated based on the measures carried out in owner-members' forests. The measures that are currently monitored include nature management measures in herb-rich forests, burned retention trees, nature site services and the number of Metsä Group Plus agreements.

E5 – Resource use and circular economy

Material impacts, risks and opportunities related to resource use and the circular economy

Impacts	Risks and opportunities for Metsä Group	Management
Resources inflows, including resource use		
<p>↑ Thanks to regenerative forestry, Metsä Group's primary renewable resources can be obtained in line with circular economy principles, and they are a more sustainable alternative to primary fossil-based raw materials, the procurement of which is incompatible with the circular economy.</p> <p>The impact of wood raw material on the carbon balance of forests and forest biodiversity, as well as the related risks and opportunities, are presented under <i>E1 – Climate change</i> and <i>E4 – Biodiversity and ecosystems</i>. The impacts, risks and opportunities of water and energy consumption are described under <i>E1 – Climate change</i> and <i>E3 – Water and marine resources</i>.</p>	<p>↑ Opportunity: Legislation that recognises the climate and other benefits of fossil free raw materials in the production of materials and sets requirements for replacing primary fossil-based raw materials with more sustainable alternatives.</p> <p>↓ Risk: Legislation that requires the use of recycled material in several products and does not recognise the circular economy benefits offered by fresh fibres and other bio-based raw materials. Because the current business strategy focuses on fresh fibre products and mechanical wood products based on primary raw material, this will probably have a negative impact on business. Adapting to a changed operating environment will require new investments, among other things.</p>	<ul style="list-style-type: none"> • Wood raw material is utilised entirely. • Industrial symbioses are developed so that the network of companies offers synergies in resource use • R&D for developing fossil free alternatives and making products more lightweight. • The continuous improvement of production processes and new mill investments further improve resource efficiency. • Commitment to regenerative forestry principles, the continuous development of forest management services and other active cooperation with the cooperative's owner-members. The actions are described in more detail under <i>E1 – Climate change</i> and <i>E4 – Biodiversity and ecosystems</i>. • Attention is also paid to the resource efficiency of other materials and energy use. Actions to reduce water use are described in more detail under <i>E3 – Water and marine resources</i>, and actions to improve energy efficiency are described under <i>E1 – Climate change</i>.
Resource outflows related to products and services		
<p>↑ Metsä Group's products offer customers and consumers the opportunity to use recyclable products and an alternative to products made from fossil-based raw materials. In addition, wood products used in construction offer long-term storage of bio-based carbon, which has a positive climate impact.</p>	<p>↑ Opportunity: Legislation that favours recyclable products made from renewable resources by the forest industry instead of packaging made from materials such as plastic offers more growth opportunities.</p> <p>↓ Risk: Legislation that favours reusable packaging instead of recyclable single-use packaging may reduce the demand for the products of Metsä Board, a Group company, and in the worst case, prohibit the use of single-use packaging. If the chemical recycling of plastics is implemented at an industrial scale, the use of plastics may become more acceptable, and there will be less need to replace plastics.</p>	<ul style="list-style-type: none"> • R&D and services increase the recyclability of products and reduce their environmental footprint. • Cooperation with customers and other value-chain operators is active. • Active engagement in advocacy. Metsä Group's influencing and lobbying are discussed under <i>G1 – Business conduct</i>.
Waste and side streams		
<p>↑ Metsä Group's production side streams are converted into many other valuable products. For example, at bioproduct mills, even the odorous gases generated as mill emissions are utilised as a raw material for producing sulphuric acid.</p> <p>↓ Metsä Group's production currently generates small volumes of landfill waste that causes emissions to air, water and soil. Nearly all production side streams are utilised as materials or energy. Landfill waste in the reporting year is presented in the table on page 57. The 2030 target is 0 tonnes of process waste delivered to landfills.</p>	<p>↑ Opportunity: The utilisation of side streams generates financial benefit. Making full use of the forest industry's side streams strengthens the industry's acceptability and secures future operations.</p> <p>↓ Risk: If an end use is not found for all side streams, the acceptability of forest industry operations will weaken, and no economic benefit will be obtained from side streams.</p> <p>↓ Risk: Legislation that leads to a decline in the use of forest industry side streams for bioenergy generation erodes the acceptability of forest industry operations.</p>	<ul style="list-style-type: none"> • Metsä Group aims to use all its wood raw material. • New applications are jointly sought for production side streams with partners. • Industrial symbioses are developed so that the network of companies offers synergies in resource use • Metsä Group promotes industrial symbioses and invests in cleaner process technology.

- ↑ Positive impact on the environment and society or on Metsä Group's business
- ↓ Negative impact on the environment and society or on Metsä Group's business

Metsä Group's 2030 sustainability target

	2030 target	2023	2022
Process waste delivered to landfills, t	0	16,207	29,656

Progress in targets

- **Process waste to landfills** – In 2023, the volume of landfill waste decreased from the previous year. In 2023, comprehensive agreements were concluded on the utilisation of side streams. Production curtailments have also affected the volume of process waste.

The targets related to water and energy use are discussed under *E1 – Climate change* and *E3 – Water and marine resources*.

Comprehensive system-level indicators for the circular economy are still under development internationally. Metsä Group follows the development of indicators and participates in testing and development work in the scope of the Ellen MacArthur Foundation.

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to resource use and circular economy have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

The production units' resource efficiency and waste management are considered in the environmental impact assessments of investment projects and during the environmental permit processes. The need for environmental impact assessments is determined by the local EIA authority.

After any environmental impact assessment, the production units operate in accordance with their environmental permit and the company's operational management system. The mills' waste management is also regulated by the conditions in the environmental permits. Some mills have their own waste management area, subject to an environmental permit, the environmental impacts of which are monitored and managed in accordance with the permit conditions. Risks related to waste management are assessed as part of regular risk assessments.

■ Policies

In its Environmental policy, Metsä Group is committed to efficiently using raw materials, water and energy, and continuously developing operations. The side streams generated in production processes are used primarily as raw material or energy. Metsä Group takes advantage of synergies between its production units and develops industrial cycles and the recyclability of products. Environmental management and continued environmental performance are guided by the requirements of the production units' certified quality, environmental management and energy management systems.

The Group's operations follow circular economy principles, safeguarding nature's capacity for renewal, minimising waste and emissions, and keeping natural resources used by society in use for as long as possible and as valuable as possible.

Because recycling and reuse always involve some waste, the complete recycling and reuse of materials are impossible. Maintaining the material cycle also requires the addition of primary raw materials to the cycle. Fresh fibre plays a very important role in the well-functioning recycling of fibre-based packaging, for example. Primary renewable resources can be obtained in line with circular economy principles from regenerative forestry, for example. Metsä Group's wood supply is based on regenerative forestry, which is discussed under *E1 – Climate change* and *E4 – Biodiversity and ecosystems*.

■ Actions

The company's key strategic actions related to resource use and the circular economy are the following:

- Committing to regenerative forestry principles and also promoting regenerative land use in mill areas. Further information is available under *E1 – Climate change* and *E4 – Biodiversity and ecosystems*.
- Reducing water use by developing production processes and deploying new technologies. Further information is available under *E3 – Water resources*.

- Transitioning to fully fossil free energy in production. Further information is available under *E1 – Climate change*.
- Improving energy efficiency by using electricity, heat and fuel more efficiently. Further information is available under *E1 – Climate change*.
- Transitioning to fully fossil free raw materials and packaging materials. Further information is available under *E1 – Climate change*.
- Reducing the environmental impacts of packaging through product development and by offering customers services in areas like sustainability and packaging design. Further information is available in the Board of Director's report, under *Research and development*.
- Promoting recycling by participating in international initiatives. Further information is available under *G1 – Political influence and lobbying activities*.
- Finding new purposes for waste generated in production jointly with partners.

Outflows related to products and services

The paperboards of Metsä Board are mainly produced from renewable raw materials and can be recycled, depending on local recycling systems. Except for the PE-coated grades, all the company's paperboards are certified as industrially compostable according to the DIN EN 13432 and ASTM D6400 standards. In addition, some paperboard grades are certified as home compostable in accordance with the NF T 51–800 standard.

Metsä Board is also one of the founding members of the 4evergreen project initiated in 2019. 4evergreen brings together members from the entire packaging value chain. Its goal is to raise the recycling rate of fibre-based packaging in the EU.

Metsä Tissue's strategic choice is to produce tissue papers primarily from fresh fibre. In hygiene products, the use of fresh fibre instead of recycled raw material reduces the need for water and energy and generates less waste. Most of the fresh fibre originates in Metsä Group's value chain in the form of pulp from Metsä Fibre, which procures its wood from Metsä Forest. Plastic accounts for around a quarter of Metsä Tissue's packaging material. The goal is to continuously increase the share of recycled raw material in plastic packaging materials.

Metsä Wood develops the circular economy in cooperation with its customers. In 2022, it participated in Sweden's largest reuse project, in which the temporary market hall in Stockholm was transferred 500 kilometres away to Mölnlycke, close to Gothenburg, where it was converted into a padel hall. The project is a good example of the suitability of Kerto LVL elements for buildings and structures that can be disassembled and reused if required.

In 2023, Metsä Group and Kemira agreed to jointly develop a new renewable product or raw material associated with the forest industry by 2027.

Metsä Group is a member of the global circular economy network of the Ellen MacArthur Foundation, in which companies, developers, universities and opinion leaders cooperate to promote the circular economy. The company also engages in active dialogue with policymakers to develop the operating environment. Political influencing is discussed in more detail in section *G1 – Business conduct*.

Resources inflows, including resource use

Raw materials are used resource efficiently to avoid waste in production. The main raw material, renewable wood, is used fully. The most valuable part of the tree, log wood, is used at the Group's sawmills, plywood and LVL mills, while thinner tree parts and the thin trees obtained from thinning are used as the main raw material for pulp and paperboard mills. The utilisation of side streams is discussed under *Waste and side streams*.

Metsä Group promotes the circular economy by strengthening industrial symbioses and investing in cleaner process technology. The Äänekoski bioproduct mill and the Kemi bioproduct mill, completed in 2023, are based on a unique ecosystem concept and are thus examples of industrial symbiosis, in which a network of companies offers synergies in resource use.

Ecosystem companies of different sizes and at different development stages convert the bioproduct mill's production side streams into other valuable products.

In addition, the Kemi bioproduct mill operates without any fossil fuels. The bioproduct mill features an advanced closed chemical cycle in which water and chemicals are recycled and returned to the process for reuse. Even some of the emissions are utilised as raw material: odorous gases are processed into sulphuric acid, which the mill needs in the manufacture of products such as tall oil.

Waste and side streams

Most of the production side streams are utilised. Wood-based waste and by-products, sludge, ash, and lime are used in soil improvement and landscaping, fertilisers, chemical industry's applications, and in energy generation. A relatively small share of the materials is delivered to landfills (table on page 57). The main process waste components are green liquor dregs generated in pulp production and ash unsuitable for fertilisation, which is generated in energy generation. No established end use has yet been identified for green liquor dregs. The company is actively seeking new applications for green liquor dregs by conducting its own research and pilot projects and participating in universities' jointly funded research projects. In 2022–2023, batches of green liquor dregs were supplied for testing in new applications, and they were also used in earthworks.

Some mills have their own waste management area or landfill, where operations are subject to an environmental permit. The environmental impacts of the mills' own waste management areas are minimised in accordance with the environmental permits. Part of the waste is delivered to external waste management companies, whose operations are subject to environmental permits, for processing or disposal. The sustainability of waste management operators is ensured in supply agreements.

A strategic R&D programme for converting side streams for use in the circular economy is underway at Metsä Group. Metsä Group is

researching and developing, both independently and with partners, various new purposes for sludge, ashes, lignin, sawdust, bark and many other forest industry side streams. Carbon capture and upgrading are also being explored. The innovation company Metsä Spring's investments in start-ups converting Metsä Group's side streams – Woodio, Innomost, Montinutra and Fiberwood – have been found to be a good way to promote the cooperation required by the circular economy. The companies build business that utilises Metsä Group's side streams as raw material, and they benefit from an industrial company that, in line with its strategy, seeks to promote the circular economy jointly with an ecosystem.

Inflows of material and energy streams

Wood-based raw materials, 1,000 t	2023	2022
Wood	19,382	20,578
Purchased pulp	95	79
Recycled fibre	220	312

Other raw materials, 1,000 t	2023	2022
Process chemicals	92	110
Coatings, binders and pigments	264	358
Packaging material	88	115

Share of renewable and recyclable raw materials and packaging materials, %	2023	2022
Renewable materials	97	96
Recycled materials	1.2	1.5

Outflows of material and energy streams

Products, 1,000 t	2023	2022
Pulp	3,307	3,617
BCTMP	441	727
Paperboard	1,319	1,890
Tissue papers	486	559
Greaseproof papers	52	60
Wood-based fuels	2,900	2,700
Other bioproducts (tall oil and turpentine)	122	138
Mechanical wood products, m ³	2,132	2,295

By-products, 1000 tn	2023	2022
Fertilisation and soil improvement (lime, ash, sandy bark)	105	98
Industrial use (lime dust, ash, de-inking sludge)	50	93
Energy use (de-inking sludge, sandy bark)	18	28
Total	173	219

Waste use and disposal, 1,000 t	On-site	Off-site	Total 2023	Total 2022
PROCESS WASTE (NON-HAZARDOUS)				
Material utilisation	23	120	143	118
Energy use	188	71	260	352
Landfill	12	4.2	16	30
Total process waste	223	195	418	499
OTHER NON-HAZARDOUS WASTE				
Material utilisation	17	12	29	11
Energy use	0	1.3	1.3	1.0
Landfill	0.02	0.5	0.5	0.5
Total other non-hazardous waste	17	14	31	13
HAZARDOUS WASTE				
Material utilisation	-	1.4	1.4	0.7
Energy use	-	0.3	0.3	0.3
Incineration without energy recovery	-	1.4	1.4	1.0
Landfill	-	0	0	0
Other disposal	-	0.1	0.1	0.4
Total hazardous waste	-	3.2	3.2	2.3
Total waste	240	212	453	513

Reporting principles for metrics

The waste volumes include waste transferred directly from the mill process and interim storage to final disposal, including material and energy recovery, landfill disposal, and hazardous waste treatment. Waste transferred from the mill process to interim storage is not included in the disclosed waste volumes. The disclosed waste volumes include moisture.

The volume of process waste delivered to landfills includes the volume of waste from production processes (in tonnes) delivered to landfills from all the production units. The 2030 sustainability target only applies to process waste. For example, it does not apply to waste generated in production units' cafeterias, the volume of which is non-material compared with process waste.

The volume of waste treated in the mills' own waste treatment areas is collected from weighting reports. Information about the volume of waste treated by external service providers and the treatment method is obtained from service providers.

S – Social responsibility

S1 – Own workforce

Material impacts, risks and opportunities related to own workforce

Material sub-sub-topics	Impacts	Risks and opportunities for Metsä Group	Management
Equal treatment and opportunities for all			
<ul style="list-style-type: none"> • Gender equality and equal pay for work of equal value • Diversity • Measures against violence and harassment in the workplace • Training and skills development 	<p>↑ If equality is realised in the treatment, compensation and recruitment of employees, wellbeing can increase, and opportunities for continuous learning and career development may improve.</p>	<p>↑ Opportunity: The most suitable professionals are selected for key duties, which improves Metsä Group's employer image, as well as its innovativeness, performance and competitiveness.</p>	<ul style="list-style-type: none"> • Anonymous recruitment is the company's main recruitment method. • Competence development and performance management are systematic. • DEI activities (diversity, equality and inclusion) are invested in. • The share of women is increased at different organisational levels. • Everyone can report grievances through the Compliance and Ethics Channel.
	<p>↓ If equality is not realised in the treatment, compensation and recruitment of employees, wellbeing at work and opportunities for continuous learning and career development would weaken.</p>	<p>↓ Risk: The most suitable professionals are not selected for key duties, which weakens Metsä Group's employer image, as well as its innovativeness, performance and competitiveness.</p>	
Working conditions			
<ul style="list-style-type: none"> • Secure employment • Working time • Adequate wages • Social dialogue • Collective bargaining • Work-life balance 	<p>↑ Actions promoting working conditions such as company-specific collective agreements, flexitime and individual working time models for shift work may positively impact employees' work ability and wellbeing.</p>	<p>↑ Opportunity: Workforce's work ability, job satisfaction and commitment to the company increase. This improves Metsä Group's employer image and performance.</p>	<ul style="list-style-type: none"> • Metsä Group's production units are in countries with high-quality statutory requirements concerning working conditions. Local legislation is followed in all the operating countries. • Everyone has the possibility to choose whether to belong or not belong to a trade union. • Metsä Group uses company-specific collective agreements. • More than 99% of the employees are covered by the centralised HR system. • Employees can work remotely, depending on the nature of their work. • Employees have flexible working hours. • An individual working time model for shift work is being tested at Finnish production units.
	<p>↓ Inadequate working conditions would weaken the quality of life of employees and their families and increase inequality.</p>	<p>↓ Risk: Workforce's work ability, job satisfaction and commitment to the company decline. This weakens Metsä Group's employer image and performance.</p>	
<ul style="list-style-type: none"> • Health and safety 	<p>↑ Actions promoting health and safety may positively impact employees' general physical and mental wellbeing and work ability.</p>	<p>↓ Risk: Workforce's work ability, job satisfaction and commitment to the company decline. This weakens Metsä Group's employer image and performance.</p>	<ul style="list-style-type: none"> • Actions promoting health and safety at Metsä Group include, for example: <ul style="list-style-type: none"> - Certified safety management systems - Training, opportunities for safety observations, ongoing risk assessments and defined processes for responding to accidents - Operating models for early support and return-to-work support (rehabilitative activities), and a substance abuse programme - Training of supervisors in managing occupational safety and wellbeing - Employees are offered healthcare and a sports and culture benefit that anticipate and promote the maintenance of work ability
	<p>↓ Inadequate actions for securing health and safety would negatively impact employees' general physical and mental wellbeing and work ability.</p>		
Other work-related rights			
<ul style="list-style-type: none"> • Child labour • Forced labour 	<p>↓ Violation of labour rights would cause human suffering, inequality and a deterioration in the quality of life of employees and their families.</p>	<p>↓ Risk: Metsä Group suffers permanent damage to its reputation. Workforce's job satisfaction and commitment to the company decline.</p>	<ul style="list-style-type: none"> • Metsä Group has focused its production in countries with no significant risk of child or forced labour. • Metsä Group respects human rights in all its operations, does not accept human rights violations in any form, and is committed to ensuring that its operations do not result in negative human rights impacts. • Employees receive human rights training through e-learning courses. • Everyone can report grievances through the Compliance and Ethics Channel.

↑ Positive impact on the environment and society or on Metsä Group's business

↓ Negative impact on the environment and society or on Metsä Group's business

Metsä Group's 2030 sustainability targets

	2030 target	2023	2022
Anonymous recruitment for vacancies open to all, %	100	80	43
Women in management positions, %	>30	20	21
Total recordable incident frequency, own employees (TRIF)	0	6.1	6.7
Employee job satisfaction	AAA	A+	-

The previous result of the employee survey is from 2021.

Progress in targets

- **Anonymous recruitment for vacancies open to all** – Metsä Group initiated anonymous recruitment in 2022. The 2023 results offer a good starting point for the 2030 target.
- **Women in management positions** – Despite the measures taken, the share of women in management positions did not increase in line with the target in 2023. The measures' effectiveness and proportionality in terms of the target will be assessed in 2024.
- **Total recordable incident frequency, own employees (TRIF)** – TRIF progressed towards the zero accidents target. Unfortunately, some of the accidents were serious, so the emphasis on proactive safety work and the prevention of serious work-related accidents must continue.
- **Employee job satisfaction** – The result remained the same as in the previous employee survey. The goal is to enhance the implementation of the measures defined based on the employee survey and to assess any other measures affecting job satisfaction.

The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to the company's own workforce have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Policies

The sustainability of Metsä Group's own workforce is guided by applicable legislation, as well as policies comprising Metsä Group's values and policies approved by the company's Board of Directors, such as the Code of Conduct, the Metsä for all vision and management systems. All the policies cover the company's own employees. The key occupational safety training applies to the company's own employees and leased labour.

Equal treatment and opportunities for all

Metsä Group is committed to promoting the diversity, equality and inclusion (DEI) of its own workforce. This work is guided by the Group's Code of Conduct, Equality policy and the Metsä for all vision, published in 2021. The vision defines Metsä Group's goal of being a forerunner in DEI work and the commitment required of employees as individuals. The DEI steering group, set up in 2023, handles the practical guidance of Metsä Group's equality work, aiming to ensure the implementation of the Metsä for all vision and the company's other principles.

The Code of Conduct and Equality policy encompass the prohibition of all discrimination based on gender, age, origin, race, nationality, language, religion, belief, opinion, political activity, trade union activity, family relations, pregnancy, health, disability, sexual orientation or any

other personal characteristics. Indirect discrimination is also prohibited. The non-discrimination principle applies throughout the life-cycle of an employment relationship, regardless of whether the employment relationship is permanent, temporary or part-time.

Awareness of diversity, equality, inclusion and non-discrimination is promoted through the Code of Conduct and DEI e-learning courses that are mandatory for employees. The themes are part of the onboarding of new employees and apprentices, and supervisor and leadership training.

Training and skills development

Metsä Group's management and employees' skills development are guided by the Human Resources policy. Metsä Group's management and HR are in charge of implementing the policies included in the Human Resources policy. Management and supervisory work is supported through coaching, where participants discuss matters such as Metsä Group's good leadership framework. Employees' skills are developed in the long term in line with Metsä Group's strategy and goals.

Working conditions

In addition to local legislation, Metsä Group complies with the applicable practices for working conditions in its operating countries. In its Code of Conduct, the company is committed to fair terms and conditions of employment. In Finland, Metsä Group complies with company-specific collective agreements for the chemical and mechanical forest industry and forestry sector white-collar employees.

All Metsä Group production units are located in countries that have high-standard statutory requirements concerning working conditions such as reasonable working hours, annual leave, parental leave and part-time work. The wage payment practices for the family-related leave of employees in Finland have been harmonised to a level that exceeds the statutory requirements concerning family leave and offers parents equal opportunities to take care of their child. All employees are paid a living wage (situation at the end of the reporting period, 31 December 2023). Metsä Group's employees have the right to belong or not to belong to a trade union.

Health and safety

Metsä Group's occupational safety is guided by the safety management system, comprising the Corporate Security policy and the safety principles, standards, processes and work instructions. Metsä Group's safety management system also considers each country's legislation, for example, the Occupational Safety and Health Act in Finland. In addition to guiding occupational safety, the ISO 45001 standard calls for a safety management system. The heads of business areas are responsible for the

implementation of safety policies in accordance with the requirements specified by the Group's senior management.

The roles and responsibilities of occupational safety are defined in the safety management principles. The related e-learning course is mandatory for the employees of production units. The General Safety Induction e-learning course on hazards and risks in the work environment is mandatory for Metsä Group's own workforce working in production units and construction sites.

All the production units comply with the ISO 45001 standard for occupational health and safety. All Metsä Group production units and the company's head office apply the 5S method for organising workplaces and standardising working methods, which aims to increase productivity, safety and wellbeing at work.

At Metsä Group, wellbeing and the improvement and maintenance of work ability are guided by the Code of Conduct and the guidelines for wellbeing and occupational safety, in which Metsä Group commits to promoting the employees' physical and mental wellbeing. The promotion of workplace wellbeing and work ability is proactive, the goal being to identify threats to employees' work ability, initiate actions and maintain the employees' health throughout their careers. The sites are responsible for compliance with the applicable legislation and the Group's requirements for workplace wellbeing.

Metsä Group organises healthcare for its employees in accordance with each country's practices and legislation. Information about healthcare services is available on the company's intranet pages, and it is also included in employees' induction.

Other work-related rights

As part of the Code of Conduct, Metsä Group is committed to acting in accordance with the UN Guiding Principles on Business and Human Rights and to respecting internationally recognised human rights in accordance with the UN's Universal Declaration of Human Rights and the ILO's Declaration on Fundamental Principles and Rights at Work. Metsä Group publishes a modern slavery statement annually in accordance with the UK Modern Slavery Act, in which it describes the actions taken to ensure that no modern slavery occurs in the company's own operations or its supply chain.

Metsä Group supports the UN Global Compact initiative and its principles concerning human rights and employees, among other things. Human rights matters are discussed in e-learning courses such as those focusing on sustainability, the Code of Conduct and DEI, which all employees are required to complete regularly.

■ Engaging with the workforce and workforce representatives about impacts

Metsä for all vision

Interaction with employees played an important role when defining the Metsä for all vision. The vision's content was influenced by the opinions of the international working group comprising the company's employees, as well as the results of the survey for all employees. The site-specific development measures related to the vision were determined in workshops for local management, aided by site-specific DEI employee surveys. The workshops and DEI surveys are discussed under *Actions*.

Collective agreements

Company-specific collective agreements for the chemical and mechanical forest industry and forestry sector white-collar employees are renewed among the parties based on the principle of continuous negotiations. The concluding of company-specific collective agreements marked the beginning of measures carried out jointly with the employees' representatives to renew and improve work life.

Cooperative activities

Metsä Group complies with local legislation and applicable collective agreements in all its operating countries. Cooperation is carried out in accordance with each country's legislation. The aim of cooperation is to develop the company's operations and the employees' opportunities to influence the company's decision-making concerning their work, working conditions and position in the company.

An annual cooperation forum is organised for Metsä Group's elected representatives in Finland, where the elected representatives and the company management discuss the elected representatives' questions, development proposals and the Group's financial position. In addition, the management team at all mills in Finland includes an elected representative.

Metsä Board, Metsä Tissue and Metsä Wood have a European Works Council (EWC). The goal of the EWC is to promote the company's internal information flow and contacts between the Corporate Management and employees, as well as to regularly discuss questions about the company's multinational operations that are significant to the employees, primarily in accordance with the Finnish version of the EWC agreement. The Works Council is not intended to discuss matters regulated through national or local collective agreements.

Employee survey, ethics barometer and Pulse survey

Metsä Group conducts an employee survey, measuring job satisfaction, and an ethics barometer, measuring the employees' views on the practical implementation of the Code of Conduct, in alternate years. The ethics barometer is discussed in more detail under *G1 – Business conduct*.

The employee survey is the responsibility of the HR function, which supports the company management in handling the survey results and addressing them in decision-making. The results are discussed at different organisational levels and with elected representatives. Supervisors are trained to process the results, and teams are offered professional support for processing the results and preparing development actions. The results are used in the workplace communities to agree development measures, the implementation of which is monitored in units and by the management of business areas.

Metsä Group measures employees' commitment to the company and their views on the ethics of business with the Pulse survey, conducted four times a year.

The results of the employee survey, ethics barometer and Pulse survey are used as indicators for strategy implementation.

Safety talks and occupational health and safety committees

Occupational safety is promoted and supported with safety talks, or information sessions for the workforce, which are recorded in the system. The occupational health and safety committees of mill sites regularly discuss matters related to the promotion of occupational safety with various groups of the workforce. The occupational health and safety

committee prepares an annual action plan for occupational safety, based on which the occupational health and safety manager and the committee jointly determine the key development measures related to occupational safety. The occupational health and safety committees represent the company's own workforce as a whole, that is, the company's own employees and leased labour.

■ Processes to remediate negative impacts and channels for the company's own employees to raise concerns

Compliance and ethics channel

The company's own workforce can report any ethical concerns or non-compliance with legislation they detect through Metsä Group's Compliance and Ethics Channel or to their supervisor, local management, HR or the Compliance Committee. The Compliance and Ethics Channel and the process for handling reports are discussed in more detail under *G1 – Business conduct*.

Working conditions

Health and safety

Metsä Group's own workforce can raise concerns and express opinions about occupational safety by recording their safety observations in the system. Safety observations are also discussed in daily meetings. Metsä Group does not accept countermeasures against whistle-blowers. If required, whistle-blowers can also submit a report anonymously through the Compliance and Ethics Channel.

All accidents and hazardous situations are investigated. The investigation creates conditions for avoiding similar situations and identifying any shortcomings in safety management in view of corrective action. When the investigation report is completed, a summary of the investigation is distributed to all business areas.

■ Actions

Equal treatment and opportunities for all

The focal points of the Metsä for all vision are equality and gender equality, diversity, inclusion, and cultural change. They guide the development of employee processes and the annually determined measures for achieving the vision. As part of the continuous development work, an equal pay survey is conducted annually, employees are trained regularly, and measures are taken to ensure that the gender distribution in leadership and supervisor training corresponds to the DEI targets.

Breaking the forest sector's traditional male dominance has been identified as a key theme in the Group's social responsibility. In addition to Metsä Group's strategic target (>30% of women in management positions), efforts are made to increase the share of women at all organisational levels.

Anonymous recruitment is the main recruitment method. It supports the diversity of employees by encouraging people with different backgrounds to apply for jobs at Metsä Group. Anonymous recruitment encourages

personnel to consider their unconscious biases and their potential impact on recruitment.

Based on the results of the 2022 ethics barometer, increasing awareness of the Metsä for all vision and strengthening its implementation at the local level were determined as a development area. A programme was launched for local management teams to ensure the vision's implementation in daily management and leadership work. The programme is based on workshops, which include the specification of development measures for individual localities based on the results of the DEI survey conducted among all the site's employees. Key challenges identified in the DEI surveys conducted by the end of 2023 include the unequal distribution of workload, the unequal pay of employees and poor work-life balance. The workshops will continue in the first half of 2024.

Training and skills development

Training and skills development focuses on the continuous development of professional competence, skills related to core processes and leadership skills. Everyone is provided with a personal development plan to support their development at both the personal and team levels. A performance and development appraisal (PDA) is held for employees twice a year. Personal assessments and wider competence surveys can guide the development of individual, group and organisational competence development and the content of development programmes.

As part of the strategy implementation, a long-term development programme concept – Metsä Group's Academies – has been developed, with the goal to develop core competence important to the Group. In 2023, academies for sales, procurement and sustainability were launched alongside the previously launched finance academy. In addition, the leadership programmes that jointly form the leadership academy were revised. Mentoring programmes support the employees' professional growth and enable the use of tacit knowledge.

The implementation of competence development is monitored at two levels. The Group monitors the number of personal development plans and employee survey results related to the opportunities to use one's own competence. In addition, feedback is collected for each academy.

Metsä Group's employees have a bonus system, and the personal performance bonus goals of each employee covered by the system include a sustainability target. Personal goals and development items are set, and progress is monitored in performance and development appraisal (PDAs). The bonus system does not cover trainees, thesis workers, employees who have worked less than four months during the bonus system year or individuals who are not in an employment relationship at the time of the bonus payment.

Working conditions

More than 99% of Metsä Group's employees are included in the same HR management system, which reduces the risk of employment conditions or wages in breach of the law or agreements. Depending on the nature of work, employees have access to flexible working hours and a hybrid model, which enables them to work remotely part of the week. The company supports the employees' wellbeing at different stages of life and enables a long career by offering various solutions such as job rotation.

Health and safety

In Metsä Group, safety management is based on the prevention of hazards and risks. Operations are guided by safety processes, standards and work instructions. The company's own workforce receives a safety induction in potential hazards in the work environment.

Accidents are prevented with common safety-at-work standards, proactive measures – such as risk assessments, safety observations, safety walks and safety training – and investments improving safety. The most typical accidents consist of injuries to hands and feet. Safety-at-work standards have been drawn up for the duties identified as the riskiest. The permit to work standard covers the most important of these: lockout/tagout, working at heights, lifting work, work in confined spaces, excavations and hot work.

The zero accidents target is supported by long-term focal areas for safety. The measures determined based on these areas guide the development of safety work, define the key targets and make safety work more predictable. In 2023, the main focal area of safety work was improving personal commitment. This was carried out through individual targets for proactive safety work and by planning and launching the concept of safety coaching.

Despite all the preventive actions, two fatal accidents took place on Metsä Group's sites in 2023. In February, a service provider's employee died at the Kemi bioproduct mill construction site in a confined space accident. In May, a Metsä Group employee died during maintenance work when they got caught between a travelling crane and a solid structure. The accidents were thoroughly investigated in cooperation with the authorities and service suppliers. In addition to the investigation report, an internal audit summary was compiled and distributed to all business areas so that everyone could learn from the incident, and so that future accidents could be avoided.

In health checks, occupational healthcare evaluates employees' health in view of the demands of their duties and the exposures related to their work. The healthcare services of leased labour are handled by their own employer. The most common occupational illnesses are allergic skin or respiratory reactions caused by dust or chemicals. Workplace conditions are made as health secure as possible, for example, in terms of tidiness and adequate ventilation. Also the appropriateness and adequacy of personal protective equipment is ensured.

To support work performance, operating models have been defined for early support and return-to-work support (rehabilitative activities) and a substance abuse programme. Supervisors are offered guidelines and training for managing wellbeing at work.

In 2023, work to promote wellbeing at work continued. Special attention was paid to the employees' musculoskeletal condition and support for mental wellbeing. Webinars and info sessions on the topics were organised for the employees, and supervisors were offered Mind and Work training. Supervisors and HR were trained in the implementation of early support as part of day-to-day management. Material supporting the promotion of workplace wellbeing has been produced and updated in each country, considering the common policies. The early support measures carried out are monitored in relation to the defined and required measures.

The individual working time model for shift work prepared by Metsä Group in 2023 supports the employees' work ability at production units in Finland by offering employees opportunities to influence their working hours. A year-long trial period will begin at all Finnish production units in 2024.

Other work-related rights

The realisation of human rights is considered as part of the development of HR processes. Investments in occupational safety, DEI work, and e-learning courses dealing with these topics were key practical measures affecting the realisation of human rights in 2023. The Compliance and Ethics Channel and the ethics barometer are important tools for identifying human rights impacts.

Regarding the employees' data protection, procedures for processing employees' personal data have been defined, and all employees are required to comply with the Data Protection policy in place. The Data Protection policy defines the principles and rules that must be followed when processing personal data. Personal data related to the employees' health are processed only by designated individuals, in accordance with data protection legislation and in situations required by law. Employees' health-related data are stored separately from the employees' general personal data. Metsä Group uses advanced technical and organisational means for implementing data protection and information security, and the same is required of companies providing occupational healthcare services as part of the agreements.

In 2023, Metsä Group was made aware of incidents that may have had a direct or indirect negative impact on the company's human rights obligations. The incidents are discussed thoroughly under *G1 – Business conduct*. Concerning the employees' occupational safety, these incidents are also discussed in more detail on page 62, and concerning the occupational safety and other work-related rights of suppliers' employees, under *S2 – Workers in the value chain* on page 67.

Key employee figures

	2023	2022
Number of employees	9,924	9,589
Women	2,348	2,265
Men	7,576	7,324
Aged under 30	1,452	1,395
Aged 30–50	4,856	4,701
Aged over 50	3,616	3,493
Permanent employees	9,092	8,663
Women	2,102	1,997
Men	6,990	6,666
Temporary employees	784	892
Women	230	258
Men	554	634
Non-guaranteed hours employees	48	34
Women	16	10
Men	32	24
Full-time employees	9,555	9,246
Women	2,198	2,124
Men	7,357	7,122
Part-time employees	369	343
Women	150	141
Men	219	202
Total number of non-employees in company's workforce	90	-
Share of men and women in management	143/35	139/37
Share of men and women in management, %	80/20	79/21

Employees by country

	Finland	Sweden	Germany	Poland	United Kingdom	Slovakia	Other countries
Number of employees	5,770	1,339	983	648	389	323	472
Number of permanent employees	5,278	1,234	840	590	386	309	455
Number of temporary employees	448	101	143	58	3	14	17
Number of non-guaranteed hours employees	44	4	0	0	0	0	0
Number of full-time employees	5,573	1,273	908	638	375	322	466
Number of part-time employees	197	66	75	10	14	1	6

Collective bargaining coverage and advocacy

Coverage rate	Collective bargaining coverage		Social dialogue
	Employees – EEA	Employees – non-EEA	Workplace representation (EEA only)
0–19%	Estonia	The United States	
20–39%			
40–59%	Poland	United Kingdom	
60–79%	Finland		
80–100%	Germany, Slovakia, Sweden		Finland, Sweden, Poland, Estonia, Slovakia, Germany

Countries with more than 50 employees

Total remuneration ratio of women and men

	Finland	Sweden	Germany	Poland	United Kingdom	Slovakia
Blue-collars	0.95	1.00	0.99	0.94	-	0.91
White-collars	0.99	0.92	1.00	1.01	0.96	0.88

Employee turnover and recruitment

	2023	2022
Employee turnover rate, %	7.5	12
Women	8.7	12
Men	7.1	12
Aged under 30	10	19
Aged 30–50	6.5	11
Aged over 50	7.9	12
Number of new hires, total	511	478
Women	178	155
Men	333	323
Aged under 30	137	138
Aged 30–50	310	286
Aged over 50	64	54

Social protection

	Countries with no social security for the listed life events
Sickness	
Unemployment starting from when the company's own worker is working for the undertaking	India, Singapore
Injury incurred at work or work disability	India, Singapore
Maternity leave	
Retirement	India

Training and skills development

	2023	2022
Employees who participated in regular performance and career development reviews, %	93	86
Women	90	81
Men	93	88
Blue-collars	92	86
White-collars	93	86
Management	97	94
The average number of training hours per employee	15	13
Women	17	15
Men	14	12
Blue-collars	12	10
White-collars	19	17
Management	28	17

Health and safety

	2023	2022
OWN EMPLOYEES		
Occupational accidents	96	107
TRIF	6.1	6.7
Lost time occupational accidents	66	83
Lost time accident frequency, LTA1F	4.2	5.2
Fatal occupational accidents	1	0
Occupational diseases	3	2
Fatal occupational diseases	0	0
SERVICE PROVIDERS		
Occupational accidents	39	42
Fatal occupational accidents	1	1

Family-related leave

	2023
Number of employees entitled to take family-related leave	9,924
Employees entitled to take family-related leave, %	100
Number of women on family-related leave	267
Women on family-related leave, %	11
Number of men on family-related leave	468
Men on family-related leave, %	6.2

Figure for comparison unavailable.

Total remuneration

	2023
Ratio of the highest paid individual to the median annual remuneration for all employees (excluding the highest-paid individual)	41.8

Figure for comparison unavailable.

Reporting principles for metrics

The figures for the company's own workforce include the entire Metsä Group, excluding the following small companies, the employees of which are not included in the centralised HR system: Kumpuniemen Voima Oy, Oy Silva Shipping Ab, Lohjan Biolämpö Oy and Katrinefors Kraftvarme Ab. On 31 December 2023, the total number of employees of these companies was 46, or around 0.5 per cent of the entire Group's employees. In other respects, the consolidation principles for financial reporting have been applied to the figures.

The number of employees used in the calculations is indicated as the number at the end of the reporting period (31 December 2023), excluding metrics related to the coverage of collective agreements, social security and family-related leave, the reporting date of which is 30 September 2023. Any changes in the last quarter are not expected to affect the result of these metrics. The figure also includes non-active employees such as employees on family-related leave. The increase in the number of employees from the previous year is mainly explained by the merging of the maintenance of production units, which was previously outsourced, with the Metsä Fibre organisation.

Metsä Group annually employs around 1,000 seasonal summer employees, thesis workers and trainees, some of whom are not employed at the end of the reporting period, when the number of employees is determined.

Non-employee workers in the company's own workforce include workers who have concluded an agreement on the supply of labour with Metsä Group, that is, self-employed people and people provided by companies that primarily engage in employment activities. No significant changes usually take place in the number of workers over the year.

Recruitment includes permanent new hires. Employee turnover includes all leavers, whatever the reason (excluding transfer of business), divided by the number of employees. The figure includes permanent employment relationships.

The share of anonymous recruitment of vacancies open to all includes the recruitment carried out in the Workday system. Workday is used in most recruitment. For example, cases in which the job applicant directly contacts the production unit are not included in the calculation.

The share of women in management includes women whose management level is VP/SVP/CEO, and who have a management IPE level.

The remuneration figures are reported based on the number of people with an active employment relationship on 31 December 2023. The total remuneration ratio of women and men has been calculated as an average of women and men in the same pay category, weighted by the number of people. If pay categories are not in use in the unit, remuneration has been compared within the same mill. The table indicates the six largest operating countries, each of which has at least 20 employees. In calculating the ratio of the highest paid individual to the median annual remuneration for all employees, the median excludes people whose employment began during the reporting year, or who were absent for more than three months during the reporting year, as well as the remuneration of the highest-paid individual. The adequate wage indicator has been calculated by comparing employees' total remuneration with market data on the adequate wage in the area in question.

The number of work-related accidents is indicated separately for the company's own employees and service providers' employees. The accident frequencies, TRIF and LTA1F, only include the company's own employees, because information about service providers' actual working hours is unavailable. The number of fatal work-related accidents includes the company's own employees and service providers' employees. LTA1F includes all work-related accidents that have led to at least one day of absence. Frequencies have been calculated per million hours worked.

The employee survey results are based on the employee survey conducted every two years. The results are compared with European benchmarks, and the level of job satisfaction is derived from this. All Metsä Group employees can respond to the survey. Responses are collected on a scale of 1–4 (fully disagree/ agree), and an external service provider converts the responses to indexes on a scale of 0–100 (100 = everyone fully agrees). Compared with the standard, the target of AAA is "very good".

S2 – Workers in the value chain

Material impacts, risks and opportunities related to workers in the value chain

Material sub-sub-topic	Impacts	Risks and opportunities for Metsä Group	Management
Working conditions			
<ul style="list-style-type: none"> • Secure employment • Working time • Adequate wages • Social dialogue • Collective bargaining • Work-life balance 	<p>↑ Metsä Group's requirements and control mechanisms such as the model for preventing the grey economy may have a positive impact on the working conditions of suppliers' employees.</p>	<p>↓ Risk: Metsä Group may unintentionally support operations that are contrary to its values. Suppliers' employees or contract entrepreneurs may experience weaker work ability, satisfaction and commitment to cooperation with Metsä Group. Metsä Group's reputation as a sustainable and safe partner is put at risk.</p>	<ul style="list-style-type: none"> • The Supplier Code of Conduct contains requirements for fair employment practices. • Compliance is ensured with supplier audits and assessments • Metsä Group follows due diligence in the Know Your Business Partner background check, which reviews known human rights violations, among other things. • The model for preventing the grey economy is in use in construction projects.
	<p>↓ Inadequate working conditions would weaken the quality of life and wellbeing of suppliers' employees and their families, increase inequality and risk the work-life balance.</p>		
<ul style="list-style-type: none"> • Health and safety 	<p>↑ Metsä Group's safety requirements may positively influence the wellbeing and work ability of suppliers' employees and the wellbeing of the employees' families.</p>	<p>↑ Opportunity: Suppliers and their employees experience greater work ability, wellbeing and commitment to cooperation with Metsä Group. Metsä Group's reputation as a sustainable and safe partner strengthens.</p>	<ul style="list-style-type: none"> • The Supplier Code of Conduct contains requirements for safety-at-work management. • Compliance is secured with targeted supplier audits and assessments. • The safety management system covers service providers working in Metsä Group's operations. Occupational safety is continuously developed jointly with service providers. • In wood supply, forest site preparation days and safety walks at loading and unloading sites are conducted regularly.
	<p>↓ Deficiencies in Metsä Group's health and safety requirements or in the oversight of their implementation would weaken the work ability of suppliers' employees, as well as their physical and mental wellbeing, and increase work-related accidents.</p>		
Other work-related rights			
<ul style="list-style-type: none"> • Child labour • Forced labour 	<p>↓ A violation of labour rights in Metsä Group's supply chain would cause human suffering and inequality and undermines the quality of life of employees and their close ones.</p>	<p>↓ Risk: Metsä Group unintentionally supports operations contrary to its values, which risks Metsä Group's reputation as a sustainable partner and operator.</p>	<ul style="list-style-type: none"> • The Supplier Code of Conduct contains requirements for respecting human rights. • Compliance is ensured with supplier audits. • Metsä Group follows due diligence in the Know Your Business Partner background check, which reviews known human rights violations, among other things.

↑ Positive impact on the environment and society or on Metsä Group's business
 ↓ Negative impact on the environment and society or on Metsä Group's business

■ Targets

Metsä Group has set sustainability targets related to value chain workers and supplier commitment in the Code of Conduct, as well as supplier assessments and audits. These targets are discussed under *G1 – Business conduct*.

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to workers in the value chain have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

The material impacts of Metsä Group's value chain have been primarily assessed concerning suppliers' employees. The most significant groups of suppliers' employees are those working in construction projects and at production units, and those working as harvesting, transport and forest management partners, who are independent contract entrepreneurs and thus comparable to value chain workers. Occupational safety especially was identified as a material concern related to these employee groups.

Supply chain employees' other working conditions and labour rights were also considered to be material.

■ Policies

Sustainability related to workers in Metsä Group's value chain is guided by the Group's Supplier Code of Conduct, approved by Metsä Group's Board of Directors, and Metsä Group's safety management system. All suppliers are required to commit to Metsä Group's Supplier Code of Conduct, which sets requirements for suppliers concerning matters such as working conditions, occupational safety and other work-related rights. The safety management system covers all employees of service providers working in Metsä Group's operations.

Working conditions

The Metsä Group Supplier Code of Conduct includes several requirements related to the working conditions of suppliers' employees, with which suppliers must comply:

- Fair employment practices
- A living wage as required by laws and regulations
- Freedom of association and collective bargaining
- Respect for privacy
- Anti-harassment
- Equal opportunities and non-discrimination

The implementation of the Supplier Code of Conduct is the responsibility of Metsä Group's procurement organisation, the head of which reports to the company's President and CEO.

Health and safety

Metsä Group's occupational safety is guided by the safety management system, comprising the corporate security policy and the safety principles, standards, processes and work instructions. The requirements of the safety management system are the same for the company's own workforce and service providers working in Metsä Group's operations. The heads of business areas are responsible for the implementation of safety policies in accordance with the requirements specified by the Group's senior management. The responsibilities related to safety policies are described under *S1 – Own workforce*.

The Safety Management Standard for Metsä Group Service Providers sets requirements for the work management and supervision, employee competence, safety reporting and permits to work of service providers working in Metsä Group's operations.

The General Safety Induction e-learning course dealing with hazards and risks in the work environment is mandatory for service providers working at Metsä Group's production units and construction sites.

The Supplier Code of Conduct require suppliers to provide a safe and healthy working environment to prevent accidents, injuries and illnesses and to ensure that employees are aware of and adequately trained in these issues. Suppliers must have an occupational health and safety management system according to ISO 45001 or an equivalent system, as applicable.

Other work-related rights

The Supplier Code of Conduct includes many binding requirements concerning other work-related rights of suppliers' workers:

- Respecting internationally recognised human rights in accordance with the United Nations' Universal Declaration of Human Rights and the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work.
- Acting in compliance with the UN Guiding Principles on Business and Human Rights.
- Taking action to remedy any adverse human rights impacts. Special attention must be paid to any adverse impacts on groups or individuals that may be at higher risk of vulnerability, such as migrant workers.
- Prohibiting any form of forced and child labour.

Further information about Metsä Group's Supplier Code of Conduct is available on the Group's website.

■ Engaging with value chain workers about impacts

The need for interaction with suppliers' employees or their representatives is highlighted when suppliers' employees work in operations comparable to Metsä Group's own operations, for example, at mills and construction sites or in harvesting and forest management. In other respects, the views of suppliers' employees are conveyed indirectly through normal supplier management activities such as cooperation meetings, audits and cooperation surveys. Supplier management practices are discussed under *G1 – Business conduct*.

Metsä Forest and Metsä Fibre organise regular cooperation forums with representatives of key service providers. The forums deal with the conditions for safety cooperation and joint development needs. Expanding

the cooperation model to all business areas will be one of the key safety development measures in the coming years.

In Metsä Fibre's Kemi bioproduct mill construction project, completed in September 2023, the safety performance of service providers was monitored just as in any other major investment. The observed safety deviations were actively addressed. Weekly safety talks were organised on the site with project employees. A site application was also used to communicate safety information and other topical information related to the project. The application included a channel for reporting incidents of the grey economy, which project workers could use to report any anomalies they observed. A contact person for the Industrial Union and a health and safety representative of the Construction Trade Union were assigned to the project.

Metsä Group engages in long-term partnerships with harvesting, forest management and transport entrepreneurs. Cooperation is continuous, and contract entrepreneurs are trained in quality, safety, environmental and sustainability matters. In 2023, contract entrepreneurs received training in Metsä Group's 2030 targets and forest certification.

■ Processes to remediate negative impacts and channels for value chain workers to raise concerns

Compliance and ethics channel

Metsä Group's Compliance and Ethics Channel is available to all stakeholders, including value chain workers, who are encouraged to report any violations of legislation and ethical anomalies related to their cooperation with Metsä Group. Reports can be submitted anonymously. In addition to the Compliance and Ethics Channel, value chain workers can report any shortcomings they observe to Metsä Group's contact person. The Supplier Code of Conduct encourages suppliers' employees to report any non-compliance with the Code through the Compliance and Ethics Channel.

In the Supplier Code of Conduct, the supplier commits to rectifying any non-compliance with the Code. Suppliers must also ensure that their employees and stakeholders can raise concerns or grievances, and that there are appropriate practices for handling such cases. The Compliance and Ethics Channel, raising concerns and the processing of notifications are discussed in more detail under *G1 – Business conduct*.

Working conditions

Methods adopted to prevent and mitigate any negative impacts on suppliers' employees include supplier background checks, audits and assessments. A model for combating the grey economy, as well as on-site spot checks, is in use in construction projects. These measures are discussed in more detail under *Actions* in this section and under *G1 – Business conduct*.

Any non-compliance related to working conditions, health and safety or other human rights is handled in accordance with Metsä Group's escalation process. The idea is to first offer suppliers the chance to rectify their way of working. If the supplier is unwilling or unable to rectify their way of working, they are removed from Metsä Group's operations. The most serious cases are presented for processing to Metsä Group's Executive Management Team. In 2023, a total of ten companies had to be removed from the Kemi bioproduct mill construction project site because they did not comply with the project's sustainability requirements, even after being reprimanded. Further information is provided under *G1 - Business conduct*.

Health and safety

Safety is continuously developed and monitored with service providers working at mills and in construction projects. Service providers' employees are required to point out development areas by reporting their safety observations in the system. The observations are handled as part of daily management. Service providers are required to engage in systematic and proactive safety work in the form of safety observations, walks and talks. Metsä Group does not accept countermeasures against whistle-blowers. If required, whistle-blowers can also submit a report anonymously through the Compliance and Ethics Channel.

Accidents and hazardous situations are investigated thoroughly in cooperation with service providers. The investigation creates conditions for avoiding similar situations and identifying any shortcomings in safety management. When the investigation report is completed, a summary of the investigation is distributed to all business areas.

If shortcomings are observed in the service providers' occupational safety, the same approach is followed as in other incidents of non-compliance related to working conditions, that is, the provider is first offered the opportunity to rectify their way of working. If the service provider is unwilling or unable to rectify their way of working, they are removed from the operations. In 2023, in connection with the expansion of the Husum paperboard mill's folding boxboard capacity, eight service providers were removed from the site due to shortcomings in safety. No work-related accidents were caused by the shortcomings.

Other work-related rights

The practices of supplier management and the process for handling observed grievances are discussed under *Working conditions*.

■ Actions

Working conditions

A background check is always conducted for suppliers. Any known human rights violations and negative publicity related to human rights are reviewed as part of the background check. Supplier evaluations and audits are conducted to ensure that each supplier has adequate means to recognise and minimise impacts on the working conditions and other

work-related rights of their employees. Among other things, evaluations seek to ensure that the companies have adequate proactive measures for ensuring occupational safety, as well as a written Code of Conduct and an anonymous reporting channel for employees. Audits include observations of working conditions and interviews with employees if required.

In construction projects, the sustainability of the subcontracting chain is ensured proactively by checking the companies' backgrounds during the tendering stage, employing the model for combating the grey economy and conducting regular spot checks. The model for combating the grey economy ensures that companies in the subcontracting chain comply with laws and collective agreements and handle taxes and obligations appropriately. The goal of regular spot checks is to observe any deviations. These measures are discussed in more detail under *Processes to remediate negative impacts and channels for value chain workers to raise concerns* in this section.

Supplier management practices are discussed in more detail under *G1 - Business conduct*.

Health and safety

Before starting to work at a Metsä Group site, the suppliers go through a general safety induction and a job-specific safety induction and must obtain the required work permits. Service providers must assess the risks in their own work, prepare for them with a safety plan and submit their plan to the mill in question. Service providers also participate in Metsä Group's safety walks and risk assessments. Work-related accidents that occur in the company's operations are registered in the same system as those of the company's own employees. Accidents and reported safety observations are monitored continuously. In construction projects, the safety performance of different service providers is monitored, and any safety deviations observed are actively addressed.

Since 2023, forest site preparation days and safety walks on loading and unloading sites are organised regularly with contract entrepreneurs in wood supply operations at Metsä Group's production units and terminals.

Despite all the preventive actions, two fatal accidents took place at Metsä Group's sites in 2023, one of which involved a service provider's employee in Metsä Fibre's Kemi bioproduct mill construction project. The accident was thoroughly investigated in compliance with Metsä Group's standard process and in close cooperation with the authorities and service suppliers.

Other work-related rights

The *Working conditions* subsection describes supplier management practices for ensuring the realisation of social responsibility with the aid of audits, for example. The auditors have been trained to detect risks related to forced labour and labour exploitation, for example.

S3 – Affected communities

Material impacts, risks and opportunities related to affected communities

Material sub-sub-topic	Impacts	Risks and opportunities for Metsä Group	Management
Communities' economic, social and cultural rights			
<ul style="list-style-type: none"> Land-related impacts Adequate housing 	<p>↑ Metsä Group can contribute to social equality and consensus among different communities through systematic stakeholder engagement. The needs of local communities and other affected communities are taken into account in decision-making and the development of operations.</p>	<p>↑ Opportunity: Metsä Group considers the views, needs and rights of various stakeholders such as the affected communities when making decisions and developing operations, which improves the management of sustainability impacts. The acceptability of Metsä Group's operations and the company's reputation as a sustainable operator improve.</p>	<ul style="list-style-type: none"> The model for stakeholder engagement was developed in 2023 by defining processes for the management of stakeholder engagement, which will be implemented in 2024. Metsä Group actively provides information about its operations and organises local public events on major events such as investments. Stakeholders are engaged in the materiality assessment concerning sustainability. In the localities of production units, local residents are offered greater opportunities for participation, and initiatives are made to improve the local quality of life.
	<p>↓ The inadequate management of stakeholder engagement would lead to the views and rights of affected communities not being considered in decision-making and operational development.</p>	<p>↓ Risk: If the views, needs and rights of various stakeholders such as affected communities are not adequately taken into account, Metsä Group's understanding of the impacts of its operations and value chain remains incomplete. This means Metsä Group is unable to take stakeholders into account in its decision-making, which weakens the acceptability of the company's operations and its reputation as a sustainable operator.</p>	
Rights of indigenous peoples			
<ul style="list-style-type: none"> Free, prior and informed consent Self-determination 	<p>↑ Stakeholder engagement ensures that the needs of indigenous peoples and the conditions for their livelihoods can be taken into account in decision-making and operational development.</p>	<p>↑ Opportunity: Metsä Group considers the needs of indigenous peoples, especially the conditions for their livelihoods, in its decision-making and operational development, improving the management of sustainability impacts. Metsä Group's acceptability and reputation as a sustainable operator improve.</p>	<ul style="list-style-type: none"> In the home region of the Sámi, Metsä Group engages in local dialogue about the coordination of reindeer husbandry and forestry with key stakeholders such as forest owners and reindeer owners' associations. Communication with the Sámi is typically related to practical questions.
	<p>↓ A lack of engagement would lead to the needs of indigenous peoples and the conditions for their livelihoods not being adequately considered in decision-making and operations.</p>	<p>↓ Risk: If adequate attention is not paid to the needs of indigenous peoples and especially the conditions for their livelihoods, Metsä Group's understanding of the impacts of its operations and its value chain weakens. This means Metsä Group is unable to take indigenous peoples into account in its decision-making, which weakens the acceptability of the company's operations and its reputation as a sustainable operator.</p>	

↑ Positive impact on the environment and society or on Metsä Group's business

↓ Negative impact on the environment and society or on Metsä Group's business

Targets

Metsä Group's strategic 2030 sustainability targets and the process for their setting and monitoring are described under *Sustainability governance and strategy* on page 25. The sustainability targets related to the environment and the supply chain's sustainability especially seek to reduce Metsä Group's negative impacts directly or indirectly or promote its positive impacts on affected communities. In 2023, Metsä Group also adopted a regenerative forestry strategy, which aims to measurably improve the state of nature by 2030. The regenerative forestry strategy is discussed under *E4 – Biodiversity and ecosystems*.

The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to affected communities have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

Policies

Sustainability concerning affected communities is guided by the Code of Conduct and the Supplier Code of Conduct, which include commitments to human rights. Metsä Group respects internationally recognised human rights in all its operations. The commitments are discussed in more detail under *S1 – Own workforce* and *S2 – Workers in the value chain*. In addition to the company's own workforce and workers in the value chain, the commitments concern all affected communities. In 2023, management processes and practices for stakeholder engagement were defined. The company will follow them from the beginning of 2024.

Metsä Group's main communities of influence are forest owners, mill sites and the people living there, as well as the surrounding nature and those who make a living from it or have an interest in it, such as indigenous peoples, the Sami, and various NGOs.

Special attention is paid to affected communities in current stakeholder activities and in the management processes introduced in 2024, the goal of which is to ensure good and confidential relationships, a low contact threshold, and regular meetings between Metsä Group and its stakeholders. Metsä Group also strives to develop its operations by regularly surveying opportunities for cooperation.

■ Engaging with affected communities about impacts

The goal of stakeholder engagement is to ensure that stakeholders are met and heard, and that Metsä Group receives feedback on its operations. Stakeholder feedback is analysed individually for various stakeholders, and it is taken into account in development and reported to the company's senior management and administration. The scope and frequency of engagement differs depending on the stakeholder.

The management processes for stakeholder engagement, which will be implemented in 2024, aim to diversify the methods of engagement and harmonise the scope and frequency of engagement with various stakeholders to ensure the opinions of all stakeholders are equally taken into account. The goal is to meet each stakeholder in person at least once a year. Other engagement mechanisms include cooperation days, the organisation of visits, and cooperation projects. Stakeholder feedback is collected in connection with cooperation days. Stakeholder feedback is also collected from decision-makers.

Of indigenous peoples, the Sámi are affected by Metsä Group's operations especially in the context of wood supply. In wood supply, the local significant stakeholders are taken into account, and compliance with certification requirements is ensured. Forest certification schemes also set out strict criteria for social sustainability. They include requirements for safeguarding the rights of indigenous peoples, for example. In the home region of the Sámi, Metsä Group engages in dialogue about the coordination of reindeer husbandry and forestry with stakeholders, including forest owners and reindeer owners' associations, typically on a needs basis and concerning practical matters.

■ Processes to remediate negative impacts and channels for affected communities to raise concerns

The implementation of large projects such as new production lines always includes an environmental impact assessment, carried out in advance, which also involves hearing local communities and other stakeholders. In other matters, the affected communities can raise concerns by directly contacting local operations through the production units' contact persons, Metsä Group's Communications or Corporate Affairs, for example. To remediate any negative impacts, the company acts without delay and in close cooperation with the local and regional authorities.

Open house events organised at production units are an established way of communicating information about operations to local residents and other interested parties.

The affected communities can also report any ethical concerns or non-compliance with legislation through Metsä Group's Compliance and Ethics Channel. In the Supplier Code of Conduct, the supplier commits to rectifying any non-compliance with the Code. The Compliance and Ethics Channel is described under *G1 – Business conduct*.

■ Actions

As part of its risk management process, Metsä Group regularly carries out a double materiality assessment of all its operations, in which the impacts, key risks and opportunities of operations are also assessed. The materiality assessment is discussed under *Material sustainability-related impacts, risks and opportunities*. The materiality assessment is further specified based on the feedback obtained from engagement with affected communities. The company seeks to harness identified opportunities by exploring potential business development and cooperation initiatives with interested stakeholders.

Actions for managing negative impacts and promoting positive impacts at mill localities include systematically reducing environmental impacts, engaging with local communities and increasing cooperation, as well as adopting initiatives that improve the quality of life locally, such as improving employment and providing opportunities for recreation.

In 2023, Metsä Group launched a multi-year action plan in which a biodiversity plan will be drawn up for each production unit. The project began in Kemi, which will serve as the pilot site, and where the biodiversity plan is being prepared in cooperation with an NGO that specialises in the biodiversity of the built environment. The plan encompasses nature-based solutions on the industrial site, as well as off-site land areas owned by the company, which are used by the town for recreational purposes. The goal is to raise the level of biodiversity protection in the built environment to a new level in mill environments and develop cooperation with local communities.

Metsä Group launched a regenerative forestry strategy for its wood supply, with which it aims to measurably improve the state of nature by 2030. The regenerative forestry strategy is a solution that Metsä Group has been systematically developing to seriously address stakeholders' concerns about biodiversity loss and climate change. In addition to regenerative forestry, Metsä Group is promoting other actions such as the voluntary METSO forest conservation programme and its implementation. Metsä Group also funds restoration projects improving biodiversity through its nature programme. The regenerative forestry strategy is discussed under *E4 – Biodiversity and ecosystems*.

Metsä Group offers regenerative forestry service solutions such as the Metsä Group Plus service to its forest-owner members, which enables forest nature to be taken into account better than before. Regenerative forestry offers forest owners the opportunity to transfer their forest assets to the next generation in a better natural state. Regenerative forestry and its development is a solutions-oriented response to NGOs' demands for the development of forest management to better safeguard biodiversity and mitigate climate change.

Metsä Group will strengthen cooperation with scientific communities and organise cooperation days for stakeholders to discuss the progress made in Metsä Group's and the scientific community's cooperation and to offer stakeholders the opportunity to influence activities more broadly.

S4 – Consumers and end-users

Material impacts, risks and opportunities related to consumers and end-users

Material sub-sub-topic	Impacts	Risks and opportunities for Metsä Group	Management
Personal safety of consumers and end-users			
Health and safety	↓ If Metsä Group's products were to exhibit defects related to product safety, there would be negative impacts on the health and safety of consumers and end-users.	↓ Risk: Metsä Group suffers reputational damage among current and potential new customers, consumers and end-users, and may incur liabilities for compensation and other costs related to the limitation of damage.	<ul style="list-style-type: none"> • Metsä Group uses regular product safety surveys, inspections, risk assessments and monitoring. • Metsä Group has appropriate certified management systems.
Information-related impacts on consumers and end-users			
Access to quality information	↓ If Metsä Group's products were to include misleading product information, there could be negative impacts on the health and safety of consumers and end-users.	↓ Risk: Metsä Group suffers reputational damage among current and potential new customers, consumers and end-users, and may incur liabilities for compensation and other costs related to the limitation of damage.	<ul style="list-style-type: none"> • Metsä Group has established practices for ensuring that its product information is up to date and accurate. • The compliance of product information is controlled annually and through continuous change monitoring. • Product information and product requirements are controlled with the product information management system.

↑ Positive impact on the environment and society or on Metsä Group's business

↓ Negative impact on the environment and society or on Metsä Group's business

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to consumers and end-users have been identified in a double materiality assessment based on the principles of the company's risk management process. The materiality assessment is described on pages 29–31.

■ Policies

Sustainability related to Metsä Group's consumers and end-users is guided by policies comprising Metsä Group's Code of Conduct, Supplier Code of Conduct, Quality policy and management systems approved by the company's Board of Directors. The goal of policies is to minimise adverse environmental impacts, promote human rights and comply with the Code of Conduct, and thus demonstrate to consumers and end-users that the products are sustainably produced. The policies indirectly encompass all consumer and end-user groups.

Of the topics included in the Code of Conduct and Supplier Code of Conduct, those most important for end-users are respect for the environment and product safety. Respect for the environment always includes the commitment to use wood fibre of known origin. Metsä Group uses wood fibre that originates in certified or controlled forests and is thus traceable. The chains of custody for PEFC and FSC® certified wood cover all the company's operations.

The Quality policy determines the targets and policies for ensuring the quality of Metsä Group's operations and products. The goal is to ensure that the quality of Metsä Group's operations, products and services meets the needs and expectations of customers – and thus consumers and end-users. Products are also discussed under *E1 – Climate change*.

Health and safety

Metsä Group complies with legislation protecting the health of people and the environment, including the EU regulation on the registration, evaluation, authorisation and restriction of chemicals (REACH), the CLP Regulation on the classification, labelling and packaging of chemicals, legislation on the use of biocides, and product requirements concerning food safety. The product management organisation of each business area is responsible for ensuring compliance with the requirements concerning Metsä Group's products and for ensuring that the product information is up to date.

The Code of Conduct includes a commitment to ensure product safety across the value chain. In addition to traceable wood fibre, Metsä Group's other raw materials come from reliable suppliers, who comply with the Supplier Code of Conduct and meet the requirements for product safety.

Metsä Group mills comply with good production practices and have appropriate certified quality systems. Mills that produce products used in food contact, such as paperboards, comply with the same product safety requirements as the food industry. The certified management systems of Metsä Group's units are listed in the table on pages 79–83.

Access to quality information

To ensure the quality of product management, product management organisations follow harmonised product management processes, covering product specifications, the management of basic information and product descriptions, and the management of the product requirements of customers and officials throughout the product life-cycle.

■ Engaging with consumers and end-users about impacts

Most of Metsä Group's customers are companies. The process for direct engagement with consumers and end-users has therefore not been defined. Instead, Metsä Group's customers engage with consumers in accordance with their own processes. Metsä Group's channel for direct engagement with consumers and end-users is the contact form available on each business area's website. For Metsä Tissue's consumer brands, a product complaint form is also available on the website.

Metsä Group builds its understanding of consumers' and end-users' wishes and needs through its active engagement with its corporate customers. The company's continuous and needs-based engagement with customers is carried out by means such as customer feedback forms and customer experience surveys. Annual customer experience surveys are part of the assessment of customer needs and the identification of development needs.

The observations from customer engagement guide decision-making, as they are discussed at sales meetings and at meetings of Metsä Group's senior management if required. Observations and the results of sales-volume monitoring build market insight, enabling products and services, as well as their development, to be prioritised based on the preferences and needs of consumers and end-users. The management of each business area is responsible for taking consumers' and end-users' needs and expectations into account in decision-making.

■ Processes to remediate negative impacts and channels for consumers and end-users to raise concerns

Metsä Group directs contacts from corporate customers, consumers and end-users to the appropriate party for handling to ensure they receive a thorough response. Contacts concerning product feedback are used in product or product portfolio analyses, and they are taken into account in product and service development.

Any product complaints are thoroughly investigated internally, and supported by external parties such as research institutions if required. The Group has a process for ensuring product quality, according to which root cause analyses must be carried out, and any required corrective action must be taken in the case of quality deviations. A standardised recall process is followed in the event of any product safety risks to ensure that all potentially harmful products are removed from the market and transports.

Compliance and Ethics Channel

Consumers and end-users can use Metsä Group's Compliance and Ethics Channel to report any ethical concerns or non-compliance with legislation. The Compliance and Ethics Channel and the process for handling reports are described in more detail under *G1 – Business conduct*.

■ Actions

Health and safety

Metsä Group and external parties assess the compliance of products. Regular product safety questionnaires, audits and monitoring are used to ensure that risks are managed throughout the production and supply chain.

In production, product safety is assessed and ensured with risk assessment methods such as the HACCP (Hazard Analysis and Critical Control Points), which is widely used in the food industry. The quality and product safety systems specify how any concerns arising in risk assessments are handled. Metsä Group's management system also requires internal and external audits, including audits related to the certification of ISO systems.

Risks are always assessed in projects related to Metsä Group's new products and appropriately mitigated. Both current and future requirements and risks are considered in product development, which can be seen in raw material selection and process planning, for example.

The implementation of measures is monitored with methods such as reputation studies, customer feedback, customer surveys, internal audits and external assessments. Each business area pursues its own research and development and has its own product safety resources, including product safety coordinators. The Group also has centralised research and development resources.

Access to quality information

Product information management processes include established practices to ensure the product information is up to date and to correct any mistakes in the information. The organisations managing product information actively monitor the accuracy of the information. Metsä Group also has a separate internal control process that is applied in the management of product information. In accordance with the internal control process, product compliance is audited at least twice a year in all Metsä Group business units.

Product information and requirements are managed with Metsä Group's Product Information Management (PIM) system, which was introduced in 2022 and is actively developed to support new product information management needs.

G – Governance

G1 – Business conduct

Impacts, risks and opportunities related to business conduct

Impacts	Risks and opportunities for Metsä Group	Management
Corporate culture		
<p>↑ Metsä Group's measures to promote an ethical corporate culture offer employees a safe work environment and other stakeholders an opportunity for cooperation with an ethical and reliable operator.</p>	<p>↑ Opportunity: The employees' and other stakeholders' experience of Metsä Group and the company's reputation as an ethical and reliable operator strengthen.</p>	<ul style="list-style-type: none"> • Employees learn about ethical corporate culture during induction, and later during employment, through e-learning and classroom training, and through communication. Especially supervisors' capacity to address grievances is developed through training. • Ethical corporate culture is measured with the ethics barometer. • Metsä Group has a Compliance and Ethics Channel open to everyone.
<p>↓ Inadequate measures to commit employees to an ethical corporate culture could lead to non-compliance with the law or unethical business operations, as well as unequal treatment and harassment.</p>	<p>↓ Risk: Metsä Group incurs financial losses due to operations in breach of legislation. The company's reputation as a sustainable partner and operator weakens. Unequal treatment and harassment reduce the employees' job satisfaction and commitment.</p>	
Corruption and bribery		
<p>↑ Prevention and detection: Metsä Group's measures and control mechanisms for preventing corruption and bribery offer stakeholders the opportunity to cooperate with an ethical and reliable operator.</p>	<p>↑ Opportunity: The stakeholders' experience of Metsä Group and the company's reputation as an ethical and reliable operator strengthen, improving performance and competitiveness.</p>	<ul style="list-style-type: none"> • Employees learn about ethical corporate culture during induction, and later during employment, through e-learning and classroom training, and through communication. • Metsä Group has internal controls, which are continuously developed. • Ethical corporate culture is measured with the ethics barometer. • Everyone can report grievances through the Compliance and Ethics Channel.
<p>↓ Incidents: Inadequate measures and control mechanisms for preventing corruption and bribery could lead to non-compliance with Metsä Group's Code of Conduct and legislation concerning corruption and bribery.</p>	<p>↓ Risk: Corruption and bribery have significant financial consequences and weaken the reputation and employer image.</p>	
Management of relationships with suppliers including payment practices		
<p>↑ Metsä Group's requirements and control mechanisms, as well as its sustainability cooperation with suppliers, have a positive impact on the realisation of ethical operations and sustainability in the supply chain.</p>	<p>↑ Opportunity: Metsä Group's reputation as a sustainable partner and operator improves. Cooperation with suppliers becomes closer and leads to long partnerships.</p>	<ul style="list-style-type: none"> • Suppliers are required to commit to the Code of Conduct. • Metsä Group follows due diligence in its selection of partners (Know Your Business Partner process). • Joint sustainability targets and actions are agreed with partner-level suppliers. • The company uses supplier assessments, surveys and audits, as well as risk analyses. • Procurement employees are trained in matters concerning ethics and sustainability. • Cooperation is close with local contract entrepreneurs in harvesting, transport and forestry work. • The sustainability and traceability of wood fibre is ensured in accordance with the Chain of Custody. • The traceability of other raw materials and packaging materials is continuously developed.
<p>↓ If Metsä Group's requirements and control mechanisms were inadequate, this could lead to non-compliance with the law or the company's requirements in the supply chain.</p>	<p>↓ Risk: Metsä Group unintentionally supports operations contrary to its values, which risks Metsä Group's reputation as a sustainable partner. Relationships with suppliers weaken, leading to the loss of the best partnerships.</p>	
<p>↓ Inadequate training of the procurement employees or insufficient control mechanisms could cause unequal treatment of suppliers.</p>		
Protection of whistle-blowers		
<p>↓ Failure to protect the anonymity of whistle-blowers and confidentiality could lead to retaliation against whistle-blowers. No such incidents were recorded in 2023.</p>	<p>↓ Risk: Trust in the Compliance and Ethics Channel wanes, and suspected misconduct is no longer reported. Activities contrary to Metsä Group's values and Code of Conduct may not be detected. Unlawful activities may incur financial losses. The employees' job satisfaction and the employer image weaken.</p>	<ul style="list-style-type: none"> • Reports can be submitted anonymously through Metsä Group's Compliance and Ethics Channel. • The reports are handled in confidence under the Compliance Committee's lead. • Metsä Group is committed to protecting the rights and privacy of people who report breaches in good faith. These commitments have been confirmed in both the Code of Conduct and the principles guiding the reporting and investigation of breaches, which were updated in 2023 to comply with the new requirements of the EU Whistleblowers Directive.
Political influence and lobbying activities		
<p>↑ Through successful influencing and lobbying, Metsä Group can introduce views to social debate that support the promotion of the circular bioeconomy and highlight wood-based products as an alternative to plastic-based products, for example, and emphasise their role in climate change mitigation.</p>	<p>↑ Opportunity: Political operators recognise the potential of the circular bioeconomy and the role of forests and wood-based solutions in climate change mitigation, improving the conditions of Metsä Group's operations.</p>	<ul style="list-style-type: none"> • An ethical corporate culture and the Code of Conduct are put into practice through training. The Code of Conduct includes Metsä Group's policies on matters such as gifts, hospitality, conflicts of interest, anti-corruption and fair competition. • Influencing plans and key social messages are determined based on the Group's and business areas' strategies, reviews of the operating environment and surveys of regulatory risks. • The progress and success of influencing activities are regularly reported to group management
<p>↓ If Metsä Group's key messages related to influencing and lobbying or the related ethical practices are not adequately implemented in the company, this may lead to influencing or lobbying that is inconsistent or in breach of the company's policies. The potential of the circular bioeconomy and wood-based products in climate change mitigation would not be harnessed in society.</p>	<p>↓ Risk: Metsä Group is unable to consistently introduce the key messages identified as being material to political discussion, which may, in the worst case, lead to the realisation of regulatory risks. Unethical forms of influencing and lobbying weaken Metsä Group's reputation as a responsible operator.</p>	

↑ Positive impact on the environment and society or on Metsä Group's business

↓ Negative impact on the environment and society or on Metsä Group's business

Metsä Group's 2030 sustainability targets

	2030-tavoite	2023	2022
Implementation of ethics barometer measures, %	100	86	-
Traceability of raw materials, share of total purchases, %	100	94	92
Share of certified wood,%	>90	93	89
Suppliers' commitment to the Supplier Code of Conduct, share of total purchases ,%	100	98.7	98
Supplier assessments and audits of core suppliers, %	100	57	42
Joint sustainability target with partner suppliers, %	100	100	-

Comparative data have not been provided for all the new targets set in 2023. The previous result of the implementation of ethics barometer measures is from 2021. As of 2023, the share of certified wood also includes external sales and storage in addition to wood delivered to Metsä Group's production units.

■ Progress in targets

- **Implementation of ethics barometer measures**
 - The ethics barometer is conducted every two years. The measures based on the 2020 ethics barometer were specified for 2021, during which 98% of the measures were carried out. In 2023, the requirements for the validation of measures were developed, which is reflected in the lower results compared to the 2021 level.
- **Traceability of raw materials, share of total purchases**
 - The traceability of raw materials progressed as planned towards the 2030 target.
- **Share of certified wood** – In 2023, the target set for 2030 was achieved.
- **Suppliers' commitment to the Supplier Code of Conduct, share of total purchases** – Supplier commitment to the Supplier Code of Conduct progressed as planned towards the 2030 target. Among other things, the supplier approval process was developed in 2023.
- **Supplier assessments and audits of core suppliers** – Significant progress was made in this target in 2023, as Metsä Group initiated cooperation with Ecovadis, which specialises in sustainability assessments.
- **Joint sustainability target with partner suppliers** – A sustainability target has been agreed with all current partner suppliers, which means the 2030 target has been achieved. The company works in close cooperation with its suppliers to reach the joint targets.

■ The role of the administrative, management and supervisory bodies

The Compliance and Ethics programme is supervised by the Compliance Committee, composed of Metsä Group's directors in charge of legal affairs, internal audit, HR, and compliance and ethics. In 2023, the Compliance Committee convened five times. The Group's President and CEO annually participates in two meetings in the role of a non-ordinary member.

Once a year, the director in charge of compliance and ethics presents a compliance and ethics review to the Audit Committee. In addition, the agenda of each Committee meeting includes a legal review, in which the Group's General Counsel reports on any significant legal and official processes. The directors in charge of legal affairs, taxes, and compliance and ethics present a legal affairs, compliance and tax review twice a year to the CEO and CFO of each business area.

The Compliance Committee's role in investigating ethical concerns is described under *Mechanisms for identifying, reporting and investigating concerns*.

■ The identification and assessment of material impacts, risks and opportunities

The material impacts, risks and opportunities related to governance and corporate culture have been identified in a double materiality assessment based on the principles of the company's risk management process. The process is described on pages 29–31.

The Know Your Business Partner process, supplier assessments and audits, the company's ethics barometer, and the Compliance and Ethics Channel are key elements in the identification, analysis and management of impacts, risks and opportunities related to governance and corporate culture.

■ Policies

The sustainability of Metsä Group's business conduct is guided by applicable legislation, as well as the values, Metsä Group's Code of Conduct and various policies approved by the company's Board of Directors. Metsä Group is committed to operating in accordance with the UN Guiding Principles on Business and Human Rights and requires the same of its business partners. Since 2003, Metsä Group has supported the UN Global Compact and its principles on human rights, employees, the environment and anti-corruption.

In 2023, all Metsä Group's 16 policies were updated to comply with changes in legislation and the company's operating methods. Three of the policies are public, and 13 are internal to the company. All the Group's employees are required to complete e-learning courses in the Code of Conduct and other key policies such as the Equality policy and Information security policy every three years. The e-learning course in the Code of Conduct covers Metsä Group's key ethical principles and describes the best practices related to business sustainability through examples and exercises.

Depending on the employees' duties, there are also requirements to complete e-learning courses related to other policies such as the Competition, Procurement, Agreement and legal policies. The classroom training programme in competition law, initiated in 2022, continued in 2023, as did workshops in diversity, equality and inclusion for local management (workshops are discussed in more detail under *S1 – Own workforce*). A section developing supervisors' capability to address ethical grievances and encourage the reporting of grievances was added to the training offered to supervisors. Ethical operations and doing the right thing are also part of the induction of new white-collar employees and apprenticeship trainees.

The completion of e-learning courses and classroom training is regularly monitored by the Compliance Committee, which supervises the

Compliance and Ethics programme, and the results are reported once a year to the Audit Committee of the company's Board of Directors as part of the Compliance and Ethics review. The completion percentage of the Code of Conduct e-learning course is presented in the table on page 76.

The implementation and development of the culture of doing the right thing are measured with the ethics barometer, conducted every two years, which surveys the employees' experience of ethics in the company's operations. According to the most recent barometer, conducted in 2022, financial misconduct, corruption, conflicts of interest, inappropriate influencing of partners' decision-making and information security breaches are not considered to be material risks. The results of the ethics barometer were discussed on all sites in 2022, and each site determined development measures for 2023 to correct the problems observed.

To ensure the sustainability of its suppliers, customers and other partners, Metsä Group follows third-party due diligence in its Know Your Business Partner process, in which the partners' background is checked for any risks related to sanctions, corruption, money laundering, human rights violations and various other misconduct before a binding agreement is concluded, as well as during the cooperation relationship by means of continuous monitoring. In 2023, the process was developed by introducing a new tool for background checks, harmonising the process, clarifying responsibilities and roles, and updating the risk model used in background checks.

Due to Russia's military aggression against Ukraine, Metsä Group has ended all business related to Russia and Belarus. Operations have been guided by compliance with the applicable regulations and overall consideration regarding business ethics.

■ Mechanisms for identifying, reporting and investigating concerns

The employees and stakeholders are encouraged to report any ethical concerns and non-compliance with the law related to Metsä Group's operations. Observations can be reported to the supervisor, local management, HR and the Compliance Committee, or through Metsä Group's Compliance and Ethics Channel, which is available on the company's website in ten languages to all internal and external stakeholders. Reports can be made anonymously. The channel's technical implementation is handled by an external service provider.

Metsä Group uses the ethics barometer to monitor the effectiveness of the Compliance and Ethics Channel and other reporting methods in raising and handling concerns. The ethics barometer can also be used to provide open-ended feedback related to reporting channels.

Every breach or violation, and suspected breach or violation, of which the company becomes aware is investigated. The investigation is supervised by the Compliance Committee. The committee is tasked with monitoring that the consequences of the investigations are applied consistently in cases of equal gravity, and that the corrective actions are sufficient, as described in the company's Code of Conduct and the principles guiding the reporting and investigation of breaches. Any illegal activities are reported to the authorities. Neither the person investigated nor their supervisor participates in the investigation of the breach or suspected breach. If called for by the significance of the breach under investigation, the Compliance Committee reports the incident to Metsä Group's President and CEO and the management and Board of Directors of the Group company in question at a regular meeting, or immediately if required.

The cases are divided into the following categories: fraud or other criminal behaviour; corruption and bribery; competition law; conflicts of interest; employee matters; discrimination; privacy and information security; occupational safety; the environment; breaches of the Supplier Code of Conduct; and other reports. Crimes against the Group and attempts of such are also taken into account in the number of reports.

In 2023, no confirmed cases of bribery or corruption were brought to the company's attention. Apart from the principle of continuous development followed in the company's Compliance and Ethics programme, no need for separate development projects was identified concerning the anti-bribery and anti-corruption process.

In June 2023, the European Commission announced it had ended its antitrust investigation into the softwood pulp sector, having concluded that there were no grounds for continuing the investigation. The investigation was initiated in 2021 as a result of an antitrust investigation. The investigation of Metsä Fibre, a subsidiary of Metsä Group, was part of a wider EU-level antitrust investigation targeting the pulp industry.

In 2023, Metsä Group was made aware of incidents that might have had a direct or indirect negative impact on the Group's realization of human rights responsibilities. In addition to less severe work-related accidents causing personal injuries (table on p. 64), two fatal accidents and two cases of harassment took place during the year. A settlement was also reached concerning allegations of discrimination made by two former employees. Based on these two cases of discrimination allegations, local procedures were developed to better take situations into account that involve a higher risk of discrimination based on personal characteristics.

In 2023, a total of ten companies had to be removed from the Kemi bioproduct mill construction project site because they did not comply with the project's sustainability requirements, even after being reprimanded. The observed shortcomings in the companies' operations were mainly related to wages and working hours, and they were observed thanks to the operating model for combating the grey economy, used in construction projects, and the Compliance and Ethics Channel. One of the companies removed from the site is Metsä Group's direct partner, and the agreement was terminated due to suspicions that the company's actual wage payment in the employee's home country was not based on the wage slip presented in the country where the work was performed. The police have initiated an investigation into the irregularities. The cases were very unfortunate, but they also demonstrated that the model for combating the grey economy worked in recognising shortcomings. None of the incidents reported to the company concerned forced labour or child labour.

The changes required by the EU Whistleblowers Directive (EU 2019/1937) have been taken into account in Metsä Group's operating countries in terms of the Compliance and Ethics Channel, the investigation of reported incidents and the protection of whistleblowers over the 2022–2023 period as local legislation in EU Member States has entered into force. The company is committed to fairly investigating all reports submitted in good faith and adopting the required actions based on the investigation and its results if required. The company is also committed to protecting the rights and privacy of people who report breaches in good faith. These commitments have been confirmed in the company's Code of Conduct and the principles guiding the reporting and investigation of breaches, which were updated in 2023 to meet the requirements of the Whistleblowers Directive. In 2023, no cases of retaliation against whistle-blowers were brought to the company's attention.

■ Relationships with goods and service suppliers

Supplier management practices

Metsä Group's wood supply is ensured by Metsä Forest. The procurement of other raw materials and services is centrally handled by Group Services. The goal of the wood supply processes and Group-wide procurement process for other materials is to ensure that the Group's supply chain partners operate sustainably. This aims to minimise risks related to the environment, health, corruption, the use of child labour and human rights violations in the supply chain.

As a minimum requirement in procurement agreements, suppliers are required to commit to the Metsä Group Supplier Code of Conduct or their own equivalent principles and to pass background checks.

Wood supply

Metsä Group uses wood from the Northern European forests as its main raw material. Metsä Group has wood supply organisations in Finland, Sweden, Estonia and Latvia. The company works in close cooperation with local contract entrepreneurs in harvesting, transport and forestry work. Metsä Group itself procures all the wood used in its production units. Wood is also supplied to selected customers. All the countries from which wood is procured have issued legislation requiring forests to be renewed after regeneration felling. Wood and pulp account for more than 97% of raw material consumption. The origin of purchased pulp is known.

The sustainability and traceability of wood are ensured by practices which meet the requirements of the PEFC Chain of Custody and FSC Chain of Custody (PEFC/02-31-03 and FSC-C014476). These practices are annually assessed by Metsä Group's internal and third-party audits. The audits focus on matters related to environmental and social responsibility in the operations of wood suppliers and harvesting contractors, as well as on the traceability of wood fibre. Metsä Group aims for certified wood to account for at least 90% of all the wood used by the company by 2030. The share of certified wood in 2023 is presented in the table on page 73. Non-certified wood is also required to be of a sustainable origin, and the wood always meets at least the requirements for PEFC-Controlled Sources and FSC-Controlled Wood.

Procurement of other raw materials and services

To ensure the sustainability of suppliers, Metsä Group follows third-party due diligence in its Know your Business Partner background check, which is described under *Policies*.

More detailed supplier assessments focus on the core suppliers and on suppliers operating in industries with identified potential risks related to human rights, corruption or the environment. Risk assessments and supplier surveys are analysed using Metsä Group's own analyses and, since 2023, Ecovadis analyses, leading to a significant increase in assessments for suppliers compared to previous years. Metsä Group, an external HSEQ cluster and if required, another third party also conduct supplier audits annually. Assessments and audits are used as the basis for making development proposals and monitoring any corrective action taken. The results of supplier assessments and audits are the responsibility of a third party or a Metsä Group employee who is not responsible for supplier in question. In 2023, one significant finding emerged in the supplier assessments and audits. The finding was related to the safety of work facilities. A follow-up

audit was conducted for the supplier, which found that the supplier had carried out the required corrective measures.

To ensure the equal treatment of suppliers, procurement employees are trained to disqualify themselves in decisions that may involve conflicts of interest. A written assurance of this is required in the procurement process. Approximately every two years, an anonymous survey is conducted among suppliers concerning the smoothness and fairness of cooperation and factors contributing to these matters. The survey results are submitted to the suppliers, and measures to improve procurement practices are adopted based on them. The procurement employees have annual financial performance targets related to matters such as conducting supplier sustainability assessments and monitoring improvements proposed by suppliers.

In 2023, the procurement personnel participated in training dealing with the management of supplier cooperation, and how to take sustainability matters in meetings with suppliers into account. In 2023, Metsä Group organised a supplier event and competition dealing with sustainability for its core suppliers.

Metsä Group's target is to agree joint sustainability targets and measures to achieve them with all its partner suppliers. The management of environmental impacts in cooperation with suppliers is discussed in more detail under *E1 – Climate change*. Another target is to know the origin, or at least the country of manufacture, of all the raw materials, including wood and process, basic, and coating chemicals, by the end of 2030.

In the annual supplier audits, the company ensures that by using raw materials from its suppliers, the company's products meet statutory requirements and Metsä Group's own strict product safety requirements. Product safety is discussed in more detail under *S4 – Consumers and end-users*.

Procurement from local operators, %

	2023	2022
Procurement from countries in which Metsä Group has production	89	89

Wood supply by country, %

	2023	2022
Finland	89	85
Sweden	7.3	8.1
Baltic countries	3.8	5.6
Others	0.2	1.5

Assessed or audited suppliers and critical observations

	2023	2022
Assessed or audited suppliers	602	266
Significant environmental observations	0	0
Significant observations related to social responsibility	1	0

New supplier background checks, %

	2023	2022
Share of suppliers for which a Know Your Business Partner background check was made	89	33

■ Prevention and detection of corruption and bribery

The Code of Conduct, which guides business sustainability, prohibits corruption and bribery. It also includes principles for preventing conflicts of interest, crucially linked to anti-corruption, and principles linked to gifts and hospitality. Metsä Group is committed to anti-corruption and anti-bribery in its own operations and in relation to its partners. A similar prohibition is included in Metsä Group's Supplier Code of Conduct. Anti-corruption and anti-bribery efforts contribute to Metsä Group's 2030 sustainability targets concerning a responsible corporate culture and supply chain.

The following are the main measures for preventing and detecting corruption and bribery:

- Training in the Code of Conduct and other policies guiding Metsä Group's operations (discussed on pages 73 and 76).
- The ethics barometer that measures the ethics of operations and seeks to identify areas in need of development (discussed on page 74).
- The Compliance and Ethics Channel, which is available to all internal and external stakeholders. A standardised process is defined for handling reports (discussed on page 74).
- Due diligence in ensuring the sustainability of partners, and the required background checks (third-party due diligence) as part of the Know Your Business Partner process (discussed on page 74).
- Continuous development of ethical operations in the supply chain. The key measures in this respect include supplier commitment to the Supplier Code of Conduct in line with the 2030 sustainability targets, as well as supplier audits and assessments (discussed on pages 75–76).

Completion of Code of Conduct and Equality e-learning courses

	2023	2022
CODE OF CONDUCT		
Number of employees who completed the revised Code of Conduct training	9,177	4,433
Share of all employees who have completed the revised Code of Conduct training, %	96	48
Share of Board members who have completed the revised Code of Conduct training, %	100	-
EQUALITY		
Number of employees who have completed the previous DEI training	9,101	8,758
Share of all employees who have completed the previous DEI training, %	95	95
Number of employees who have completed the revised DEI training	8,034	-
Share of all employees who have completed the revised DEI training, %	84	-

Incidents of non-compliance with good governance or ethical corporate culture

	2023	2022
ALL REPORTS RELATED TO UNETHICAL BEHAVIOUR		
Reports resulting in an investigation	49	32
Critical reports to the Board	3	1
ANTI-COMPETITIVE BEHAVIOUR		
Legal actions for anti-competitive behaviour	0	0

	2023	2022
CORRUPTION OR BRIBERY		
Confirmed incidents of corruption or bribery	0	1
Confirmed incidents in which a business agreement has been terminated or has not been renewed due to a case linked to corruption or bribery	0	1
Number of judgments issued in corruption or bribery cases	0	0
Amount of fines issued in corruption or bribery cases.	0	0

In 2023, the incidents reported to the Board of Directors were related to occupational safety and the sustainability of suppliers.

■ Political influence and lobbying activities

Metsä Group participates in advocacy at the EU and national level, especially in Finland, Sweden and Germany. Metsä Group's parent company Metsäliitto Cooperative is registered in the EU's Transparency Register and complies with its code of conduct. Its member number in the Transparency Register is 962687110415-94.

The Board of Directors of Metsä Group's parent company Metsäliitto Cooperative ensures that the Group has an appropriate corporate affairs function in view of its business. Metsä Group's President and CEO, supported by the Group's Executive Management Team, determines the priorities of political influence for all business operations and monitors the progress made in them. Metsä Group's corporate affairs function coordinates practical influence work, handling the related cooperation among the Group's business operations and other functions, and reporting the work's progress and effectiveness to Group management and the Board of Directors.

To identify the most significant legal risks and focal areas of lobbying, Metsä Group has conducted a comprehensive assessment of regulatory risks, which covers all the business areas. These risks have also been considered in Metsä Group's double materiality assessment.

Metsä Group follows and participates in discussions about forests and biodiversity and influences policy questions related to the bioeconomy and products. Metsä Group has actively influenced several legal initiatives in the EU, including the deforestation regulation, nature restoration regulation, packaging and packaging waste regulation, and sustainable product policy.

Metsä Group promotes the circular bioeconomy and emphasises the role of forests and wood-based products in climate change mitigation, and the safeguarding of biodiversity. Metsä Group supports the EU's environmental targets and the 2050 climate neutrality target. The Group also seeks to increase understanding of the role of fresh fibre in product safety and the efficiency of recycling processes, as well as to present the benefits of sustainable fibre-based food packaging, including environmental and health considerations.

Metsä Group's main advocacy messages are as follows:

1. Sustainable use of forest, including regenerative forestry, creates wellbeing across society as a whole. Sustainable forest management mitigates climate change and safeguards biodiversity.
2. In addition to Metsä Group's own voluntary nature restoration measures, the company promotes national voluntary restoration programmes in Finland: METSO, Helmi and NOUSU.

3. The EU must reduce its dependence on fossil-based raw materials in the energy and materials sectors. Biological carbon sinks should not be used to compensate fossil-based emissions.
4. The EU should pay more attention to the opportunities offered by biogenic carbon capture and encourage operators to adopt measures promoting it. However, this should not be mandatory.
5. Fresh fibre is a renewable raw material for the circular economy and forms the basis for new bioeconomy business networks. Metsä Group uses every part of the tree for the purpose generating the highest added value.
6. The forest industry makes nearly full use of its production side streams, which are valuable raw materials for Metsä Group's business partners. Forest industry side streams, for which no purpose in materials production has yet been identified, are used to generate renewable energy. Metsä Group generates around a fifth of Finland's renewable energy.
7. Renewable energy targets should not be based on the direct energy use of convertible wood biomass.
8. In energy generation, solutions that are not based on burning must be developed without delay to save valuable wood raw material for use as material in purposes offering higher added value.
9. Europe's economic resilience must be strengthened; the forest and bio-based industry should be made an indispensable part of the EU's geopolitical strategy.
10. It is crucial to combine sustainable carbon cycles and the role of the circular bioeconomy with security of supply and geopolitics.
11. A coherent and predictable regulatory framework that enables the development and innovation of a European bioeconomy and invests in the forest industry's future benefits both people and the planet.
12. A holistic approach is required to policies impacting forestry practices and the availability of wood raw material as part of the joint production of forest-based ecosystem services.
13. EU legislation must consider the wide range of natural ecosystems and vegetation zones across the EU.

Cooperation with trade and industrial organisations

Metsä Group is an active member of the Confederation of European Paper Industries (Cepi), which represents the forest industry producing fibre-based products across Europe. Metsä Group's President and CEO chaired the Board of Cepi in 2023. Representatives of Metsä Group also actively participated in the work of Cepi's committees and working groups.

Metsä Board has representatives in the 4evergreen alliance's steering group and team of public relations experts. It is also an active member in 4evergreen, which represents the entire value chain of fibre-based packaging and has set as its target the raising of the recycling rate of fibre-based packaging to 90% by 2030. Metsä Board is also involved in the activities of the European Paper Packaging Alliance (EPPA). The alliance promotes the sustainability of wood fibre-based food and food service packaging and the circular economy.

Metsä Tissue is one of Europe's leading tissue paper suppliers to households and for professional use and is a leading supplier of greaseproof paper worldwide. Metsä Group therefore participates in the European Tissue Symposium, which represents European tissue paper producers.

Metsä Wood and Metsä Fibre participate in the activities of Finnish and European wood industry associations (Federation of the Finnish Woodworking Industries, CEI-Bois).

Metsä Spring is an active member in the Biobased Industries Consortium (BIC), a non-profit organisation that represents the private sector in a Public-Private Partnership (PPP) with the European Commission. The PPP focuses on supporting research and innovation in the bio-based industry in Europe.

Metsä Group is also involved in several national trade and industrial organisations, most importantly the Finnish Forest Industries Federation, the Swedish Forest Industries Federations in Sweden and Die Papierindustrie, a pulp and paper organisation in Germany.

In 2023, Metsä Group paid a total of EUR 2.8 million in membership fees to trade and industrial organisations.

Metsä Group does not make direct political contributions. Metsä Group may participate in seminars that deal with the forest industry or forest policy. In the reporting year, seminar tickets were acquired for approximately EUR 12,000.

Key memberships in organisations and advocacy groups:

- Biobased Industries Consortium (BIC)
- BusinessEurope's guidance and support group for companies
- Bioenergy Association of Finland
- CEI-Bois
- Die Papierindustrie (DPI)
- Ellen MacArthur Foundation
- EPPA (Board) European Paper Packaging Alliance
- Confederation of European Paper Industries (Cepi)
- 4evergreen association
- European Tissue Symposium (ETS)
- Forest-based Sector Technology Platform (FTP)
- Forest Stewardship Council (FSC) – FSC International and FSC Finland
- International Chamber of Commerce (ICC) – Finland Chamber of Commerce
- Finnish Forest Industries Federation
- Programme for the Endorsement of Forest Certification (PEFC) International
- Federation of the Finnish Woodworking Industries
- Skogs Industrierna

■ Payment practices

The average time it takes for Metsä Group to pay an invoice from the date when the contractual or statutory term of payment calculation begins is 44 days (including purchases other than those of Metsä Forest) and 5 days for Metsä Forest's payments to entrepreneurs. The standard payment term in Metsä Group's general terms and conditions for purchases is 60 days net. However, this can be reconsidered individually in the case of smaller suppliers, for example.

Metsä Group is not party to any legal proceedings due to late payments.

Reporting principles for metrics

The implementation of ethics barometer measures depicts the share of implemented measures of all the measures determined based on the ethics barometer in the reporting year.

The supplier commitment to the Supplier Code of Conduct indicates the share of all purchases made from suppliers committed to the Metsä Group Supplier Code of Conduct or their own equivalent codes. The figure does not cover the authorities, associations or wood supply. Supplier assessments and audits of core suppliers cover partner, key and preferred suppliers in accordance with the supplier classification. The target does not include wood supply operators. The joint sustainability target with partner suppliers applies to the nine partner suppliers agreed in connection with Metsä Group's supplier classification. The figure does not include wood supply, but Metsä Forest's other suppliers are included in partner suppliers.

The target of traceable raw materials covers the raw materials used in product production and product packaging materials.

The target's calculation is based on the value of the raw materials in euros. A raw material that is traceable at least to the level of country of manufacture is considered traceable.

The share of certified wood covers the share of purchased certified wood of all the wood purchased by Metsä Group. The chip deliveries from the company's own industries are not included in the calculation to avoid double counting.

In the completion rate of the Code of Conduct and DEI e-learning courses, the divisor is the number of active employees at the time of reporting. In other words, employees absent on family leave or for other reasons are not included in the calculation.

The figures for payment practices do not account for raw wood purchases from forest owners or industrial suppliers. The payment term has been calculated as a weighted average based on the supplier invoices paid in the review period. The total value of the invoice is used in weighting.

Annexes to the Sustainability statement

Key sustainability figures by business area

■ Key employee figures by business area

	Wood Supply and Forest Services	Metsä Wood	Metsä Fibre	Metsä Board	Metsä Tissue
Number of employees	723	1,592	1,632	2,343	2,637
Women	148	403	232	516	514
Men	575	1,189	1,400	1,827	2,123
Aged under 30	113	247	249	269	425
Aged 30–50	349	756	851	1,088	1,239
Aged over 50	261	589	532	986	973
Permanent employees	692	1,516	1,424	2,177	2,392
Temporary employees	30	74	194	165	241
Full-time employees	708	1,548	1,574	2,262	2,522
Part-time employees	15	44	58	81	115
Share of men and women in management, %	100/0	85/15	81/19	79/21	84/16
Employee turnover rate, %	16	8.9	6.7	5.5	6.9
Number of new hires	36	86	45	130	126
The average number of training hours per employee	19	9.7	17	18	11
Share of all employees who have completed the Code of Conduct training, %	99.0	95	96	98	95
Share of all employees who have completed the previous DEI training, %	98	97	96	98	91
Share of all employees who have completed the revised DEI training, %	88	82	86	88	80

■ Wood Supply and Forest Services

Country	Finland	Sweden	Estonia	Latvia	Others	Total
EMPLOYEES						
Number of employees	656	3	27	35	2	723
TRIF	6.2	0	0	0		5.4
LTA1F	2.7	0	0	0		4.0
WOOD SUPPLY						
1 000 m ³	26,125	2,153	574	558	72	29,482
MANAGEMENT SYSTEM						
ISO 9001	x	x	x	x		
ISO 14001	x	x	x	x		
ISO 45001	x					
CHAIN OF CUSTODY						
PEFC	x	x	x	x		
FSC	x	x	x	x		

Metsä Wood

Mill	Pärnu	Lohja	Punkaharju	Suolahti	Äänekoski	Boston	King's Lynn	Widnes	Others	Total
COUNTRY	ESTONIA	FINLAND	FINLAND	FINLAND	FINLAND	UNITED KINGDOM	UNITED KINGDOM	UNITED KINGDOM		
EMPLOYEES										
Number of employees	188	119	443	346	35	263	28	61	109	1,592
TRIF	15	16	14	12	0	9.5	0	24		12
LTA1F	9.0	11	9.8	4.7	0	9.5	0	24		8.4
PRODUCTION, 1 000 m³										
Wood products	Plywood	Kerto LVL	Kerto LVL and plywood	Plywood	Veneer	Further processing	Further processing	Further processing		
Production	37	73	208	98	57	149	87	36		745
MANAGEMENT SYSTEM										
ISO 9001	x	x	x	x	x	x	x	x		
ISO 14001	x	x	x	x	x	x	x	x		
ISO 45001	x	x	x	x	x	x	x	x		
ISO 50001	x	x	x	x	x					
CHAIN OF CUSTODY										
PEFC	x	x	x	x	x	x	x	x		
FSC	x	x	x	x	x	x	x	x		
EMISSIONS TO AIR										
Biogenic carbon dioxide (CO ₂), Scope 1	0	36,266	84,157	75,566	0	0	0	0		195,989
GHG emissions (CO ₂ e), Scope 1	0	1,354	1,718	988	0	533	210	184		4,986
Sulphur (SO ₂)	0	0.9	1.9	0.08	0	0	0	0		2.9
Nitrogen oxides (NO _x)	0	14	92	76	0	0	0	0		182
Particles	0	0.8	2.4	13	0	0	0	0		16
EMISSIONS TO WATER, t										
Chemical oxygen demand (COD)	0	1.6	64	2.7	0.8	0	0	0		69
Biological oxygen demand (BOD)	0.01	0.3	32	4.6	0.01	0	0	0		37
Phosphorus, total	0	0.04	0.01	0.02	0	0	0	0		0.07
Nitrogen, total	0	0.4	0.1	0.1	0	0	0	0		0.5
Suspended solids, total	0.01	0.3	0.6	0.6	0.01	0	0	0		1.5
WATER USE, 1 000 m³										
Water withdrawals	15	148	238	1,063	20	0	6.8	0		1,491
Wastewater discharges	9.9	47	34	34	8.0	0	0	0		134
WASTE AND SIDE STREAMS, t										
Side streams and waste used	27	964	1,509	14,432	85	1,147	919	177		19,260
Landfill waste	0	0	5.7	0	0	0	0	0		5.7
Hazardous waste	149	328	541	152	2.8	15	0	0		1,188

Mill	Joutseno	Kemi	Rauma	Äänekoski	Lappeenranta	Merikarvia	Rauma ¹⁾	Renko	Vilppula	Others	Total
COUNTRY	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND		
EMPLOYEES											
Number of employees	182	338	175	261	72	80	96	80	103	245	1,632
TRIF	6.2	5.3	11	8.8	16	0	43	23	0		8.9
LTAIF	3.1	5.3	11	6.6	16	0	25	23	0		7.0
PRODUCTION											
Chemical pulp (1,000 t)	537	491	602	1121							2,752
Sawn timber (1,000 m ³)					210	185	298	247	446		1,386
MANAGEMENT SYSTEM											
ISO 9001	x	x	x	x	x	x	x	x	x		
ISO 14001	x	x	x	x	x	x	x	x	x		
ISO 50001	x	x	x	x	x	x	x	x	x		
ISO 45001	x	x	x	x	x	x	x	x	x		
ISO 22000	x	x	x	x							
CHAIN OF CUSTODY											
PEFC	x	x	x	x	x	x	x	x	x		
FSC	x	x	x	x	x	x	x	x	x		
EMISSIONS TO AIR, t											
Biogenic carbon dioxide (CO ₂), Scope 1	1,288,109	1,442,125	1,366,781	3,166,983	25,960	21,960	0	26,981	82,022		7,420,921
GHG emissions (CO ₂ e), Scope 1	37,604	59,574	80,681	53,757	263	786	0	814	1,962		235,441
Sulphur (SO ₂)	158	32	17	40	0.4	0	0	1.0	15		264
Nitrogen oxides (NO _x)	891	787	779	1,729	48	18	0	12	38		4,302
Particles	69	93	123	38	3.8	13	0	5.0	11		356
Reduced sulphur compounds (TRS)	9.5	12	11	7.3	0	0	0	0	0		40
EMISSIONS TO WATER, t											
Adsorbable organic halogen (AOX)	78	59	78	123	0	0	0	0	0		339
Chemical oxygen demand (COD)	5,792	6,800	9,999	7,794	0.03	0.3	0	105	0.5		30,491
Biological oxygen demand (BOD)	91	157	91	161	0	0	0	1.8	0.01		501
Phosphorus, total	6.5	4.2	2.3	4.5	0	0	0	0.09	0		18
Nitrogen, total	84	74	47	74	0	0	0	0	0		280
Suspended solids, total	719	742	192	175	0	0	0	1.8	0.01		1,829
WATER USE, 1 000 m³											
Water withdrawals	62,863	37,050	18,213	132,875	29	8.5	0	39	83		251,161
Wastewater discharges	14,022	15,935	13,026	18,775	0.7	5.0	0	2,103	11		63,877
WASTE AND SIDE STREAMS, t											
Side streams and waste used	79,702	45,084	16,596	93,175	2,282	557	7,197	2,833	6,618		254,044
Landfill waste	7,677	4,314	2,925	208	0	0	0	0	0		15,125
Hazardous waste	32	69	43	59	6.7	1.7	30	15	6.6		263

¹⁾ Rauma sawmill obtained ISO certifications in January 2024.

Metsä Board

Mill	Joutseno	Kaskinen	Kemi	Kyro	Simpele	Tako	Äänekoski	Husum	Others	Total
COUNTRY	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	FINLAND	SWEDEN		
EMPLOYEES										
Number of employees	59	89	148	149	282	187	198	780	451	2,343
TRIF	11	15	0	17	13	6.8	6.6	5.0		6.1
LTA1F	11	15	0	13	11	6.8	3.3	0.8		4.0
PRODUCTION										
Pulp and high-yield pulp (1,000 t)	216	225	,	,	,	,	,	555		997
Paperboard (1,000 m ³)	,	,	298	120	232	128	174	366		1,319
MANAGEMENT SYSTEM										
ISO 9001	x	x	x	x	x	x	x	x	x	
ISO 14001	x	x	x	x	x	x	x	x	x	
ISO 50001	x	x	x	x	x	x	x	x	x	
ISO 45001	x	x	x	x	x	x	x	x	x	
ISO 22000	x	x	x	x	x	x	x	x	x	
FSSC 22000			x	x	x		x	X		
CHAIN OF CUSTODY										
PEFC	x	x	x	x	x	x	x	x	x	
FSC	x	x	x	x	x	x	x	x	x	
EMISSIONS TO AIR, t										
Biogenic carbon dioxide (CO ₂), Scope 1	0	94,663	0	100,008	187,068	1,143	0	1,601,206		1,984,088
GHG emissions (CO ₂ e), Scope 1	16,288	7,195	6,493	12,496	15,708	46,017	0	97,785		201,984
Sulphur (SO ₂)	0	14	0	42	59	0.02	0	62		176
Nitrogen oxides (NO _x)	8.3	107	2.8	66	93	31	0	977		1,285
Particles	6.1	2.8	0	4.3	2.7	0	0	40		55
Reduced sulphur compounds (TRS)	0	0	0	0	0	0	0	52		52
EMISSIONS TO WATER, t										
Adsorbable organic halogen (AOX)	0	0	0	0	0	0	0	47		47
Chemical oxygen demand (COD)	308	805	138	97	212	123	555	8,407		10,645
Biological oxygen demand (BOD)	2.9	22	52	8	24	34	205	492		840
Phosphorus, total	0.2	1.2	1.3	0.6	1.2	0.9	0	17		23
Nitrogen, total	2.8	12	19	12	12	0.3	7.0	100		165
Suspended solids, total	24	54	303	31	38	21	90	1,324		1,885
WATER USE, 1 000 m³										
Water withdrawals	5,321	8,414	8,131	3,368	26,556	2,798	3,449	43,905		101,943
Wastewater discharges	417	1,963	7,117	2,113	4,232	1,877	2,527	25,135		45,380
WASTE AND SIDE STREAMS, t										
Side streams and waste used	8,423	22,474	4,918	15,879	25,841	5,697	32,398	31,231		146,862
Landfill waste	0	11	36	0	1.0	0	0.6	1,164		1,213
Hazardous waste	36	330	5.5	8.4	577	44	25	395		1,421

Metsä Tissue

Mill	Mänttä ¹⁾	Düren	Kreuzau	Raubach	Krapko- wice	Žilina	Katrine- fors	Nybo- holm ²⁾	Pauliström	Others	Total
COUNTRY	FINLAND	GERMANY	GERMANY	GERMANY	POLAND	SLOVAKIA	SWEDEN	SWEDEN	SWEDEN		
EMPLOYEES											
Number of employees	469	154	494	265	313	323	370	0	186	63	2 637
TRIF	2.7	0	1.5	0	0	0	5.3	0	3.5		2.2
LTAIF	2.7	0	0	0	0	0	5.3	0	0		1.2
PRODUCTION 1,000 t											
Tissue papers	73		113	58	43	65	77	28	28		486
Greaseproof papers	19	33									52
MANAGEMENT SYSTEM											
ISO 9001	x	x	x	x	x	x	x	x	x		
ISO 14001	x	x	x	x	x	x	x	x	x		
ISO 50001	x	x	x	x	x	x	x	x	x		
ISO 45001	x	x	x	x	x	x	x	x	x		
ISO 22000	x										
BRC		x	x	x	x	x					
IFS		x	x	x							
CHAIN OF CUSTODY											
PEFC	x	x	x	x	x	x	x	x	x		
FSC	x	x	x	x	x	x	x	x	x		
EMISSIONS TO AIR, t											
Biogenic carbon dioxide (CO ₂), Scope 1	0	0	11,778	0	0	0	55,157	14,335	12,442		93,712
GHG emissions (CO ₂ e), Scope 1	8,977	16,846	53,279	22,550	16,323	10,605	14,886	7,199	8,161		158,827
Sulphur (SO ₂)	0	0	35	17	1.9	0.05	2.1	0.9	0.8		57
Nitrogen oxides (NO _x)	0	9.1	50	11	12	9.3	36	18	22		166
Particles	0	0	0.08	0	21.3	0.4	0.6	0.8	9.4		32
EMISSIONS TO WATER, t											
Chemical oxygen demand (COD)	239	4.8	154	132	14	30	125	17	27		743
Biological oxygen demand (BOD)	26	2.4	17	5.4	1.7	8.1	13	2.6	6.1		82
Phosphorus, total	1.3	0.1	0.8	0.3	0.5	0.4	0.1	0.04	0.04		3.5
Nitrogen, total	19	0	0	0	5.4	0	7.3	0.6	0.5		33
Suspended solids, total	41	2.4	17	5.4	1.8	8.1	17	3.4	3.3		99
WATER USE, 1 000 m³											
Water withdrawals	3,068	591	2,806	650	498	794	2,083	683	204		11,376
Wastewater discharges	3,606	237	1,664	541	382	805	1,582	612	138		9,567
WASTE AND SIDE STREAMS, t											
Side streams and waste used	29,618	632	46,554	43,837	18,582	9,962	32,981	1,720	1,725		185,610
Landfill waste	0	0	18	0	12	337	1.2	0	0		368
Hazardous waste	31	69	41	91	35	47	31	13	16		373

¹⁾ Includes all employees in Finland

²⁾ The number of employees at the Nyboholm mill is included in the figures for the Pauliström mill.

Independent Practitioners' Assurance Report to the Board of Directors of Metsäliitto Cooperative

This document is an English translation of the Finnish language original report

We have been engaged by the Board of Metsäliitto Cooperative (0116300-4) (hereafter also Metsä Group or the "Cooperative") to provide limited assurance on selected corporate sustainability information (hereafter "Sustainability Information") presented in Metsä Group's Sustainability Statement 2023 for the year ended 31 December 2023. The Sustainability Information being reviewed is described in the GRI index in the annex of the statement. Reporting requirements under the Taxonomy Regulation have also been included under our review scope.

■ Board of Directors' responsibilities

The Board of Directors of Metsäliitto Cooperative is responsible for the preparation and presentation of the Sustainability Information in accordance with the following reporting guidelines, principles and criteria,

- Global Reporting Initiative (GRI) Sustainability Reporting Standards,
- Metsä Group 2030 sustainability targets
- Metsä Group selected own indicators, as well as
- reporting requirements under the Taxonomy Regulation (EU 2020/852) and Commission Delegated Acts (EU 2021/2178 and EU 2023/2486).

The Board is also responsible for determining Metsä Group's objectives with regard to sustainability performance and reporting, including the identification of stakeholders and material issues, and for establishing and maintaining appropriate performance management and internal control systems from which the reported performance information is derived.

■ Our responsibilities

Our responsibility is to carry out a limited assurance engagement and to express a conclusion based on the work performed. We conducted our assurance engagement on the Sustainability Information in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information, and ISAE 3410 Assurance Engagements on Greenhouse Gas Statements, issued by the International Auditing and Assurance Standards Board IAASB. That Standard requires that we plan and perform the engagement to obtain limited assurance about whether the Sustainability Information is free from material misstatement. The nature, timing and extent of the assurance procedures selected depend on professional judgement, including the assessment of material misstatement due to irregularity or error. We believe that the evidence we obtain is sufficient and appropriate to provide a basis for our conclusion on limited assurance.

We are independent of the Cooperative in accordance with the ethical requirements applicable in Finland to the engagement we have undertaken and have fulfilled our other ethical obligations under those requirements.

KPMG Oy Ab applies International Standard on Quality Management ISQM 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

■ Procedures performed

A limited assurance engagement on Sustainability Information consists of making inquiries, primarily of persons responsible for the preparation of information presented in the Sustainability Information, and applying analytical and other evidence gathering procedures, as appropriate. In the engagement, we have performed the following procedures, among others:

- Interviewed members of Metsä Group senior management and relevant staff responsible for providing the Sustainability Information;
- Assessed the application of the reporting criteria, i.e., the Cooperative's reporting guidelines, the Global Reporting Initiative (GRI) Sustainability Reporting Standards, reporting principles related to Metsä Group 2030 sustainability targets and selected own sustainability indicators, as well as reporting requirements under the EU Taxonomy in the presentation of the Sustainability Information;
- Assessed data management processes and working methods used to gather and consolidate the Sustainability Information;
- Reviewed the presented Sustainability Information and assessed its quality and reporting boundary definitions;
- Assessed the Sustainability Information's data accuracy and completeness through a review of the original documents and systems on a sample basis and;
- Conducted site sessions to review the Sustainability Information on Metsä Group's sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

■ Inherent limitations

Inherent limitations exist in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, error or non-compliance may occur and not be detected. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data.

■ Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Based on the procedures performed and the evidence obtained, as described above, nothing has come to our attention that causes us to believe that the Sustainability Information subject to the limited assurance engagement is not prepared, in all material respects, in accordance with the Cooperative's reporting guidelines, the GRI Sustainability Reporting Standards, reporting principles related to Metsä Group 2030 sustainability targets and selected own sustainability indicators, as well as EU Taxonomy reporting requirements.

Helsinki, 8 February 2024
KPMG Oy Ab

Kirsi Jantunen
APA
Partner, Audit and Assurance

Consolidated statement of comprehensive income

EUR million	Note	2023	2022
Sales	2.1, 2.2	6,110.4	6,980.2
Change in stocks of finished goods and work in progress		-65.3	141.2
Other operating income	2.1, 2.3	160.8	204.7
Material and services	2.1, 2.4	-4,236.2	-4,559.6
Employee costs	2.1, 3.	-706.5	-720.6
Depreciation, amortisation and impairment charges	2.1, 4.1, 4.2	-347.2	-334.5
Other operating expenses	2.1, 2.4	-417.9	-409.4
Operating result		498.1	1,301.9
Share of results from associated companies and joint ventures	7.1	-1.2	-4.8
Net exchange gains and losses	5.2	-1.1	-4.6
Other financial income	5.2	50.4	7.3
Interest and other financial expenses	5.2	-58.4	-30.1
Result before tax		487.8	1,269.8
Income taxes	6.	-104.2	-271.1
Result for the period		383.6	998.7
Other comprehensive income	5.1, 6.		
Items that will not be reclassified to profit and loss			
Items relating to adjustments of defined benefit pension plans		-5.4	-1.4
Fair value of financial assets through other comprehensive income		-102.7	193.6
Income tax relating to items that will not be reclassified		21.9	-36.6
Total		-86.2	155.7
Items that may be reclassified to profit and loss	5.1, 6.		
Cash flow hedges		-26.1	105.7
Currency translation differences		5.7	-46.6
Income tax relating to items that may be reclassified		5.2	-21.1
Total		-15.2	38.0
Other comprehensive income, net of tax		-101.4	193.7
Total comprehensive income for the period		282.2	1,192.3
Result for the period attributable to			
Members of parent company		304.7	573.2
Non-controlling interest		79.0	425.5
Total		383.6	998.7
Total comprehensive income for the period attributable to			
Members of parent company		247.1	684.0
Non-controlling interest		35.2	508.4
Total		282.2	1,192.3

The notes are an integral part of these financial statements.

Consolidated balance sheet

EUR million	Note	31.12.2023	31.12.2022
ASSETS			
Non-current assets			
Goodwill	4.1	419.1	418.9
Other intangible assets	4.1	324.8	271.8
Tangible assets	4.2	5,410.0	4,625.9
Biological assets	4.3	2.7	3.2
Investments in associated companies and joint ventures	7.1	4.1	3.6
Other investments	4.4	275.3	376.8
Other non-current financial assets	5.3	17.5	15.9
Deferred tax receivables	6.	32.3	47.0
Derivative financial instruments	5.7	46.5	71.5
Total		6,532.4	5,834.6
Current assets			
Inventories	4.5	1,180.7	1,237.1
Accounts receivable and other receivables	4.6	813.5	941.3
Tax receivable based on taxable income for the period		10.4	48.9
Derivative financial instruments	5.7	59.3	87.9
Cash and cash equivalent	5.4	1,511.6	1,265.0
Total		3,575.5	3,580.2
Total assets		10,107.9	9,414.7
MEMBERS' FUNDS AND LIABILITIES			
Equity attributable to members of parent company			
Members' capital	5.1	1,452.9	1,438.6
Translation differences	5.1	-45.9	-54.0
Fair value and other reserves	5.1	773.3	835.0
Retained earnings		2,101.8	1,915.8
Total shareholders' equity		4,282.0	4,135.4
Non-controlling interests	7.1	1,361.2	1,565.8
Total members' funds		5,643.2	5,701.2
Non-current liabilities			
Deferred tax liabilities	6.	399.3	390.9
Post employment benefit obligations	3.5	59.8	59.6
Provisions	4.9	11.5	12.2
Borrowings	5.5	1,698.5	1,128.7
Other liabilities	4.7	11.9	4.7
Total		2,180.9	1,596.1
Current liabilities			
Provisions	4.9	2.9	6.6
Current borrowings	5.5	491.1	328.2
Accounts payable and other liabilities	4.8	1,740.2	1,662.5
Tax liabilities based on taxable income for the period		31.0	68.6
Derivative financial instruments	5.7	18.6	51.6
Total		2,283.8	2,117.4
Total liabilities		4,464.8	3,713.6
Total members' funds and liabilities		10,107.9	9,414.7

The notes are an integral part of these financial statements.

Consolidated statement of changes in members' funds

EUR million	Note	Members' funds	Translation differences	Fair value and other reserves	Retained earnings	Equity attributable to members of parent company	Non-controlling interest	Total
Members' funds, 1 Jan 2023		1,438.6	-54.0	835.0	1,915.8	4,135.4	1,565.8	5,701.2
Result for the period					304.7	304.7	79.0	383.6
Other comprehensive income net of tax	5.1, 6.		8.1	-62.0	-3.7	-57.6	-43.8	-101.4
Comprehensive income total			8.1	-62.0	301.0	247.1	35.2	282.2
Transaction with owners								
Interest on members' capital and dividends paid	5.1				-69.9	-69.9	-209.0	-278.9
Reimbursement of surplus	5.1	14.2			-15.6	-1.4		-1.4
Change in members' capital	5.1	0.0		0.2	-11.1	-10.9		-10.9
Share based payments	3.3				0.9	0.9	0.1	1.0
Acquired shares from non-controlling interest, which did not change the controlling right	7.1				-18.6	-18.6	-31.6	-50.2
Sold shares from non-controlling interest, which did not change the controlling right	7.1			0.1	-0.7	-0.6	0.7	0.1
Members' funds, 31 Dec 2023		1,452.9	-45.9	773.3	2,101.8	4,282.0	1,361.2	5,643.2
Members' funds, 1 Jan 2022		1,447.1	-34.2	706.2	1,455.3	3,574.4	1,240.3	4,814.6
Result for the period					573.2	573.2	425.5	998.7
Other comprehensive income net of tax	5.1, 6.		-19.8	128.4	2.2	110.8	82.8	193.7
Comprehensive income total			-19.8	128.4	575.4	684.0	508.4	1,192.3
Transactions with owners								
Interest on members' capital and dividends paid	5.1				-60.7	-60.7	-145.0	-205.6
Reimbursement of surplus	5.1	6.8			-7.8	-1.0		-1.0
Change in members' capital	5.1	-15.3		0.2	-13.0	-28.1		-28.1
Change of premium fund	5.1			0.0	0.0			0.0
Share based payments	3.3				-3.2	-3.2	0.1	-3.2
Acquired shares from non-controlling interest, which did not change the controlling right	7.1				-28.7	-28.7	-40.5	-69.3
Sold shares from non-controlling interest, which did not change the controlling right	7.1			0.1	-1.4	-1.2	2.6	1.4
Members' funds, 31 Dec 2022		1,438.6	-54.0	835.0	1,915.8	4,135.4	1,565.8	5,701.2

The notes are an integral part of these financial statements.

Consolidated cash flow statement

EUR million	Note	2023	2022
Cash flow from operating activities			
Result for the period		383.6	998.6
Adjustments to the result, total ¹⁾		368.5	492.4
Interest received		41.8	4.2
Interest paid		-54.8	-9.1
Dividends received		0.0	0.6
Other financial items, net		0.8	-16.7
Income tax paid		-55.1	-225.6
Change in working capital ²⁾		240.8	-17.7
Net cash flow from operating activities		925.6	1,226.8
Cash flow from investing activities			
Acquisition of shares in affiliated companies, net of cash	7.1	0.8	-18.7
Acquisition of shares in associated companies and joint ventures		-1.1	-2.4
Acquisition of other shares		-0.1	0.0
Investments in tangible and intangible assets	4.1, 4.2	-1,114.1	-1,449.7
Proceeds from disposal of shares in affiliated companies, net of cash	7.1		24.5
Proceeds from disposal of shares in associated companies and joint ventures	7.1		145.6
Proceeds from disposal of other shares		0.2	18.2
Proceeds from sale of tangible and intangible assets		80.6	51.0
Change in non-current receivables, net		-3.1	-4.1
Cash flow from investing activities		-1,036.9	-1,235.5
Cash flow from financing activities			
Change in members' capital		61.6	54.3
Non-controlling interest acquired	7.2	-50.1	-65.9
Increase in non-current liabilities	5.5	697.9	370.3
Decrease in non-current liabilities	5.5	-68.9	-200.6
Change in current liabilities, net	5.5	-1.1	1.9
Change in current interest-bearing receivables, net	5.5	-0.9	0.8
Interest on members' capital and dividends paid		-295.8	-217.1
Cash flow from financing activities		342.7	-56.3
Change in cash and cash equivalents			
		231.5	-65.1
Cash and cash equivalents at beginning of period		1,265.0	1,334.5
Translation differences		-2.3	1.5
Change in cash and cash equivalents		231.5	-65.1
Value adjustments of investment funds included in cash and cash equivalents		17.5	-5.9
Cash and cash equivalents at end of period	5.4	1,511.6	1,265.0

The notes are an integral part of these financial statements.

EUR million	1-12/2023	1-12/2022
ADDITIONAL INFORMATION TO CONSOLIDATED CASF FLOW STATEMENT		
¹⁾ Adjustments to the result, total		
Taxes	104.2	271.1
Depreciation, amortisation and impairment charges	347.2	334.5
Biological assets	0.6	0.1
Share of results from associated companies and joint ventures	1.2	4.8
Gains and losses on sale of non-current financial assets	-90.0	-148.5
Finance costs, net	9.1	27.3
Pension liabilities and provisions	-7.0	-2.6
Other adjustments	3.3	5.7
Total	368.5	492.4
²⁾ Change in working capital		
Change in inventories	56.2	-217.5
Change in accounts receivables and other receivables	142.1	-70.6
Change in accounts payable and other liabilities	42.5	270.4
Total	240.8	-17.7

The notes are an integral part of these financial statements.

Notes to consolidated financial statements

1. General accounting principles

■ Main operations

Metsäliitto Cooperative and its subsidiaries comprise a group (“Metsä Group” or “Group”) in which operations are organised into five business segments: Wood Supply and Forest Services, Wood Products Industry, Pulp and Sawn Timber Industry, Paperboard Industry, and Tissue and Greaseproof Papers.

The Group’s parent company is Metsäliitto Cooperative. The parent company is domiciled in Helsinki, and its registered address is Revontulenpuisto 2, 02100 Espoo, Finland. A copy of the consolidated financial statements can be obtained from the website www.metsagroup.com or the parent company’s head office at Revontulenpuisto 2, 02100 Espoo, Finland.

These financial statements were authorised for issue by Metsäliitto Cooperative’s Board of Directors on 8 February 2024. According to the Finnish Co-operatives Act, the Representative Council has the right to accept, reject or decide to amend the financial statements at the Annual General Meeting after their date of publication.

■ Accounting policies

Metsä Group’s consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS), applying the standards and interpretations that had been approved by the EU and were effective on 31 December 2023. The notes to the consolidated financial statements also comply with the requirements of Finnish accounting and Community legislation supplementing the IFRS rules.

The consolidated financial statements are presented in millions of euros.

The consolidated financial statements have been prepared based on original acquisition costs, excluding financial assets and liabilities recognised at fair value, biological assets, assets and obligations related to defined benefit pension plans, and share-based payments measured at fair value.

■ The impact of Russia’s military aggression

Russia’s attack on Ukraine has affected Metsä Group’s business operations. Operations at the Metsä Svir sawmill, the company’s only production unit in Russia, have been discontinued, as has wood procurement from the country. Product deliveries to Russia and Belarus have also been halted. Due to the discontinuation of business operations in Russia, the Group recognised impairments and expenses totalling EUR 79.6 million in the 2022 operating result. In 2023, the Group recognised a profit of EUR 10.3 million in the operating result from terminated lease agreements written down in June 2022, and a profit of EUR 1.0 million in the operating result from receivables written down in June 2022. The expenses from Russian ruble-denominated translation differences of EUR 4.0 million accrued in 2023 (2022: EUR 4.0 million income) are reported under financial income and expenses.

Further information can be found in the following notes: 2.1. Segment information, 2.4. Operating expenses, 4.1. Intangible assets, 4.2. Property, plant and equipment, 4.5. Inventories, 5.1. Equity, translation differences, and 5.2. Financial income and expenses.

■ Mitigating climate change and reducing emissions

Transitioning to fully fossil free energy in production, abandoning fossil-based raw materials, using energy and water more efficiently, and safeguarding strong forest growth and carbon storage are at the core of Metsä Group’s sustainability targets. The Group aims for fully fossil free mills and raw materials by the end of 2030. The achievement of ambitious targets requires investment, operational development and the use of the best available technology. Climate-related targets have an impact on the useful lives of property, plant and equipment (Note 4.2) and the preparation of future cash flow estimates in connection with goodwill impairment testing (Note 4.1).

■ Amendments to standards applied during the 2023 financial period

Amendments to IAS 12 Income Taxes – Deferred Tax related to Assets and Liabilities arising from a Single Transaction. The amendments narrow the scope of the initial recognition exemption and specify that the exemption does not apply to transactions such as leases and obligations from decommissioning which give rise to equal and offsetting temporary differences. The amendments have an impact on the notes presented. Further information can be found in Note 6. Income taxes.

Amendments to IAS 12 Income Taxes – International Tax Reform – Pillar Two Model Rules. The amendments provide companies a temporary exception to the accounting of deferred taxes arising from the OECD’s international tax reform and require certain new disclosures to compensate any loss of information arising from the exception. Further information can be found in Note 6. Income taxes.

Other amendments to standards do not have a material impact on the consolidated financial statements.

■ New and amended standards to be applied in future financial periods

Amendments to IAS 7 Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures – Supplier Finance Arrangements* (effective for financial periods beginning on or after 1 January 2024). The goal of the amendments is to improve the transparency of supplier finance arrangements and specify their impact on financial liabilities, cash flows and exposure to liquidity risk. The amendments will require the Group to provide qualitative and quantitative information about its supplier finance arrangements.

* = The standard had not been adopted by the EU by 31 December 2023.

Other amendments to standards will not have a material impact on the consolidated financial statements.

■ Transactions in foreign currency

The items included in the financial statements of Group companies are presented in the currency that is used in each company's primary operating environment. The consolidated financial statements are presented in euros, which is the parent company's functional and presentation currency.

Business transactions denominated in foreign currencies are recognised in the functional currency using the exchange rate on the transaction date. At the end of the financial period, open receivables and liabilities denominated in foreign currencies are translated into the functional currency using the exchange rate on the balance sheet date. Since March 2022, the rate used for the Russian ruble is the closing rate for EUR/RUB published by Refinitiv, which management considers to best represent the market rate on the closing date of each reporting period. Any gains or losses resulting from transactions in foreign currencies and from the translation of monetary items are recognised in financial income and expenses.

More information about currency hedging is provided in Note 5.6 (Management of financial risks).

The income statements and cash flows of Group companies whose functional currency is other than the euro are translated into euros using

the average exchange rates of the financial period, and their balance sheets are translated using the exchange rates on the balance sheet date. Changes in translation differences arising from the translation of Group companies' income statements and balance sheets and from the translation of net investments in foreign entities are recognised in the consolidated income statement. When divesting a foreign entity, either by selling or by dissolving it, translation differences accumulated by the time of the divestment are recognised in the income statement as part of the gain or loss from the divestment.

■ Other accounting principles

Other accounting principles are presented as part of the relevant notes.

■ Key estimates and judgements

The preparation of financial statements requires the use of the management's estimates, assumptions and judgement-based decisions that affect the amount of assets and liabilities, the presentation of contingent assets and liabilities in the financial statements, and the amount of income and expenses. Even though such estimates and assumptions are based on the management's best knowledge at the time they were made, it is possible that the actual values differ from those used in the financial statements.

Management's judgement-based decisions

Management's judgement-based decisions that were made when applying the accounting principles and that have the greatest impact on the figures of the consolidated financial statements concern the following areas:

Item	Note	Nature of management's judgement-based decisions
Financial instruments measured at fair value	4.5 Other investments	Accounting principle and valuation model applied to the shares of Pohjolan Voima Oyj

Estimates and assumptions

The Group's key uncertainties related to assumptions and estimates that carry a significant risk of the book values of assets and liabilities changing during the following financial period include the following:

Item	Note	Nature of estimates and assumptions
Pension obligations	3.4 Pension obligations	Actuarial assumptions used as the basis for determining the current value of pension obligations arising from defined benefit plans and the obligation items recognised as expenses during the financial period
Property, plant and equipment and leases	4.2 Property, plant and equipment	Estimates of the useful lives of property, plant and equipment, and of lease extension options
Financial instruments measured at fair value	4.4 Other investments	Estimates of key factors affecting cash flows in the valuation of Pohjolan Voima Oyj
Inventories	4.5 Inventories	Estimates of the sales prices of products measured at net realisable value, the costs of completion and the costs necessary for making the sale.
Provisions	4.9 Provisions	Estimates of the date and amount of costs from the obligation
Income taxes	6. Income taxes	Estimates of the date and amount of tax liabilities arising in tax audits and deferred tax assets recognised for losses
Legal obligations	8.1 Commitments and contingencies	Estimates of the date and amount of costs from obligations related to disputes and legal proceedings

2. Profitability

■ 2.1 Segment information

Accounting principles

Operating segments

Metsä Group's operating segments are comprised of the Group's business areas. The operating segments are reported consistently, with the internal reports submitted to the President and CEO. The President and CEO is in charge of allocating resources to the operating segments and evaluating their performance.

The segments report in line with the same accounting principles as the Group. All intra-segment transactions are based on market prices and are eliminated on consolidation.

Items affecting comparability

Extraordinary and material items not included in ordinary business operations have been eliminated in the comparable operating result. Items affecting comparability include material gains and losses on disposals of assets, impairment and impairment reversals in accordance with IAS 36 Impairment of Assets, corporate divestments and acquisitions, adjustment measures and other restructuring measures and their adjustments, costs arising from extensive and unforeseeable interruptions in production and the compensation received for them as well as items arising from legal proceedings.

Wood Supply and Forest Services

Metsä Forest provides premium wood for Metsä Group's production units and its other industrial customers. It offers owner-members of the parent company, Metsäliitto Cooperative, comprehensive services in wood trade and forest and nature management. Metsä Forest invests in developing sustainable forest management methods and digital services provided for forest owners.

Wood Products Industry

Metsä Wood is one of Europe's leading manufacturers of engineered wood products. The company converts northern wood into high-quality, sustainable and material-efficient wood products that store renewable carbon for a long time. Metsä Wood's main products are Kerto LVL, birch and spruce plywood and further processed sawn timber products, which are supplied to the construction and transport equipment industries.

Pulp and Sawn Timber Industry

Metsä Fibre is a leading producer of bioproducts and a forerunner in the sustainable bioeconomy. The company converts northern wood into products that promote the bioeconomy and the circular economy. Metsä Fibre is the world's leading producer of softwood market pulp and a major producer of sawn timber. The company's bleached softwood and birch pulps have been developed for the production of paperboards, tissue and printing paper, and specialty paper. Spruce and pine sawn timber are used primarily in the construction industry. Metsä Fibre also develops and continuously expands the range of bioproducts produced from the side streams of pulp production.

Paperboard Industry

Metsä Board is a leading European producer of high-quality and lightweight fresh fibre paperboards. The company's folding boxboard and food service boards as well as white kraftliners offer sustainable, recyclable and safe solutions for consumer goods, retail-ready and food service packaging. The pure fresh fibre used in our products is a renewable, safe and recyclable raw material from sustainably managed northern forests. Metsä Board aims for fully fossil free mills and raw materials by the end of 2030. The global sales network provides services to brand owners, packaging converters and merchants. With the customers, the company develops innovative packaging solutions that create better consumer experiences with less environmental impact.

Tissue and Greaseproof Papers

Metsä Tissue is one of the leading tissue paper suppliers in Europe to households and professionals and one of the leading greaseproof paper suppliers globally. The company innovates products and services that make everyday life cleaner, easier and more hygienic, in an environmentally sustainable manner. The company's brands are Lambi, Serla, Tinto, Mola, Katrin and SAGA. In addition to its own brands, the company develops and manufactures a range of supplier label products as well as tailored customer label products for leading European retailers.

Other operations

Other operations include Metsä Group's head office functions, the holding function of Metsäliitto Cooperative, Metsä Group Treasury Oy and Metsä Spring Ltd.

Operating segments 2023

EUR million	Wood Supply and Forest Services	Wood Products Industry	Pulp and Sawn Timber Industry	Paperboard Industry	Tissue and Greaseproof Papers	Other operations	Eliminations	Group total
External sales	491.4	573.4	1,973.1	1,820.0	1,249.4	3.1		6,110.4
Internal sales	1,730.3	18.2	525.5	121.8	0.9	15.1	-2,411.8	
Sales total	2,221.7	591.6	2,498.6	1,941.9	1,250.2	18.2	-2,411.8	6,110.4
Operating result	29.0	64.9	114.6	120.8	198.7	-31.4	1.5	498.1
Items affecting comparability	10.3	3.0	-13.3	-1.4	10.0	-3.1	4.6	10.2
Comparable operating result	18.7	61.8	127.9	122.2	188.6	-28.3	-3.1	487.9
Share of results from associated companies and joint ventures								-1.2
Finance costs, net								-9.1
Income taxes								-104.2
Result for the period								383.6
Assets	476.1	414.3	4,190.2	2,743.8	940.2	351.8	-425.2	8,691.1
Unallocated assets								1,416.8
Total assets								10,107.9
Liabilities	282.9	93.7	918.5	404.6	310.1	224.4	-425.2	1,809.0
Unallocated liabilities								2,655.8
Total liabilities								4,464.8
Total investments	9.8	62.9	714.9	228.7	127.3	55.8	-6.3	1,193.2
Depreciations	6.2	21.8	158.6	93.8	43.7	17.9	3.2	345.2
Impairments			1.2		0.8			2.0
Personnel, average	747	1,599	1,661	2,333	2,514	898		9,751

Segments' assets = intangible and tangible assets (incl. leases), investments in associated companies and joint ventures, inventories, accounts receivables and other non-interest-bearing receivables (excl. interest and tax items). Segments' liabilities = accounts payable, advance payments and other non-interest-bearing liabilities (excl. interest and tax items).

Items affecting comparability in operating result 2023

EUR million	Wood Supply and Forest Services	Wood Products Industry	Pulp and Sawn Timber Industry	Paperboard Industry	Tissue and Greaseproof Papers	Other operations	Eliminations	Group total
Other operating income	10.3	3.9	2.6	2.7	13.4		-2.6	30.4
Change in inventories			-9.6					-9.6
Employee costs		-0.9			-0.2			-1.0
Share of results from associated companies and joint ventures				-4.1			4.1	
Impairments			-1.2		-0.8			-2.0
Other operating expenses			-5.1		-2.4	-3.1	3.1	-7.5
Total	10.3	3.0	-13.3	-1.4	10.0	-3.1	4.6	10.2

The operating result of the **Wood Supply and Forest Services** segment includes a profit of EUR 10.3 million from the lease agreements that were terminated following the discontinuation of business operations in Russia and written down in June 2022.

The operating result of the **Wood Products Industry** segment includes a capital gain of EUR 3.9 million from the sale of a property in Grangemouth in the UK, and personnel cost provisions of EUR -0.9 million related to the winding down of upgrading business in Widnes in the UK.

Other operating income of the **Pulp and Sawn Timber Industry** segment includes a capital gain of EUR 2.6 million from the sale of a land area.

Other operating expenses include EUR -6.2 million in losses on the sale of property, plant and equipment, and a profit of EUR 1.0 million from receivables written down in June 2022 following the discontinuation of

business operations in Russia. The operating result also includes write-downs totalling EUR -10.1 million related to the closure of the old Kemi mill.

Other operating income of the **Paperboard Industry** segment includes a capital gain of EUR 2.7 million from the sale of a land area unrelated to business operations. The share of results from associated companies and joint ventures includes EUR -1.2 million in losses on sale of Metsä Fibre's property, plant and equipment, write-downs of EUR -2.0 million related to the closure of Metsä Fibre's old Kemi mill, and EUR -0.9 million in translation differences recognised in the financial items of Metsä Fibre's operations in Russia.

Other operating income of the **Tissue and Greaseproof Papers** segment includes a capital gain of EUR 12.9 million from the sale of a land area in Konstancin in Poland. The operating result also includes a total of EUR -3.0

million in write-downs and cost provisions related to the Future Tissue Paper Mill programme.

The operating result of the **Other Operations** segment includes a merger loss of EUR -3.1 million for Kemi Shipping Oy.

Eliminations include EUR -2.6 million for the elimination of a capital gain from a land area, EUR 4.1 million for the elimination of the share of results from associated companies and joint ventures included in the operating result of the Paperboard Industry segment, and EUR 3.1 million for the elimination of the merger loss for Kemi Shipping Oy.

Operating Segments 2022

EUR million	Wood Supply and Forest Services	Wood Products Industry	Pulp and Sawn Timber Industry	Paperboard Industry	Tissue and Greaseproof Papers	Other operations	Eliminations	Group total
External sales	546.9	643.6	2,307.3	2,281.9	1,196.2	4.4		6,980.2
Internal sales	1,586.4	18.7	763.4	197.7	0.9	15.3	-2,582.5	
Sales total	2,133.3	662.3	3,070.7	2,479.6	1,197.0	19.8	-2,582.5	6,980.2
Operating result	-10.9	54.8	845.5	531.5	-3.0	111.5	-227.6	1,301.9
Items affecting comparability	-34.6		-48.6	10.8	0.5	137.0	-39.5	25.6
Comparable operating result	23.7	54.8	894.1	520.7	-3.4	-25.4	-188.1	1,276.4
Share of results from associated companies and joint ventures								-4.8
Finance costs, net								-27.3
Income taxes								-271.1
Result for the period								998.7
Assets	330.1	397.9	3,720.4	2,993.3	902.7	390.5	-441.1	8,293.9
Unallocated assets								1,120.9
Total assets								9,414.7
Liabilities	292.4	90.7	661.2	529.8	330.3	307.9	-441.1	1,771.2
Unallocated liabilities								1,942.4
Total liabilities								3,713.6
Total investments	17.1	19.2	1,065.0	304.1	50.6	45.2	-0.9	1,500.4
Depreciations	7.8	20.7	119.2	82.1	44.7	7.8	5.0	287.3
Impairments	31.3	0.7	14.2	0.9				47.2
Personnel, average	838	1,647	1,422	2,352	2,512	815		9,587

Segments' assets = intangible and tangible assets (inc. leases), investments in associated companies and joint ventures, inventories, accounts receivables and other non-interest-bearing receivables (excl. interest and tax items). Segments' liabilities = accounts payable, advance payments and other non-interest-bearing liabilities (excl. interest and tax items).

Items affecting comparability in operating result 2022

EUR million	Wood Supply and Forest Services	Wood Products Industry	Pulp and Sawn Timber Industry	Paperboard Industry	Tissue and Greaseproof Papers	Other operations	Eliminations	Group total
Other operating income	6.6			28.6	0.5	138.4	-49.8	124.2
Change in inventories	-0.9		-11.0					-11.9
Employee costs	-0.7		-1.4	-4.6		-1.4		-8.1
Share of results from associated companies and joint ventures				-11.6			11.6	
Impairments	-31.3		-14.2	-0.9				-46.5
Other operating expenses	-8.2		-22.0	-0.6			-1.3	-32.1
Total	-34.6		-48.6	10.8	0.5	137.0	-39.5	25.6

The operating result of the **Wood Supply and Forest Services** segment includes a total of EUR -34.6 million of items related to the discontinuation of business operations in Russia.

The operating result of the **Pulp and Sawn Timber Industry** segment includes EUR -42.7 million of expenses related to the discontinuation of business operations in Russia. In addition, the operating result includes personnel expenses of EUR -0.7 million and an impairment of EUR -5.2 million related to the discontinuation of sawmill operations at the Kyrö sawmill.

Other operating income for the **Paperboard Industry** segment includes a capital gain of EUR 19.2 million from the sale of shares in Oy Hangö Stevedoring Ab, a capital gain of EUR 6.5 million from the sale of land unrelated to business operations, and a capital gain of EUR 2.8 million from the sale of a shareholding. The personnel expenses include expenses of EUR 4.6 million related to the reorganisation of customer service and supply chain management. The share of results from associated companies and joint ventures includes expenses of EUR -10.5 million related to the discontinuation of Metsä Fibre's business operations in

Russia and expenses of EUR -1.2 million related to the discontinuation of sawmill operations at Metsä Fibre's Kyrö sawmill.

Other operating income for the **Other Operations** segment includes a capital gain of EUR 125.3 million for the sale of shares in Finsilva Oyj and a capital gain of EUR 13.1 million for the sale of shares in Suomen Metsäsijoitus Oy. Personnel expenses include expenses of EUR -1.4 million related to the adjustment of operations at Kemi Shipping Oy.

Eliminations include EUR -46.0 million for the elimination of the capital gain from the sale of the Finsilva Oyj shares, EUR -3.8 million for the elimination of the capital gain from the sale of the Suomen Metsäsijoitus Oy shares, EUR 11.6 million for the elimination of the share of results from associated companies and joint ventures included in the operating result of the Paperboard Industry segment, and EUR -1.3 million of other operating expenses related to the discontinuation of business operations in Russia.

Due to the discontinuation of business operations in Russia, the Group recognised impairments and expenses totalling EUR -79.6 million in the 2022 operating result.

Geographical areas

EUR million	External sales by location of customer		Non-Current assets		Capital expenditure	
	2023	2022	2023	2022	2023	2022
Finland	954.4	854.0	5,174.1	4,621.9	922.0	1,249.4
Germany	525.9	598.7	161.6	159.6	19.9	19.3
Italy	171.7	232.7	0.3	0.4	0.0	0.0
Sweden	253.3	244.7	939.6	757.5	229.2	212.2
France	223.6	264.0	0.4	0.4	0.2	0.3
Poland	190.8	198.3	54.1	54.6	3.7	4.3
Other EU countries	911.2	964.3	87.5	89.7	7.5	6.6
EU total	3,230.9	3,356.8	6,417.6	5,684.0	1,182.6	1,492.1
Great Britain	420.5	479.0	32.9	29.3	8.5	6.2
Turkey	131.3	242.1	0.0	0.0		
Norway	171.0	287.0	0.4	0.6	0.2	0.5
Other Europe	66.2	126.3	0.0	0.1	0.0	0.3
Total Europe	4,020.0	4,491.2	6,450.9	5,714.0	1,191.3	1,499.1
China	947.9	1,123.8	1.1	1.4	0.5	1.3
United States	562.2	631.5	1.6	0.6	1.4	
Other countries	580.3	733.7	0.0	0.0	0.0	
Total	6,110.4	6,980.2	6,453.6	5,716.1	1,193.2	1,500.4

Non-current assets include all non-current assets with the exception of derivative financial instruments and deferred tax assets.

Personnel at year end

	2023	2022
Finland	5,538	5,135
Sweden	1,271	1,243
Germany	894	922
Poland	610	570
Great Britain	380	390
Slovakia	308	301
Russia		80
Baltic countries	246	254
Other Europe	96	144
Europe total	9,343	9,040
Other countries	121	115
Total	9,464	9,155

Information about most important customers

EUR 987.7 million of sales, or 16% of overall sales, (1,119.4 and 16%) is from a single external customer. This share of sales belongs to the Pulp and Sawn Timber Industry and Paperboard Industry segments.

2.2 Sales

Accounting principles

Metsä Group's sales are primarily generated by the sale of forest industry products.

The bulk of the Group's sales comes from the sale of folding boxboard and fresh fibre linerboard to brand owners, packaging converters and merchants, from the sale of pulp to paperboard, tissue paper, printing paper and specialty paper producers, as well as from the sale of tissue and greaseproof papers to retailers. Sales also include the sale of sawn timber, engineered wood products, energy, biochemicals, and forest and nature management services.

Performance obligations arising from the Group's sales contracts are mainly order-driven customer deliveries related to the sale of forest industry goods. Services mostly have an ancillary role in the Group's business operations, or they complement deliveries of goods.

The transaction price is the amount that the Group expects to receive in exchange for a fulfilled performance obligation. This amount, less sales-based value added taxes and sales taxes, is presented as the Group's sales. The prices received by the Group are divided into a fixed part and a variable part. The variable part consists of various discounts based on, among other things, payment terms and purchased quantities, and is allocated by the Group as deductions from sales revenue in line with estimates of the extent of the discount the customer is deemed to be entitled to. The Group's sales contracts mostly include obligations solely related to deliveries of goods, to which the allocation of the transaction price is uncomplicated. The terms of payment applied in the Group's sales invoices vary to some extent geographically and in different business areas, but the payment time provided is nonetheless always clearly less than a year, when the financing component does not need to be separated.

The Group recognises revenue from the sale of goods at a single point in the period during which the control of the delivered products passes to the customer, i.e. when the risks and benefits related to the sold products are transferred to the customer. Services are recognised as income over time.

Control to products transfers at the point of time when the products have been delivered in accordance with the agreed term of delivery. The Incoterms 2010 delivery terms most commonly applied by the Group and the corresponding times of sales income recognition are:

D terms: Delivery of goods to the buyer at the agreed destination at the agreed time.

C terms: Handing over the goods to be transported to the agreed destination by a carrier arranged for by the seller.

F terms: Handing over the goods to a carrier arranged for by the buyer.

It is the management's view that groupings pursuant to operating segments' geographical distribution best describe the nature, amount and timing of sales income and its related uncertainty. The sales of operating segments and geographic areas pursuant to the location of customers is presented in Note 2.1, Segment information.

Sales by market areas

EUR million	2023	2022
EMEA		
Finland	954.4	854.0
Other EU countries	2,276.5	2,502.7
Other Europe	789.1	1,134.5
Middle East and Africa	201.0	235.9
EMEA total	4,221.0	4,727.1
APAC	1,222.7	1,482.9
Americas	666.8	770.2
Total	6,110.4	6,980.2

2.3 Other operating income

EUR million	2023	2022
Gains on disposal	86.7	157.3
Rental income	1.3	1.4
Service revenue	2.3	5.2
Government grants and allowances	44.5	12.0
Sale of scrap and waste	1.0	1.4
Others	24.9	27.3
Total	160.8	204.7

Gains on disposal

EUR million	2023	2022
Land area located in Konstancine Poland	12.9	
Property located in Grangemouth Great Britain	3.9	
Finnsilva Oyj shares		79.3
Oy Hangö Stevedoring Ab shares		19.2
Suomen Metsäsijoitus Oy shares		9.2
Measurement of Encore Ympäristöpalvelut Oy shares		3.3
Emission rights (Note 4.1)	62.1	36.5
Land area unrelated to business operations	2.7	6.5
Other	5.0	3.2
Total	86.7	157.3

Government grants and allowances include a total of EUR 30.5 million (9.1) in energy support. In 2023, government grants and allowances also include compensation of EUR 9.8 million for a broken generator.

Other operating income includes a profit of EUR 10.3 million from the lease agreements that were terminated and written down in June 2022 following the discontinuation of business operations in Russia.

2.4 Operating expenses

EUR million	2023	2022
Materials and services		
Materials, consumables and goods		
Purchases	2,928.9	3,144.8
Change in inventories	-15.4	-70.8
External services		
Logistics expenses	824.7	971.6
Other external services	497.9	514.0
Materials and services, total	4,236.2	4,559.6
Employee costs	706.5	720.6
Depreciations and impairment charges	347.2	334.5
Other operating expenses		
Rents and other property costs	42.3	38.2
Purchased services	235.1	206.2
Losses on fixed asset disposals	7.1	0.7
Other operating expenses	133.5	164.2
Other operating expenses, total	417.9	409.4

Information on personnel costs is presented in Note 3.1 and information on depreciations and impairment charges in Notes 4.1 and 4.2.

Loss on sale of non-current assets includes EUR 6.2 million in losses on the sale of Metsä Fibre's property, plant and equipment.

Other operating expenses include energy costs, marketing and advertising costs and administrative expenses.

Other operating expenses include cost provisions of EUR 2.0 million related to the Future Tissue Paper mill programme and a profit of EUR 1.0 million from receivables written down in June 2022 following the discontinuation of business operations in Russia. In 2022, other operating expenses included expenses of EUR 32.2 million related to the discontinuation of business operations in Russia. The amount included expenses of EUR 29.4 million for ruble-denominated translation differences recognised through profit and loss.

The Group's R&D costs recognised as expenses were EUR 31.9 million (24.9).

Auditor fees

The fees of the group's auditor KPMG

EUR million	2023	2022
Audit	1.7	1.4
Auditors' opinions	0.1	0.1
Tax services	0.0	0.0
Other services	0.5	0.4
Total	2.4	1.9

KPMG Oy Ab's non-audit services for Metsä Group companies were 403 thousand euros (312).

Fees to other auditors than KPMG amounted to EUR 4.1 (1.8) million.

3. Remuneration

3.1 Personnel expenses

EUR million	2023	2022
Wages and salaries	460.6	465.5
Share-based payments	3.3	5.7
Other long-term remuneration	4.8	19.8
Pension costs		
Defined benefit plans	1.9	2.6
Defined contribution plans	78.5	71.7
Other social security costs	157.5	155.3
Total	706.5	720.6

In 2023, personnel expenses included cost provisions of EUR 0.9 million related to the winding down of upgrading business in Widnes in the UK.

In 2022, personnel expenses included EUR 4.6 million of expenses related to the reorganisation of Metsä Board's customer service and supply chain management, EUR 1.5 million of expenses related to the discontinuation of business operations in Russia, EUR 1.4 million of expenses related to the adjustment of operations at Kemi Shipping Oy, and EUR 0.7 million of expenses related to the discontinuation of sawmill operations at the Kyrö sawmill.

3.2 Management's salaries, remuneration and pension expenses

The Group's top management consists of the members of the Supervisory Board, the parent company's Board of Directors and the Executive Management Team, including the President and CEO.

Remuneration paid to top management

EUR Million	2023	2022
Salaries and fees	6.7	6.5
Share-based payments (long term remuneration)	1.4	3.8
Pension costs		
Defined benefit plans	1.3	5.7
Defined contribution plans	1.0	0.5
Total	10.3	16.5

Remuneration paid to members of the Supervisory Board and pension benefits

Euroa	Fees		Pension benefits, defined contribution plans	
	2023	2022	2023	2022
Paajanen Juha, Chair	78,100	71,600	12,652	11,563
Siponen Ahti, Deputy Chair	39,300	33,200	6,367	5,362
Other members total	186,500	152,800		
Total	303,900	257,600	19,019	16,925
Former members	11,400			
Total	315,300	257,600	19,019	16,925

Remuneration paid to members of Board of Directors and pension benefits

Euroa	Fees		Pension benefits, defined contribution plans	
	2023	2022	2023	2022
Linnaranta Jussi, Chair	167,700	166,554	29,683	29,397
Mäkimattila Mikko, Deputy Chair	91,600	72,800	16,213	12,849
Heikkilä Taavi	97,600	82,800	15,811	13,372
Parpala Juha	80,800	67,200	13,090	10,853
Pitkänen Eija, from 1.1.2023	80,800		13,090	
Pärssinen Nina	86,600	71,200	14,029	11,499
Salonen Ilkka	101,000	85,200	16,362	13,760
Vanhänen Jussi	84,700	68,400	14,992	12,073
Total	790,800	614,154	133,270	103,802
Former members of the Board of Directors				
Saukkonen Timo, until 31.12.2022	2,400	82,400	389	13,308
Hiltunen Arto, until 31.12.2021		1,600		282
Total	793,200	698,154	133,658	117,392

Salaries and remunerations paid to the President and CEO and other members of the Executive Management Team and pension

EUR	President and CEO		Other Executive Management Team	
	2023	2022	2023	2022
Salaries and remuneration				
Base salary including fringe benefits ¹⁾	863,798	869,405	2,664,691	2,623,925
Salaries and remuneration paid by other Group companies	135,392	136,992		
Short-term incentives ²⁾	650,032	723,305	1,267,166	1,174,515
Long-term incentives ³⁾		1,246,855	1,391,888	2,525,779
Deferred long-term incentives ⁴⁾				27,195
Total	1,649,222	2,976,557	5,323,744	6,351,414
Pension Costs				
Defined benefit plans	417,934	4,079,072	843,045	1,614,868
Defined contribution plans	264,035	274,308	534,796	98,178
Total	681,968	4,353,380	1,377,840	1,713,046
Salaries and remuneration as well as pension costs in total	2,331,190	7,329,937	6,701,584	8,064,460

1) Base salary may include a housing benefit, car, bicycle and telephone benefits, extended healthcare, travel and accident insurance as well as other minor fringe benefits.

2) The 2023 payment concerns performance in 2022; the 2022 payment concerns performance in 2021.

3) 2023: No other long-term remuneration were paid from Metsä Group's scheme due to a scheme change in 2023. Metsä Board's share based payments concerns performance period 2020–2022; 2022: performance period 2019–2021.

4) Deferred long-term remuneration were paid in accordance with the terms and conditions and the decision of the Board of Directors.

Based on a decision by the Board of Directors, the President and CEO may be paid a short-term reward based on defined financial criteria and strategic targets. The performance period for the reward is 12 months. In 2023 and 2022, the remuneration available in the short-term remuneration system to the President and CEO was 37.5% of the fixed annual salary at the target level, and 93.75% of the fixed annual salary at the maximum level.

Based on a decision by the Board of Directors, members of Metsä Group's Executive Management Team may be paid a short-term reward based on defined financial criteria and strategic targets. The performance period for the reward is 12 months. In 2023 and 2022, the reward limit of the short-term incentive scheme for members of Metsä Group's Executive Management Team was at the target level 30% and at the maximum level 75% of the fixed annual salary.

The term of notice of President and CEO Ilkka Härmälä is 12 months. If the contract of the President and CEO is terminated by the Board of Directors, the President and CEO is entitled to a severance pay corresponding to 12 months' salary. No severance pay is paid if the contract is terminated by the President and CEO. The terms of notice of other members of the Group's Executive Management Team is six months. Other members of the Executive Management Team are entitled to a compensation corresponding to 6–12 months' salary in case of severance due to reasons not dependent on the member.

Ilkka Härmälä's retirement age is determined in accordance with the Employee Pensions Act. Härmälä is also included in the benefit-based supplementary pension scheme that covers Metsä Group's management. Based on the supplementary pension scheme, the level of the President and CEO's pension is maximum 60% of the total salary under the Employee Pensions Act, calculated on the basis of the five-year period preceding retirement. If President and CEO's employment at the Group ends before retirement, they are entitled to a paid-up policy.

Depending on the date on which their contract began, some members of Metsä Group's Executive Management Team have separate benefit-based supplementary pension insurance with a retirement age of 62. The level of the pension is at maximum 60% of the total salary according to the Employee Pensions Act, calculated on the basis of the five-year period preceding retirement. If their employment relationship with Metsä Group ends before retirement age, members of the Executive Management Team are entitled to a paid-up policy. At the end of 2023, three members of the Executive Management Team had supplementary pension arrangements.

There are no loan receivables, guarantees or other liabilities for members of the management.

■ 3.3 Share-based payments

Accounting principles

Share ownership programmes in which the payments are made as equity instruments and cash have been established for the company's top executives. The Group's share ownership plans are treated in full as arrangements settled in shares. The incentives granted are measured at fair value on the granting date, and recognised as expenses in the income statement and equity evenly over the vesting period.

The effect of the arrangements on profit is presented under personnel expenses.

During the review period, the company had five active share incentive systems: the 2017–2021 performance-based share incentive system, which the Board of Directors decided to adopt on 10 January 2017, the 2020–2024 retentive and performance-based share incentive systems, which the Board of Directors decided to adopt on 12 December 2019, and the 2023–2027 retentive and performance-based share incentive systems, which the Board of Directors decided to adopt on 15 December 2022 as part of the incentive and commitment system for key personnel. The impact of the share-based incentive systems on the result of the 2023 financial period was EUR 3.3 million (5.7).

2017–2021 performance-based share incentive system, 2020–2024 performance-based share incentive system and 2023–2027 performance-based share incentive system

The systems offer the target group the opportunity to be awarded Metsä Board Corporation's series B shares based on performance periods of three calendar years for achieving the targets set for the respective performance criteria. The performance periods are the calendar years 2017–2019, 2018–2020, 2019–2021, 2020–2022, 2021–2023,

2022–2024, 2023–2025, 2024–2026 and 2025–2027. In addition to the shares allocated for the 2017–2021 performance-based share incentive system, the reward includes a cash component, which covers the taxes and tax-like charges resulting from the reward to key employees. The total number of shares allocated under the 2020–2024 and 2023–2027 performance-based share incentive systems includes both a share component and a cash component. Likewise, the reward is paid partly in shares and partly in cash, and the aim is for the cash component to cover taxes and tax-like charges at the time of payment. The reward is not paid if the person's employment ends before the end of the performance period. The systems include a cap, and any portion exceeding it is permanently cut. The reward is paid in March following the performance period. The systems also include a two-year restriction period. If the employment relationship of a key employee ends during the restriction period, the key employee is required, as a rule, to return the transferred shares to the company without consideration.

Based on the achievement of the criteria for the 2020–2022 performance period, 298,785 Metsä Board Corporation's series B shares were transferred, and a cash component to cover the taxes and tax-like charges incurred from the reward was paid at the time of the share transfer.

2020–2024 retentive share-based incentive system and 2023–2027 retentive share-based incentive system

The system offers key employees in the target group the opportunity to be awarded Metsä Board Corporation's series B shares, provided that the participant's employment relationship is in force and remains in force until the end of the restriction period. The system has restriction periods of 12 to 36 months. As a rule, rewards are not paid if the participant's employment relationship ends during the restriction period. No allocations have been made yet for the 2023–2027 retentive share-based incentive system.

The basic information and events of the share-based incentive schemes

2023	Share incentive schemes 2017–2021	Share incentive schemes 2020–2024	Share incentive schemes 2023–2027
Basic information			
Shares allocated to the scheme, shares	1,434,584	1,502,821	432,163
Criteria	Equity ratio, ROCE, EBIT	Equity ratio, ROCE, EBIT	Equity ratio, ROCE, EBIT
Numer of key persons (31.12.2023)	79	29	26
Factors used to determine fair value ¹⁾			
Share fair value at grant date, EUR	5.20	6.93	6.90
Fair value on balance sheet date, EUR million	7.2	8.3	
Effect on result and financial position			
Expense in 2023 share-based payment, recognised as equity, EUR million	1.5	1.8	
Share-based payments settled in cash, unpaid part (estimate), EUR million	0.1	2.6	
Number of shares 1 Jan. 2023 ²⁾			
Outstanding at the beginning of the period	636,278	1,419,971	
Changes during the year			
Shares granted			432,163
Shares forfeited	2,450	6,263	7,800
Shares exercised	633,828	50,021	
Shares expired		933	
Number of shares 31 Dec. 2023			
Outstanding at the end of the period	0	1,362,754	424,363

1) The fair value of the share-based payment at the time of transfer was the market price of Metsä Board Corporation's B share less the amount of dividend to be distributed before the payment of the reward in accordance with the consensus estimates. The fair value of the share-based payment is recognised as an amount based on the best possible estimate of the amount of the reward to which a right is expected to be established.

2) The amounts of share-based rewards shown in the table are net amounts for the 2017–2021 share-based incentive system. That is, they reflect the number of shares transferred based on share-based rewards. In addition to these, the remuneration includes a cash portion to cover taxes and tax-like charges at the time of payment of the remuneration. For the 2020–2024 and 2023–2027 share-based incentive systems, the amounts of share-based rewards shown in the table are gross amounts, that is, they reflect the total number of shares transferred and the cash component paid based on share-based rewards. The remuneration is paid partly in shares and partly in cash. The cash contribution aims to cover taxes and tax-like charges at the time of payment of the fee.

3.4 Other long term remuneration

Accounting principles

Other long-term remuneration is treated in the Group in the same manner as the bonuses included in other long-term fringe benefits. Other long-term remuneration is measured at fair value on the balance sheet date and recognised as an expense in the income statement and as a liability on the balance sheet over the vesting period. The effect of the arrangements on profit is presented under personnel expenses.

Metsä Group's 2020–2024 long-term remuneration system is based on three-year performance periods (2020–2022, 2021–2023 and 2022–2024), and the 2023–2027 remuneration system on three-year performance periods (2023–2025, 2024–2026 and 2025–2027). Each performance period is followed by a restriction period of one year. The performance criteria, the targets set for them and the executives covered by the system are decided by the Board of Directors at the beginning of each performance period. The attainment of the targets established for a performance period determines the proportion of the reward to be paid to the executives. The Board is furthermore entitled to cut, partly or in full, the remuneration based on the system, provided that certain criteria related to the development of the Group's result and equity ratio are not met, or if the amount of remuneration would exceed the maximum remuneration specified for the executive concerned. In addition to meeting the earning

criteria, rewarding is based on a synthetic share, whose value is calculated on the basis of the total value of Metsä Group. The reward limit of the President and CEO is at the maximum level 250% of their fixed annual salary, while for other members of Metsä Group's Executive Management Team, it is 140% or 210% of their fixed annual salaries. In addition, a maximum level has been defined for remuneration. For the President and CEO, it is 325% of their fixed annual salary, and for other members of Metsä Group's Executive Management Team, 180% or 270% of their fixed annual salaries.

Any remuneration is paid in cash after the restriction period, and it includes all statutory taxes and any other tax-like charges. If an executive's service or employment contract terminates during the performance or restriction period, the executive forfeits, as a rule, their right to the remuneration.

Metsä Group's long-term remuneration scheme covers all the members of Metsä Group's Executive Management Team and other directors in key Group positions (excluding Metsä Board, which has its own share-based remuneration scheme).

The impact of other long-term remuneration systems on the 2023 consolidated income statement was EUR 4.8 million (19.8).

Performance period	2020–2022	2021–2023	2022–2024
Number of allocated synthetic shares (gross)	1,041,951	1,112,993	1,096,176
Number of key persons (31 Dec. 2023)	62	69	74
Performance period	2023–2025		
Number of allocated synthetic shares (gross)	911,311		
Number of key persons (31 Dec. 2023)	77		

Performance criteria is Metsä Group's three-year average ROCE. Minimum values have also been set for the equity ratio and operating result.

3.5 Pension obligations

Accounting principles

The Group's arrangements concerning benefits following the termination of employment are either defined contribution plans or defined benefit plans. A defined contribution plan is a pension arrangement in which fixed contributions are made to a separate unit, and the Group does not have legal or constructive obligations to make additional contributions if the fund has insufficient funds to pay all benefits to all employees in accordance with its future obligations. All arrangements that do not meet these requirements are considered to be defined benefit plans. A defined benefit plan defines the pension benefit that the employee will receive on retiring, the amount of which depends on factors such as the employee's age, years of service and salary level.

With defined benefit plans, the current value of the obligations on the end date of the reporting period, less the fair value of the assets included in the arrangement, is recognised on the balance sheet as a liability. The amount of the obligation arising from the plan is based on annual calculations by independent actuaries using the projected unit credit method. The current value of the obligation is determined using the interest rate equalling the interest rate of high-quality bonds issued by the companies as the discount rate for the estimated future cash flows. The bonds used in determining the interest rate have been issued in the same currency as the benefits to be paid, and their

maturity is approximately the same as that of the corresponding pension obligation.

Actuarial gains and losses from experience verifications and changes in actuarial assumptions are recognised through items of other comprehensive income as a reimbursement or charge in equity for the period during which they have been incurred. Past service costs are recognised immediately through profit and loss.

Apart from contributions related to pension insurance, the Group does not have any other payment obligations in defined contribution plans. Obligation-based payments are allocated as expenses on an accrual basis.

Key estimates and judgements

The current value of pension obligations arising from defined benefit plans and the obligation items recognised as expenses during the financial period are determined based on actuarial assumptions. These assumptions include the discount rate, the expected rise in salary levels, and life expectancy. The actuarial assumptions used may differ significantly from the actual results, due to changes in economic conditions or the employment relationships of the people covered by the arrangements. Significant differences between the assumptions and actual results may affect the amount of the pension liability and the items recognised as expenses.

Pension and other post-employment benefits

EUR million	2023	2022
Liabilities recognised in balance sheet		
Defined benefit pension plans	59.1	59.0
Defined contribution pension plans	0.7	0.7
Total	59.8	59.6
Overfunded defined benefit pension plans in assets (Note 5.3)	-4.7	-5.3

Defined benefit pension plans

The Group's most significant defined benefit pension plans are in Germany, Great Britain, Finland and Sweden.

The Group has several supplementary defined benefit pension plans in Germany. The arrangements grant old-age pensions, disability pensions and family pensions exceeding the statutory pension security to eligible employees, officials, senior management and former owners of the local company. The retirement age is usually 65 years, and the amount of pension depends on the length of service. Officials and senior management are required to have a service history of 25 to 30 years to receive a full pension. With employees, all service years after the age of 18 are taken into consideration. Some of the pension arrangements are closed. The defined benefit plans in Germany are unfunded.

The defined benefits plans in Great Britain guarantee a pension for participants of the plan, the amount of which is based on the length of service and the salary in the most recent working years. The arrangement is closed to new members. The pension plan in Great Britain is organised through an independent foundation separate from the Group.

In Finland, the Group has supplementary pension plans that are regarded as defined benefit plans. Depending on the date on which their contract began, some members of Metsä Group's Executive Management Team have separate benefit-based supplementary pension insurance with a retirement age of 62. The level of the pension is a maximum of 60% of the total salary pursuant to the Employees Pensions Act, calculated based on the five-year period preceding retirement. If their employment relationship with Metsä Group ends before retirement age, members of the Executive Management Team are entitled to a paid-up policy.

The defined benefit pension plan in Sweden concerns white-collar employees born in 1978 or earlier. The arrangement grant old-age pensions, family pensions and disability pensions. The amount of pension depends on the salary in which the future salary increases, length of service, promotions and other important factors like changes on the labour market are considered. The defined benefit plans in Sweden are unfunded. The obligation has a guarantee liability.

The Group also has defined benefit plans in Belgium, Italy, Norway and Slovakia.

Amounts recognised in balance sheet

EUR million	2023	2022
Present value of funded obligations	130.0	128.6
Fair value of plan assets	-123.0	-117.9
Deficit (+) / surplus (-)	7.1	10.7
Present value of unfunded obligations	47.3	42.9
Net liabilities (+) / net assets (-) of defined benefit pension plans, total	54.3	53.6
Defined benefit-based pension liabilities on the balance sheet, net	59.1	59.0
Defined benefit-based pension assets on the balance sheet, net	-4.7	-5.3

Change in net defined benefit pension (asset) liability during 2023

EUR million	Present value of obligation	Fair value of plan assets	Total
1.1. 2023	171.5	-117.9	53.6
Current service cost	1.9		1.9
Interest expense (+) or interest income (-)	7.0	-5.2	1.8
Income (-) and losses from settlement	0.0		0.0
Total amount recognised in profit and loss	8.8	-5.2	3.7
Remeasurements in other comprehensive income			
The return on plan assets, excl. amounts included in interest income or expense		-1.3	-1.3
Gains (-) and losses (+) from change in demographic assumptions	-1.1		-1.1
Gains (-) and losses (+) from change in financial assumptions	1.1		1.1
Experience gains (-) and losses (+)	6.1		6.1
Total remeasurements in other comprehensive income	6.2	-1.3	4.8
Translation differences	0.8	-1.0	-0.2
Contributions			
From employers		-4.1	-4.1
From plan participants	0.0	0.0	0.0
Payments from plans			
Benefit payments	-9.7	7.1	-2.7
Settlements	-0.3	-0.5	-0.8
31.12.2023	177.3	-123.0	54.3

Change in defined benefit pension (asset) liability during 2022

EUR million	Present value of obligation	Fair value of plan assets	Total
1.1. 2022	245.5	-186.2	59.3
Current service cost	2.6		2.6
Interest expense (+) or interest income (-)	3.5	-2.9	0.6
Income (-) and losses from settlement	-0.1		-0.1
Total amount recognised in profit and loss	6.1	-2.9	3.2
Remeasurements in other comprehensive income			
The return on plan assets, excl. amounts included in interest income or expense		65.2	65.2
Gains (-) and losses (+) from change in demographic assumptions	-0.1		-0.1
Gains (-) and losses (+) from change in financial assumptions	-68.6		-68.6
Experience gains (-) and losses (+)	6.3		6.3
Total remeasurements in other comprehensive income	-62.4	65.2	2.9
Translation differences	-8.4	7.0	-1.4
Contributions			
From employers		-7.0	-7.0
From plan participants	0.0	0.0	0.0
Payments from plans			
Benefit payments	-9.4	6.1	-3.2
Settlements		-0.1	-0.1
31.12.2022	171.5	-117.9	53.6

Defined benefit pension obligation and plan assets by country in 2023

EUR million	Germany	Great Britain	Finland	Sweden	Other countries	Total
Present value of obligation	21.9	61.0	58.9	24.0	11.4	177.3
Fair value of plan assets		-65.8	-49.1		-8.1	-123.0
Total	21.9	-4.7	9.8	24.0	3.4	54.3

Defined benefit pension obligation and plan assets by country in 2022

EUR million	Germany	Great Britain	Finland	Sweden	Other countries	Total
Present value of obligation	21.1	62.6	54.8	20.6	12.3	171.5
Fair value of plan assets		-68.0	-41.8		-8.1	-117.9
Total	21.1	-5.3	13.0	20.6	4.2	53.6

Significant actuarial assumptions 2023

	Germany	Great Britain	Finland	Sweden	Other countries
Discount rate, %	3.1–3.4	5.1–5.3	3.0–3.3	3.2	3.6–3.7
Salary growth rate, %	3.0	0.0	2.0	2.4	3.3–3.8
Pension growth rate, %	2.0–2.2	3.1–3.4	2.2–2.4	1.6	2.3–3.5

Significant actuarial assumptions 2022

	Germany	Great Britain	Finland	Sweden	Other countries
Discount rate, %	3.6–3.8	4.9–5.0	2.9–3.8	4.0	3.1–3.2
Salary growth rate, %	3.0	2.6	2.0	2.8	1.0–3.8
Pension growth rate, %	2.0–2.2	3.1	2.7–2.9	2.0	2.3–3.5

Sensitivity of benefit obligation to changes in essential weighted assumptions 2023

Change in assumption	Impact on benefit obligation	
	Increase	Decrease
Discount rate, 0,5%-points	4.4% decrease	4.6% increase
Salary growth rate, 0,5%-points	0.6% increase	0.6% decrease
Pension growth rate, 0,5%-points	5.1% increase	4.8% decrease
	Increase in assumption in one year	Increase in assumption in one year
Life expectancy	3% increase	3% decrease

The aforementioned sensitivity analyses are based on a situation where all other assumptions remain unchanged when one assumption changes. The sensitivity of a defined benefit obligation to changes in significant actuarial assumptions has been calculated using the same method as is used in calculating the pension obligation entered in the balance sheet.

Plan assets

	2023 EUR million		2022 EUR million	
	million	%	million	%
Qualifying insurance policies	115.2	94	107.5	91
Cash and cash equivalents	1.9	2	2.4	2
Investment funds	5.9	5	8.0	7
Total	123.0	100	117.9	100

The most significant risks related to defined benefit plans are described below.

Changes in the return on bonds

Liabilities arising from the arrangements have been calculated using a discount rate based on the return on high-quality bonds issued by the

companies. A decline in the discount rate increases the arrangements' liabilities.

Inflation risk

The majority of the plans' benefit obligations are linked to inflation, and higher inflation leads to higher liabilities.

Life expectancy

The majority of the arrangement obligations is related to producing lifetime benefits for members, so the expected increase in life expectancy will increase the arrangement obligations.

In the 2024 financial period, the contribution made to defined benefit plans following the termination of employment is expected to be EUR 8.1 million.

The weighted average duration of the defined benefit obligation is 12.8 years (13.0).

4. Capital employed

■ 4.1 Intangible assets

Accounting principles

Goodwill

Goodwill arising from the merging of business operations is recognised as the amount by which the sum of the consideration paid, the non-controlling interests' share in the object of the acquisition and the previous holding exceed the fair value of the acquired net assets.

Goodwill is not depreciated. Instead, it is tested for impairment annually, and whenever there is an indication of a loss of value. For this purpose, goodwill is allocated to the cash-generating units that are expected to benefit from the acquisition. Goodwill is recognised at original acquisition cost less accumulated impairment losses.

Other intangible assets

Intangible assets are initially recognised at their original acquisition cost on the balance sheet if the item meets the definition of an intangible asset, the acquisition cost can be reliably determined, and if it is probable that the expected financial benefit from the asset will accrue to the Group.

Intangible assets with limited useful lives are recognised as expenses over their known or estimated useful lives, using the straight-line depreciation method. Intangible assets for which a useful life cannot be determined, such as brands and trademarks acquired in business acquisitions, are not subject to depreciation but are tested annually for impairment.

The financial useful life of an asset is checked at least at the end of each financial period, and adjustments are made when necessary to reflect changes in the expected financial benefit of the asset. According to management's estimates, intangible assets have no residual value.

Research and development costs

Research costs are recognised as expenses at the time they are incurred. Development costs are capitalised and amortised over their useful lives if the research project is likely to generate financial benefits and the costs can be measured reliably. In 2023, EUR 6.6 million (6.1) of development costs was capitalised. The research and development costs recognised as expenses are presented in Note 2.4, Operating expenses.

Computer software

Costs related to developing and building significant new computer software are recognised as intangible assets on the balance sheet and depreciated on a straight-line basis over the estimated useful life, which is not to exceed seven years. Maintenance and operating costs related to computer software are recorded as expenses in the reporting period during which they have been incurred.

Configuration and customisation costs in the deployment of cloud services are recognised as expenses if they do not result in intangible assets. If the services received by the Group are separable, the costs are recognised as expenses when the supplier modifies the application. If the services received by the Group are not separable, the costs are recognised as expenses when the supplier provides access to the application during the term of the agreement.

Patents, licences and trademarks

The acquisition cost of patents, licences and trademarks with finite useful lives is capitalised on the balance sheet under intangible assets and depreciated on a straight-line basis over a useful life of 5–20 years.

Emission allowances

The Group has received emission allowances in accordance with the European Union Emissions Trading System. Allowances are treated as intangible assets and are measured at the lower of the acquisition cost or fair value at the end of the financial period. The acquisition cost of emission allowances received without consideration is zero. Emission allowances are used simultaneously with the carbon dioxide emissions generated during their validity period. Earnings from emission allowances sold are recognised in other operating income. If the emission allowances received without consideration are not sufficient to cover the amount of the actual emissions, the Group purchases additional allowances from the market. The allowances purchased are recognised in intangible rights at the fair value on the acquisition date. The provision to fulfil the obligation to return the emission allowances is recognised at fair value on the closing date of the reporting period if the emission allowances received without consideration and purchased are not sufficient to cover the amount of the actual emissions.

Intangible assets 2023

EUR million	Goodwill	Other intangible assets	Construction in progress	Total
Acquisition cost, 1 Jan. 2023	418.9	456.6	74.6	950.1
Translation differences	0.3	-2.0	0.0	-1.7
Additions		27.8	44.2	72.0
Acquisitions		6.2		6.2
Decrease		18.3		18.3
Transfers between items		29.7	-23.1	6.6
Acquisition cost, 31 Dec. 2023	419.1	536.7	95.7	1 051.5
Accumulated depreciation and impairment charges 1 Jan. 2023		-259.4		-259.4
Translation differences		2.0		2.0
Accumulated depreciation on deductions and transfers		-34.2		-34.2
Depreciations for the period		-16.0		-16.0
Accumulated depreciation and impairment charges 31 Dec. 2023		-307.6		-307.6
Book value, 1 Jan. 2023	418.9	197.2	74.6	690.7
Book value, 31 Dec. 2023	419.1	229.1	95.7	743.9

Acquired businesses include the intangible assets of MI Demo Oy. Further information about acquisitions is available in Note 7.2.

Intangible assets 2022

EUR million	Goodwill	Other intangible assets	Construction in progress	Total
Acquisition cost, 1 Jan. 2022	431.6	528.2	42.3	1,002.1
Translation differences	-9.4	0.2		-9.2
Additions		16.2	46.3	62.5
Acquisitions		1.3		1.3
Decrease	-0.1	-103.7		-103.9
Transfers between items		14.4	-14.0	0.4
Acquisition cost, 31 Dec. 2022	422.1	456.6	74.6	953.3
Accumulated depreciation and impairment charges 1 Jan. 2022		-341.4		-341.4
Translation differences		0.0		0.0
Accumulated depreciation on deductions and transfers		100.1		100.1
Depreciations for the period		-15.9		-15.9
Impairments	-3.2	-2.2		-5.4
Accumulated depreciation and impairment charges 31 Dec. 2022	-3.2	-259.4		-262.6
Book value, 1 Jan. 2022	431.6	186.8	42.3	660.7
Book value, 31 Dec. 2022	418.9	197.2	74.6	690.7

Acquired businesses include the intangible assets of Hämeenkyrön Voima Oy. Further information about acquisitions is available in Note 7.2.

The impairments include EUR 4.7 million of impairments related to the discontinuation of business operations in Russia, as well as an impairment of EUR 0.7 million for the Wood Products Industry segment based on impairment testing.

In 2023, the Group received 951 thousand tonnes (1,227) of emission allowances free of charge. In addition, the Group purchased 98 thousand tonnes (238) of emission allowances on the market and sold 837 thousand tonnes (644) of emission allowances to the market. On the balance sheet date, the Group had 1,067 thousand tonnes (1,488) of emission allowances. Emissions during the financial period totalled 504 thousand tonnes (636).

Capital gains from the sale of emission allowances recognised in other operating income totalled EUR 62.1 million (36.8), and the costs of emission allowances recognised in materials and services were EUR 0.0 million (0.6). At the end of the financial periods 2023 and 2022, the balance sheet had no provisions related to emission allowances. At the end of the period, the market value of emission allowances was EUR 77.25 per tonne (80.76), and the market value of the emission allowances possessed was EUR 82.4 million (120.2).

Other intangible assets included EUR 140.7 million (140.7) in brands and trademarks, the useful life of which is estimated to be indefinite. This estimate is based on there being no anticipated limit to the period over which brands and trademarks generate a cash flow to the Group. The most significant of these is the pulp brand Metsä, allocated to the Pulp and Sawn Timber Industry, whose carrying value is EUR 134.8 million (134.8). In addition, Tissue and Greaseproof Papers include EUR 5.9 million (5.9) in brands and trademarks with an indefinite useful life.

Goodwill allocated to segments

EUR million	2023	2022
Pulp and Sawn Timber Industry	3.8	3.8
Paperboard Industry	12.2	12.2
Tissue and Greaseproof Papers	22.4	22.1
Other Operations	390.4	390.4
Eliminations	-9.7	-9.7
Total	419.1	418.9

Other operations include goodwill of EUR 389.8 million related to Metsä Fibre acquisition and EUR 0.6 million related to acquisition of Metsä Tissue.

Goodwill allocated in impairment testing

EUR million	2023	2022
Pulp and Sawn Timber Industry, total		
Pulp and Sawn Timber Industry	3.8	3.8
Other Operations	389.8	389.8
Eliminations	-3.8	-3.8
Pulp and Sawn Timber Industry, total	389.9	389.9
Paperboard Industry	12.2	12.2
Tissue and Greaseproof Papers, total		
Tissue and Greaseproof Papers	22.4	22.1
Other Operations	0.6	0.6
Eliminations	-5.9	-5.9
Tissue and Greaseproof Papers, total	17.0	16.8
Total	419.1	418.9

Impairment of assets

Accounting principles

Impairment testing

Depreciation is not recognised for assets with indefinite useful lives. Instead, such assets are tested for impairment annually. Assets that are subject to depreciation are always tested for impairment when events or changes in conditions indicate that it is possible that the monetary amount corresponding to the book value of the assets might not be recoverable.

Cash-generating units are reporting segments or smaller units for which a utility value can be defined.

The recoverable amount is the higher of the fair value of an asset less costs of disposal, and its value in use. Value in use is the estimated future net cash flows, discounted to their present value, expected to be derived from the asset or cash-generating unit.

An impairment loss is recognised if the carrying amount of the asset is higher than its recoverable amount. If the impairment loss concerns a cash-generating unit, it is first allocated to decrease the goodwill of the cash-generating unit, and thereafter to decrease the other assets of the unit symmetrically. In connection with the recognition of the impairment loss, the useful life of the depreciated asset is re-evaluated. An impairment loss recognised for an asset other than goodwill is reversed if a change has taken place in the estimates used to determine the recoverable amount of the asset. However, the maximum reversal of an impairment loss amounts to no more than the carrying amount of the asset if no impairment loss had been recognised. An impairment loss recognised on goodwill is not reversed under any circumstances.

Metsä Group carries out impairment testing once a year, during the fourth quarter, based on the situation on 30 September, or more frequently if signs of a possible impairment are detected.

The group's impairment testing and key assumptions in the situation on 30 September 2023

Cash-generating unit	Goodwill (EUR million)	Brand (EUR million)	Discount rate after taxes 30 Sep. 2023, (%)	Discount rate after taxes 30 Sep. 2022, (%)	Long-term growth rate 30 Sep. 2023, (%)	Long-term growth rate 30 Sep. 2022, (%)
Pulp and Sawn Timber Industry	389.9	134.8	8.0	7.4	2.0	2.0
Paperboard Industry						
Folding boxboard	8.6		7.9	7.2	2.0	2.0
Linerboard	3.7		7.9	7.2	2.0	2.0
Market pulp			7.9	7.2	2.0	2.0
Tissue and Greaseproof Papers						
Tissue papers	10.4	5.9	7.9	7.2	2.0	2.0
Greaseproof papers	2.5		7.9	7.2	2.0	2.0

In 2023, the Group did not recognise impairments based on impairment testing. In impairment tests, a reasonably potential change in any individual key assumption will not lead to the recognition of an impairment.

The recoverable amounts of cash-generating units are based on calculations of value in use. The management's key estimates in the calculations concern the development of delivery volumes and sales prices, the development of costs related to key raw material costs and other costs, as well as the discount rate and the long-term growth rate. The recoverable amounts are based on five-year projections and the resulting,

steadily growing cash flows. The initial value used for the key assumptions of cash flows – prices and variable costs – after the forecast period is the average of the five-year forecast period. The value used for delivery volumes and fixed costs is the value of the forecast period's fifth year. The key testing assumptions are management estimates and forecasts obtained from external sources of information.

The discount rate used is the weighted average cost of capital (WACC). When calculating the WACC, the cost of debt takes the market-based view of the credit risk premium into account.

■ 4.2 Property, plant and equipment

Accounting principles

Property, plant and equipment are measured at acquisition cost less accumulated depreciation and impairment losses.

The acquisition cost includes costs that are directly incurred in the acquisition of an item of property, plant or equipment. External capital expenses resulting directly from the acquisition, construction or manufacture of an item of property, plant or equipment that meet the conditions are activated as part of the acquisition cost of property, plant and equipment.

If a piece of property, plant or equipment consists of several parts with differing useful lives, each part is handled as a separate item. In that case, the expenses related to replacing the part are capitalised, and any book value remaining at the time of replacement is derecognised on the balance sheet.

Spare parts, spare equipment and maintenance supplies are recognised in property, plant and equipment if their useful life is expected to exceed 12 months. Otherwise, such commodities are classified as inventories.

Significant investments in renovations and improvements are capitalised on the balance sheet and depreciated over the remaining useful life of the main commodity related to such investments. Repair and maintenance costs are recognised as expenses when they are realised.

Property, plant and equipment is depreciated on a straight-line basis over the estimated useful life. Owned land and water areas are not subject to depreciations.

Estimated useful lives

Buildings and constructions	20–40 years
Machinery and equipment	
Heavy power plant machinery	20–40 years
Other heavy machinery	15–20 years
Lightweight machinery and equipment	5–15 years
Other tangible assets	3–10 years

The financial useful life of an asset is checked at least at the end of each financial period, and adjustments are made when necessary to reflect changes in the expected financial benefit of the asset. According to management's estimates, property, plant and equipment have no residual value.

Gains and losses arising from the sale and decommissioning of items of property, plant and equipment are recognised in other operating income and expenses. Sales gains or losses are calculated as the difference between the sales price and the remaining acquisition cost.

Public subsidies related to the acquisition of commodities are presented as acquisition cost adjustments on the balance sheet and recognised as income in the form of lower depreciation during the useful life of the asset.

Leases

The Group has leased various land areas, properties, equipment and vehicles. When the leased asset is available for the Group's use, the right-of-use item and the corresponding liability of the lease is recognised. The rent paid is divided into a decrease in liabilities and a financial expense. The financial expense is recognised through profit or loss over the lease term so that the interest rate of the remaining debt balance is the same during each period. The leased asset is depreciated on a straight-line basis over the asset's useful life or the lease term, depending on which is shorter.

Assets and liabilities arising from leases are initially measured at the present value. Lease liabilities include fixed payments, less any lease incentives receivable; amounts expected to be payable by the lessee under residual value guarantees; the exercise price of a purchase option if the lessee is reasonably certain to exercise that option; and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined, or the Group's incremental borrowing rate. Right-of-use assets are measured at cost, which includes the amount of the initial measurement of the lease liability; any lease payments made at or before the commencement date, less any lease incentives received; any initial direct costs incurred; and any costs incurred by restoring the site on which it is located.

Some of the leases include options to extend or terminate, which are largely available only for the Group, not the lessor.

Payments related to short-term leases or leases where the value of the underlying asset is low are recognised as costs on a straight-line basis. A lease with a lease term of 12 months or less is considered a short-term lease. Assets of a low value include mainly ICT and office equipment.

Key estimates and judgements

Property, plant and equipment

Determining the useful life of property, plant and equipment requires the management's judgement. For example, allocating the value of a large mill investment across various asset groups has a significant impact on annual depreciation due to the differences in straight-line depreciation periods used for different assets.

Leases

When determining the lease term, the management accounts for all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease. Options to extend the lease (or the time subsequent to an option to terminate) are accounted for in the lease term only if the extension of the lease (or the decision not to terminate the lease) is reasonably certain.

Possible future cash flows of EUR 54.1 million have not been included in the lease liability because the extension of the lease (or the decision not to terminate it) is not reasonably certain. The Group will conduct a reassessment upon the occurrence of either a significant event or a significant change in circumstances that is within the control of the lessee and affects the assessment.

Tangible assets 2023

EUR million	Land and water areas		Buildings and constructions		Machinery and equipment	
	Owned	Leased	Owned	Leased	Owned	Leased
Acquisition cost, 1 Jan. 2023	57.4	11.1	1,618.6	69.1	6,361.8	93.7
Translation differences	0.1	0.0	-3.0	1.1	10.2	0.1
Additions	0.3	2.1	335.2	12.6	858.1	39.8
Acquisitions			9.2		19.1	
Decrease	-1.8	-1.0	-44.6	-9.3	-52.5	-28.6
Transfers between items	1.3		364.6		812.6	
Acquisition cost, 31 Dec. 2023	57.2	12.2	2,280.0	73.6	8,009.4	105.0
Accumulated depreciation and impairment charges 1 Jan. 2023	-0.5	-2.4	-890.1	-30.0	-4,420.1	-53.7
Translation differences	0.0	0.0	4.6	-0.3	-1.4	0.0
Accumulated depreciation on deductions and transfers	0.0	0.6	43.5	8.0	124.4	27.9
Depreciations for the period	-0.2	-1.0	-60.3	-12.1	-234.6	-15.3
Impairments			-0.6		-1.4	
Accumulated depreciation and impairment charges 31 Dec. 2023	-0.7	-2.9	-902.8	-34.5	-4,533.2	-41.0
Book value, 1 Jan. 2023	56.8	8.7	728.5	39.1	1,941.7	40.0
Book value, 31 Dec. 2023	56.5	9.3	1,377.2	39.1	3,476.2	63.9

EUR million	Other tangible assets	Construction in progress	Total	Total	Total
	Owned	Owned	Owned	Leased	Total
Acquisition cost, 1 Jan.	156.0	1,734.4	9,928.1	173.9	10,102.1
Translation differences	-1.0	0.5	6.7	1.1	7.8
Additions	3.7	-167.5	1,029.8	54.6	1,084.4
Acquisitions		0.1	28.4		28.4
Decrease	0.2	-76.0	-174.7	-38.9	-213.5
Transfers between items	-6.2	-1,178.9	-6.6		-6.6
Acquisition cost, 31 Dec.	152.6	312.5	10,811.7	190.8	11,002.4
Accumulated depreciation and impairment charges 1 Jan.	-79.2		-5,390.0	-86.1	-5,476.2
Translation differences	1.3		4.5	-0.3	4.2
Accumulated depreciation on deductions and transfers	6.4		174.3	36.5	210.8
Depreciations for the period	-5.8		-300.8	-28.4	-329.2
Impairments			-2.0		-2.0
Accumulated depreciation and impairment charges 31 Dec.	-77.4		-5,514.1	-78.4	-5,592.4
Book value, 1 Jan.	76.7	1,734.4	4,538.1	87.8	4,625.9
Book value, 31 Dec.	75.3	312.5	5,297.6	112.4	5,410.0

The increase is mainly related to the construction of the Kemi bioproduct mill and the development programmes of the Husum and Kemi paperboard mills.

Acquired businesses include the property, plant and equipment of MI Demo Oy. Further information about acquisitions is available in Note 7.2.

Impairment includes EUR 1.2 million related to the closure of the old Kemi pulp mill.

Tangible assets 2022

EUR million	Land and water areas		Buildings and constructions		Machinery and equipment	
	Owned	Leased	Owned	Leased	Owned	Leased
Acquisition cost, 1 Jan. 2022	60.3	9.7	1,478.1	61.5	6,050.7	100.6
Translation differences	-0.7	0.0	-14.1	-0.5	-129.8	-1.2
Additions	0.9	1.8	105.5	15.6	173.1	11.3
Acquisitions			6.6		6.1	18.4
Decrease	-3.7	-0.4	-16.1	-7.4	-84.8	-35.5
Transfers between items	0.4		58.7		346.5	
Acquisition cost, 31 Dec. 2022	57.4	11.1	1,618.6	69.1	6,361.8	93.7
Accumulated depreciation and impairment charges 1 Jan. 2022	-0.5	-1.8	-856.2	-23.2	-4,422.2	-33.4
Translation differences	0.0	0.0	8.8	0.1	95.8	0.5
Accumulated depreciation on deductions and transfers		0.2	14.3	6.8	102.7	16.8
Depreciations for the period		-0.8	-48.9	-12.8	-186.8	-15.9
Impairments	-0.1		-8.1	-0.9	-9.7	-21.7
Accumulated depreciation and impairment charges 31 Dec. 2022	-0.5	-2.4	-890.1	-30.0	-4,420.1	-53.7
Book value, 1 Jan. 2022	59.8	7.9	621.9	38.3	1,628.5	67.2
Book value, 31 Dec. 2022	56.8	8.7	728.5	39.1	1,941.7	40.0

EUR million	Other tangible assets	Construction in progress	Total	Total	Total
	Owned	Owned	Owned	Leased	Total
Acquisition cost, 1 Jan.	143.3	1,069.5	8,802.0	171.8	8,973.7
Translation differences	-0.3	-16.5	-161.4	-1.8	-163.1
Additions	4.5	1,103.1	1,387.1	28.7	1,415.8
Acquisitions	0.1		12.7	18.4	31.1
Decrease	-7.1	-0.2	-111.9	-43.2	-155.1
Transfers between items	15.5	-421.5	-0.4		-0.4
Acquisition cost, 31 Dec.	156.0	1,734.4	9,928.1	173.9	10,102.1
Accumulated depreciation and impairment charges 1 Jan.	-78.6		-5,357.6	-58.4	-5,416.0
Translation differences	0.4		105.0	0.6	105.6
Accumulated depreciation on deductions and transfers	6.6		123.6	23.8	147.4
Depreciations for the period	-6.2		-241.9	-29.5	-271.4
Impairments	-1.4		-19.2	-22.6	-41.8
Accumulated depreciation and impairment charges 31 Dec.	-79.2		-5,390.0	-86.1	-5,476.2
Book value, 1 Jan.	64.7	1,069.5	3,444.4	113.4	3,557.8
Book value, 31 Dec.	76.7	1,734.4	4,538.1	87.8	4,625.9

The increase in work in progress is mainly related to the construction of the Kemi bioproduct mill and the development programmes of the Husum and Kemi paperboard mills.

Acquisitions include the property, plant and equipment of Hämeenkyrön Voima Oy and the property, plant and equipment of maintenance operations for Metsä Fibre's production facilities acquired through a business transfer. Further information about acquisitions is available in Note 7.2.

Impairments include impairments of EUR 35.9 million related to the discontinuation of business operations in Russia and an impairment of EUR 5.2 million for the property, plant and equipment of the Kyrö sawmill due to the discontinuation of sawmill operations in 2022.

Impairments by segment are indicated in Note 2.1.

In 2023, a total of EUR 24.9 million (25.8) in borrowing costs was capitalised. The average interest rate applied to capitalisation was 2.13% (2.14%).

Leases

EUR million	2023	2022
Costs related to short-term leases	4.5	5.0
Costs of leases in which the underlying asset is of low value	20.5	15.6
Interest expenses	3.7	3.3
Cash outflow for leases	32.8	50.0

Disclosures on lease liabilities are presented in Note 5.5 Financial liabilities and interest-bearing net liabilities and 5.6 Management of financial risks.

4.3 Biological assets

Accounting principles

Metsä Group's biological assets (growing trees) are measured at fair value less the estimated expenses from a sale. The fair value of a stand of trees is based on the current value of expected cash flows (income and expenses), and changes in fair value are recognised in the operating result. Young trees are measured at acquisition cost. The fair value of biological assets is categorised at Level 3.

EUR million	2023	2022
At 1 Jan.	3.2	3.5
Sales during the period	0.0	-0.1
Harvested during the period	-0.1	-0.1
Gains / losses arising from changes in fair value	-0.4	0.0
At 31. Dec.	2.7	3.2

On 11 February 2022, Metsäliitto Cooperative divested its entire holding (19.8%) in its associated company Finsilva Oyj to Dasos Capital Oy's forest fund. Contracts between Metsä Group and Finsilva related to wood trade and forest services will remain unaffected.

On 31 October 2022, Metsäliitto Cooperative divested its entire holding (25%) in its associated company Suomen Metsäsijoitus Oy.

Metsä Group has long-term forest lease agreements in Russia and Latvia. The agreements have not been recognised in the balance sheet, because their price or fixed price determination basis is not defined in the agreements. The price is determined by the government usually once a year or, in some cases, more frequently. In practice, the price follows the auction prices for short-term felling rights. Long-term felling rights are primarily used for ensuring the availability of wood.

4.4 Other investments

Accounting principles

Other investments consist of listed and unlisted equity investments. The most significant of these is the Group's holding in Pohjolan Voima. This investment is unlisted and strategic in nature, serving the Group's long-term energy sourcing needs. The Group classifies the shares in Pohjolan Voima Oyj as financial assets recognised at fair value in other comprehensive income. The changes in the fair value of these financial assets are presented in the fair value reserve, taking into account the tax impact. When the investment is divested, the changes in fair value accumulated in equity will be transferred from the fair value reserve to retained earnings.

The Group classifies other equity financial assets as financial assets recognised at fair value through profit and loss

The fair values of publicly quoted shares are based on the share price on the balance sheet date. The fair values of shares other than publicly quoted shares are determined using various valuation models, such as the price levels or recent transactions and valuation methods based on the current value of discounted cash flows. As far as possible, the valuation methods are founded on market-based valuation factors.

Key estimates and judgements

Fair value measurement

Management has exercised judgement in determining that other investments are to be treated as financial assets recognised at fair value through other comprehensive income. The most significant of these investments is the Group's investment in the shares of Pohjolan Voima Oyj. The application of valuation models to measuring fair value requires judgement concerning the selection of the method to be applied, as well as valuation factors required by the chosen method that are based on the price and interest levels prevailing in the market on the end date of each reporting period.

The value of these shares is measured as the current value of discounted cash flows. Key factors affecting cash flows include the price of electricity, inflation expectations and the discount rate. The energy prices for the first eight years are rolling 12-month averages of electricity futures prices. The prices for subsequent years are based on a long-term market price forecast. The carrying amount of the Group's shares in Pohjolan Voima was EUR 271.1 million on the balance sheet on 31 December 2023. The carrying amount of these shares is expected to change by EUR -11.3 million and EUR 12.0 million if the rate used for discounting the cash flows changes by 0.5%-points from the rate estimated by the management. The carrying amount of the shares is estimated to change by EUR 71.6 million should the energy prices applied in the fair value calculation differ by 10% from the rate estimated by the management.

EUR million	2023	2022
Pohjolan Voima Oyj	271.1	373.3
Other non-quoted shares	4.3	3.4
Total	275.3	376.8

The most significant item in other investments is the 3.0% stake in Pohjolan Voima Oyj, which produces electricity and heat for its shareholders in Finland and engages in trade with them. The price of electricity and heat is based on production costs, and the price paid is usually below the market price.

The Group is entitled, through the B shares of Pohjolan Voima, to a share of approximately 5.2% of the energy generated by the Olkiluoto 1 and Olkiluoto 2 nuclear power plants and, through the B2 shares of Pohjolan Voima, to a share of 2.0% of the energy generated by the Olkiluoto 3 nuclear power plant.

On 1 January 2022, Metsä Board acquired the entire share capital of Hämeenkyrön Voima Oy from Pohjolan Voima Oyj (84%) and from DL Power Oy, part of Leppäkoski group (16%). In this connection, Metsä Board sold its series G10 shares, which corresponded to an 84% holding in Hämeenkyrön Voima Oy, to Pohjolan Voima for EUR 12.0 million. Hämeenkyrön Voima Oy merged with Metsä Board Corporation on 31 July 2022.

The holding of Pohjolan Voima Oyj shares is recognised quarterly at fair value for each series of shares using the discounted cash flow method. The weighted average cost of capital applied in the calculation was 5.35% (5.42). The acquisition cost of Pohjolan Voima Oyj shares is EUR 33.5 million (33.1), and the fair value is EUR 271.1 million (373.3). The fair value of nuclear power shares was EUR 259.4 million in total (361.4) and of hydroelectric power shares (series A) EUR 11.5 million (11.8).

The shareholder agreement of Pohjolan Voima prevents free selling of shares with others than shareholders.

4.5 Inventories

Accounting principles

Inventories are measured at the lower of acquisition cost or net realisable value. In measuring inventories, the FIFO principle is observed or, alternatively, the weighted average price method, depending on the nature of the inventories. The acquisition cost of finished products acquired comprises all purchase costs, including direct transport, handling and other expenses. The acquisition cost of finished and semi-finished products of own manufacture includes raw materials, direct production costs, and the systematically allocated portion of variable manufacturing overheads and fixed overheads at the normal level of operation. The cost of debt is not included in the acquisition cost.

Net realisable value is the estimated sales price in ordinary business operations less the estimated cost of production and the necessary sales costs.

Key estimates and judgements

The Group regularly reviews its inventories for situations where the inventories contain downgraded items or their market value falls below the acquisition cost. When necessary, the Group reduces the book value of the inventories accordingly. This review requires the management's estimates of the sales prices of products, the cost of completion and the costs necessary to make the sale. Any changes in these estimates might lead to an adjustment in the book value of the inventories in future periods.

EUR million	2023	2022
Raw materials and consumables	619.3	605.8
Work in progress	27.7	31.5
Finished goods	495.0	555.1
Advance payments	38.7	44.7
Total	1,180.7	1,237.1

In 2023, EUR 14.1 million (19.1) was recorded as an expense when the carrying value of inventories was reduced to match their net realisable value. Of the 2023 expenses, EUR 8.9 million is related to the closure of the old Kemi pulp mill. EUR 11.9 million of the 2022 expenses is related to the discontinuation of Russian business operations. In the income statement, the expenses are entered under materials and services.

4.6 Trade receivables and other receivables

Accounting principles

Trade receivables are initially measured at fair value and later at amortised cost, taking impairment into account. The determination of the impairment of trade receivables is subject to the model based on expected credit losses. Provisions are furthermore set up on a case-by-case basis when there is a justifiable reason to assume that the Group will not receive payment for the invoiced amount according to the original terms.

EUR million	2023	2022
Current financial assets through profit and loss at fair value		
At 1. Jan.	4.3	4.0
Increase	0.0	
Change in fair value	-0.3	0.3
At 31. Dec.	4.0	4.3
Accounts receivable from associated companies and joint ventures	1.8	1.7
Accounts receivable from others		
Accounts receivables	680.7	782.3
Impairment	-0.9	-1.4
Total	679.9	780.9
Loan receivables	3.1	1.7
Other receivables	94.0	106.4
Prepayments and accrued income	30.7	46.3
Accounts receivables and other receivables, total	813.5	941.3

In 2022, following the discontinuation of business operations in Russia, the Group made a write-down on receivables of EUR 2.8 million related to operations in Russia. The receivables mainly comprised other receivables and accrued income.

Case-specific impairments and impairments determined by applying the model based on expected credit losses deducted from trade receivables.

EUR million	2023	2022
At 1 Jan.	1.4	3.2
Increase	0.8	0.8
Decrease	-1.4	-2.6
At 31 Dec.	0.9	1.4

The Group has recognised EUR 0.0 million (-0.7) impairment losses from accounts receivables.

Age distribution of accounts receivable less impairments

EUR million	2023	2022
Not overdue	586.2	715.6
Overdue		
Less than 30 days	79.3	58.0
Between 31 and 60 days	9.1	5.4
Between 61 and 90 days	2.7	0.2
Between 91 and 180 days	0.4	0.3
More than 180 days	2.1	1.3
Total	679.9	780.9

4.7 Other non-current liabilities

EUR million	2023	2022
Advance payments received	8.8	1.1
Accounts payables	1.7	0.0
Loans	0.3	
Other non-current liabilities		2.4
Accruals and deferred income	1.1	1.3
Total	11.9	4.7

4.8 Trade payables and other liabilities

EUR million	2023	2022
Advance payments received	10.4	10.9
Accounts payable	634.2	680.2
Accounts payable, Supply Chain Finance schemes	426.8	354.4
Other liabilities	59.6	80.0
Accruals and deferred income		
Customer discounts	77.2	68.4
Purchase-related items	202.0	210.5
Employee costs	146.0	147.2
Other accrued expenses	184.0	110.8
Total	1,740.2	1,662.5

With financing banks, Metsä Group has established Supply Chain Finance (SCF) schemes aimed at a few key suppliers. In the schemes, suppliers are offered the option of selling their Metsä Group receivables to a bank providing the SCF scheme. The SCF schemes partly replace the earlier advance payment arrangements, and their aim is not to cause a significant deviation from Metsä Group's normal payment terms.

4.9 Provisions

Accounting principles

A provision is recognised when, as a result of an earlier event, the Group has a legal or actual obligation, the realisation of a payment obligation is likely, and the amount of the obligation can be reliably estimated. Any reimbursement from a third party is presented as an asset separate from the provision if it is practically certain that reimbursement will be received.

Restructuring

A restructuring provision is recorded when the Group has incurred a legal or constructive obligation to make a payment. Termination payments are recorded when a detailed plan has been made for the restructuring and the Group has raised valid expectations in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it. If the Group makes an offer to employees concerning voluntary resignation against the benefits determined in the offer, the liability arising from this is recorded when the Group can no longer withdraw its offer. The obligation arising from such an offer is based on the number of employees that the Group expects to accept the offer. Benefits falling due in twelve months' time or later are measured at their current value.

Environmental obligations

An environmental obligation is recognised if, based on the current interpretation of environmental legislation, it is likely that an obligation has arisen, the payment obligation is likely to be realised, and its amount can be reliably estimated. The obligation is recorded at the current value of estimated future expenses. A sum corresponding to the obligation is also recognised in property, plant and equipment.

Other provisions

Other provisions include mainly warranty provisions, liabilities resulting from disputes and employment affairs as well as other contractual obligations.

Key estimates and judgements

Determining the criteria for the recognition of provisions involves the management's judgement. The amounts recognised as provisions are based on the management's best assessment of the expenses required to handle the obligation. As the timing and amount of these expenses are not fully certain, the actual expenses may differ significantly from the original estimate. The book value of provisions is regularly reviewed and adjusted as required, taking into account changes in cost assessments, regulation, technology and conditions.

EUR million	Restructuring	Environmental obligations	Other provision	Total
1 Jan. 2023	5.0	9.6	4.2	18.8
Translation differences		0.0	-0.2	-0.2
Increases		0.0	0.6	0.6
Utilised during the year	-3.8	0.0	-1.1	-5.0
Unused amounts reversed	0.0			0.0
31 Dec. 2023	1.2	9.6	3.5	14.3
Non-current	0.1	9.3	2.0	11.5
Current	1.1	0.3	1.4	2.9
Total	1.2	9.6	3.5	14.3

EUR million	Restructuring	Environmental obligations	Other provision	Total
1 Jan. 2022	0.4	10.7	4.2	15.2
Translation differences	0.0	0.0	0.1	0.1
Increases	4.9	0.1	0.9	6.0
Utilised during the year	0.0	-1.1	-1.0	-2.2
Unused amounts reversed	-0.2	-0.1	0.0	-0.3
31 Dec. 2022	5.0	9.6	4.2	18.8
Non-current	0.1	9.6	2.5	12.2
Current	4.9	0.0	1.7	6.6
Total	5.0	9.6	4.2	18.8

The EUR 4.9 million increase in restructuring provisions is related to the restructuring of Metsä Board's customer service and supply chain management.

The Group companies have environmental responsibilities related to former industrial activities at sites that have since been closed, sold or leased, and from decommissioned landfill sites. Provisions for the costs of land rehabilitation work have been made in cases where it has been possible to measure the Group's liability for land contamination and any post-treatment obligations.

The environmental provisions and other provisions are expected to be released for the most part by 2030.

5. Capital structure and financial risks

5.1 Equity

Accounting principles

Members' capital consists of participation shares and additional shares.

Under IFRIC 2 Members' Shares in Co-operative Entities and Similar Instruments, shares for which the co-operative does not have an unconditional right to refuse redemption in accordance with the cooperative's rules are classified as financial liabilities. The rules of

Metsäliitto Cooperative specify the maximum amount of members' capital that may be redeemed annually. One third of the distributable surplus shown on the most recently adopted balance sheet may be used for refunds of participation and additional shares. This share of members' capital is recognised as a financial liability in the financial statements. The part regarded as a financial liability of the interest paid on members' capital has been recognised in financial expenses.

Changes in members' capital 2023

EUR million	Participation shares	Metsä1 additional shares	A additional shares	B additional shares	Total
Members' capital at 1 Jan.	232.0	701.5	382.1	123.1	1,438.6
Paid-in members' capital	2.7	101.5	0.7		105.0
Entry of interest on shares	2.8	43.6			46.4
Surplus reimbursement as Metsä1 additional shares		13.4			13.4
Fund increase related to an equity bonus		6.1	0.1		6.2
Conversion from A additional shares		45.3	-45.3		
Refund of share payments	-4.6	-21.2	-15.9	-48.1	-89.7
Accelerated refund of participation shares	4.7				4.7
Transfers to current interest-bearing liabilities	-10.0	-62.2	-3.6	4.2	-71.7
Members' capital at 31 Dec.	227.6	828.0	318.1	79.2	1,452.9

Changes in members' capital 2022

EUR million	Participation shares	Metsä1 additional shares	A additional shares	B additional shares	Total
Members' capital at 1 Jan.	239.6		1,062.0	145.6	1,447.1
Paid-in members' capital	5.1	90.9	2.8	0.0	98.8
Entry of interest on shares	1.4	31.7			33.2
Surplus reimbursement as Metsä1 additional shares		6.8			6.8
Fund increase related to an equity bonus		6.3	0.2		6.4
Conversion from A additional shares		692.6	-692.6		
Refund of share payments	-7.9	-0.1	-51.5	-18.1	-77.6
Accelerated refund of participation shares	6.3				6.3
Transfers to current interest-bearing liabilities	-12.5	-126.7	61.2	-4.4	-82.4
Members' capital at 31 Dec.	232.0	701.5	382.1	123.1	1,438.6

Transfers to current interest-bearing liabilities

EUR million	Participation shares	Metsä1 additional shares	A additional shares	B additional shares	Total
31.12. 2023	51.9	189.0	72.6	18.1	331.6
Change	-10.0	-62.2	-3.6	4.2	-71.7
31.12. 2022	41.9	126.7	69.0	22.2	259.9
Change	-12.5	-126.7	61.2	-4.4	-82.4
31.12. 2021	29.4		130.2	17.8	177.4

Members' capital

The par value of a participation share is EUR 1.00. The subscription price of a participation share is equivalent to its par value unless otherwise decided by the Representative Council or the Board of Directors, authorised by the Representative Council. A member's obligation to acquire participation shares is determined as specified in the rules of the Cooperative based on the surface area and location of their forestland. No member is obligated to acquire more than 30,000 participation shares.

According to the by-laws of Metsäliitto, a member of Metsäliitto whose participation shares have been paid for in full is entitled to subscribe for additional shares as per the conditions defined in the by-laws and specified by Metsäliitto's Board of Directors. According to the by-laws of Metsäliitto, there are four types of additional shares: A additional shares, B additional shares, Metsä1 additional shares, and Metsä2 additional shares. The par value of an additional share is EUR 1.00 (one euro). There is a minimum of one and a maximum of 1,500 million A additional shares. There is minimum of one and a maximum of 300 million B additional shares. There is no limit on the maximum number of Metsä1 additional shares and Metsä2 additional shares.

Until 31 December 2021, the quantity of A additional shares that a member has been able to subscribe for has been equal to the net amount of the wood trade income they have received from Metsäliitto Cooperative or equal to the amount of the interest on the member's participation shares or additional shares distributed by Metsäliitto Cooperative.

Until 31 December 2021, a member has been able to subscribe for the number of B additional shares they want. However, the maximum number of paid B additional shares that a member is able to have at any one time is 1.5 million.

As of 1 January 2022, the quantity of Metsä1 additional shares that a member can subscribe for is equal to the net amount of the wood trade income they receive from Metsäliitto or equal to the amount of the interest on the member's participation shares or additional shares distributed by Metsäliitto.

Metsä1 additional shares will automatically convert to Metsä2 additional shares 10 years as of the end of the calendar year during which a Metsä1 additional share to be converted was subscribed for, or if it was transferred without consideration, received, unless their validity has been extended with a wood trade as specified in the Cooperative's rules.

Upon application, an A additional share can be converted into a Metsä1 additional share so that the applicant is given several Metsä1 additional shares equal to the number of the A additional shares subject to the conversion in exchange for the A additional shares.

Based on a decision of the Board of Directors, Metsäliitto is entitled to redeem all Metsä1 and/or Metsä2 additional shares or part of them. In the event of a possible redemption, the redemption price of an additional share is the share's par value, i.e. EUR 1.00 (one euro).

The amount paid for A additional shares, as well as for Metsä1 and Metsä2 additional shares, is returned to a member six (6) months, and the amount paid for B additional shares, eighteen (18) months, from the end of the financial period during which the membership ended or the Cooperative received the member's request in writing to reduce the number of additional shares, nevertheless accounting for what is specified

in the Cooperative's by-laws with regard to the maximum amount of returns. At its discretion, Metsäliitto's Board of Directors is entitled to delay the return of the amounts or par value paid for Metsä1 and Metsä2 additional shares during the Cooperative's operations, provided that the Board of Directors, based on an extensive review, considers the payment of the return to jeopardise the Cooperative's solvency or its retention at an adequate level.

By investing income from wood trade or interest on shares received from Metsäliitto in Metsä1 additional shares, a member can earn equity bonuses so that each additional share subscribed for includes one equity bonus. An equity bonus means the right to subscribe for one new additional share for the wood trade receivable to be settled during the period of use equal to the two calendar years following the calendar year of the additional share subscription in such a way that the subscriber of the share themselves pays at least 75% of the subscription price of the new additional share, or a portion larger than this confirmed by the Board of Directors. The remaining portion of the subscription price of the additional share is paid for the member in the form of a fund increase by Metsäliitto. According to the authorisation that the Cooperative's Representative Council approved on 22 November 2011 and amended on 28 April 2021, a maximum of EUR 100 million of the Cooperative's surplus may be transferred to the additional cooperative capital through a capital increase based on additional share subscriptions made with equity bonuses.

As of 1 January 2022, Metsäliitto has not issued new A and B additional shares, excluding any A additional shares which a member has chosen to subscribe for with equity bonuses earned prior to 2022 during their period of use.

Use of surplus and distribution of other funds

Surplus may be distributed to the members. Interest or other returns on Metsäliitto Cooperative's surplus may be distributed to the members. Funds may also be distributed to the members in other ways in accordance with Chapter 16, section 1 of the Cooperatives Act. The distribution of funds and the grounds for such distribution is decided on by the Cooperative's Representative Council. Based on a decision of the Representative Council, funds may also be distributed as additional shares of Metsäliitto Cooperative.

If surplus is returned to a member because of how the member has used Metsäliitto's services during their membership, the distribution is divided in proportion to the volume of industrial roundwood Metsäliitto has received from its members during a minimum of two (2) and a maximum of six (6) of the most recently ended financial periods.

Interest on members' capital and reimbursement of surplus

After the balance sheet date, the Board of Directors proposed that EUR 85.4 million (85.9) be distributed as interest on members' capital, and EUR 15.7 million (15.6) as a reimbursement of surplus, determined based on the volume of industrial roundwood received in the last four full financial periods. The reimbursement of surplus will be primarily paid as Metsä1 additional shares but in money for the part corresponding to the tax withheld for each member. In 2023, EUR 16.0 million (11.0) of the interest on members' capital was treated as financial expenses.

Translation differences

Translation differences include the differences arising from the translation of subsidiaries' financial statements in currencies other than euro. The gains and losses from the hedging of net investments in such subsidiaries, excluding deferred taxes, are also included in translation differences, provided that the conditions for hedge accounting are met. The Group ended its equity hedging in 2016.

Translation differences

EUR million	Cumulative translation differences		Translation differences in other comprehensive income	
	2023	2022	2023	2022
SEK	-57.6	-59.8	4.2	-79.7
RUB				31.5
GBP	-6.0	-7.5	1.6	-4.3
PLN	-0.2	-8.0	7.8	-0.9
SKK	11.2	11.2		
USD	4.5	6.8	-4.8	6.6
Others	2.2	3.3	-3.1	0.2
Total	-45.9	-54.0	5.7	-46.6

In June 2022, following the discontinuation of Russian business operations, the Group recognised an expense of EUR 29.4 million for accumulated Russian ruble-denominated translation differences. The Russian ruble-denominated translation differences accumulated since June 2022 have been reported in the financial items in the income statement. Since March 2022, the rate used for the Russian ruble is the closing rate for EUR/RUB published by Refinitiv.

Fair value and other reserves

EUR million	2023	2022
Fair value reserve	104.1	166.0
Revaluation reserve	1.2	1.2
Revaluation surplus	94.9	94.9
General reserve	71.5	71.5
Legal reserve and reserves stipulated by the rules	0.1	0.1
Reserve for invested unrestricted equity	501.6	501.4
Total	773.3	835.0

Fair value reserve

The change in the value of other investments and the changes in the fair values of derivatives used in cash flow hedging less deferred tax are recognised in the fair value reserve.

Revaluation reserve

Revaluation of land and bonds in non-current assets are recognised in the revaluation reserve.

Revaluation surplus

The revaluation surplus include the fair value of the previous holdings in Metsä Fibre which arised from the allocation of fair value of the acquired Metsä Fibre shares in 2009.

Legal reserve and reserves stipulated by the Articles of Association / Rules

Legal reserve and reserves stipulated by the Articles of Association have been created and accumulated as a result of resolution by the Annual General Meeting of shareholders/representatives.

Reserve for invested unrestricted equity

The reserve for invested unrestricted equity includes other investments in equity and the share issue price to a sum especially decided not to be recognised in the share capital.

Other comprehensive income, net of tax 2023

Equity attributable to members of parent company

EUR million	Translation differences	Fair value and other reserves	Retained earnings	Total	Non-controlling interest	Total equity
Items that will not be reclassified to profit or loss						
Items relating to adjustments of defined benefit pension plans			-4.9	-4.9	-0.5	-5.4
Fair value of financial assets through other comprehensive income		-59.5		-59.5	-43.2	-102.7
Income tax relating to items that will not be reclassified		11.9	1.2	13.2	8.8	21.9
Total		-47.6	-3.7	-51.3	-34.9	-86.2
Items that may be reclassified to profit or loss						
Cash flow hedges						
Currency flow hedges						
Gains and losses recorded in equity		-11.7		-11.7	-7.5	-19.2
Transferred to adjust sales		12.1		12.1	10.9	23.0
Transferred to adjust purchases		-0.9		-0.9		-0.9
Interest flow hedges						
Gains and losses recorded in equity		-15.7		-15.7	-9.6	-25.3
Commodity hedges						
Gains and losses recorded in equity		-7.2		-7.2	-7.1	-14.3
Transferred to adjust purchases		5.4		5.4	5.2	10.7
Cash flow hedges total		-18.0		-18.0	-8.0	-26.1
Translation differences	8.1			8.1	-2.4	5.7
Income tax relating to items that may be reclassified		3.6		3.6	1.6	5.2
Total	8.1	-14.4		-6.3	-8.9	-15.2
Other comprehensive income, net of tax	8.1	-62.0	-3.7	-57.6	-43.8	-101.4

Other comprehensive income, net of tax 2022

Equity attributable to members of parent company

EUR million	Translation differences	Fair value and other reserves	Retained earnings	Total	Non-controlling interest	Total equity
Items that will not be reclassified to profit or loss						
Items relating to adjustments of defined benefit pension plans			1.0	1.0	-2.4	-1.4
Fair value of financial assets through other comprehensive income		95.9		95.9	97.7	193.6
Income tax relating to items that will not be reclassified		-19.2	1.2	-18.0	-18.6	-36.6
Total		76.7	2.2	79.0	76.7	155.7
Items that may be reclassified to profit or loss						
Cash flow hedges						
Currency flow hedges						
Gains and losses recorded in equity		45.2		45.2	6.5	51.7
Transferred to adjust sales		6.4		6.4	22.1	28.5
Transferred to adjust purchases		-13.7		-13.7		-13.7
Interest flow hedges						
Gains and losses recorded in equity		46.4		46.4	29.3	75.7
Commodity hedges						
Gains and losses recorded in equity		28.9		28.9	25.0	53.9
Transferred to adjust purchases		-48.7		-48.7	-41.6	-90.3
Cash flow hedges total		64.6		64.6	41.1	105.7
Translation differences	-19.8			-19.8	-26.8	-46.6
Income tax relating to items that may be reclassified		-12.9		-12.9	-8.2	-21.1
Total	-19.8	51.7		31.8	6.2	38.0
Other comprehensive income, net of tax	-19.8	128.4	2.2	110.8	82.8	193.7

5.2 Financial income and expenses

Accounting principles

Interest income and costs are recognised in amortised cost with the effective interest rate method.

Dividend yield is recognised when the right to a dividend has arisen.

Borrowing costs are generally recognised as an expense in the period in which they are incurred. When an item of property, plant or equipment is involved in a major and long-term investment project, the borrowing costs directly due to the acquisition, construction or production of the asset are included in the asset's acquisition cost.

The Group presents net interest income and expenses related to defined benefit plans as financial income and expenses.

EUR million	2023	2022
Exchange differences		
Commercial items	-1.3	8.7
Hedging, hedge accounting not applied	2.5	-16.8
Other items	-2.3	3.5
Exchange differences total	-1.1	-4.6
Other financial income		
Interest income on loans, other receivables and cash and cash equivalent	50.4	6.9
Dividend income		0.4
Other financial income total	50.4	7.3

EUR million	2023	2022
Interest and other financial expenses		
Valuation of financial assets and liabilities		
Gains / losses on financial assets or liabilities at fair value through profit or loss	18.1	-5.3
Impairment gains / losses from financial assets	0.0	0.0
Gains and losses, total	18.1	-5.3
Interest expenses on financial liabilities carried at amortised cost using the effective interest method	-71.0	-21.0
Other items of financial expenses	-5.5	-3.8
Other financial expenses total	-58.4	-30.1
Financial income and expenses total	-9.1	-27.3

The Russian ruble-denominated translation differences accumulated since June 2022 as a consequence of the discontinuation of Russian business operations have been reported in other exchange rate differences in the income statement. In 2023, EUR 4.0 million was reported as an expense in other exchange rate differences (EUR 4.0 million income).

The interest expenses of financial liabilities recognised through profit and loss were lower in 2023 and 2022, given that the interest expenses of ongoing investments were capitalised in the investments' acquisition cost.

5.3 Other non-current financial assets

EUR million	2023	2022
Loan receivables	5.4	6.5
Defined benefit pension plans (Note 3.5)	4.7	5.3
Other receivables and accrued income	7.4	4.1
Total	17.5	15.9

5.4 Cash and cash equivalents

Accounting principles

Cash and cash equivalents consist of cash and other short-term, highly liquid investments that can be easily converted into an amount of cash known in advance and that carry a minimal risk of value changes. Metsä Group has classified short-term money market investments and bank assets that are in line with its Treasury Policy as cash and cash equivalents. The impairment of cash and cash equivalents measured at amortised cost is determined using a model based on expected credit losses. The expected credit losses are reviewed for the following 12 months.

EUR million	2023	2022
Financial assets at fair value through profit or loss	426.9	433.5
Financial assets carried at amortized cost	426.8	520.2
Cash at hand and in bank	657.8	311.3
Total	1,511.6	1,265.0

5.5 Financial liabilities and net liabilities

Accounting principles

Interest-bearing financial liabilities are initially recognised at fair value. The Group has classified all interest-bearing financial liabilities under "Amortised cost". Transaction costs are included in the original book value of financial liabilities measured at amortised cost. Subsequently, all interest-bearing financial liabilities are measured at amortised cost using the effective interest method.

Interest-bearing financial liabilities

EUR million	2023	2022
Non-current interest-bearing financial liabilities		
Bonds	249.2	249.0
Loans from financial institutions	1,198.1	634.3
Lease liabilities	101.0	94.8
Other liabilities	150.2	150.6
Total	1,698.5	1,128.7
Current interest-bearing financial liabilities		
Current portion of non-current debt	158.6	66.2
Current loans	1.0	2.1
Other liabilities	331.6	259.9
Total	491.1	328.2
Interest-bearing financial liabilities total	2,189.7	1,456.9

Interest-bearing financial assets

EUR million	2023	2022
Non-current interest-bearing financial assets		
Loan receivables	5.4	6.5
Other receivables	2.6	2.4
Total	8.0	8.9
Current interest-bearing financial assets		
Financial assets at fair value through profit or loss	426.9	433.5
Loan receivables	3.1	1.7
Other receivables	4.0	4.3
Current investments at amortised cost	426.8	520.2
Cash at hand and in bank	657.8	311.3
Total	1,518.7	1,271.0
Interest-bearing financial assets total	1,526.7	1,279.9
Interest-bearing net liabilities	662.9	177.0

Changes in liabilities and current interest-bearing receivables reported in the cash flow from financing activities in 2023

EUR million	1 Jan 2023	Cash flows	Non-cash changes				31 Dec 2023
			Acquired / sold businesses	Changes in exchange rates	Changes in leases	Other changes	
Non-current interest-bearing financial liabilities including the current portion							
Bonds	249.0					0.2	249.2
Loans from financial institutions	673.9	650.7	16.0	0.0		-11.7	1,328.9
Lease liabilities	121.5	-29.1		0.8	51.7	-16.2	128.6
Other liabilities	150.6	0.2		-0.4		0.0	150.4
Total	1,194.9	621.8	16.0	0.4	51.7	-27.7	1,857.1
Non-current non-interest bearing liabilities	4.7	7.2	0.0	0.0		0.0	11.9
Current interest-bearing liabilities							
Current liabilities	2.1	-1.1		0.0		0.0	1.0
Other liabilities	259.9	0.0		0.0		71.7	331.6
Total	262.0	-1.1		0.0		71.7	332.6
Current interest-bearing loan receivables	-6.1	-0.9		0.0		-0.2	-7.2
Total	1,455.6	627.0	16.0	0.4	51.7	43.7	2,194.4

Changes in liabilities and current interest-bearing receivables reported in the cash flow from financing activities in 2022

EUR million	1 Jan 2022	Cash flows	Non-cash changes				31 Dec 2022
			Acquired / sold businesses	Changes in exchange rates	Changes in leases	Other changes	
Non-current interest-bearing financial liabilities including the current portion							
Bonds	248.8					0.2	249.0
Loans from financial institutions	455.0	219.7		-0.8		0.0	673.9
Lease liabilities	131.6	-46.7	18.4	-1.2	25.8	-6.4	121.5
Other liabilities	150.0	0.9		-0.4		0.0	150.6
Total	985.4	174.0	18.4	-2.4	25.8	-6.2	1,194.9
Non-current non-interest bearing liabilities	9.1	-4.3	0.0	0.0		0.0	4.7
Current interest-bearing liabilities							
Current liabilities	-0.7	1.9		0.0		0.9	2.1
Other liabilities	177.5	0.0		0.0		82.4	259.9
Total	176.7	1.9		0.0		83.3	262.0
Current interest-bearing loan receivables	-6.9	0.8	0.0	0.0			-6.1
Total	1,164.3	172.4	18.4	-2.4	25.8	77.1	1,455.6

Bonds

EUR million	Interest %	2023	2022
2017–2027	2.75	249.2	249.0

In September 2017 Metsä Board issued an unsecured bond of EUR 250 million. The bond carries a fixed coupon rate of 2.75%, and the maturity date is 29 September 2027. The bond ranks senior and is unsecured.

■ 5.6 Management of financial risks

The financial risks associated with business operations are managed in accordance with the financial policy endorsed by the parent company's Board of Directors and senior management. The policy defines focal instructions on the management of foreign currency, interest rate, liquidity and counterparty risks, and for the use of derivative financial instruments. Correspondingly, commodity risks are managed according to the Group's commodity risk policy. The purpose is to protect the company against major financial and commodity risks, to balance the cash flow and to allow the business units time to adjust their operations to changing conditions.

Metsä Group Treasury Oy is specialised in finance and functions as the Group's internal bank. Metsäliitto Cooperative holds 100% of the company. Financial operations have been centralised to Metsä Group Treasury, which is in charge of managing the Group companies' financial positions according to the strategy and financial policy, providing necessary financial services and acting as an advisor in financial matters.

Foreign currency risk

The foreign currency exposure of Metsä Group consists of the risks associated with foreign currency flows, translation risk of net investments in foreign entities and economic currency exposure. Most of the Group's expenses are incurred in the euro zone and to some extent in Sweden, but a significant part of sales income is received or priced in other currencies. Sales may therefore vary because of changes in exchange rates, while production costs remain unchanged. The foreign currency transaction exposure is consisting of foreign currency denominated sales revenue and costs. The exposure is including foreign currency denominated balance sheet exposure consisting of trade receivables and trade payables and 50% share of the annual contracted or estimated net currency cash flow.

The main currencies of the Group's foreign currency transaction exposure are the US dollar, the Swedish krona and the British pound. The US dollar accounts for 69% (2022: 66), the Swedish krona for 15% (18), and the British pound for 8% (8) of the transaction exposure. A strengthening of the dollar and the pound has a positive impact on the financial result and a weakening a negative impact. A weakening of the Swedish krona has a positive impact on the result of the Group. Other key currencies in which Metsä Group is exposed to currency risk are the Canadian dollar (CAD), the Norwegian krone (NOK) and the Danish krone (DKK). The hedging policy is to keep the balance sheet exposure and 50% of annual cash flow of contracted or estimated currency flows consistently hedged. The amount of hedging may deviate from the normal level by 40% in either direction. The Board of Directors of each Group company decides on significant degrees of hedging departing from the Treasury Policy's norm. The amount of currency-specific hedging depends on current exchange rates and market expectations, on the interest rate differences between the currencies and the significance of the exchange rate risk for the financial result of the Group. The transaction exposure is mainly hedged by forward transactions but also by the use of foreign currency loans and currency options.

At the end of the reporting period, the foreign exchange transaction exposure had been hedged for 7.7 months on average (2022: 9.1), which was 109% of the hedging norm (122). During the reporting period, the degree of hedging varied between 8 and 9 months (8–9), or between 105% and 122% of the norm (109–129). The degree of hedging of the US dollar was 7.7 months (9.3), or 111% of the hedging norm (129). The degree of hedging of the Swedish krona was 9.2 months (10.6), or 133%

of the hedging norm (138), while the degree of hedging of the pound was 7.6 months (7.3), or 100% of the hedging norm (100). Hedge accounting has been applied to the hedging of foreign currency transaction exposure, and forwards and options allocated to hedge accounting have been used to hedge the portion of highly probable forecast sales of the currency transaction exposure.

The translation risk of a net investment in a foreign entity is generated from the consolidation of the equity of subsidiaries and associated companies outside the euro area into euros in the consolidated financial statements. Hedging of equity has been discontinued.

The risk of open foreign currency position is assessed using average deviation from the foreign currency hedge norm, which was 15.2 percentage points (1.0 month) at the end of the financial period, and on average 15.8 percentage points (1.1 months) during the financial period.

Interest rate risk

The interest rate risk is related to interest bearing receivables and loans on the balance sheet, working capital financing, and currency hedging. The most significant currencies in risk management are the euro, the US dollar, the Swedish krona and the British pound. The objective of the interest rate risk policy is to minimise the negative impact of interest rate changes on the Group's and group companies' result and the financial position, and to optimise financing costs within the framework of risk limits. The effect of interest rate changes on financial costs depends on the average interest fixing time of interest bearing assets and liabilities, which is measured in the Group by duration. As duration is lengthening the rise of interest rates affects more slowly the interest expenses of financial liabilities. The maturity of the loan portfolio can be influenced by adjusting between floating-rate and fixed-rate loans and by using interest rate swaps.

According to the Group's Treasury Policy, the norm for the duration is the 24-month average loan portfolio duration. However, the duration can deviate by 6–36 months from the norm, subject to the relevant authorisation, and decisions on larger deviations are made by the parent company's Board of Directors. At the end of the year, the average duration of loans was high, at 27.6 months (2022: 40.6). During the reporting period, duration varied between 28 and 46 months (41–46). Of interest-bearing financial liabilities, 24% (15) are variable rate, and the rest are fixed rate, and the average interest rate at the end of 2023 was 2.8% (2.3). At the end of 2023, an increase of 1% in interest rates would decrease interest rate expenses over the next 12 months by EUR 1.8 million (2.0).

The Group applies cash flow hedge accounting in all interest rate swaps by which floating-rate financing has been converted to fixed-rate financing. The gross nominal volume of interest rate swaps at the time of financial statements is EUR 628.1 million (722.4) and the maturity of interest rate swap contracts varies between 1–9 years (1–10).

Commodity risk

In the hedging of commodity risks the Group applies risk management policies defined separately for each selected commodity. According to the policy, the management of commodity risks with regard to financial hedges is accomplished centralized by Metsä Group Treasury based on the strategy and risk management policy approved by Board of Directors of Metsä Group companies. The commodity hedging policy is applied to the management of the price risks of natural gas and light and heavy fuel oil. Transactions related to emission allowances are also managed by Metsä Group Treasury. Hedge accounting is applied to all commodity hedging.

According to the commodity hedging policy, the hedging norm is an 80% degree of hedging of the estimated net position during the first 12-month period, and the degree of hedging can vary by 20% in either direction. Significant strategic decisions are made by the Boards of Directors of Group companies.

Metsä Group is hedging the price risk of natural gas purchases as financial hedges and by physical fixed-price contracts. Metsä Group is hedging also the gas oil, heavy fuel oil and 0.5% fuel oil price risk related to logistics costs (sea freights) based on commodity risk policy by using financial hedges. Metsä Group is not hedging its pulp price risk.

Liquidity risk

Liquidity risk is defined as the risk that funds and available funding become insufficient to meet business needs, or costs that are incurred in arranging the necessary financing are unreasonable high. Liquidity risk is monitored by estimating the 12–24-month liquidity need and ensuring that the total liquidity available covers the main part of this need. According to the Treasury Policy, the liquidity reserve must at all times cover 100% of the Group's liquidity need for the first 12 months and 50–100% of the need during the following 12–24 months. The objective is that at most 20% of the Group's loans, including committed credit facilities, are allowed to mature within the next 12 months, and at least 25% of the total debt must have a maturity in excess of four years. The target is to avoid keeping extra liquidity as liquid funds and instead maintain a liquidity reserve as committed credit facilities outside the balance sheet.

The cornerstone of liquidity risk management is to manage the Group's operative decisions in such a way that targets concerning indebtedness and sufficient liquidity reserve can be secured in all economic conditions. Liquidity risk is managed by diversifying the use of capital and money markets to decrease dependency on any single financing source and the optimisation of the maturity structure of loans is also emphasized in financial decisions. The Group is using short-term working capital financing related to trade receivables and trade payables.

Metsä Group's liquidity has remained good. At the end of the financial period, the available liquidity was EUR 2,311.6 million (2,555.3) This consisted of EUR 1,511.6 million (1,265.0) in liquid assets and investments, and EUR 800 million (1,290.3) in off-balance sheet committed long-term credit facility agreements. The Group also had at its disposal short-term, uncommitted commercial paper programmes and credit lines amounting to EUR 360.0 million (161.4) and undrawn pension premium (TyEL) funds of EUR 440.4 million (392.5). At the end of 2023, the liquidity reserve is expected to cover the financing need for 2024–2025. Of long-term loans and credit facilities, 6% (5) fall due in a 12-month period, and 36% (47) have a maturity in excess of four years. The average maturity of long-term loans is 3.9 years (4.1). The share of short-term financing of the Group's interest-bearing liabilities is 15% (18).

Counterparty risk

Financial instruments carry the risk that the Group may incur losses should the counterparty be unable to meet its commitments. The Group is managing this risk by entering into financial transactions only with most creditworthy counterparties and within pre-determined limits. Liquidity reserve is partially maintained in the form of committed credit facilities, although the strengthened liquidity position has increased the counterparty risk during the last years. Cash and cash equivalents and

other investments have been spread across several banks, the commercial papers of several institutions and money market funds. During the reporting period, credit risks of financial instruments did not result in any losses. Counterparty limits have been revised during the year by taking into account the needs of the company and the view on the financial position of especially the used commercial paper counterparties. Derivatives trading is regulated by the standardised ISDA contracts made with the counterparties. The impairment of financial assets measured at amortised cost is determined using a model based on expected credit losses.

The Group's trade receivables carry a counterparty risk that the Group may incur losses should the counterparty be unable to meet its commitments. Credit risk attached to trade receivables is managed on the basis of the credit risk management policies approved by operative management. Trade receivables performance is followed by the Group Credit Risk Management Team and reported monthly to operative management. Credit quality of customers is assessed at regular intervals based on the customers' financial statements, payment behaviour and credit ratings agencies. Credit limits are approved according to credit risk management policy with approval limits of varying values across the Group. Individual credit limits are reviewed at least annually. Letters of Credits, bank and parent company guarantees and Credit insurance are used to mitigate credit risk according to management decisions. Operative management reviews and sets all major credit limits which are not supported by credit insurance and/ or other security according to Credit Risk Management Policies.

A credit loss is recognised when a customer enters legal bankruptcy or becomes past due for more than 6 months (180 days) without a valid payment plan or other valid reasons. Expected credit losses on trade receivables are calculated by using a provision matrix. The expected credit loss expense is recognised by applying expected credit loss percentages based on five-year historic losses net of credit insurance on trade receivables from external debtors outstanding at the end of the period. The expected credit loss percentages are business area-specific and vary between 0.0–0.2%. The specification of doubtful trade receivables is in the Notes no. 4.6.

The geographical structure of the trade receivables is diversified and is reflecting the external sales structure presented in the Segment information. The main sources of credit risk are Finland, Germany, the UK, Italy, the US, Hong Kong, Sweden, Poland, Turkey and the Netherlands. The top ten countries represent around 69% (68) of external trade receivables. At the end of 2023, the credit risk exposure for Metsä Group's largest individual customer (an individual company or groups of companies under common ownership) was 6% (4) of total trade receivables. The ten largest customer groups (individual companies or groups of companies under common ownership) accounted for 31% (27) of all trade receivables. At the end of 2023, Metsä Group's trade receivables were for a very large part covered by credit insurance or other security, such as letters of credit.

Managing the capital

Terms capital and capital structure are used to describe investments made in the company by its owners and retained earnings (together equity) and debt capital (liabilities) as well as the relation between them. In managing its capital structure, the Group aims at maintaining an efficient capital structure that ensures the Group's operational conditions in financial and capital markets in all circumstances despite the fluctuations typical to

the sector. Certain central target values, which correspond to standard requirements set by financing and capital markets, have been defined for the capital structure. The Group's capital structure is regularly assessed by the Group's Board of Directors and its Audit Committee.

The Group monitors the development of its capital structure mainly through equity ratio. The Group's long-term objective is to maintain its equity ratio at a minimum level of 40% (temporary deviation allowed).

The key ratios describing the capital structure on 31 December 2023 and 31 December 2022 are the following:

EUR million	2023	2022
Net gearing ratio, %	12	3
Equity ratio, %	55.9	60.6
Interest-bearing liabilities	2,189.7	1,456.9
./. Interest-bearing financial assets	1,526.7	1,279.9
Interest-bearing net liabilities	662.9	177.0
Equity attributable to members of parent company	4,282.0	4,135.4
+ Non-controlling interest	1,361.2	1,565.8
Total	5,643.2	5,701.2
Total assets	10,107.9	9,414.7
./. Advance payments received	19.2	12.0
Total	10,088.7	9,402.7

The debt financing of Metsä Group is arranged so that Metsä Board, Metsä Fibre and Metsä Tissue each have the loans required to cover the financial needs of the subgroups formed by them and that the loans of the companies in question are independent of each other. Likewise, Metsäliitto Cooperative has separately arranged financing to cover the financial needs of the parent company and Metsä Forest and Metsä Wood.

Financial covenants of external loans

In Metsä Group's certain financial contracts financial covenants have been set regarding financial performance and capital structure. Other covenants in the Group's loan agreements are customary terms and conditions including for example a negative pledge, restrictions on major asset disposals, limitations on subsidiary indebtedness, restrictions on changes of business and mandatory prepayment obligations upon a change of control of the Group. The terms and conditions of loan agreements and committed credit facilities of Metsä Group companies typically contain a financial covenant related to the net gearing ratio. All Group companies have complied with the covenants during the 2023 and 2022 accounting periods. In case Metsäliitto Cooperative or any of its subsidiaries could not meet its obligations as defined by the above mentioned key ratios and in order to avoid a breach of contract that could have an adverse effect on the company's financial position, it would need to renegotiate its financial arrangements, pay back its loans or get its debtors to give up their claims to meet these obligations.

Hedging of foreign exchange transaction exposure

31 Dec 2023

	Annual transaction exposure								Total
	USD	GBP	SEK	NOK	DKK	CAD	Other long	Other short	
Transaction exposure, net (mill. currency units)	2,289	209	-5,094	1,136	626	37			
Transaction exposure, net (EUR million)	2,072	241	-459	101	84	25	34	-9	3,025
Transaction exposure hedging (EUR million)	-1,336	-153	352	-49	-42	-14			-1,918
Hedging at the end of the year (months)	7.7	7.6	9.2	5.8	6.0	6.6			7.7
Average hedging in 2023 (months)	7.9	7.4	10.5	5.6	5.9	6.5			8.0
Average rate of hedging at the end of the year	1.0869	0.8721	11.6490						

31 Dec 2022

	Annual transaction exposure								Total
	USD	GBP	SEK	NOK	DKK	CAD	Other long	Other short	
Transaction exposure, net (mill. currency units)	2,079	200	-5,819	1,101	600	33			
Transaction exposure, net (EUR million)	1,949	225	-523	105	81	23	43		2,949
Transaction exposure hedging (EUR million)	-1,516	-137	462	-46	-41	-13			-2,189
Hedging at the end of the year (months)	9.3	7.3	10.6	5.3	6.1	6.8			9.1
Average hedging in 2022 (months)	8.8	7.6	10.2	6.6	5.6	5.5	1.0		8.6
Average rate of hedging at the end of the year	1.0390	0.8696	10.7137						

Net investments in a foreign entity

31 Dec 2023	Equity exposure				
	USD	GBP	SEK	Others	Total
Equity exposure (mill. currency units)	125	60	10,233		
Equity exposure (EUR million)	113	70	922	88	1,192

31 Dec 2023	Equity exposure				
	USD	GBP	SEK	Others	Total
Equity exposure (mill. currency units)	110	61	9,767		
Equity exposure (EUR million)	103	69	878	73	1,124

Interest rate risk / duration and re-pricing structure of loans (incl. interest rate derivatives) 31 Dec 2023

Loan amount (EUR million)	Duration (months)	Average interest rate (%)	Interest rate sensitivity (EUR million)	Re-pricing structure of interest rates of loans						
				1-4/2024	5-8/2024	9-12/2024	2025	2026	2027	>2027
1,958	27.6	2.8	-1.8	267	158	37	356	157	121	863

Interest rate risk / duration and re-pricing structure of loans (incl. interest rate derivatives) 31 Dec 2022

Loan amount (EUR million)	Duration (months)	Average interest rate (%)	Interest rate sensitivity (EUR million)	Re-pricing structure of interest rates of loans						
				1-4/2023	5-8/2023	9-12/2023	2024	2025	2026	>2026
1,197	40.6	2.3	-2.0	274	87	-78	148	259	236	960

Interest rate sensitivity is an estimate of the effect of an interest rate change of 1% on net interest cost based on year-end exposure. These are also included in the re-pricing distribution of loans. Interest rate risk exposure does not include the part of Metsäliitto Cooperation subscribed capital that is recognized as short-term interest-bearing liability.

Hedging of natural gas price risk

GWh	2023	2022
Natural Gas exposure, net	988	1,005
Natural Gas hedging	652	637
Hedging at the end of the year (%)	66	63
Average price of hedging at the end of the year (€/MWh)	51.09	73.67

Natural gas price risk is hedged based on defined risk management policy by physical contracts or by financial contracts. Natural gas net position includes Metsä Board and Metsä Tissue forecasted natural gas consumption. Only Metsä Board position is hedged using financial contracts and Metsä Tissue Central Europe's consumption with physical contracts.

Hedging of logistics oil price risk

Tons	2023	2022
Oil exposure, net	181,701	153,606
Oil hedging	39,660	49,250
Hedging at the end of the year (%)	22	32
Average price of hedging at the end of the year (€/t)	468.84	534.78

Logistic oil price risk is hedged based on defined risk management policy by financial contracts. Metsä Group logistic oil exposure includes positions with bunker clause. Metsä Board is hedging gas oil, heavy fuel oil and marine fuel oil purchases.

Market risk sensitivity 2023

EUR million	Impact on equity exposure and annual transaction exposure			
	Impact on financial assets and liabilities	Impact on net equity of foreign entities	Impact on annual transaction exposure (cash flow)	Impact on annual transaction exposure (cash flow) incl. hedging
Interest rate risk (100 bp rise in interest rates)				
Effect on profit	-3.0		1.8	16.0
Effect on other change in equity	17.2			
Commodity risk (commodity prices + 20%)				
Effect on profit			-21.0	-15.7
Effect on other change in equity	5.3			
FX risk (USD - 10%)				
Effect on profit	2.1		-188.1	-36.5
Effect on other change in equity	131.4	-11.3		
FX risk (GBP - 10%)				
Effect on profit	0.5		-23.0	-9.3
Effect on other change in equity	11.9	-7.0		
FX risk (SEK - 10%)				
Effect on profit	-3.1		52.4	6.3
Effect on other change in equity	-31.6	-92.2		

Market risk sensitivity 2022

EUR million	Impact on equity exposure and annual transaction exposure			
	Impact on financial assets and liabilities	Impact on net equity of foreign entities	Impact on annual transaction exposure (cash flow)	Impact on annual transaction exposure (cash flow) incl. hedging
Interest rate risk (100 bp rise in interest rates)				
Effect on profit	-2.8		2.0	19.4
Effect on other change in equity	20.2			
Commodity risk (commodity price + 20%)				
Effect on profit			-34.4	-24.2
Effect on other change in equity	10.2			
FX risk (USD - 10%)				
Effect on profit	-1.1		-194.9	-43.3
Effect on other change in equity	139.8	-10.3		
FX risk (GBP - 10%)				
Effect on profit	0.3		-22.5	-8.8
Effect on other change in equity	11.1	-6.9		
FX risk (SEK - 10%)				
Effect on profit	-9.1		52.3	6.2
Effect on other change in equity	-38.6	-87.8		

Items with + sign = positive effect = increase of assets / decrease of liabilities / increase of cash flow
 Items with - sign = negative effect = decrease of assets / increase of liabilities / decrease of cash flow

The Group must disclose a sensitivity analysis for each type of market risk to which the entity is exposed on the reporting date, showing how profit or loss and equity would have been affected by changes in the relevant risk variables that were reasonably possible on that date. The Group has recognised interest rates, commodity prices and foreign exchange rates as its key market risks and has set a 1 percentage point interest rate rise, a 20% rise in commodity prices, and a 10% weakening of USD, GBP and SEK as reasonably possible risk variables. These currencies represent almost 90% of Group's annual transaction exposure. The nature of the market price risk is relatively linear so that the size of the effects of opposite market price changes do not differ essentially from the presented figures. The scenarios have been calculated by using regular principles for calculating the market values of financial instruments described in the Group Accounting policies. Figures at the reporting date reflect quite well the average market risk conditions throughout the reporting period.

Additionally, the Group presents figures describing the impact of risk variables on its equity exposure and annual transaction exposure (cash flow) to present a broader picture of the market risks of interest rates, commodity prices and foreign exchange rates. Annual cash flows are based on estimates, but not existing commercial contracts. The weakening of USD and GBP has a negative impact on annual cash flow and the weakening of SEK has a positive impact. Hedges reduce this impact depending on hedging strategy. The impact on net equity of foreign entities is arising from the consolidation of subsidiaries to the Group consolidated accounts.

The calculation of Metsä Group's interest rate risk sensitivity does not include the EUR 431 million fund investments in the investment portfolio, as a 1 percentage point increase in interest rates does not increase interest income but instead results in a change in the fund units' value.

Cash flows of installments and interest payments of financial liabilities 2023

EUR million	2024	2025	2026	2027	2028	2029–	Total
Bonds and debentures				249.2			249.2
Loans from financial institutions	130.7	232.6	227.9	129.9	123.5	484.3	1,328.9
Lease liabilities *)	31.6	24.2	17.1	14.4	12.0	47.8	147.0
Other non-current interest-bearing liabilities	0.2	50.2	100.0				150.4
Non-current interest-bearing liabilities, total	162.5	307.0	345.0	393.5	135.4	532.1	1,875.5
Current interest-bearing liabilities	332.6						332.6
Financial liabilities total	495.0	307.0	345.0	393.5	135.4	532.1	2,208.0
Financial costs total	63.5	59.9	46.2	35.0	23.8	62.2	290.6
Financial liabilities and financial costs total	558.5	366.9	391.1	428.5	159.2	594.3	2,498.6
Guarantees agreements	1.1	0.5	0.0		0.5	1.4	3.6
Derivative financial instruments							
Currency derivatives, liabilities	3,069.6						3,069.6
Currency derivatives, assets	-3,114.3						-3,114.3
Interest rate swaps, liabilities	2.7	1.2	0.7	0.6	0.4	0.3	6.0
Interest rate swaps, assets	-17.8	-10.5	-7.3	-5.9	-4.8	-6.2	-52.5
Commodity derivatives, liabilities	4.1						4.1
Commodity derivatives, assets	-0.2						-0.2
Derivatives, net	-55.8	-9.3	-6.6	-5.4	-4.4	-5.8	-87.2

Cash flows of installments and interest payments of financial liabilities 2022

EUR million	2023	2024	2025	2026	2027	2028–	Total
Bonds and debentures					249.0		249.0
Loans from financial institutions	39.6	59.3	159.0	154.2	56.4	205.2	673.9
Lease liabilities *)	30.7	24.6	18.8	13.4	12.5	39.1	139.1
Other non-current interest-bearing liabilities		0.2	50.2	100.2	0.0		150.6
Non-current interest-bearing liabilities, total	70.3	84.1	228.0	267.9	318.0	244.4	1,212.6
Current interest-bearing liabilities	262.0						262.0
Financial liabilities total	332.2	84.1	228.0	267.9	318.0	244.4	1,474.6
Financial costs total	28.9	28.4	26.0	17.9	11.0	7.5	119.6
Financial liabilities and financial costs total	361.2	112.5	254.0	285.7	328.9	251.9	1,594.2
Guarantees agreements	2.0	1.6	8.9	0.0	0.0	1.7	14.3
Derivative financial instruments							
Currency derivatives, liabilities	3,959.1						3,959.1
Currency derivatives, assets	-3,993.5						-3,993.5
Interest rate swaps, liabilities	1.7	1.4	1.1	0.7	0.6	0.7	6.2
Interest rate swaps, assets	-16.9	-18.0	-13.5	-9.7	-7.6	-12.3	-77.9
Commodity derivatives, liabilities	5.0						5.0
Commodity derivatives, assets	-6.7						-6.7
Derivatives, net	-51.3	-16.6	-12.4	-8.9	-7.1	-11.6	-107.9

*) Cash flows from lease liabilities include both debt repayment and financing expense.

The balance sheet value of lease liabilities on December 31, 2023 was EUR 128.6 million (121.5). The balance sheet value of currency derivative liabilities on 31 December 2023 was EUR 18.6 million (51.6) and the value of currency derivative receivables was EUR 105.9 million (159.4).

5.7 Fair values of financial assets and liabilities

Classification and fair values of financial assets and liabilities 2023

EUR million	Note	Fair value through profit and loss	Fair value through other comprehensive income	Amortised cost	Total carrying amount
Financial assets					
Other non-current investments	4.4	4.3	271.1		275.3
Other non-current financial assets	5.3			17.5	17.5
Accounts receivable and other receivables	4.6	4.0		809.5	813.5
Cash and cash equivalents	5.4	426.9		1,084.6	1,511.6
Derivative financial instruments	5.7	8.5	97.3		105.9
Total		443.8	368.4	1,911.6	2,723.8
Fair value total		443.8	368.4	1,911.6	2,723.8
Financial liabilities					
Non-current interest-bearing financial liabilities	5.5			1,698.5	1,698.5
Other non-current financial liabilities	4.7			3.1	3.1
Current interest-bearing financial liabilities	5.5			491.1	491.1
Accounts payable and other liabilities	4.8			1,583.8	1,583.8
Derivative financial instruments	5.7	2.8	15.8		18.6
Total		2.8	15.8	3,776.6	3,795.2
Fair value total		2.8	15.8	3,776.8	3,795.4

Classification and fair values of financial assets and liabilities 2022

EUR million	Note	Fair value through profit and loss	Fair value through other comprehensive income	Amortised cost	Total carrying amount
Financial assets					
Other non-current investments	4.4	3.4	373.3		376.8
Other non-current financial assets	5.3			15.9	15.9
Accounts receivable and other receivables	4.6	4.3		936.9	941.3
Cash and cash equivalents	5.4	433.5		831.5	1,265.0
Derivative financial instruments	5.7	10.6	148.8		159.4
Total		451.9	522.2	1,784.4	2,758.4
Fair value total		451.9	522.2	1,784.4	2,758.4
Financial liabilities					
Non-current interest-bearing financial liabilities	5.5			1,128.7	1,128.7
Other non-current financial liabilities	4.7			3.7	3.7
Current interest-bearing financial liabilities	5.5			328.2	328.2
Accounts payable and other liabilities	4.8			1,501.5	1,501.5
Derivative financial instruments	5.7	7.7	43.8		51.6
Total		7.7	43.8	2,962.0	3,013.6
Fair value total		7.7	43.8	2,927.5	2,979.0

Trade receivables and other receivables do not include advance payments, deferred taxes or periodisations of employee costs (Note 4.6). Trade payables and other liabilities do not include advance payments, deferred tax liabilities or periodisations of employee costs (Note 4.8).

All interest-bearing financial liabilities are measured at amortised cost on the balance sheet based on the effective interest method. Fair values are based on the present value of each liability or asset calculated at the market rate. The discount rates applied are between 1.0 and 6.0% (1.0–6.0). The fair values of trade receivables and other receivables and trade payables and other liabilities do not materially deviate from their carrying amounts on the balance sheet.

Fair value hierarchy of financial assets and liabilities

Accounting principles

Financial assets and financial liabilities measured at fair value are classified as follows:

- Level 1 Fair value is based on quoted prices in active markets.
- Level 2 Fair value is based on valuation methods supported by market data.
- Level 3 Fair value is based on company estimates and not on market data.

The fair value measurement of financial assets at fair value recognised under other items of comprehensive income is described in Note 4.4.

The fair values of natural gas and fuel oil derivatives are measured based on publicly quoted market prices (Level 1). The fair values of currency forwards and currency options are determined on the basis of market prices at the closing date of the reporting period. The fair values of interest rate swaps are measured applying a method based on the current value of future cash flows, supported by market interest rates on the closing date of the reporting period and other market inputs (Level 2). The fair value of financial instruments not traded in an active market is determined using various measurement methods. Discretion is used in choosing the methods and making assumptions based primarily on the market conditions prevailing at the closing date of the reporting period (Level 3).

Fair value hierarchy of financial assets and liabilities

2023					
EUR million	Note	Level 1	Level 2	Level 3	Total
Financial assets at fair value					
Other non-current financial assets	4.4			275.3	275.3
Current financial assets through profit and loss at fair value	5.4	431.0			431.0
Derivative financial assets	5.7	0.2	105.7		105.9
Financial liabilities measured at fair value					
Derivative financial liabilities	5.7	4.1	14.5		18.6
Financial assets not measured at fair value					
Cash and cash equivalents	5.4		1,084.6		1,084.6
Financial liabilities not measured at fair value					
Non-current interest-bearing financial liabilities	5.5		1,698.3		1,698.3
Current interest-bearing financial liabilities	5.5		491.6		491.6

2022					
EUR million	Note	Level 1	Level 2	Level 3	Total
Financial assets at fair value					
Other non-current financial assets	4.4			376.8	376.8
Current financial assets through profit and loss at fair value	5.4	437.8			437.8
Derivative financial assets	5.7	6.7	152.7		159.4
Financial liabilities measured at fair value					
Derivative financial liabilities	5.7	5.0	46.5		51.6
Financial assets not measured at fair value					
Cash and cash equivalents	5.4		831.5		831.5
Financial liabilities not measured at fair value					
Non-current interest-bearing financial liabilities	5.5		1,094.2		1,094.2
Current interest-bearing financial liabilities	5.5		328.2		328.2

Other non-current financial assets measured at fair value based on level 3 valuation

EUR million	2023	2022
Value 1 Jan	376.8	197.9
Total gains and losses in profit and loss	0.1	3.3
Total gains and losses in other comprehensive income	-102.7	193.6
Purchases	0.6	0.0
Sales	-0.2	-18.2
Transfers to level 3	0.8	
Value 31 Dec	275.3	376.8

Derivatives and hedge accounting

Accounting principles

Derivative contracts are initially recognised on the balance sheet at fair value at cost, and thereafter during their term-to-maturity revalued at their fair value at each reporting date. The fair value of derivatives is presented in non-interest-bearing receivables or liabilities. Gains and losses resulting from recognition at fair value are treated in accounting as required with regard to the intended use of the derivative contract in question. Derivatives are initially classified as either 1) Hedges of the exposure to changes in the fair value of receivables, liabilities or firm commitments; 2) Hedges of the cash flow from a highly probable forecast transaction; 3) Hedges of a net investment in a foreign entity; or 4) Derivatives to which it has been decided not to apply hedge accounting.

Metsä Group currently applies hedge accounting only to cash flows. When applying hedge accounting at the inception of a hedging relationship, the Group has documented the relationship between the hedged item and the hedging instruments, as well as the hedging strategy observed. To meet the requirements of hedge accounting, the Group has also continuously carried out effectiveness testing to verify that changes in the fair value of the hedging instrument for each hedging relationship cover any changes in the fair value of the hedged item effectively enough, with respect to the hedged risk. Changes in the fair value of the effective portion of derivative instruments that meet the criteria for cash flow hedging are recognised in other items of comprehensive income. The gains and losses recognised in equity are transferred to the income statement when the forecast sale or purchase is realised, and are recognised as an adjustment to the hedged item. If the forecast transaction is no longer expected to occur, the gain or loss accrued in equity is recognised immediately in the income statement. Derivatives not subject to hedge accounting, as well as the ineffective portion of derivatives subject to hedge accounting, are measured at fair value, and changes in the value of interest rate and currency derivatives are recognised in financial items and changes in the value of commodity derivatives are recognised in other income and expenses.

Hedge accounting is applied as cash flow hedging to highly probable cash flows from sales denominated in foreign currencies and contractual cash flows with floating interest rates from loans. In the management of price risks related to commodities, hedge accounting is applied to cash flows from highly probable purchases of natural gas, light fuel oil, heavy fuel oil and 0.5% fuel oil. The fair values of forward foreign exchange contracts are based on the forward prices prevailing on the balance sheet date, and currency options are measured at fair value in accordance with the Black&Scholes model. Interest rate swaps are measured at the current value of cash flows, with the calculation being based on the market interest rate yield curve. The fair values of commodity derivatives are determined on the basis of publicly quoted market prices.

Management of financial risks and effectiveness of hedging

The management of the Group's currency, interest rate and commodity risks is described in more detail in Note 5.6, Management of financial risks. Note 5.7, Fair values of financial assets and liabilities, includes the fair values and grouping of derivatives. Note 5.1, Equity, includes itemisations of hedge accounting entries in the fair value reserve.

The hedging of the currency flow position is effective, given that there is a direct financial relationship between the hedged sale and the hedging derivative. The spot rate component of a forward contract or the reference value component of a currency option has been determined as the hedged item, and the forward points or the option's time value are treated as hedging costs subject to amortisation based on the period. Currency flow forecasts are fairly stable, invoicing steady within quarters and months, and forward deals are allocated to each month, due to which the ineffectiveness of hedging usually remains very low. Changes in production or the structure of sales may sometimes lead to ineffectiveness during the validity of a hedging relationship, in which case the hedging is adjusted accordingly.

The hedge accounting of the cash flow from interest rates is primarily effective, given that there is a direct financial relationship between the long-term loans subject to hedging and the hedging interest rate swaps. Ineffectiveness in the hedge relationship derives from any possible differences between the loans and the swaps' interest rate periods as well as from differences in the reference rates of contract terms. The ineffective portion of interest rate hedging is recognised through profit and loss. Early repayments of loans may cause an inefficiency situation where the hedging interest rate swaps are reversed or taken out from hedge accounting, and the change in fair value is recognised in financial items through profit and loss.

The hedging of commodity purchases is effective, given that, in lieu of the total purchase price, the hedged item is the same, identical risk component of pricing applied in the hedging derivative. In the hedging of natural gas and fuel oil, the price components of the purchases and the hedging derivative are identical. Commodity purchases are fairly steady and hedges are allocated to each month, due to which the ineffectiveness of the hedging usually remains low. Changes in the use of various commodities may sometimes lead to ineffectiveness during the validity of a hedging relationship, in which case the hedging is adjusted accordingly.

The hedging of electricity, propane and liquefied natural gas (LNG) expired at the end of 2022.

Derivatives 2023

EUR million	Nominal value	Fair value				
		Derivative assets	Derivative liabilities	Fair value total	Fair value through profit and loss	Fair value through other comprehensive income
Interest rate swaps	628.1	46.5		46.5		46.5
Interest rate derivatives total	628.1	46.5		46.5		46.5
Currency forward contracts	3,055.1	54.8	13.9	40.9	5.7	35.2
Currency option contracts	977.4	4.4	0.6	3.8		3.8
Currency derivatives total	4,032.5	59.2	14.5	44.7	5.7	39.0
Oil derivatives	18.7	0.2	0.6	-0.5		-0.5
Natural gas derivatives	10.8		3.5	-3.5		-3.5
Commodity derivatives total	29.5	0.2	4.1	-4.0		-4.0
Derivatives total	4,690.1	105.9	18.6	87.2	5.7	81.5

Derivatives 2022

EUR million	Nominal value	Fair value				
		Derivative assets	Derivative liabilities	Fair value total	Fair value through profit and loss	Fair value through other comprehensive income
Interest rate swaps	722.3	71.7		71.7		71.7
Interest rate derivatives total	722.3	71.7		71.7		71.7
Currency forward contracts	3,912.6	76.3	46.2	30.0	0.8	29.3
Currency option contracts	618.8	4.7	0.3	4.4		4.4
Currency derivatives total	4,531.3	81.0	46.5	34.5	0.8	33.7
Oil derivatives	27.5	0.5	3.9	-3.3		-3.3
Natural gas and propane derivatives	32.7	6.2	1.2	5.0	2.1	2.9
Commodity derivatives total	60.2	6.7	5.0	1.7	2.1	-0.4
Derivatives total	5,313.8	159.4	51.6	107.9	2.9	105.0

Changes in fair values and profit and loss impacts will be presented in note 5.1 Equity.

Financial impact of netting for instruments subject to an enforceable master netting agreements

EUR million	2023			2022		
	Financial derivatives on-balance sheet	Assets and liabilities related to master netting agreements	Net risk	Financial derivatives on-balance sheet	Assets and liabilities related to master netting agreements	Net risk
Derivative assets	105.9	19.4	86.5	159.4	51.5	107.9
Derivative liabilities	-18.6	-19.4	0.8	-51.6	-51.5	0.0

Master netting agreements are used for derivative contracts entered into by the Group and its counterparties. In the event of unlikely credit events, all valid transactions based on the agreement will be cancelled, and only one net sum will be payable by each counterparty for all the transactions. The items are not netted on the balance sheet.

Cash flow hedge maturities 2023

EUR million	1–6 months	7–12 months	1–5 years	Over 5 years	Hedged cash flow total
Interest rate derivatives subject to hedge accounting	45.6	45.6	343.4	193.4	628.1
Currency derivatives subject to hedge accounting	1,380.9	527.3			1,908.2
Currency derivatives not subject to hedge accounting	228.7				228.7
Commodity derivatives subject to hedge accounting	14.7	14.7			29.5

Cash flow hedge maturities 2022

EUR million	1–6 months	7–12 months	1–5 years	Over 5 years	Hedged cash flow total
Interest rate derivatives subject to hedge accounting	72.1	22.1	325.0	303.1	722.3
Currency derivatives subject to hedge accounting	1,561.8	583.5			2,145.3
Currency derivatives not subject to hedge accounting	278.1				278.1
Commodity derivatives subject to hedge accounting	30.1	30.1			60.2

6. Income taxes

Accounting principles

Tax expenses in the income statement consist of taxes based on the taxable income for the period, taxes for previous periods, and deferred tax assets and liabilities. Taxes are recognised in the income statement unless they are related to other comprehensive income items, in which case taxes are recognised in the said items. Taxes based on the taxable income for the period are calculated based on taxable income in accordance with the tax rate and tax legislation in force in each country at that time. Deferred tax assets and liabilities are calculated on the temporary differences between the carrying amount and the tax base in accordance with the tax rates issued as at the balance sheet date.

No deferred taxes are recognised for non-deductible goodwill, and no deferred taxes are recognised for subsidiaries' undistributed profits to the extent that the difference will not likely realise in the predictable future. Deferred tax assets are recognised to the extent that it is probable that taxable profit will be available against which a deductible temporary difference can be utilised.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset tax assets and tax liabilities based

on the taxable income for the period, and when the deferred taxes are related to the same tax recipient.

The most significant temporary differences arise from depreciation of property, plant and equipment; the measurement of other investments and derivatives contracts at fair value; defined benefit pension plans; unused tax losses; and measurement at fair value in conjunction with acquisitions of business operations.

Key estimates and judgements

The management's judgement is required to determine the taxes based on the result for the period and the extent to which deferred tax assets are recognised. Tax audits are conducted annually in various group companies. If required, tax liabilities are recognised in connection with the audits. Their measurement often involves considerable uncertainty concerning the estimated taxes to be paid. If the associated final tax differs from the originally recorded amounts, the difference has an effect on both the taxes based on the taxable income for the period, and on deferred tax receivables and liabilities.

EUR million	2023	2022
Income taxes for the financial period	-56.0	-241.4
Income taxes from previous periods	-0.2	-0.7
Deferred taxes	-48.0	-29.0
Total	-104.2	-271.1

Taxes based on the taxable income for the period include the tax subsidy of EUR 7.1 million sought in the 2022 taxation for the investments of the Swedish subsidiary in 2022.

Developed in the context of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting, Pillar II concerns a global minimum tax rate on the income of international corporations. The change involves a new top-up corporate tax, the goal of which is to ensure a minimum tax rate of 15% worldwide. If in any of a group's countries of operation, the aggregate effective tax rate, calculated in accordance with the provisions concerning minimum taxation, remains below 15%, a top-up tax will be imposed to raise the effective tax rate to 15%. The change will apply to financial periods beginning after 31 December 2023. According to Metsä Group's current estimates, the global minimum tax rate under Pillar II will have no impact or no material impact on the taxes paid by Metsä Group.

Income tax reconciliation

EUR million	2023	2022
Result before taxes	487.8	1,269.8
Computed tax at Finnish statutory rate	-97.6	-254.0
Tax rate differences of Finnish and foreign subsidiaries'	-4.3	2.8
Tax exempt income	2.6	5.9
Non-deductible expenses	-3.7	-14.8
Impairment of goodwill		-0.5
Restatement of deferred taxes recognised for temporary differences and tax losses in previous years	1.6	-5.9
Use of unrecognised tax losses from previous years	1.0	0.3
Unrecognised deferred tax receivables from tax losses and temporary differences	-3.2	-9.0
Share of profit from associated companies and joint ventures	-0.2	-1.0
Income taxes for previous periods	-0.2	-0.7
Other	-0.2	5.6
Income tax expense	-104.2	-271.1
Effective tax rate, %	21.4	21.4

Taxes included in other comprehensive income 2023

EUR million	Before tax	Tax effect	After tax
Items that will not be reclassified to profit and loss			
Items relating to adjustments of defined benefit pension plans	-5.4	1.4	-4.0
Fair value of financial assets through other comprehensive income	-102.7	20.5	-82.2
Total	-108.1	21.9	-86.2
Items that may be reclassified subsequently to profit and loss			
Cash flow hedges	-26.1	5.2	-20.9
Translation differences	5.7		5.7
Total	-20.4	5.2	-15.2

Taxes included in other comprehensive income 2022

EUR million	Before tax	Tax effect	After tax
Items that will not be reclassified to profit and loss			
Items relating to adjustments of defined benefit pension plans	-1.4	2.1	0.7
Fair value of financial assets through other comprehensive income	193.6	-38.7	154.9
Total	192.3	-36.6	155.7
Items that may be reclassified subsequently to profit and loss			
Cash flow hedges	105.7	-21.1	84.6
Translation differences	-46.6		-46.6
Total	59.1	-21.1	38.0

Deferred tax assets and liabilities 2023

EUR million	1 Jan 2023	Charged to income statement	Charged to other comprehensive income	Translation differences and others	31 Dec 2023
Deferred tax assets					
Leases	20.8	5.2		0.0	26.1
Pension obligations and provisions	10.0	-1.2	0.9	0.2	9.9
Intercompany margins	23.1	-8.4		-0.2	14.5
Unused tax loss carry-forwards	28.2	150.9		1.0	180.1
Financial instruments	0.9	0.0	-0.1		0.7
Other temporary differences	7.0	-0.2	2.6	0.3	9.7
Total	89.9	146.4	3.5	1.3	241.0
Netting against liabilities	-42.9	-164.2	0.0	-1.6	-208.7
Deferred tax assets in balance sheet	47.0	-17.8	3.4	-0.4	32.3
Deferred tax liabilities					
Leases	14.6	7.6		0.1	22.2
Pension obligations	0.8	0.1	-0.4	0.2	0.8
Depreciation differences and appropriations	274.3	191.6		4.1	469.9
Acquired net assets and biological assets recognised at fair value	42.4	-2.8		2.1	41.7
Other investments recognised at fair value	66.0	-3.4	-17.9		44.7
Financial instruments	24.1	-0.2	-5.3	0.5	19.0
Net investments in foreign operations		0.3		-0.3	
Other temporary differences	11.6	1.1	0.0	-3.1	9.5
Total	433.8	194.3	-23.6	3.5	608.0
Netting against receivables	-42.9	-164.2	0.0	-1.6	-208.7
Deferred tax liabilities in balance sheet	390.9	30.1	-23.6	1.8	399.3

From the beginning of 2023 deferred tax receivable and liability of leases are presented separately in the notes. The information of the year 2022 has been adjusted accordingly.

Deferred tax assets and liabilities 2022

EUR million	1 Jan 2022	Charged to income statement	Charged to other comprehensive income	Translation differences and others	31 Dec 2022
Deferred tax assets					
Leases	22.8	-2.0		0.0	20.8
Pension obligations and provisions	15.4	-1.4	-3.7	-0.2	10.0
Intercompany margins	15.2	8.1		-0.2	23.1
Unused tax loss carry-forwards	16.6	11.8		-0.3	28.2
Financial instruments	10.6	-4.8	-3.8	-1.1	0.9
Other temporary differences	7.8	-0.9		0.0	7.0
Total	88.5	10.8	-7.5	-1.8	89.9
Netting against liabilities	-50.8	2.9	2.7	2.3	-42.9
Deferred tax assets in balance sheet	37.7	13.6	-4.8	0.5	47.0
Deferred tax liabilities					
Leases	19.5	-4.9			14.6
Pension obligations	8.1	0.0	-6.9	-0.4	0.8
Depreciation differences and appropriations	240.2	37.7		-3.5	274.3
Acquired net assets and biological assets recognised at fair value	45.0	-2.6			42.4
Other investments recognised at fair value	27.3		38.7		66.0
Financial instruments	6.9	0.0	17.4	-0.2	24.1
Net investments in foreign operations		4.0		-4.0	
Other temporary differences	6.3	5.6	-0.1	-0.2	11.6
Total	353.3	39.8	49.1	-8.4	433.8
Netting against receivables	-50.8	2.9	2.7	2.3	-42.9
Deferred tax liabilities in balance sheet	302.5	42.6	51.8	-6.1	390.9

On 31 December 2023, Metsä Group had EUR 719.2 million (94.0) of net tax losses, EUR 151.0 million (28.2) of which was recorded as deferred tax receivables. Of these tax losses, EUR 655.0 million was incurred in Finland (0.0), and EUR 63.4 million in Germany and the UK (82.7). Of the tax losses, EUR 63.4 million (87.7) will not expire, EUR 0.7 million (5.8) will expire within five years, and the remaining EUR 655.0 million (0.5) will expire later. The management expects the companies to generate taxable income in the future from which the losses can be deducted.

The tax losses whose use involves uncertainty and which have therefore not been recognised as deferred tax receivables totalled EUR 163.5 million (170.9) on 31 December 2023. Of these tax losses, EUR 125.4 million (131.5) will not expire, EUR 0.0 million (1.8) will expire within five years, and the remaining EUR 38.2 million (37.6) will expire later. Tax losses on 31 December 2023 were incurred mainly in Germany and Russia. Unrecognised deferred tax assets from losses totalled EUR 46.7 million (49.1) on 31 December 2023.

7. Group structure

7.1 Group companies

Subsidiaries and joint operations

Accounting principles

Subsidiaries

In addition to the parent company Metsäliitto Cooperative, the consolidated financial statements include all companies controlled by the Group. Metsä Group has control in a company when it, through its association with the company, is exposed to the company's changing income or has a right to its changing income and can influence this income by exercising the power it has in the company. Intra-Group shareholding is eliminated using the acquisition method. Intra-Group business transactions, receivables, liabilities and unrealised gains, as well as internal distribution of profits, are eliminated on consolidation. Unrealised gains arising from impairment are not eliminated. When necessary, the accounting principles applied by subsidiaries have been adjusted to comply with the Group's principles.

The parent company's owners' and non-controlling interests' shares of the result for the period and comprehensive income are presented in the comprehensive income statement. The non-controlling interests' share of members' funds is presented as a separate item under equity on the balance sheet.

Joint operations

A joint operation is a joint arrangement in which parties who have joint control in the arrangement have rights concerning the assets related to the arrangement and obligations concerning liabilities. The Group consolidates the proportion corresponding to its ownership of the assets, liabilities, income and expenses of the joint operation in its financial statements.

METSÄLIITTO COOPERATIVE	Country	Holding, %
Subsidiaries		
Kumpuniemen Voima Oy	Finland	53.97
Metsä Forest Latvia SIA	Latvia	100.00
Metsä Group Asia Co. Ltd	China	100.00
Metsä Board Oyj ¹⁾	Finland	51.93
Metsä Fibre Oy	Finland	63.03
Metsä Forest Eesti AS	Estonia	100.00
Metsä Forest Sverige AB	Sweden	100.00
Metsä Group Services Sp. z.o.o.	Poland	100.00
Metsä Group Treasury Oy	Finland	100.00
Metsä Spring Oy	Finland	100.00
Metsä Tissue Oyj	Finland	100.00
Metsä Wood Deutschland GmbH	Germany	100.00
Metsä Wood Eesti AS	Estonia	100.00
Metsä Wood Holland B.V.	Netherlands	100.00
Metsä Wood Schweiz AG	Switzerland	100.00
Metsä Wood UK Ltd	Great Britain	100.00
Metsä Wood USA Inc.	USA	100.00
MI Demo Oy	Finland	100.00
OOO Metsä Forest Podporozhye	Russia	100.00
OOO Metsä Forest St. Petersburg	Russia	100.00
OOO Petrovles-Podporozhye	Russia	100.00
Joint operations		
Lohjan Biolämpö Oy ²⁾	Finland	51.00

METSÄ FIBRE GROUP	Country	Holding, %
Subsidiaries		
Metsä Fibre GmbH	Germany	100.00
Metsä Fibre S.r.l.	Italy	100.00
OOO Metsä Svir	Russia	100.00
Oy Silva Shipping Ab	Finland	100.00
Ääneverkko Oy	Finland	100.00

1) Holding 68.90 % by number of votes.

2) The primary goal for the arrangement is to produce energy to the parties and the liabilities of the arrangement are actually paid from the cash flow arising from the produced energy bought.

METSÄ BOARD GROUP	Country	Holding, %
Subsidiaries		
Husum Pulp AB	Sweden	70.00
Metsä Board (Middle East & Africa) Ltd	Cyprus	100.00
Metsä Board Americas Corporation	USA	100.00
Metsä Board Australia and New Zealand Pty Ltd	Australia	100.00
Metsä Board Ibérica S.A.	Spain	100.00
Metsä Board Italia S.r.l.	Italy	100.00
Metsä Board Singapore Pte Ltd	Singapore	100.00
Metsä Board UK Ltd	Great Britain	100.00
Metsä Board Benelux n.v./s.a	Belgium	100.00
Metsä Board Deutschland GmbH	Germany	100.00
Metsä Board France S.A.S.	France	100.00
Metsä Board International Oy	Finland	100.00
Metsä Board Polska Sp. Z o.o.	Poland	100.00
Metsä Board Sverige AB	Sweden	100.00
Metsä Board Turkey LLC	Turkey	100.00
OOO Metsä Board Rus	Russia	100.00

METSÄ TISSUE -KONSERNI	Country	Holding, %
Subsidiaries		
Metsä Tissue Czech s.r.o.	Czech Republic	100.00
Metsä Tissue Krapkowice Sp. z.o.o.	Poland	100.00
Metsä Tissue Poland Sp. z.o.o.	Poland	100.00
Metsä Tissue Slovakia s.r.o.	Slovakia	100.00
Metsä Tissue Ukraine LCC	Ukraine	100.00
Metsä Greaseproof Papers GmbH	Germany	100.00
Metsä Greaseproof Papers Oy	Finland	100.00
Metsä Tissue A/S	Denmark	100.00
Metsä Tissue AB	Sweden	100.00
Metsä Tissue AS	Norway	100.00
Metsä Tissue GmbH	Germany	100.00
Metsä Tissue Hungary Kft.	Hungary	100.00
Metsä Tissue Immobilienverwaltungs GmbH	Germany	100.00
Metsä Tissue Ltd	Great Britain	100.00
Joint operations		
Katrinefors Kraftvärme AB ²⁾	Sweden	50.00

1) Holding 68.90 % by number of votes.

2) The primary goal for the arrangement is to produce energy to the parties and the liabilities of the arrangement are actually paid from the cash flow arising from the produced energy bought.

Non-controlling interest's shares

Principal non-controlling interest's shares

EUR million	Country	Holding, %		Share of result		Share of equity	
		2023	2022	2023	2022	2023	2022
Metsä Fibre	Finland	36.95	37.41	35.2	245.4	752.7	861.0
Metsä Board ¹⁾	Finland	47.97	49.84	43.7	180.1	607.8	704.2
Other subsidiaries				0.0	0.0	0.7	0.7
				79.0	425.5	1,361.2	1,565.8

1) Non-controlling interest's holding by votes 31.08% (31.76).

Business transactions with non-controlling interest

Accounting principles

Changes in the parent company's holdings in subsidiaries that do not cause the parent company to lose its control over the subsidiary are processed as business transactions concerning equity.

In May–June 2023, Metsäliitto Cooperative acquired Metsä Board Corporation B shares to a value of EUR 50.1 million from the market based on the Board of Directors' authorisation at an average price of EUR 7.22 per share. Following the acquisitions, the Group's holding in Metsä Board Corporation increased by 1.95 percentage points. As a result of the arrangements, the non-controlling interest decreased by EUR 45.8 million, and earnings by EUR 4.1 million.

In March 2022, Metsäliitto Cooperative acquired Metsä Board Corporation's series B shares from the market for a total value of EUR 19.6 million and at an average price of EUR 8.00 per share based on an authorisation by the Board of Directors. In November and December 2022, it acquired Metsä Board Corporation's series B shares for a total value of EUR 41.7 million and at an average price of EUR 8.42 per share based on

an authorisation by the Board of Directors. Following the acquisitions, the Group's holding in Metsä Board Corporation increased by 2.09 percentage points. As a result of the arrangements, the non-controlling interest decreased by EUR 35.1 million and earnings by EUR 26.4 million.

The acquisition cost of the shares in Metsä Tissue Corporation held by Metsäliitto Cooperative was adjusted in 2022 and 2021. The adjustment was related to a share transaction which took place on 2 February 2017 and with which 9% of the shares were acquired, after which Metsäliitto Cooperative held 100% of Metsä Tissue Corporation's shares. The acquisition cost was adjusted with Germany's Real Estate Transfer Tax (RETT) liability, which arose as a result of the share acquisition. Following the adjustment, earnings decreased by EUR 0.2 million in 2022 and by EUR 1.7 million in 2021. Transfer taxes were paid in 2022.

In 2023 and 2022, there were no other significant acquisitions or sales of non-controlling interests.

Impact on parent company's equity from transactions with non-controlling interests:

EUR million	2023	2022
Acquisition of Metsä Board shares	-18.6	-26.4
Metsä Tissue Oyj's adjustment		-0.2
From other businesses	-0.7	0.3
Net impact on equity	-19.3	-26.3

Summary of financial information of subsidiaries with a substantial non-controlling interest

EUR million	Metsä Fibre Group		Metsä Board Group	
	2023	2022	2023	2022
Sales	2,498.6	3,070.7	1,941.9	2,479.6
Result for the period	70.5	656.2	94.8	409.9
Non-controlling interest's share of the result	35.2	245.4	43.7	180.1
Total comprehensive income for the period	55.8	789.8	26.1	573.6
Non-controlling interest's share of the total comprehensive result	26.7	292.8	8.3	215.4
Dividends paid to non-controlling interest	83.1	59.1	125.9	85.9
Non-current assets	3,637.2	3,157.2	2,080.4	2,103.9
Current assets	980.9	835.6	974.7	1,299.3
Non-current liabilities	1,412.4	817.1	580.7	600.2
Current liabilities	1,054.3	739.6	421.8	547.9
Net assets	2,151.5	2,436.0	2,052.6	2,255.2
Net cash flow from operating activities	488.9	962.4	342.8	232.0
Net cash flow arising from investing activities	-647.7	-1,065.7	-159.7	-205.3
Net cash flow arising from financing activities	159.6	104.5	-187.1	-37.1
Change in cash and cash equivalents	0.8	1.2	-4.0	-10.4

The numbers are presented before Metsä Group eliminations. The subgroup's internal items are eliminated.

Associated companies and joint ventures

Accounting principles

Associated companies include all companies over which the Group has considerable influence but no control. Significant influence is usually based on a shareholding conferring 20–50% of the voting rights. A joint venture is a joint arrangement in which the parties that have joint control of the arrangement have rights to its net assets.

Investments in associated companies and joint ventures are processed using the equity method, and they are initially recognised at cost. The Group's shares in associated companies and joint ventures also include the goodwill measured at the time of acquisition, less any impairment. The Group's share of the profits or losses of associated companies and joint ventures is recognised in the income statement after the operating result, which reflects the operative nature of these companies. Correspondingly, the Group's share of changes in other comprehensive income items of associated companies and joint ventures is recognised in its items of other comprehensive income. A proportion corresponding to the Group's shareholding is eliminated from unrealised profits between the Group and its associated companies and joint ventures. Unrealised gains arising from impairment are not eliminated. When necessary, the accounting principles applied by associated companies and joint ventures have been adjusted to comply with the Group's principles.

On 3 April 2023, Metsäliitto Cooperative acquired the remaining shares of MI Demo Oy and now owns all of MI Demo Oy. MI Demo Oy was previously treated as a joint venture in the Group's consolidated financial statements.

On 11 February 2022, Metsäliitto Cooperative divested its entire holding (19.8%) in its associated company Finsilva Oyj to Dasos Capital Oy's forest fund. The Group recognised a capital gain of EUR 54.2 million after tax for the divestment.

On 31 October 2022, Metsäliitto Cooperative divested its entire holding (25%) in its associated company Suomen Metsäsijoitus Oy. The Group recognised a capital gain of EUR 6.6 million after tax for the divestment.

On 31 December 2022, Metsä Fibre sold its shares in Oy Botnia Mill Service Oy (50.17%) to Caverion Industria Oy. The Group recognised a loss of EUR 0.2 million on the sale.

The Group's associated companies and joint ventures are not material in terms of the notes.

EUR million	2023	2022
Investments in associate companies and joint ventures		
Value 1 Jan	3.6	63.6
Share of results	-1.2	-4.8
Dividends received		-0.2
Increases	1.6	2.4
Decreases		-57.3
Translation differences	0.1	0.0
Value 31 Dec	4.1	3.6
Amounts recognised in income statement		
Associate companies	-1.3	-1.4
Joint ventures	0.2	-3.3
Total	-1.2	-4.8
Amounts recognised in balance sheet		
Associate companies	1.2	1.0
Joint ventures	2.9	2.6
Total	4.1	3.6

7.2 Acquired businesses and disposed operations

Accounting principles

Acquired business operations are consolidated from the time when control is transferred to the Group, and divested operations are consolidated until the time when control is transferred away from the Group.

The consideration paid, including the contingent sales price and the identifiable assets and liabilities of the acquired business operations, are measured at fair value at the time of acquisition. Expenses related to acquisitions are recognised as costs.

Depending on the acquisition, the non-controlling interests' share in the object of the acquisition is recognised at fair value or the amount that corresponds to the non-controlling interests' proportion of the net assets of the object of the acquisition.

The amount by which the sum of the consideration paid, the fair value of the non-controlling interests' share and the fair value of the assets previously owned in the object of the acquisition exceed the fair value of the identifiable net assets is recognised as goodwill.

Acquisitions

On 3 April 2023, Metsäliitto Cooperative acquired the remaining shares of MI Demo Oy and now owns all of MI Demo Oy. MI Demo Oy was previously treated as a joint venture in the Group's consolidated financial statements. According to the management's estimates, the impact of MI Demo Oy on Metsä Group's sales or operating result in the period 1 January–31 December 2023 would have been minor had the acquisition been carried out on 1 January 2023.

On 1 January 2022, Metsä Board acquired the entire share capital of Hämeenkyrön Voima Oy from Pohjolan Voima Oyj (84%) and from DL Power Oy, part of Leppäkoski group (16%). Hämeenkyrön Voima Oy merged with Metsä Board Corporation on 31 July 2022.

Employees of Oy Botnia Mill Service Oy who worked with the maintenance of Metsä Fibre's production facilities transferred to Metsä Fibre's service through a business transfer on 31 December 2022. The business transfer also involved the transfer of a small amount of fixed assets and inventories.

There were no other business acquisitions in 2023 or 2022.

Acquired businesses total

EUR million	Note	Posted values 2023	Posted values 2022
Intangible assets	4.1	11.7	1.3
Tangible assets	4.2	6.0	31.1
Inventories		0.2	4.0
Accounts receivables and other receivables		0.1	3.2
Cash and cash equivalent		0.8	0.9
Total assets		18.8	40.6
Deferred tax liabilities		2.1	0.0
Borrowings		16.0	18.4
Accounts payable and other liabilities		0.7	2.8
Total liabilities		18.8	21.2
Net assets		0.0	19.4
Acquisitions cost		0.0	19.6
Other operating income / (expenses)			-0.2
Acquisition price		0.0	-19.6
Cash and cash equivalents in subsidiaries		0.8	0.9
Net cash flow arising on acquisitions		0.8	-18.7

The book values of acquired assets and liabilities are equivalent to fair values.

Disposed operations

On 16 December 2021, Metsä Board and Euroports signed an agreement on Metsä Board selling all the shares of its fully owned subsidiary, Oy Hangö Stevedoring Ab, to Euroports Finland Oy. The transaction was carried out on 31 March 2022. A EUR 19.2 million capital gain was recognised in the result, and the transaction had a positive cash flow impact of EUR 24.5 million.

There were no other disposed operations in 2023 or 2022.

Divested operations, total

EUR million	Note	2023	2022
Intangible assets and property, plant and equipment	4.1, 4.2		9.1
Non current financial assets			0.0
Deferred tax receivables	6.		0.2
Inventories			0.0
Accounts receivables and other receivables			2.3
Cash and cash equivalent			0.7
Total assets			12.4
Deferred tax liabilities	6.		0.4
Provisions	4.9		1.0
Borrowings			0.9
Accounts payable and other liabilities			4.1
Total liabilities			6.3
Net assets			6.0
Expert fees paid			0.8
Total			6.9
Capital gain after tax			19.2
Transaction price paid in cash			26.1
Expert fees paid			-0.8
Cash and cash equivalents of divested subsidiary			-0.7
Cash flow impact			24.5

7.3 Related party transactions

The Group's related parties include subsidiaries, joint operations, associated companies and joint ventures. In addition, the members of the Board of Directors, the members of the Group Executive Management Team and the President and CEO as well as their close family members and companies under their sole or joint control are considered related parties.

The management's salaries, remuneration and pension expenses are presented in Note 3.2. Further details about the Group structure are presented in Note 7.1.

Transactions and open items with associated companies and joint ventures

EUR million	2023	2022
Sales	8.4	12.9
Purchases	25.1	91.1
Non-current receivables	3.6	2.0
Accounts receivables and other receivables	3.4	2.4
Accounts payable and liabilities	3.2	4.9

8. Other notes

8.1 Commitments and contingencies

Key estimates and judgements

Disputes and legal proceedings

Some Metsä Group companies are party to legal proceedings concerning disputes about the responsibilities and liabilities arising from the supply agreements of the Group's most significant investment projects. These investment projects also involve unresolved disputes that may lead to the commencement of new arbitration or legal proceedings.

Contingent liabilities

EUR million	2023	2022
Own liabilities for which collateral has been provided	7.9	9.0
Corporate mortgages	0.5	0.4
Chattel mortgages	0.4	0.6
Total collateral provided for own liabilities	0.9	1.0
Other commitments given on own behalf	3.6	8.5
Commitments given on the behalf of associated companies and joint ventures	0.0	0.0
Total	4.5	9.6

Commitments related to property, plant and equipment

EUR million	2023	2022
Payments due in following 12 months	359.5	576.6
Payments due later	124.4	7.9
Total	483.8	584.5

Most of the commitments regarding the acquisition of property, plant and equipment are related to the construction of the Kemi bioproduct mill, the renewal and expansion of tissue paper production at the Mariestad mill, the development programmes of the Husum and Kemi paperboard mills, and the construction of the Kerto LVL mill in Äänekoski.

8.2 Events after the financial period

In January, Metsä Group announced it was planning to discontinue sawn timber production in Merikarvia. According to the plans, production will end by the summer of 2024.

In January 2024, Metsäliitto Cooperative signed a ten-year lease agreement for the new headquarters. Metsä Group's head office will move to the new premises in Keilaniemi, Espoo, during 2027.

Parent company income statement

EUR	Note	1.1.–31.12.2023	1.1.–31.12.2022
Sales	2	2,282,988,168.20	2,186,389,312.71
Change in stocks of finished and unfinished products		-2,369,138.24	3,951,628.22
Production for own use		69,304.48	135,780.11
Other operating income	3, 4	134,786,711.08	261,948,143.36
Materials and services			
Materials, consumables and goods			
Purchases during the financial period		-1,500,202,479.52	-1,386,622,720.03
Changes in inventories		23,855,587.90	3,013,418.45
External services	5	-562,888,181.13	-553,025,679.69
Employee costs	5	-157,198,108.57	-173,637,718.52
Depreciations and impairment charges	3, 6	-18,930,465.35	-18,281,932.22
Other operating expenses	3, 5	-150,762,456.04	-120,391,156.32
		-2,366,126,102.71	-2,248,945,788.33
Operating result		49,348,942.80	203,479,076.07
Financial income and expenses	7		
Income from group companies		273,081,252.50	200,604,561.46
Income from participating companies			185,000.00
Income from other financial assets			276.30
Other interest and financial income		28,074,854.16	3,924,611.45
Exchange rate differences		201,360.93	-1,261,362.79
Value adjustment on non-current investments			-5,560,359.25
Interest expenses and other financial expenses		-10,149,289.25	-2,176,403.17
		-291,208,178.34	-195,716,324.00
Result before appropriations and taxes		340,557,121.14	399,195,400.07
Appropriations			
Change in depreciation differences	6	-574,383.21	-6,125,243.01
Group contribution		-359,365.00	-16,840,330.00
		-933,748.21	-22,965,573.01
INCOME TAXES	8	-11,948,305.31	-36,494,434.98
Result for the financial period		327,675,067.62	339,735,392.08

Parent company balance sheet

EUR	Note	31.12.2023	31.12.2022
ASSETS			
Non-current assets			
Intangible assets 9			
Intangible assets		19,238,267.19	7,526,577.68
Other intangible assets		6,525,425.02	2,968,538.51
Advance payment and construction in progress		86,067,332.48	71,918,252.01
		111,831,024.69	82,413,368.20
Tangible assets 9			
Land and water areas		7,594,359.39	7,596,371.07
Buildings and constructions		49,651,428.24	42,104,786.76
Machinery and equipment		112,812,466.01	104,317,268.25
Other tangible assets		4,870,878.33	6,316,208.79
Advance payment and construction in progress		39,054,362.60	11,969,313.70
		213,983,494.57	172,303,948.57
Investments 10, 11, 20			
Shares in group companies		2,194,347,845.70	2,047,305,512.77
Receivables from group companies		15,259,336.90	14,951,717.42
Shares in associated companies		941,409.81	941,409.81
Receivables from associated companies		20,029,692.09	2,059,972.42
		2,230,578,284.50	2,065,258,612.42
Total non-current assets 2,556,392,803.76 2,319,975,929.19			
CURRENT ASSETS			
Inventories			
Materials and consumables		163,707,815.15	139,217,749.34
Semifinished products		1,890,861.45	2,305,719.60
Finished products		8,089,155.11	10,043,435.21
Advance payments		27,879,883.14	29,740,028.57
		201,567,714.85	181,306,932.71
Non-current receivables 12			
Receivables from group companies		33,914,932.12	9,975,175.79
Deferred tax	15	2,565,906.80	22,524.57
Prepayments and accrued income		1,138,886.55	342,876.47
		37,619,725.47	10,340,576.83
Current receivables 12			
Accounts receivables		64,974,715.76	79,159,701.44
Receivables from group companies		916,413,907.42	907,013,723.21
Receivables from associated companies		1,090,204.88	1,134,002.86
Other receivable		6,783,191.84	9,437,290.38
Prepayments and accrued income		8,731,767.01	8,617,546.85
		997,993,786.91	1,005,362,264.74
Total receivables 1,035,613,512.38 1,015,702,841.57			
Cash and cash equivalents 10,031,899.01 1,797.30			
Total current assets 1,247,213,126.24 1,197,011,571.58			
Total assets 3,803,605,930.00 3,516,987,500.77			

Euroa	Note	31.12.2023	31.12.2022
MEMBERS' FUNDS AND LIABILITIES			
Members' funds			
Members' capital	13		
Participation shares		279,565,203.10	273,851,370.76
Additional shares Metsäl		1,016,906,462.00	828,201,282.95
Additional shares A		390,703,328.00	451,081,265.72
Additional shares B		97,249,129.00	145,311,424.00
Transfer of refundable members' capital to liabilities for the waiting period		-90,215,788.02	-97,767,460.23
Other reserves			
Reserve for invested unrestricted equity		500,740,195.33	500,569,772.06
General reserve I		3,939,904.28	3,939,904.28
General reserve II		67,401,740.00	67,401,740.00
Value adjustment reserve		-10,046,370.86	475,107.51
Retained earnings		667,027,906.39	439,867,075.52
Result for the financial period		327,675,067.62	339,735,392.08
		3,250,946,776.84	2,952,666,874.65
Appropriations 6			
Accumulated depreciation difference		70,872,658.53	70,298,275.32
Provisions 14			
		271,570.40	706,507.26
LIABILITIES			
Non-current liabilities			
Advance payments		597,255.00	
Accounts payable		1,708,105.07	
Other liabilities		20,322,940.80	11,250,860.70
		22,628,300.87	11,250,860.70
Current liabilities			
Loans from financial institutions		376.86	23.63
Advance payments		3,119,586.73	3,753,103.75
Accounts payable		195,308,631.81	171,945,256.33
Liabilities to group companies		19,001,455.82	44,847,390.27
Liabilities to participating companies		33,250.53	421,560.47
Other liabilities		84,061,575.04	101,268,415.15
Accruals and deferred income		157,361,746.56	159,829,233.24
		458,886,623.35	482,064,982.84
Total liabilities 481,514,924.22 493,315,843.54			
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES 3,803,605,930.00 3,516,987,500.77			

Parent company cash flow statement

EUR	31.12.2023	31.12.2022
Cash flow from operating activities		
Operating result	49,348,942.80	203,479,076.07
Adjustments to result ^a	16,582,228.27	-121,501,764.00
Interest received	28,074,854.16	3,924,611.45
Interest paid	-9,677,956.87	-1,705,959.83
Dividends received	273,081,252.50	200,789,837.76
Other financial items, net	-705,037.43	-1,121,998.33
Income taxes paid	-16,975,125.68	-32,015,840.56
Change in working capital ^b	-139,049,798.19	44,499,022.62
	200,679,359.56	296,346,985.18
Cash flow from investing activities		
Acquisition of shares	-181,322,028.93	-73,101,950.18
Investments in tangible and intangible assets	-93,492,410.48	-67,234,389.91
Proceeds from disposal of shares and businesses	204,977.85	146,679,549.25
Proceeds from sale of tangible and intangible assets	13,073,048.87	2,158,250.00
Increase and decrease of non-current receivables, net	-24,735,766.41	32,806,947.74
	-286,272,179.10	41,308,406.90
Cash flow before financial activities	-85,592,819.54	337,655,392.08
Cash flow from financing activities		
Interest paid on members' capital	-85,866,063.24	-71,612,871.97
Decrease in non-current liabilities	-15,794.01	
Change in other non-current liabilities	2,305,360.07	
Increase or decrease in interest bearing current liabilities, net	353.26	-9,950.76
Increase or decrease in interest bearing current receivables, net	117,555,012.30	-320,329,114.81
Change in members' capital	61,608,052.87	54,298,342.76
	95,586,921.25	-337,653,594.78
Change in cash and cash equivalents	10,030,101.71	1,797.30
Cash and cash equivalents at beginning of period	1,797.30	
Change in cash and cash equivalents	10,030,101.71	1,797.30
Cash and cash equivalents at end of period	10,031,899.01	1,797.30
^a) Adjustments to operating result		
Depreciations and impairment charges	18,930,465.35	18,281,932.22
Gains or losses on sale of fixed assets	-1,913,300.22	-140,181,486.56
Change in provisions	-434,936.86	397,790.34
Total	16,582,228.27	-121,501,764.00
^b) Change in working capital		
Inventories	-19,626,304.22	1,603,421.78
Current receivables, non-interest bearing	-108,149,131.08	-36,132,364.50
Current liabilities, non-interest bearing	-11,238,362.89	79,027,965.34
Total	-139,013,798.19	44,499,022.62

Notes to the parent company financial statements

1. Accounting principles

Metsäliitto Cooperative's financial statements have been prepared in accordance with Finnish Accounting Standards (FAS). Kemi Shipping Oy has been merged to Metsäliitto Cooperative on 30 November 2023.

Transaction in foreign currency

Transactions in foreign currency have been recognised at the exchange rate on the day of the transaction. At the balance sheet date, receivables and liabilities denominated in foreign currency have been translated into euros at the exchange rate quoted by the European Central Bank at the balance sheet date. Net exchange gains/losses have been recognised to financial income and expenses in the income statement.

Derivative financial instruments

Metsäliitto Cooperative is using derivative financial instruments only for hedging from currency, interest and commodity risks. Financial derivatives has been valued to present value by using alternative procedure according to Finnish accounting act., chapter 5 § 2a. Governance and principles applied for financial derivatives has been introduced in Group financial statement notes of the accounts 5.6 and 5.7.

Metsäliitto Cooperative suit Finnish accounting act, chapter 5 § 2a present value options also for other owned stocks and shares. Pohjolan Voima Oyj shares owned by Metsäliitto Cooperative has been valued to present value according to IFRS19, to be booked as financing funds to value adjustment reserve and other equity term funding are valued to present value to be booked to value adjustment reserve with profit&loss impact. Principles for determining present value and sensibilities to various determination items has been introduced in Group financial statement note of the account 4.4.

Sales

Sales are calculated after deduction of indirect sales taxes, trade discounts and other items adjusting sales.

Long-term compensations

Share-based payments are booked to period, where employee has indelible right to the granted shares. Other long-term compensations has been booked to period when right is born.

Pensions and pension funding

Statutory pension security is handled by pension insurance companies outside Metsä Group. In addition to statutory pension security, some salaried employees have supplementary pension arrangements which are either insured or are an unfunded liability of the company. Pension insurance premiums have been periodised to correspond to the accrual based wages and salaries given in the financial statements.

Leasing

Lease payments are treated as rental expenses.

Income taxes

Income tax in the income statement include the income tax of the taxable

result for the period, adjustments to taxes of previous period and deferred taxes. Deferred taxes are calculated from temporary differences due to differences in assets and liabilities bookkeeping value compared to taxable value. Deferred tax has been calculated by using tax base confirmed by Finnish tax authorities.

Property, plant and equipment and depreciation

The carrying values of property, plant and equipment are based on original acquisition costs less depreciation according to plan and impairment losses.

Depreciation according to plan is based on the estimated useful life of the asset as follows:

Buildings and constructions	20–40 years
Heavy machinery	10–40 years
Medium heavy machinery	10–20 years
Lightweight machinery and equipment	3–15 years
Other tangible assets	3–10 years

Depreciation is not recorded on the purchase cost of land and water areas.

Inventories

Inventories are measured at acquisition cost or a lower net realisable value. In measuring inventories, the FIFO principle is observed or, alternatively, the weighted average price method. The acquisition cost of finished goods and work in progress include raw materials, direct wages and salaries, depreciation and other direct cost as well as a product focused share of variable and fixed production costs at normal level of production. Net realisable value is the estimated sales price less cost of production and sales.

Provisions

Future costs and losses to which the company is committed and which are likely to be realised are included in the income statement under the appropriate expense heading and in the balance sheet under provisions for future costs whenever the precise amount and the time of occurrence are not known.

Appropriations

Finnish tax legislation offers the possibility to deduct expenses prematurely from the profit for the financial period and to transfer them to the balance sheet as provisions. The items are taken into account in tax filings only if they have been entered in the accounts. These items are presented in the appropriations in the income statement. The most substantial of these appropriations is the depreciation difference on fixed assets.

Terminology

In its financial reporting, Metsäliitto Cooperative has started to primary use the word "result" to describe the financial result. Secondary the words "profit" or "loss" can be used, if the word "result" for some reason does not fit in the context. The term "surplus" and "deficit" can also be used if there is a need to show a connection to the Cooperatives Act or to the rules of the cooperative.

2. Sales by region

Finland	1,913,197,179.59	1,802,752,979.13
Other EU-countries	228,087,431.87	229,057,309.90
Other European countries	59,293,070.44	74,525,331.91
Other countries	82,410,486.30	80,053,691.77
Total	2,282,988,168.20	2,186,389,312.71

3. Extraordinary items

Other operating income		
Gain on sales of Finsilva Oyj shares		125,280,717.50
Gain on sales of Suomen Metsäsijoitus Oy shares		13,088,717.95
		138,369,435.45
Other operating expenses		
Merger loss of Kemi Shipping Oy	3,112,150.77	
Compensation for closing waggon contract	5,850,000.00	1,029,127.50
Value adjustment related to advance payments of Russia trade		290,703.60
	8,962,150.77	1,319,831.10
Exceptional items in operating income	-8,962,150.77	137,049,604.35

4. Other operating income

Rental income	938,768.26	947,031.04
Service revenue	120,861,567.64	110,582,471.39
Gains on disposal	5,025,450.99	140,413,930.81
Government grants and allowances	667,612.75	615,097.29
Others	7,293,311.44	9,389,612.83
Total	134,786,711.08	261,948,143.36

Gains on sales of assets include year 2022 EUR 125,280,717.50 gains on sales of Finsilva Oyj shares and EUR 13,088,717.95 gains on sales of Suomen Metsäsijoitus Oy shares.

5. Operating expenses

External services		
Distribution costs	286,885,099.64	289,017,959.67
Other external services	276,003,081.49	264,007,720.02
Total	562,888,181.13	553,025,679.69
Employee costs		
Wages and salaries for working hours	85,661,278.20	102,910,367.75
Share bases payments		70,034.63
Other long-term remuneration	19,772,834.00	16,532,686.00
Social security expenses		
Pension expenses	25,516,488.52	27,721,539.54
Other social security expenses	26,247,507.85	26,403,090.60
Total	157,198,108.57	173,637,718.52
Salaries and remunerations paid to management		
Chief Executive Officer and Managing Director and Deputy Managing Director	2,148,123.04	3,818,928.67
Board members and executive group	793,200.00	698,154.39
Board of governors	315,300.00	257,600.00
Total	3,256,623.04	4,774,683.06

	2023	2022
The average number of personnel	2,216	2,129

From latest Share-based fee arrangement earning period 2019–2021 was paid total 307 351 Metsä Board B-series shares in year 2022.

Other long-term reward arrangement is 31.12.2023 concerning 46 persons of mother entity Metsäliitto Osuuskunta. From arrangement earning period 2020–2022 it is possible to earn total 650 005 synthetic shares and from earning period 2021–2023 total 714,046 synthetic shares, from arrangement earning period 2022–2024 total 699,100 synthetic shares and from arrangement earning period 2023–2025 total 575,091 synthetic shares (gross). Additional information of share-based payments are presented in Group's Note 3.3. and other fees paid to management are presented in Group's Note 3.4.

Directors' pension commitments

President Ilkka Härmälä age of retirement is according to Finnish Act of employer retirement. Ilkka Härmälä is also participant in arrangement

of Metsä Group directors benefit based additional pension. Based of additional pension arrangement the level of the President pension is maximum 60 percent of the total salaries under employee pension, which is calculated according to previous 5 year period salaries before retirement. If Presidents' employment in Metsä Group is terminated before retirement, he is entitled to paid-up policy. Some Metsäliitto directors have, depending on employment start, separate benefit based additional pension insurance, where retirement age is 62 years

Management's salaries, wages and pension commitments are presented in Group's Note 3.2.

The President and CEO, the members of the Board of Directors and their deputies and other similar institutions key persons have not been granted loans and no guarantees or other guarantees have been issued for them.

EUR	2023	2022
Other operating expenses		
Rental and other property costs	9,619,421.60	9,150,889.08
Purchases of services	100,202,141.20	83,532,289.98
Losses on disposal of non-current assets	3,112,150.77	31,941.35
Other expenses		
Voluntary social costs	4,188,625.84	4,804,201.46
Travel expenses	8,835,802.51	6,076,715.22
Advertising and marketing expenses	5,748,481.46	4,755,769.10
Others	19,055,832.66	12,039,350.13
Total	150,762,456.04	120,391,156.32
Fees of principal auditor		
Audit fees	339,015.00	230,000.00
Auditors' opinions	1,449.00	
Tax services	7,600.00	13,500.00
Other services	295,144.00	339,383.85
Total	643,208.00	582,883.85

The principal auditor is KPMG Oy Ab.

6. Depreciation and impairment charges

Planned depreciation		
Intangible rights	4,079,488.83	4,316,254.36
Other intangible assets	601,823.58	21,863.63
Buildings and constructions	2,795,496.91	2,697,883.14
Machinery and equipment	10,937,003.24	10,243,161.11
Other tangible assets	516,652.79	1,002,769.98
Total	18,930,465.35	18,281,932.22
Depreciations and impairment charges total	18,930,465.35	18,281,932.22
Change in depreciation difference	574,383.21	6,125,243.01
Total depreciation	19,504,848.56	24,407,175.23
Depreciation difference at the beginning of the financial year	70,298,275.32	64,173,032.31
Change in depreciation difference	574,383.21	6,125,243.01
Depreciation difference at the end of the financial year	70,872,658.53	70,298,275.32

7. Financial income and expenses

Income from investments in non-current assets		
Dividend income		
From Group companies	273,081,252.50	200,604,561.46
From participating companies		185,000.00
From others		276.30
Total	273,081,252.50	200,789,837.76
Total income from non-current assets	273,081,252.50	200,789,837.76
Other interest and financial income		
Interest income from Group companies	28,054,530.87	3,895,438.13
Other interest income	20,323.29	29,173.32
Total	28,074,854.16	3,924,611.45
Exchange rate differences recognised in financial income and expenses		
Exchange rate differences on sales	-2,840.82	-442,781.86
Exchange rate differences on purchases	10,804.02	-11,132.27
Exchange rate differences on financing	193,397.73	-807,448.66
Total	201,360.93	-1,261,362.79
Write-downs of non-current investments		-5,560,359.25
Interest and other financial expenses		
Interest expenses for the same group companies	-1,686,633.26	-150,946.17
Other interest expenses	-7,991,323.61	-1,555,013.66
Other financial expenses	-471,332.38	-470,443.34
Total interest expenses and other financial expenses	-10,149,289.25	-2,176,403.17
Financial income and expenses total	291,208,178.34	195,716,324.00

8. Income taxes

Taxes for the financial year	11,864,780.91	36,572,587.80
Taxes for previous financial years	-3,462.97	1,405.24
Deferred taxes	86,987.37	-79,558.06
Total	11,948,305.31	36,494,434.98

9. Intangible and tangible assets

Intangible rights		
Acquisition cost, 1 Jan.	56,681,052.30	74,050,471.60
Additions	3,684,484.71	171,850.53
Decrease	-28,829,182.99	-17,541,269.83
Transfers between items	20,629,623.54	
Acquisition cost, 31 Dec.	52,165,977.56	56,681,052.30
Accumulated depreciation and impairment charges 1 Jan.	-49,154,474.62	-62,379,490.09
Accumulated depreciation on deductions and transfers	20,306,253.08	17,541,269.83
Depreciations for the period	-4,079,488.83	-4,316,254.36
Accumulated depreciation and impairment charges 31 Dec.	-32,927,710.37	-49,154,474.62
Book value, 31 Dec.	19,238,267.19	7,526,577.68
Other intangible assets		
Acquisition cost, 1 Jan.	4,773,145.52	4,467,599.60
Additions	1,927,565.56	2,749,754.99
Decrease		-2,582,278.63
Transfers between items	7,673,817.97	138,069.56
Acquisition cost, 31 Dec.	14,374,529.05	4,773,145.52
Accumulated depreciation and impairment charges 1 Jan.	-1,804,607.01	-4,365,022.01
Accumulated depreciation on deductions and transfers	-5,442,673.44	2,582,278.63
Depreciations for the period	-601,823.58	-21,863.63
Accumulated depreciation and impairment charges 31 Dec.	-7,849,104.03	-1,804,607.01
Book value, 31 Dec.	6,525,425.02	2,968,538.51
Advance payments and work in progress		
Acquisition cost, 1 Jan.	71,918,252.01	22,228,644.50
Additions	36,081,170.88	49,827,677.07
Transfers between items	-21,932,090.41	-138,069.56
Acquisition cost, 31 Dec.	86,067,332.48	71,918,252.01
Intangible assets total		
Acquisition cost, 1 Jan.	133,372,449.83	100,746,715.70
Additions	41,693,221.15	52,749,282.59
Decrease	-28,829,182.99	-20,123,548.46
Transfers between items	6,371,351.10	
Acquisition cost, 31 Dec.	152,607,839.09	133,372,449.83
Accumulated depreciation and impairment charges 1 Jan.	-50,959,081.63	-66,744,512.10
Accumulated depreciation on deductions and transfers	14,863,579.64	20,123,548.46
Depreciations for the period	-4,681,312.41	-4,338,117.99
Accumulated depreciation and impairment charges 31 Dec.	-40,776,814.40	-50,959,081.63
Book value, 31 Dec.	111,831,024.69	82,413,368.20
Land and water areas		
Acquisition cost, 1 Jan.	7,596,371.07	7,596,450.07
Decrease	-2,011.68	-79.00
Acquisition cost, 31 Dec.	7,594,359.39	7,596,371.07
Book value, 31 Dec.	7,594,359.39	7,596,371.07

	2023	2022
Buildings and constructions		
Acquisition cost, 1 Jan.	89,250,116.54	94,270,071.20
Additions	8,145,964.73	1,872,262.08
Decrease	-1,032,905.83	-6,773,929.72
Transfers between items	2,196,173.66	-118,287.02
Acquisition cost, 31 Dec.	98,559,349.10	89,250,116.54
Accumulated depreciation and impairment charges 1 Jan.	-47,145,329.78	-51,221,010.05
Accumulated depreciation on deductions and transfers	1,032,905.83	6,773,563.41
Depreciations for the period	-2,795,496.91	-2,697,883.14
Accumulated depreciation and impairment charges 31 Dec.	-48,907,920.86	-47,145,329.78
Book value, 31 Dec.	49,651,428.24	42,104,786.76
Machinery and equipment		
Acquisition cost, 1 Jan.	327,542,131.31	327,613,986.34
Additions	10,763,281.67	2,082,279.04
Decrease	-1,303,844.47	-5,178,441.03
Transfers between items	8,673,263.68	3,024,306.96
Acquisition cost, 31 Dec.	345,674,832.19	327,542,131.31
Accumulated depreciation and impairment charges 1 Jan.	-223,224,863.06	-218,006,843.96
Accumulated depreciation on deductions and transfers	1,299,500.12	5,025,142.01
Depreciations for the period	-10,937,003.24	-10,243,161.11
Accumulated depreciation and impairment charges 31 Dec.	-232,862,366.18	-223,224,863.06
Book value, 31 Dec.	112,812,466.01	104,317,268.25
Other intangible assets		
Acquisition cost, 1 Jan.	17,971,897.03	19,092,073.06
Additions		233,731.54
Decrease	-49,639.10	-1,707,305.54
Transfers between items	-6,371,351.11	353,397.97
Acquisition cost, 31 Dec.	11,550,906.82	17,971,897.03
Accumulated depreciation and impairment charges 1 Jan.	-11,655,688.24	-12,359,218.70
Accumulated depreciation on deductions and transfers	5,492,312.54	1,706,300.44
Depreciations for the period	-516,652.79	-1,002,769.98
Accumulated depreciation and impairment charges 31 Dec.	-6,680,028.49	-11,655,688.24
Book value, 31 Dec.	4,870,878.33	6,316,208.79
Advance payments and work in progress		
Acquisition cost, 1 Jan.	11,969,313.70	4,931,896.95
Additions	37,954,486.24	10,296,974.66
Decrease		-140.00
Transfers between items	-10,869,437.34	-3,259,417.91
Acquisition cost, 31 Dec.	39,054,362.60	11,969,313.70
Total tangible assets		
Acquisition cost, 1 Jan.	454,329,829.65	453,504,477.62
Additions	56,863,732.64	14,485,247.32
Decrease	-2,388,401.08	-13,659,895.29
Transfers between items	-6,371,351.11	
Acquisition cost, 31 Dec.	502,433,810.10	454,329,829.65
Accumulated depreciation and impairment charges 1 Jan.	-282,025,881.08	-281,587,072.71
Accumulated depreciation on deductions and transfers	7,824,718.49	13,505,005.86
Depreciations for the period	-14,249,152.94	-13,943,814.23
Accumulated depreciation and impairment charges 31 Dec.	-288,450,315.53	-282,025,881.08
Book value, 31 Dec.	213,983,494.57	172,303,948.57

During years 2023 and 2022 interest expenses were not capitalised.

10. Investments

	2023	2022
Shares in Group companies		
Acquisition cost, 1 Jan.	2,047,305,512.77	1,977,833,087.43
Increases	150,064,732.93	76,586,828.61
Decreases	-3,022,400.00	-1,554,044.02
Impairments		-5,560,359.25
Acquisitions costs 31.12.	2,194,347,845.70	2,047,305,512.77
Shares in participating companies		
Acquisition cost, 1 Jan.	941,409.81	7,671,974.36
Decreases		-6,730,564.55
Acquisitions costs 31.12.	941,409.81	941,409.81
Other shares and holdings		
Acquisition cost, 1 Jan.	2,059,972.42	2,071,493.91
Increases	31,258,875.24	4,930.30
Decreases	-13,289,155.57	-16,451.79
Acquisitions costs 31.12.	20,029,692.09	2,059,972.42
Total investments and holdings		
Acquisition cost, 1 Jan.	2,050,306,895.00	1,987,576,555.70
Increases	181,323,608.17	76,591,758.91
Decreases	-16,311,555.57	-8,301,060.36
Impairments		-5,560,359.25
Acquisitions costs 31.12.	2,215,318,947.60	2,050,306,895.00
Receivables from Group companies		
Acquisition cost, 1 Jan.	14,951,717.42	15,781,795.03
Increases	307,619.48	
Decreases		-830,077.61
Acquisitions costs 31.12.	15,259,336.90	14,951,717.42
Receivables, total		
Acquisition cost, 1 Jan.	14,951,717.42	15,781,795.03
Increases	307,619.48	
Decreases		-830,077.61
Acquisitions costs 31.12.	15,259,336.90	14,951,717.42
Investments, total		
Acquisition cost, 1 Jan.	2,065,258,612.42	2,003,358,350.73
Increases	181,631,227.65	76,591,758.91
Decreases	-16,311,555.57	-9,131,137.97
Impairments		-5,560,359.25
Acquisitions costs 31.12.	2,230,578,284.50	2,065,258,612.42

11. Fair values of financial investment in non-current assets

Stock exchange listed shares		
Book value	736,081,745.03	686,017,012.10
Fair value	1,340,617,755.93	1,590,067,114.96
Difference	-604,536,010.90	-904,050,102.86

The fair value of the listed Metsä Board Corporation shares exceeds the book value by EUR 604.5 million at 31st December 2023.

12. Receivables

Non-current receivables		
Receivables from group companies		
Loans receivables	33,914,932.12	9,975,175.79
Total	33,914,932.12	9,975,175.79
Receivables from others		
Deferred tax receivables	2,565,906.80	22,524.57
Prepayments and accrued income	1,138,886.55	342,876.47
Total	3,704,793.35	365,401.04
Total non-current receivables	37,619,725.47	10,340,576.83
Current receivables		
Receivables from group companies		
Accounts receivable	207,230,879.66	80,824,483.66
Loans receivables	697,968,265.30	819,916,341.81
Prepayments and accrued income	11,214,762.46	6,272,897.74
Total	916,413,907.42	907,013,723.21
Receivables from participating companies		
Accounts receivable	1,090,204.88	1,134,002.86
Total	1,090,204.88	1,134,002.86
Receivables from others		
Accounts receivable	64,974,715.76	79,159,701.44
Other receivables	6,783,191.84	9,437,290.38
Prepayments and accrued income	8,731,767.01	8,617,546.85
Total	80,489,674.61	97,214,538.67
Total current receivables	997,993,786.91	1,005,362,264.74
Accrued income from group companies, current, specification		
Derivative receivables	1,022,909.17	844,780.01
Group contribution receivables	5,343,350.00	
Transfer pricing	315,718.53	1,323,937.99
ICT-services	3,854,989.53	3,521,511.83
Interest receivables	677,795.23	456,612.91
Others		126,055.00
Total	11,214,762.46	6,272,897.74
Accrued income from others, current, specification		
Accrued personnel costs	-120,153.43	-52,345.65
License receivables	8,614,238.03	7,880,324.60
Others	237,682.41	789,567.90
Total	8,731,767.01	8,617,546.85
Receivables total	1,035,613,512.38	1,015,702,841.57

13. Members' funds

Members' capital		
Participation shares 1.1.	273,851,370.76	268,929,335.82
Paid-in members' capital	2,743,554.23	5,128,646.86
Subscription from interests to members' capital	2,814,173.92	1,447,836.87
Refund of members' capital	-4,584,610.67	-7,941,144.41
Accelerated refund of participation shares	4,740,714.86	6,286,695.62
Total *	279,565,203.10	273,851,370.76
Transfer of refundable members' capital to liabilities for waiting period	-1,135,885.78	-1,368,725.78
Participation shares 31.12.	278,429,317.32	272,482,644.98
Additional shares Metsä1 1.1.	828,201,282.95	
Paid-in additional shares	101,507,374.60	90,788,798.82
Subscription from interests to additional shares	43,571,909.00	31,717,159.00
Refund of surplus as additional shares Metsä1	13,432,172.00	6,820,033.00
Equity bonus based fund amendment	6,141,694.38	6,347,945.84
Modification from additional shares A	45,257,635.35	692,608,022.00
Refund of additional shares	-21,205,606.28	-80,675.71
Total	1,016,906,462.00	828,201,282.95
Transfer of refundable members' capital to liabilities for waiting period	-37,294,540.16	-21,048,415.59
Additional shares Metsä1 31.12.	979,611,921.84	807,152,867.36
Additional shares A 1.1.	451,081,265.72	1,192,180,495.67
Paid-in additional shares	699,853.23	2,798,948.61
Equity bonus based fund amendment	56,144.49	167,131.12
Transfer to Metsä1 additional shares	-45,257,635.35	-692,608,022.00
Refund of additional shares	-15,876,300.09	-51,457,287.68
Total	390,703,328.00	451,081,265.72
Transfer of refundable members' capital to liabilities for waiting period	-20,351,396.36	-16,133,372.16
Additional shares A 31.12.	370,351,931.64	434,947,893.56
Additional shares B 1.1.	145,311,424.00	163,415,363.60
Paid-in additional shares		-2,021.30
Refund of additional shares	-48,062,295.00	-18,101,918.30
Total	97,249,129.00	145,311,424.00
Transfer of refundable members' capital to liabilities for waiting period	-31,433,965.72	-59,216,946.70
Additional shares B 31.12.	65,815,163.28	86,094,477.30
Other reserves		
Reserve for invested unrestricted equity 1.1.	500,569,772.06	500,333,298.63
Refund of A-equity bonus	170,423.27	236,473.43
Reserve for invested unrestricted equity 31.12.	500,740,195.33	500,569,772.06
General reserve I 1.1.	3,939,904.28	3,939,904.28
General reserve I 31.12.	3,939,904.28	3,939,904.28
General reserve II 1.1.	67,401,740.00	67,401,740.00
General reserve II 31.12.	67,401,740.00	67,401,740.00
Value adjustment reserve 1.1.	475,107.51	-681,648.37
Addition		1,156,755.88
Decrease	-10,521,478.37	
Value adjustment reserve 31.12.	-10,046,370.86	475,107.51

Profit/loss for previous financial year 1.1.	779,602,467.60	532,318,257.40
Interest paid	-85,866,063.24	-71,612,871.97
Refund of surplus	-15,599,520.90	-7,800,063.90
Used for A-equity bonus	-4,740,714.86	-6,286,695.62
Used for Metsä1-equity bonus	-6,141,694.38	-6,279,774.29
Used for A-equity bonus	-226,567.83	-471,776.10
Profit/loss for previous financial year 31.12.	667,027,906.39	439,867,075.52
Profit/loss for the period	327,675,067.62	339,735,392.08
Total members' funds	3,250,946,776.84	2,952,666,874.65
*) Unpaid participation shares		
Total called-up members' shares	225,991,516.00	223,054,033.00
Participation shares paid	-228,234,283.75	-227,261,166.27
Total	-2,242,767.75	-4,207,133.27
Total amount available for redemption of capital		
Participation shares **)	279,565,203.10	273,851,370.76
Additional shares Metsä1 **)	390,703,328.00	828,201,282.95
Additional shares A **)	97,249,129.00	451,081,265.72
Additional shares B **)	1,016,906,462.00	145,311,424.00
Reserve for invested unrestricted equity	500,740,195.33	500,569,772.06
Retained earnings	994,702,974.01	779,602,467.60
Depreciation difference less tax liability	56,698,126.82	56,238,620.26
Total	3,336,565,418.26	3,034,856,203.35
**) Transfer of refundable members' capital to liabilities for the waiting period	90,215,788.02	97,767,460.23

In accordance with Metsäliitto Cooperative's rules under Section 16 one third of the distributable funds shown in the balance sheet confirmed for the preceding financial period can be used for refunding of participation shares and additional shares.

Additional information of participation and additional shares has been introduced in Group financial statement note 5.1.

14. Provisions

Provisions for pension		
1.1.	34,020.00	33,684.00
Increases	75,143.00	336.00
Utilised during the year	-96.00	
31.12.	109,067.00	34,020.00
Provisions for unemployment pension costs		
1.1.	141,487.26	151,032.92
Utilised during the year	-102,983.86	-9,545.66
31.12.	38,503.40	141,487.26
Other provisions		
1.1.	531,000.00	124,000.00
Increases		407,000.00
Utilised during the year	-407,000.00	
31.12.	124,000.00	531,000.00
Total provisions		
1.1.	706,507.26	308,716.92
Increases	75,143.00	407,336.00
Utilised during the year	-510,079.86	-9,545.66
31.12.	271,570.40	706,507.26

15. Deferred tax receivables and liabilities

Deferred tax assets		
Mandatory provisions	54,314.08	141,301.45
Valuation of Pohjolan Voima Oyj shares at fair value	2,644,286.96	
Netting against liability	-132,694.24	-118,776.88
Total	2,565,906.80	22,524.57
Deferred tax liabilities		
Financial instruments	132,694.24	118,776.88
Netting against receivable	-132,694.24	-118,776.88
Total	0.00	0.00
Deferred tax assets (+) and liabilities (-), net	2,565,906.80	22,524.57

The deferred tax liability for accrued depreciation in 2023 was EUR 14.1 million (14.1).

16. Non-current liabilities

Other liabilities		
Advance payments	597,255.00	
Accounts payable	1,708,105.07	
Other loans		
Transfer of refundable member's capital to liabilities for the waiting period, additional shares B	20,107,312.02	11,250,860.70
Others	215,628.78	
Total	22,628,300.87	11,250,860.70
Non-current liabilities total	22,628,300.87	11,250,860.70

17. Current liabilities

Liabilities from Group companies		
Advance payment		15,432,257.30
Accounts payable	13,014,560.22	12,283,877.03
Other liabilities	0.03	
Accruals and deferred income	5,986,895.57	17,131,255.94
Total	19,001,455.82	44,847,390.27
Liabilities from participating interests		
Accounts payable	33,250.53	421,560.47
Total	33,250.53	421,560.47
Liabilities from other		
Loans from financial institutions	376.86	23.63
Other loans	189,528.12	
Advance payment	3,119,586.73	3,753,103.75
Accounts payable	195,308,631.81	171,945,256.33
Other liabilities		
Due members' capital transferred to liabilities during the waiting period	70,108,476.00	86,516,599.53
Others	13,763,570.92	14,751,815.62
Accruals and deferred income	157,361,746.56	159,829,233.24
Total	439,851,917.00	436,796,032.10
Total current liabilities	458,886,623.35	482,064,982.84
Current liabilities include due members' capital transferred to liabilities		
Participation shares	1,135,885.78	1,368,725.78
Additional shares Metsä1	37,294,540.16	21,048,415.59
Additional shares A	20,351,396.36	16,133,372.16
Additional shares B	11,326,653.70	47,966,086.00
Total	70,108,476.00	86,516,599.53
Accrued income from group companies, current, specification		
Derivatives	126,997.78	145,901.95
Others	5,859,897.79	16,985,353.99
Total	5,986,895.57	17,131,255.94
Accruals and deferred income, current, external		
Personnel expenses	50,156,403.50	53,432,222.25
Accruals of purchases	90,999,105.73	79,818,748.64
Pension insurance premiums	3,025,519.60	2,996,463.18
Other insurance premiums	985,103.77	479,570.78
Taxes	1,249,782.17	6,363,589.91
Others	10,945,831.79	16,738,638.48
Total	157,361,746.56	159,829,233.24

18. Financial Instruments

Derivatives 2023

EUR	Equity attributable to members of parent company	Fair value			Fair value	
		Derivative assets	Derivative liabilities	Fair value net	Fair value through profit and loss	Fair value through other comprehensive income
Currency forward contracts	60,580,965.26	1,022,909.17	126,997.78	895,911.39	232,440.17	663,471.22
Currency derivatives	60,580,965.26	1,022,909.17	126,997.78	895,911.39	232,440.17	663,471.22
Derivatives total	60,580,965.26	1,022,909.17	126,997.78	895,911.39	232,440.17	663,471.22

Derivatives 2022

EUR	Equity attributable to members of parent company	Fair value			Fair value	
		Derivative assets	Derivative liabilities	Fair value net	Fair value through profit and loss	Fair value through other comprehensive income
Currency forward contracts	45,222,458.02	844,780.01	145,901.95	698,878.06	104,993.67	593,884.39
Currency derivatives	45,222,458.02	844,780.01	145,901.95	698,878.06	104,993.67	593,884.39
Derivatives total	45,222,458.02	844,780.01	145,901.95	698,878.06	104,993.67	593,884.39

All derivative agreements of Metsäliitto Cooperative have been made in hedging purpose and cash flow hedge accounting has been applied in major part of the agreements financial statements of Metsäliitto Cooperative. Only the part of the currency derivatives that is related to hedging of accounts receivables and accounts payables is not directed to hedge accounting. Currency derivatives have been made to hedge Wood Products Industry's currency cash flow and they mature fully during 2024.

Description of Group finance risk control and principles applied to derivatives is added to Group financial statement notes 5.6 and 5.7.

Fair values

EUR	Level 1	Level 2	Level 3	Total
Fair value hierarchy of financial assets and liabilities 2023				
Financial assets recognised at fair value				
Other shares and holdings			20,029,692.09	20,029,692.09
Derivative financial assets		1,022,909.17		1,022,909.17
Financial liabilities recognised at fair value				
Derivative financial liabilities		126,997.78		126,997.78
Fair value hierarchy of financial assets and liabilities 2022				
Financial assets recognised at fair value				
Other shares and holdings			2,059,972.42	2,059,972.42
Derivative financial assets		844,780.01		844,780.01
Financial liabilities recognised at fair value				
Derivative financial liabilities		145,901.95		145,901.95

Description of fair value financial assets and liabilities classification principles is added to Group financial statement note 5.7.

19. Commitments and contingencies

Commitments and contingencies

During latest 12 months there has not been any administrative or legal proceedings or arbitrations that have or will have considerable impact on financial status of Metsäliitto Osuuskunta. Metsäliitto Osuuskunta has no information of any other future legal proceedings.

EUR	2023	2022
Commitments and contingencies		
For own liabilities		
Liabilities secured by chattel mortgages		
Other liabilities	405,156.90	
Chattel mortgages	405,156.90	
For own and for affiliated companies		
Guarantees and counter-indemnities	583,715,530.00	588,529,812.00
Leasing commitments		
Payments due in following 12 months	10,786,495.77	10,255,850.40
Payments due later than 1 year	37,719,247.00	43,854,330.72
Total		
Chattel mortgages	405,156.90	
Guarantees	583,715,530.00	588,529,812.00
Leasing commitments	48,505,742.77	54,110,181.12
Total commitments	632,626,429.67	642,639,993.12
Investment commitments		
Payments due in following 12 months	104,514,616.61	4,347,205.09
Payments due later than 1 year	81,467,509.12	1,460,044.97
Total	185,982,125.73	5,807,250.06

20. Shares on 31 December 2023

	Country	Parent company share of ownership, %	Group share ownership, %	Number of shares	Book value, EUR
Affiliated companies					
Kumpuniemen Voima Oy	Finland	53.97		34	462,368.79
Metsä Forest Latvia SIA	Latvia	100.00		670	3,258,886.72
Metsä Board Oyj ¹	Finland	52.03		184,269,752	736,081,745.03
Metsä Fibre Oy	Finland	50.10	63.03	38,135	769,718,680.09
Metsä Forest Eesti AS	Estonia	100.00		150,000	1,145,825.66
Metsä Forest Sverige AB	Sweden	100.00		5,000	702,510.62
Metsä Group Asia Co. Ltd	China	100.00			1,792,420.12
Metsä Group Services Sp. z.o.o.	Poland	100.00		100	1,999,627.68
Metsä Group Treasury Oy	Finland	100.00		50,000	10,236,220.47
Metsä Spring Oy	Finland	100.00		100	40,200,000.00
Metsä Tissue Oy	Finland	100.00		9,118,588	553,329,696.96
Metsä Wood Deutschland GmbH	Germany	100.00			11,947,611.09
Metsä Wood Eesti AS	Estonia	100.00		1,000	30,000,000.00
Metsä Wood Holland B.V.	Netherlands	100.00			142,949.02
Metsä Wood Schweiz AG	Switzerland	100.00		200	750,000.00
Metsä Wood UK Ltd	Great Britain	100.00		30,000,000	32,579,303.45
Metsä Wood USA Inc.	USA	100.00		1,000	0.00
OOO Metsä Forest Podporozhye	Russia	100.00			0.00
OOO Metsä Forest St. Petersburg	Russia	100.00		100	0.00
					2,194,347,845.70

¹ Parent company share of votes 68.92%.

Associated companies	Country	Parent company share of ownership, %	Group share ownership, %	Number of shares	Book value, EUR
Lohjan Biolämpö Oy	Finland	51.00		867,000	868,360.00
Metsäteho Oy	Finland	24.00		40	67,275.17
Perkaus Oy	Finland	33.33		2,500	5,774.64
					941,409.81

Other shares	Country	Parent company share of ownership, %	Group share ownership, %	Number of shares	Book value, EUR
Ab Sydösterbottens Ishall-Suupohjan Jäähalli Oy	Finland	9.49		50	0.00
Asunto Oy Tapiolan Jalava, osakkeet 2107-2219	Finland			113	592,857.42
Asunto Oy Tapiolan Jalava, osakkeet 2220-2259	Finland			40	357,000.00
Asunto Oy Tapiolan Jalava, osakkeet 417-528	Finland			112	562,647.36
Asunto Oy Tapiolan Jalava, varastopaikat	Finland				5,027.95
Botniagolf Oy	Finland			1	0.00
China Office of Finnish Industries Oy	Finland			1	1,000.00
CLIC Innovation Oy	Finland			119	150,000.00
E-P:n Sahojen Oy	Finland	2.22		8	0.00
Estonia Golf & Country Club	Estonia			2	23,851.54
Harjattula Golf Oy	Finland			1	8,543.96
Kainuun Puhelinosuuskunta (KPO)	Finland			3	905.69
Kemin Seudun Golf Oy	Finland			1	0.00
Kerigolf Oy	Finland			2	504.56
Kiinteistö Oy Tapiolan Jalopuupysäköinti, ap 447	Finland			1	35,502.71
Kiinteistö Oy Tapiolan Jalopuupysäköinti, ap 448	Finland			1	35,502.71
Messilä Golf Oy	Finland			2	18,796.68
Osuuskunta KPY	Finland			400	0.00
Oy Nordgolf Ab	Finland			2	12,834.10
Oy Telefooni Invest Ab	Finland			2	0.01
Parikkalan Valo Oy	Finland			172	0.00
Pohjois-Hämeen Puhelin Oy	Finland			300	5,459.26
Pohjolan Voima Oyj, A shares	Finland			87,897	11,496,927.60
Pohjolan Voima Oyj, B shares	Finland			50,067	3,549,249.63
Pohjolan Voima Oyj, B2 shares	Finland			7,969	2,991,004.77
Suomen Puukauppa Oy	Finland	10.50		1,401	157,435.30
Tawastia Golf & Country Club	Finland			1	17,497.14
Tennis Tapiola Oy	Finland			35	5,413.76
The Finnish Club and Sauna Ltd	Great Britain			100	150.70
Tornion Golf Oy	Finland			1	1,579.24
Vapaa-ajan keskus Parra Oy	Finland	3.46		167	0.00
					20,029,692.09

The Board of Directors' proposal for the distribution of profit

Metsäliitto Osuuskunta

	EUR	
All the disposal of the Representative Council		
reserve for invested unrestricted equity		500,740,195.33
value adjustment reserve		-10,046,370.86
retained earnings from previous years		667,027,906.39
result for the period		327,675,067.62
distributable funds total		1,485,396,798.48
The Board of Directors proposes		
an interest of		
6.5% to be distributed on participation shares	14,753,766.65	
6.0% to be distributed on Metsä1 additional shares	57,675,182.75	
3.0% to be distributed on additional shares A	11,775,721.10	
1.0% to be distributed on additional shares B	1,171,905.73	85,376,576.23
The surplus reimbursement will be distributed in relation to amount of received industrial roundwood over the past 4 concluded financial periods		15,724,246.20
to be retained in retained earnings		1,384,295,976.05
Total		1,485,396,798.48

If the Representative Council approves the above proposal the members' funds will be

Members' funds

Members' capital		
Participation shares		279,565,203.10
Metsä1 Additional shares		1,031,136,904.81
Additional shares A		390,703,328.00
Additional shares B		97,249,129.00
Due members' capital transferred to liabilities for the waiting period		-90,215,788.02
Other reserves		
Reserve for invested unrestricted equity		500,740,195.33
General reserve I		3,939,904.28
General reserve II		67,401,740.00
Value adjustment reserve		-10,046,370.86
Retained earnings		893,602,151.58
Total members' funds		3,164,076,397.22

No material changes have been taken place in respect of the cooperative's financial position after the balance sheet date. The liquidity of the cooperative is good and in the opinion of the Board of Directors, the proposed profit distribution would not compromise the liquidity of the cooperative.

Espoo, 8th February 2024

Jussi Linnaranta Chair	Mikko Mäkimattila Deputy Chair	Teuvo Hatva	Taavi Heikkilä	Eija Pitkänen
Nina Pärssinen	Ilkka Salonen	Jussi Vanhanen	Ilkka Hämälä President and CEO	

Auditor's Report

To the members of Metsäliitto Cooperative

■ Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Metsäliitto Cooperative (business identity code 0116300-4) for the year ended 31 December, 2023. The financial statements comprise the consolidated balance sheet, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including material accounting policy information, as well as the parent cooperative's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position, financial performance and cash flows in accordance with IFRS Accounting Standards as adopted by the EU
- the financial statements give a true and fair view of the parent cooperative's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the parent cooperative and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent cooperative and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 2.4 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Materiality

The scope of our audit was influenced by our application of materiality. The materiality is determined based on our professional judgement and is used to determine the nature, timing and extent of our audit procedures and to evaluate the effect of identified misstatements on the financial statements as a whole. The level of materiality we set is based on our assessment of the magnitude of misstatements that, individually or in aggregate, could reasonably be expected to have influence on the economic decisions of the users of the financial statements. We have also taken into account misstatements and/or possible misstatements that in our opinion are material for qualitative reasons for the users of the financial statements.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

The significant risks of material misstatement referred to in the EU Regulation No 537/2014 point (c) of Article 10(2) are included in the description of key audit matters below.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

THE KEY AUDIT MATTER	HOW THE MATTER WAS ADDRESSED IN THE AUDIT
Valuation of tangible and intangible assets (Refer to notes 4.1 and 4.2 to the consolidated financial statements)	
<p>Tangible and intangible assets total EUR 6.2 billion and represent 61 percent of the consolidated total assets. Thereof the carrying amount of goodwill is EUR 0.4 billion and carrying amount of construction in progress EUR 0.4 billion consisting of several significant investment projects.</p> <p>The group's business operations are capital intensive with valuation risk in tangible and intangible assets. Tangible and intangible assets are allocated to cash-generating units and tested for impairment annually or more frequently should there be an indication of impairment using discounted cash flow model. Determining the key assumptions used in the cash flow forecasts underlying the impairment tests requires management judgment.</p> <p>Due to the significant carrying values involved, valuation of tangible and intangible assets is determined as a key audit matter.</p>	<p>Our audit procedures included evaluation of the - of the capitalization and depreciation principles applied as well as testing of the approval controls over investments.</p> <p>We also assessed the key assumptions used in the impairment tests by reference to the budgets approved by the Cooperative's Board of Directors, data external to the Group and our own views. We involved KPMG valuation specialists when assessing the mathematical accuracy of the calculations, as well as comparing the assumptions to externally available market and industry data.</p> <p>In addition, we considered the appropriateness of the disclosures regarding the tangible and intangible assets.</p>
Valuation of inventories (Refer to note 4.5 to the consolidated financial statements)	
<p>Inventory management, stocktaking routines and pricing of inventories are key factors in the valuation of inventories. The Group's carrying value of inventories was EUR 1.2 billion at the end of the financial year.</p> <p>The valuation of inventories involves management estimates in relation to potentially obsolete inventory, as well as to fluctuations in the market prices of finished goods.</p> <p>The valuation of inventories has a significant impact on the profit and loss account and therefore it is determined as a key audit matter.</p>	<p>We evaluated the appropriateness of the accounting policies by reference to IFRS standards, as well as the functionality of the key IT systems of inventory management.</p> <p>We tested the controls over inventory management, accuracy of inventory amounts and valuation of inventories as well as performed substantive audit procedures relating to the valuation of inventories to test the accuracy of inventory valuation. We also followed the execution of during the financial year.</p>
Financial contracts and hedging instruments (Refer to notes 5.5, 5.6 and 5.7 to the consolidated financial statements)	
<p>The financial liabilities amount to EUR 2.2 billion, accounting for 22 percent of the consolidated balance sheet. In addition, the Group has off-balance sheet committed credit facility agreements amounting to EUR 0.8 billion.</p> <p>The Group hedges financial risks with interest rate and foreign currency derivatives and their nominal values amounted to EUR 4.7 billion at the end of the financial year.</p> <p>Due to the significance of the financial and derivative contracts and large number of transactions, the financial contracts and hedging instruments are determined as a key audit matter.</p>	<p>Our audit procedures included evaluation of the recognition and measurement principles applied to financial instruments for appropriateness in relation to IFRS requirements, as well as testing of controls over the accuracy and valuation of financial instruments.</p> <p>As part of our year-end audit procedures, we tested the appropriateness of valuations by using various analysis, selecting transactions for testing on a sample basis as well as reconciling the balance sheet values at the balance sheet date to external confirmations.</p> <p>In addition, we evaluated the adequacy of the disclosures relating to financial instruments.</p>
ERP renewal process	
<p>The consolidated financial statement is based on extensive number of data flows from multiple IT systems. The group has ongoing renewal process for IT systems, which will take several years to finish. New finance ERP and Wood Supply production ERP was implemented at the beginning of the fiscal year, which are in use alongside with the existing production ERP.</p> <p>ERP implementation and incoherent system environment causes risks relating to access and change management, consequently the ERP renewal process is determined as a key audit matter.</p>	<p>We evaluated the system reconciliations prepared by the management and independently tested the accuracy of balance sheet migration relating to financial reporting during the takeover of the new finance and Wood Supply ERP.</p> <p>As a part of testing the existing and new finance ERP, our audit procedures focused on the reconciliation and approval controls as well as on evaluating the administration of access rights.</p>

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with IFRS Accounting Standards as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent cooperative's and the group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent cooperative or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent cooperative's or the group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent cooperative's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent cooperative or the group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Information on our audit engagement

We were first appointed as auditors by the Representative Council of Metsäliitto Cooperative on 3 May 2012, and our appointment represents a total period of uninterrupted engagement of 12 years.

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements or our auditor's report thereon. We have obtained the report of the Board of Directors prior to the date of this auditor's report, and the Annual Report is expected to be made available to us after that date. Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the surplus shown on the balance sheet is in compliance with the Cooperative Act. We support that the Members of the Supervisory Board and of the Board of Directors as well as the Managing Director of the parent cooperative should be discharged from liability for the financial period audited by us.

Helsinki, 8 February 2024

KPMG Oy Ab

Kirsi Jantunen

Authorized Public Accountant, KHT

Comparable key ratios and calculation of key ratios

Comparable key ratios and calculation of key ratios

Comparable key figures European Securities and Markets Authority (ESMA) guidelines on Alternative Performance Measures define alternative performance measures as a financial measure of historical or future financial performance, financial position or cash flows, other than a financial measure defined in the applicable financial reporting framework, in Metsä Group's case International Financial Reporting Standards as adopted in the EU pursuant to Regulation (EC) No 1606/2002. Performance measures presented in this report qualify as alternative performance measures under the ESMA guidelines.

Metsä Group sees the presentation of alternative performance measures as providing users of financial statements with an improved view of the company's financial performance and position, including among other things the efficiency of its capital utilization, operational profitability and debt servicing capabilities.

Reconciliation of operating result under IFRS and comparable operating result as well as EBITDA and comparative EBITDA is presented in this report. Comparable return on capital employed has been calculated using the same adjustments as the comparable operating result, and it has been further adjusted with financial items affecting comparability when applicable. Metsä Group considers the key figures derived in this manner to improve the comparability between reporting periods.

None of these key figures with items affecting comparability eliminated are key figures used in IFRS reporting, and they cannot be compared with other companies' key figures identified with the same names. Items affecting comparability include material gains and losses on disposals of assets, impairment and impairment reversals in accordance with IAS 36 "Impairment of Assets", corporate divestments and acquisitions, adjustment measures and other restructuring measures and their adjustments, costs arising from extensive and unforeseeable interruptions in production and the compensation received for them as well as items arising from legal proceedings. In Metsä Group's view, comparable performance measures better reflect the underlying operational performance of the company by eliminating the result effect arising from items and transactions outside ordinary course of business.

Reconciliation of operating result and EBITDA

Reconciliation by segment

EUR million	2023	2022
Operating result (IFRS)	498.1	1,301.9
Depreciation and impairment charges	347.2	334.5
EBITDA	845.3	1,636.4
Items affecting comparability:		
Wood Supply and Forest Services	-10.3	3.3
Wood Products Industry	-3.0	
Pulp and Sawn Timber Industry	12.1	34.4
Paperboard Industry	1.4	-11.7
Tissue and greaseproof papers	-10.9	-0.5
Others and eliminations	-1.5	-97.5
Total	-12.2	-72.0
Comparable EBITDA	833.0	1,564.4
Depreciation and impairment charges	-347.2	-334.5
Items affecting comparability		
Depreciation:		
Tissue and greaseproof papers		
Impairment charges and reversals:	2.0	46.5
Wood Supply and Forest Services		31.3
Pulp and Sawn Timber Industry	1.2	14.2
Paperboard Industry		0.9
Tissue and greaseproof papers	0.8	
Others and eliminations		
Comparable operating profit	487.9	1,276.4

Reconciliation by expense and income

EUR million	2023	2022
Operating result (IFRS)	498.1	1,301.9
Depreciation and impairment charges	347.2	334.5
EBITDA	845.3	1,636.4
Items affecting comparability:		
Other operating income	-30.4	-124.2
Change in inventories	9.6	11.9
Employee costs	1.0	8.1
Other operating expenses	7.5	32.1
Total	-12.2	-72.0
Comparable EBITDA	833.0	1,564.4
Depreciation and impairment charges	-347.2	-334.5
Items affecting comparability		
Depreciation		
Impairment charges and reversals	2.0	46.5
Comparable operating profit	487.9	1,276.4

Items with "+" sign = expenses affecting comparability
Items with "-" sign = income affecting comparability

The description of items affecting comparability is in Note 2.1, Segment information.

Calculation of key ratios

Comparable key figures	Specification	The grounds for using key figures
PROFITABILITY		
Operating result	= Result before income tax, financial income and -expenses, exchange gains and losses and share of results from associated companies and joint ventures	The key figure describes the Group's ability to produce a profit from its business, and it is independent of the company's capital structure
EBITDA	= Operating result before depreciation, amortisation and impairment charges	The key figure shows how much margin is left over from the Group's sales after deducting the variable and fixed costs of business before depreciation, amortisation and impairment
Return on equity (%) ROE	= $\frac{\text{Result before tax - income taxes}}{\text{Members' funds total (average)}}$	The key figures describe the Group's ability to produce a profit with the assets invested in the Group by shareholders
Return on capital employed (%) ROCE	= $\frac{\text{Result before tax +/- net exchange gains/losses + interest and other financial expenses}}{\text{Balance total - non-interest-bearing liabilities (average)}}$	The key figure describes the Group's ability to produce a profit on the capital invested, from the point of the party investing the capital
FINANCING		
Equity ratio (%)	= $\frac{\text{Members' funds total}}{\text{Total assets - advance payments received}}$	The key figure describes the Group's capital structure, solvency and ability to take care of its commitments in the long run
Net gearing ratio (%)	= $\frac{\text{Interest-bearing net liabilities}}{\text{Members' funds total}}$	The key figure describes the Group's capital structure and financial position.
Interest-bearing net liabilities	= Interest-bearing liabilities - cash and cash equivalent - interest-bearing receivables	The key figure describes the Group's indebtedness
OTHERS		
Total investments	= Investments in owned and leased fixed assets and investments in business combinations	The key figure describes the Group's application of funds for maintaining and renewing its production machinery and plants and for expanding its business with corporate acquisitions

Taxes

Metsä Group's business generates taxes that finance public society. In addition to taxes and tax-like payments Metsä Group pays as a taxpayer, its value chain generates various other taxes.

Considering all directly and indirectly generated taxes and tax-like payments arising from Metsä Group's operations, the economic contribution to surrounding society is material.

Metsä Group is committed to complying with international transfer pricing guidelines and local tax laws and regulations in all its operating countries. In accordance with the arm's length principle, majority of taxable income and corporate income taxes to be paid are allocated to the countries where the Group's most significant operations are located. Majority of Metsä Group's significant operations are located in Finland.

In accordance with its tax policy, Metsä Group's business models and legal structures must always be based on business reasons and real business substance. Metsä Group will refrain from artificial ways to reduce its taxes.

Metsä Group cooperates openly and actively with the tax authorities. In Finland, Metsä Group participates in enhanced cooperation with the Finnish Tax Administration.

Tax matters are managed by Metsä Group's tax function, and tax matters are regularly discussed in the Audit Committee of Metsäliitto Cooperative's Board of Directors.

To increase transparency in tax matters, Metsä Group voluntarily publishes information on taxes and tax-like payments imposed on Group companies in its tax footprint.

The corporate income tax payable for 2023 is significantly lower compared to the previous year due to the decrease in the Group's profit. The amount of income taxes payable was also partly reduced by Metsä Fibre Oy's decision to use the opportunity to make accelerated tax depreciations from the Kemi bioproduct mill commissioned during the year. The accelerated tax depreciations do not reduce the total amount of income tax payable, but they defer the payment of tax to a later date.

Taxes borne

EUR million	Finland		Sweden		Other countries		Total	
	2023	2022	2023	2022	2023	2022	2023	2022
Corporate income taxes	30.6	208.5	8.9	27.3	16.4	6.4	55.9	242.1
Employer's social charges	111.8	105.9	24.0	24.2	26.9	24.5	162.8	154.6
Operational taxes	9.6	8.5	3.7	7.6	5.3	5.2	18.6	21.3
Other taxes	3.1	2.5	0.0	0.0	1.8	1.3	4.9	3.8
Total	155.1	325.4	36.6	59.0	50.4	37.4	242.1	421.8

Quarterly data

Milj. euroa	Yearly					Quarterly				
	2023	2022	Q4/2023	Q3/2023	Q2/2023	Q1/2023	Q4/2022	Q3/2022	Q2/2022	Q1/2022
Income statement										
Sales by segments										
Wood Supply and Forest Services	2,221.7	2,133.3	605.3	485.4	529.6	601.3	574.5	521.1	520.3	517.4
Wood Products Industry	591.6	662.3	129.5	136.5	163.8	161.8	157.4	159.9	174.5	170.4
Pulp and Sawn Timber Industry	2,498.6	3,070.7	649.1	638.9	542.0	668.6	756.1	833.7	808.3	672.6
Paperboard Industry	1,941.9	2,479.6	422.6	479.0	498.2	542.1	599.8	647.3	650.5	582.0
Tissue and Greaseproof Papers	1,250.2	1,197.0	303.6	292.7	310.8	343.1	344.3	316.7	281.3	254.7
Other operations	18.2	19.8	4.8	4.0	4.7	4.7	4.8	4.9	5.1	5.0
Eliminations	-2,411.8	-2,582.5	-628.7	-528.1	-567.8	-687.3	-695.5	-660.9	-617.8	-608.3
Sales total	6,110.4	6,980.2	1,486.1	1,508.5	1,481.4	1,634.4	1,741.4	1,822.7	1,822.3	1,593.8
Operating result by segments										
Wood Supply and Forest Services	29.0	-10.9	11.7	2.8	7.7	6.8	11.1	11.1	-38.6	5.6
Wood Products Industry	64.9	54.8	9.9	9.3	21.1	24.6	19.3	14.8	11.6	9.1
Pulp and Sawn Timber Industry	114.6	845.5	-13.9	-30.2	24.4	134.3	215.1	290.6	184.4	155.4
Paperboard Industry	120.8	531.5	-0.2	3.1	29.5	88.4	94.7	153.4	142.6	140.7
Tissue and Greaseproof Papers	198.7	-3.0	59.8	44.3	47.8	46.8	28.8	-4.6	-9.2	-18.0
Other operations	-31.4	111.5	-13.3	-1.6	-11.2	-5.3	1.7	-3.8	-5.6	119.3
Eliminations	1.5	-227.6	1.0	13.0	7.4	-19.9	-54.7	-64.9	-37.3	-70.7
Operating result total	498.1	1,301.9	55.0	40.8	126.6	275.7	315.9	396.7	248.0	341.3
Operating result, comparable	487.9	1,276.4	57.1	51.0	104.1	275.7	310.9	391.1	330.2	244.2
-"-, % of sales	8.0	18.3	3.8	3.4	7.0	16.9	18.1	21.8	13.6	21.4
Share of results from associated companies and joint ventures	-1.2	-4.8	0.9	-1.3	-1.1	0.3	-0.1	-0.7	-2.7	-1.3
Net exchange gains/losses	-1.1	-4.6	2.1	1.5	-0.8	-3.9	-4.7	4.6	-1.4	-3.0
Financial income and expenses	-8.0	-22.8	-8.3	7.9	-6.0	-1.6	-1.8	-4.5	-9.4	-7.4
Result before tax	487.8	1,269.8	49.7	48.9	118.7	270.5	309.2	396.1	234.4	329.6
Income taxes	-104.2	-271.1	-8.9	-11.8	-26.1	-57.4	-55.7	-82.6	-62.4	-70.5
Result for the period	383.6	998.7	40.8	37.0	92.6	213.1	253.6	313.6	172.1	259.1
Operating result, comparable	2023	2022	Q4/2023	Q3/2023	Q2/2023	Q1/2023	Q4/2022	Q3/2022	Q2/2022	Q1/2022
Wood Supply and Forest Services	18.7	23.7	11.7	2.8	-2.7	6.8	9.7	5.2	3.3	5.6
Wood Products Industry	61.8	54.8	6.9	9.3	21.1	24.6	19.3	14.8	11.6	9.1
Pulp and Sawn Timber Industry	127.9	894.1	-8.6	-22.1	24.4	134.3	215.4	290.9	232.5	155.4
Paperboard Industry	122.2	520.7	0.7	5.5	27.3	88.7	100.8	152.5	145.9	121.5
Tissue and Greaseproof Papers	188.6	-3.4	59.7	43.8	38.3	46.8	28.8	-4.6	-9.7	-18.0
Other operations and eliminations	-31.3	-213.6	-13.3	11.7	-4.3	-25.5	-63.0	-67.7	-53.4	-29.4
Total	487.9	1276.4	57.1	51.0	104.1	275.7	310.9	391.1	330.2	244.2
Key ratios	2023	2022	Q4/2023	Q3/2023	Q2/2023	Q1/2023	Q4/2022	Q3/2022	Q2/2022	Q1/2022
Equity ratio, %	55.9	60.6	55.9	57.5	58.7	58.2	60.6	60.2	59.7	59.9
Net gearing ratio, %	12	3	12	13	15	7	3	1	1	-2
Interest-bearing net liabilities, EUR million	663	177	663	756	870	409	177	82	47	-99
Return on capital employed, %	7.3	19.9	3.8	2.7	7.0	15.3	18.2	23.8	15.3	22.1
Comparable, %	7.2	19.5	3.9	3.2	5.9	15.3	18.0	23.5	20.5	15.8
Return on equity, %	6.8	19.0	2.9	2.6	6.5	14.9	18.2	23.7	13.6	21.1
Comparable ROE, %	6.7	18.9	3.0	3.3	5.3	15.0	18.1	23.0	19.9	15.2

Ten years in figures

EUR million	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Sales	6,110	6,980	6,017	5,055	5,473	5,709	5,040	4,658	5,016	4,970
EBITDA	845	1,636	1,214	679	790	1,128	831	687	800	693
- "-", comparable	833	1,564	1,211	671	799	1,133	820	674	791	667
- % of sales	13.6	22.4	20.1	13.3	15.0	19.9	16.3	14.5	15.8	13.4
Operating result	498	1,302	874	376	374	843	581	442	542	417
- "-", comparable	488	1,276	914	368	495	849	566	439	537	418
- % of sales	8.0	18.3	15.2	7.3	9.0	14.9	11.2	9.4	10.7	8.4
Result for the period	384	999	657	262	239	613	404	280	356	260
Non-current assets	6,532	5,835	4,561	3,899	3,867	4,019	4,004	3,596	3,166	3,024
Inventories	1,181	1,237	1,038	966	980	991	782	767	687	774
Other current assets	2,395	2,359	2,281	1,955	1,848	1,883	1,802	1,583	1,763	1,649
Total assets	10,108	9,415	7,891	6,851	6,727	6,893	6,588	5,946	5,616	5,447
Members' funds	4,282	4,135	3,574	3,092	2,927	2,751	2,234	1,942	1,806	1,590
Non-controlling interest	1,361	1,566	1,240	823	849	905	727	658	611	467
Non-current liabilities	2,181	1,596	1,281	1,515	1,561	1,506	2,019	1,611	1,652	1,843
Current liabilities	2,284	2,117	1,789	1,405	1,375	1,731	1,608	1,735	1,547	1,547
Total members' funds and liabilities	10,108	9,415	7,891	6,851	6,727	6,893	6,588	5,946	5,616	5,447
Return on capital employed, %	7.3	19.9	15.5	7.2	7.3	16.6	12.6	10.2	13.7	11.1
- "-", comparable	7.2	19.5	16.2	7.1	9.6	16.8	12.3	10.2	13.6	11.4
Return on equity, %	6.8	19.0	15.1	6.8	6.4	18.5	14.5	11.2	15.9	13
- "-", comparable	6.7	18.9	16.0	6.6	9.7	18.7	14	11	15.8	13.4
Equity ratio, %	55.9	60.6	61.1	57.2	56.2	53.1	45	43.9	43.2	37.9
Net gearing ratio, %	12	3	-4	4	10	13	34	40	25	46
Net cash flow from operating activities	926	1,227	1,023	667	485	761	749	348	796	617.3
Interest-bearing liabilities	2,190	1,457	1,164	1,389	1,469	1,553	2,073	1,935	1,747	1,904
Interest-bearing financial assets	1,527	1,280	1,348	1,221	1,096	1,089	1,080	902	1,137	966
Interest-bearing net liabilities	663	177	-185	168	374	463	993	1,033	610	938
Total investments	1,193	1,500	994	401	260	275	631	762	492	143
Depreciation and impairment charges	347	334	340	304	416	285	250	244	258.2	276.2
Personnel, average	9,751	9,587	9,619	9,392	9,624	9,464	9,399	9,626	10,117	10,775
Personnel, at the end of year	9,464	9,155	9,533	9,213	9,265	9,310	9,126	9,300	9,599	10,410
- of whom in Finland	5,538	5,135	5,329	5,055	4,929	4,834	4,764	4,927	5,122	5,131

Calculation of key ratios and definition of comparable key ratios is presented in part "Calculation of key figures".

Corporate Governance Statement 2023

■ Introduction

This statement concerning Metsä Group's Corporate Governance has been given as a separate report and published simultaneously with Metsä Group's Financial Statements and the Board of Directors' Report.

Metsäliitto Cooperative is a Finnish cooperative and the parent company of Metsä Group. In this statement, Metsäliitto Cooperative is referred to when a matter is discussed only from the parent company's perspective. The decision-making and administration of Metsä Group companies complies with the Cooperatives Act, the Limited Liability Companies Act, the Securities Markets Act, the rules of the cooperative, procedures approved by the administrative bodies, and the policies and guidelines approved by the Board of Directors of Metsäliitto Cooperative and the Executive Management Team of the Group. Metsäliitto Cooperative's rules are available in full on Metsä Group's website under "Investors – Corporate governance".

Metsä Group prepares its financial statements and interim reports in accordance with the International Financial Reporting Standards (IFRS). The financial statements are published in Finnish and English.

Metsä Group's head office is located in Espoo in Finland. The registered office of the parent company, Metsäliitto Cooperative, is in Helsinki in Finland.

■ Corporate Governance Code

Metsä Group's parent company Metsäliitto Cooperative complies with the Corporate Governance Code issued by the Securities Market Association; however, it takes the special characteristics of the cooperative form of incorporation into account, stating the deviations from the code and their rationale. The Finnish Corporate Governance Code is available on the website of the Securities Market Association at www.cgfinland.fi/en/.

The corporate governance system of Metsä Group's parent company Metsäliitto Cooperative deviates from the recommendations of the Corporate Governance Code as follows:

- According to the Corporate Governance Code, the members of the Board of Directors are elected by the Annual General Meeting. According to the rules of Metsäliitto Cooperative, the members of the Board of Directors are elected by the Cooperative's Supervisory Board. The election of the Board of Directors thus deviates from the recommendation of the Corporate Governance Code due to the cooperative governance structure. The Cooperative's rules concerning the election of the Board of Directors ensure the realisation of cooperative corporate governance.
- According to the Corporate Governance Code, the members of the Board of Directors are elected for a term of office of one year at a time. According to the rules of Metsäliitto Cooperative, the term of office of the members of the Board of Directors is three years at a time. The board members' three-year term of office has been deemed necessary to secure the continuity of decision-making and board work.

■ Governance model

Metsäliitto Cooperative's administrative bodies are the Representative Council, Supervisory Board, Board of Directors and the CEO, who also acts as the President and CEO of Metsä Group. The bodies separately specified below in this statement assist the administrative bodies in their decision-making and prepare their decisions. According to the rules of Metsäliitto Cooperative, the administrative personnel of Metsäliitto Cooperative must not work for companies or other organisations operating either directly or indirectly in the same sector as the cooperative or its Group companies or participate in the administration of such companies or organisations.

Representative Council

The Representative Council uses the supreme decision-making power belonging to the members in Metsäliitto Cooperative in matters assigned to it by law and the Cooperative's rules. The Representative Council substitutes for the meeting of the cooperative in Metsäliitto Cooperative.

The meeting of the Representative Council discusses the matters specified in the Cooperatives Act and the rules of Metsäliitto Cooperative, as well as other matters mentioned in the invitation to the meeting. The main tasks of the Representative Council are to:

- Decide on adopting the financial statements;
- Decide on the distribution of profit to the members;
- to decide on discharging the Supervisory Board, Board of Directors and CEO/President and CEO from liability;
- to elect the members of the Supervisory Board and the auditors and to decide on their remuneration.

A full member of Metsäliitto Cooperative may be elected to the Representative Council. Persons who are employed by the Cooperative or its Group company or who are members of Metsäliitto's Supervisory Board or Board of Directors are not eligible to stand for election to the Representative Council.

The election of the Representative Council is carried out every four years by postal voting, a communications link or some other technical means. Each member of the Cooperative has one vote in the election. The election is carried out by election districts so that the number of representatives elected from each district equals the number of Metsäliitto Cooperative members on the list of voters for the district in question who are entitled to vote on 1 January of the election year, divided by 2,300, and the remainder counted as one. The election districts are confirmed by the Supervisory Board, and they are determined according to Metsäliitto Cooperative's district organisations as a rule.

In accordance with the rules, the Representative Council convenes once a year in the spring. The Representative Council, the Supervisory Board or the Board of Directors may decide to arrange an extraordinary meeting of the Representative Council. An extraordinary meeting must also be convened if demanded by at least one tenth of the Representative Council members.

Unless otherwise required by the Cooperatives Act for certain matters, the Representative Council is convened by the Supervisory Board at least seven days before the meeting with a written invitation to the meeting sent to every member of the Representative Council, which must mention the matters to be discussed in the meeting.

Each Representative Council member has one vote in the meeting. Amending the rules of Metsäliitto Cooperative requires that the amendment proposal is supported by a minimum of two-thirds of the members present at the meeting of the Representative Council. In addition to the members of the Representative Council, the President and CEO of Metsä Group, the Chair of the Board of Directors and, as a general rule, the members of the Board of Directors and Supervisory Board are present at meetings of the Representative Council. In addition, the auditors are also present at the Annual General Meeting of the Representative Council. The composition of the Representative Council is presented on Metsä Group's website under "Investors – Management and administration".

District Committees

In accordance with the rules of Metsäliitto Cooperative, there is a District Committee in each wood supply district. The District Committee comprises the members of the Representative Council, Supervisory Board and Board of Directors elected from the District's area, as well as candidates not elected in the election of the representative council, in the order of their personal number of votes. Each District has twice as many committee members as the number of representatives elected from the District's area, but always a minimum of five candidates not elected to the Representative Council in the election. The District Committee regulations approved by the Supervisory Board specify the tasks of the District Committee. According to the regulations, the main task of the District Committee is to promote communication and interaction between the members and the Metsäliitto Cooperative wood supply district in question through its operations.

Supervisory Board

The rules of Metsäliitto Cooperative specify that the Supervisory Board is a part of Metsäliitto's administrative model. This aims to ensure the realisation of sufficient governance by the owners and the commitment of the members to the Cooperative's decision-making. Strategic and other far-reaching decisions, however, belong to the powers of Metsäliitto Cooperative's Board of Directors, and operational management to the executive management.

The rules of the Cooperative specify the tasks of the Supervisory Board. The main task of the Supervisory Board is to ensure that the Cooperative is managed in accordance with the rules and the decisions of the Representative Council and the Supervisory Board.

In addition to this, the Supervisory Board:

- elects and dismisses members of the Board of Directors and decides on their remuneration;
- gives the Board of Directors instructions on far-reaching matters and matters that are of importance in principle;
- provides the Representative Council with an opinion on the financial statements.

The Supervisory Board elects a chair and deputy chair from among its members for one (1) year at a time and invites a secretary. The Supervisory Board convenes as summoned by the chair as often as necessary, or as proposed by the Board of Directors. The Supervisory Board constitutes

a quorum when more than half the members are present. The opinion favoured by the majority will be the final decision. If the votes are even, the chair has the casting vote, and even elections are decided by lot.

The Supervisory Board comprises a minimum of twenty and a maximum of thirty members elected by the Representative Council from among the members of the Cooperative. In addition, the Representative Council may, at the proposal of the Supervisory Board, elect a maximum of three expert members to the Supervisory Board. The term of office of a member of the Supervisory Board begins after the Annual General Meeting of the Representative Council that elected him or her and runs until the Annual General Meeting of the Representative Council three years later. The purpose of the three-year term of office is to ensure continuity in decision-making. Regional equality is taken into consideration when electing the members of the Supervisory Board. A member of the Board of Directors may not be a member of the Supervisory Board.

The composition of the Supervisory Board is presented on Metsä Group's website under "Investors – Management and administration".

Nomination Committee of the Supervisory Board

A special Nomination Committee elected by the Supervisory Board from among its members prepares the election of the members of the Board of Directors in accordance with the procedures approved for it. In addition, the Nomination Committee presents the Supervisory Board with a proposal for the fees paid to the Board of Directors. The Nomination Committee comprises six members of the Supervisory Board as well as the Chair and the Deputy Chair of the Supervisory Board. The Chair of the Supervisory Board acts as the Chair of the Nomination Committee. The Committee may invite the Chair of the Board of Directors to attend their meetings as an expert member.

The Supervisory Board elected the following persons to the Nomination Committee in its meeting held on 27 April 2023: Matti Alatalo, Mats Brandt, Jari Laineenoja, Pirkko Laitinen, Matti Turtiainen and Ilkka Uusitalo. Furthermore, Juha Paajanen, Chair of the Supervisory Board, and Ahti Siponen, Deputy Chair, are members of the Nomination Committee based on their positions.

Information on the meetings of the Supervisory Board in 2023
In 2023, there were 34 members on the Supervisory Board, four of them being personnel representatives elected by different personnel groups. There were no expert members on the Supervisory Board in 2023. The Supervisory Board convened four times, and the members' attendance rate was 98%.

Board of Directors

According to the rules of Metsäliitto Cooperative and in accordance with legislation, the Board of Directors is charged with ensuring that Metsäliitto Cooperative and Metsä Group's operations and administration are appropriately arranged. The Board of Directors has drawn up a procedure for its operations that specifies in greater detail the operating principles followed in the decision-making of the Board of Directors. The procedure is available in full on Metsä Group's website under "Investors – Management and administration".

The tasks of the Board of Directors include:

- Appointing and dismissing the CEO, who also serves as the President and CEO of Metsä Group, unless otherwise decided by the Board of Directors;

- Confirming the tasks of the CEO/President and CEO and the terms of the service contract, and monitoring that they take care of the Cooperative's running administration in accordance with the instructions and orders of the Board of Directors;
- Appointing and dismissing the directors immediately subordinate to the CEO and the President and CEO if appointed;
- Deciding on how share payments are collected and on the issue of additional shares and their terms and conditions;
- Approving the strategy and annual budget of the Cooperative and the Group, and supervising compliance with them;
- Signing the financial statements and consolidated financial statements, and presenting them to the Supervisory Board for audit;
- Preparing matters to be processed at the meetings of the Supervisory Board;
- Deciding on the remuneration and other benefits of the CEO/President and CEO and other senior management on the HR Committee's proposal;
- Deciding on other matters that, taking the extent and quality of the operations of the Cooperative into account, are unusual and far-reaching.

The Board of Directors elects a chair and a possible deputy chair from amongst its members for one year at a time. The chair of the Supervisory Board has the right to attend the Board of Directors' meetings. The Board of Directors convenes as summoned by the chair, as often as necessary. The President and CEO prepares the meetings of the Board of Directors. The Board of Directors is quorate when more than half the members of the Board are present. If the votes are equal, the chair has the casting vote. Minutes must be kept of the meetings of the Board of Directors. The Board of Directors regularly appraises its operation and procedures by conducting an annual self-assessment.

Composition and term of office of the Board of Directors

The Supervisory Board elects the Board of Directors of Metsäliitto Cooperative. The Board of Directors comprises a minimum of five and a maximum of eight members. As a rule, a Board member's term of office

commences at the beginning of the calendar year following the meeting of the Supervisory Board that elected them and runs for three years at a time. When preparing the nominations of the members of the Board of Directors, the Supervisory Board's Nomination Committee considers their qualifications, experience and available time, and also ensures that the composition of the Board includes diverse expertise. In 2023, the Chair of the Board of Directors was Jussi Linnaranta, the Deputy Chair was Mikko Mäkimattila, and the members were Taavi Heikkilä, Juha Parpala, Eija Pitkänen, Nina Pärssinen, Ilkka Salonen and Jussi Vanhanen.

At its meeting held in October 2023, Metsäliitto Cooperative's Supervisory Board re-elected the outgoing members Taavi Heikkilä and Ilkka Salonen for a new three-year term and elected Teuvo Hatva as a new member. Juha Parpala retired from the Board of Directors on 31 December 2023.

According to the decision made by the Board of Directors in January 2024, the Chair of the Board of Directors in 2024 will be Jussi Linnaranta and the Deputy Chair will be Mikko Mäkimattila.

Overall, the Board of Directors has comprehensive experience of good corporate governance and international business and management in various sectors, including forestry and the forest industry, machinery manufacture, the construction industry, trade, telecommunications, the food industry, the chemical industry, and the financial and insurance sector. The Board of Directors also possesses profound competence and experience concerning sustainability management and the assessment of related risks and opportunities. Several Board members have also gained experience of board work and other positions of trust outside Metsä Group in listed companies or other major corporations. The composition of the Board and the members' CVs are available on Metsä Group's website, under "Investors – Management and administration".

Independence of Board members and diversity of the Board of the Directors

According to the overall evaluation by the Board of Directors, all members of the Board are independent of Metsäliitto Cooperative. The cooperative does not have such significant owner-members as referred to in the Corporate Governance Code on whom the members of the Board of Directors would

Metsäliitto Cooperative's Board of Directors on 31 December 2023

Hallituksen jäsen	Member of the Board of Directors since	Year of birth	Education	Participation shares (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023 (EUR)	Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023 (number)
Jussi Linnaranta (Chair)	2017	1972	M.Sc. (Agriculture and Forestry), agronomist	349,966	36,211 (B share)
Mikko Mäkimattila (Deputy Chair)	2020	1971	M.Sc. (Agriculture and Forestry), agronomist	151,563	5,052 (B share)
Taavi Heikkilä	2021	1962	M.Sc. (Econ.), vuorineuvos (Finnish honorary title)	6,282	1,500 (B share)
Juha Parpala	2009	1967	Agrologist	59,265	1,087 (B share)
Eija Pitkänen	2023	1961	M.Sc. (Food Sciences)	260	1,300 (B share)
Nina Pärssinen	2021	1961	LL.M.	720	-
Ilkka Salonen	2018	1965	M.Sc. (Econ.)	124,549	-
Jussi Vanhanen	2022	1971	MBA, LL.M.	760	4,000 (B-osake)

be dependent. According to the Board of Directors' diversity principles, the successful management of the tasks of the Board of Directors and its committees requires a diverse composition, competence and experience, as well as the consideration of the personal qualities of individual members. Metsäliitto Cooperative has identified, in addition to knowledge of the forestry and forest industry sector, experience in demanding business management tasks and an international operating environment as essential in terms of the Board of Director's diversity. Other factors identified as promoting diversity include the board members' mutually complementary educational backgrounds, management experience in various segments of business operations, and a diverse age and gender distribution. It is Metsäliitto Cooperative's goal that both genders be represented on the Board of Directors. The Supervisory Board's Nomination Committee observes these principles when preparing proposals on the composition of the Board of Directors presented to the Supervisory Board. The Board of Directors comprises eight members, all of whom have an academic degree. The members of the Board of Directors have significant experience in demanding governance and management duties from a number of sectors, and of international business operations. Several board members are distinguished members of society. The Supervisory Board's Nomination Committee observes the diversity principles and goals when preparing proposals on the composition of the Board of Directors. The achievement of the Board of Directors' diversity targets is monitored by the Supervisory Board's Nomination Committee that prepares proposals on the appointment of Board members for the Supervisory Board. Sustainability competence is also considered in the appointment of Board members.

In 2023, the Board of Directors comprised eight (8) members, 75% of whom were men (6) and 25% women (2). The Board members' ages range from 51 to 62.

None of the Board members is involved in the management of Metsä Group's business and none of the members has a service or employment contract with Metsäliitto Cooperative or its Group companies. At Metsä Group, the personnel's representatives are members of the management teams of production units and Group services. All the members of the Board of Directors (100%) are independent of the company and the Cooperative's owner-members.

Each Board member's meeting attendance

Member of the Board of Directors	Number of Board meetings	Attendance rate (%)	Independence from the company
Jussi Linnaranta (Chair)	15/15	100	Yes
Mikko Mäkimattila (Deputy Chair)	15/15	100	Yes
Taavi Heikkilä	15/15	100	Yes
Juha Parpala	15/15	100	Yes
Eija Pitkänen	14/15	93	Yes
Nina Pärssinen	15/15	100	Yes
Ilkka Salonen	15/15	100	Yes
Jussi Vanhanen	14/15	93	Yes

Information on the meetings of the Board of Directors and its Committees in 2023

The Board of Directors convened 15 times in 2023. The Board members' attendance rate was 98%. The Audit Committee convened five times. The Audit Committee members' attendance rate was 95%. The HR Committee convened five times, and the members' attendance rate was 100%.

Board Committees

In order to ensure that the Board of Directors' tasks are effectively carried out, Metsäliitto Cooperative's Board of Directors has an Audit Committee and an HR Committee. The committees do not have the authority to make decisions independently; the Board of Directors makes the decisions on matters based on the preparation of the Committees. The Board of Directors elects the members of the committees from among its members.

Audit Committee

The Audit Committee assists the Board of Directors in performing its supervision task. In this task, the Committee assesses and supervises matters related to financial and sustainability reporting, auditing, internal audit and risk management in accordance with the procedures approved for it. The Audit Committee comprises a minimum of three members, most of whom are independent of the company, elected annually by the Board of Directors from among its members. In addition, the Chair of the Supervisory Board has the right to attend the Audit Committee's meetings. The President and CEO and the Group's Chief Financial Officer also attend the meetings of the Audit Committee, except when the Audit Committee wishes to convene without the presence of the executive management. The Audit Committee regularly reports to the Board of Directors on its operations and observations.

In 2023, the Chair of the Audit Committee was Ilkka Salonen. The other members of the committee in 2023 were Jussi Linnaranta, Mikko Mäkimattila and Jussi Vanhanen. They will all continue as members of the Audit Committee in 2024. Eija Pitkänen was elected as a new member of the committee.

Audit Committee member	Number of meetings	Attendance rate (%)
Ilkka Salonen (Chair)	5/5	100
Jussi Linnaranta	5/5	100
Mikko Mäkimattila	5/5	100
Jussi Vanhanen	4/5	80

HR Committee

The purpose of the HR Committee is to assist the Board of Directors in ensuring that Metsä Group has appropriate and competitive incentive systems, and successor and development planning in accordance with the procedure approved for it. In its task, the committee presents matters such as the terms of the employment relationship of the Managing Director and the President and CEO, incentive systems for the senior management, and key principles in the senior management's contracts to the Board of Directors for decision. In addition, the HR Committee presents the annual targets for the senior management to the Board of Directors for approval and monitors their realisation. Furthermore, the committee processes matters related to the incentive systems of the senior management and presents them for the decision of the Board of Directors.

The Board of Directors elects at least three members to the HR Committee annually from among its members. The majority of the members of the HR Committee must be independent of Metsä Group. The President and CEO and the Group SVP, HR also attend the meetings of the HR Committee, except when the committee wishes to convene without the presence of the executive management. The HR Committee regularly reports to the Board of Directors on its operations. In 2023, the Chair of the HR Committee was Taavi Heikkilä, and the members were Jussi Linnaranta, Eija Pitkänen and Nina Pärssinen. Heikkilä will continue as the Chair of the committee in 2024, and Linnaranta and Pärssinen will continue as members of the HR Committee in 2024. Teuvo Hatva was elected as a new member of the Committee.

The HR Committee convened five times in 2023. All the members attended all the meetings.

Members of the Nomination and HR Committee	Number of meetings	Attendance rate (%)
Taavi Heikkilä (Chair)	5/5	100
Jussi Linnaranta	5/5	100
Eija Pitkänen	5/5	100
Nina Pärssinen	5/5	100

President and CEO

Metsäliitto Cooperative has a CEO, who also acts as the President and CEO of Metsä Group, unless otherwise decided by the Board of Directors. Currently, the President and CEO of Metsä Group also acts as the CEO of Metsäliitto Cooperative. The President and CEO is appointed by the Board of Directors. The President and CEO is charged with the management of the operations of Metsä Group in accordance with the law and regulations, as well as the decisions and instructions of the governing bodies. The President and CEO is in charge of arranging the running administration of the cooperative and supervising its financial administration. President and CEO Ilkka Hämälä (M.Sc. (Eng.), born in 1961) has acted as the CEO of Metsäliitto Cooperative as of 1 January 2018 and as the President and CEO of Metsä Group since 1 April 2018. Further details about the President and CEO are available on Metsä Group's website under "Investors – Management and administration".

Executive Management Team

Metsä Group has an Executive Management Team, with the Group's President and CEO as its chair. The Executive Management Team assists the President and CEO in the planning and operational management of business operations and prepares proposals for the Board of Directors, such as business strategies, budgets and significant investments. In addition to the President and CEO, the Executive Management Team includes the Group's CFO, the Group's Executive Vice President, Strategy, the Executive Vice Presidents of Metsä Forest and Metsä Wood, and the CEOs of Metsä Fibre Oy, Metsä Board Corporation and Metsä Tissue Corporation. The Executive Management Team convenes as summoned by the Chair, primarily once a month, and additionally whenever necessary. Metsä Group's Executive Management Team is composed of President and CEO Ilkka Hämälä, Vesa-Pekka Takala (Metsä Group's CFO, Deputy Managing Director of Metsäliitto Cooperative), Sari Pajari-Sederholm

Metsä Group's Executive Management Team on 31 December 2023

Member of the Executive Management Team	Position at Metsä Group	Year of birth	Education	Participation shares (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023 (EUR)	Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023 (number of)
Ilkka Hämälä (2008)	President and CEO	1961	M.Sc. (Eng.)	-	294,814 (B share)
Vesa-Pekka Takala (2010)	CFO, Metsä Group Deputy Managing Director, Metsäliitto Cooperative	1966	M.Sc. (Econ.)	62,676	155,123 (B share)
Sari Pajari-Sederholm (2021)	Executive Vice President, Strategy	1968	M.Sc. (Eng.)	-	87,472 (B share)
Juha Jumppanen (2022)	Executive Vice President, Metsä Forest	1977	M.Sc. (Agriculture and Forestry), forest manager	3,773	14,465 (B share)
Jaakko Anttila (2022)	Executive Vice President, Metsä Wood	1977	M.Sc. (Eng.)	-	13,282 (B share)
Ismo Nousiainen (2018)	CEO of Metsä Fibre Oy	1966	M.Sc. (Eng.)	-	54,075 (B share)
Mika Joukio (2012)	CEO, Metsä Board Oyj	1964	M.Sc. (Eng.)	199,450	315,173 (B share)
Esa Kaikkonen (2008)	CEO, Metsä Tissue Oy	1969	LL.M.	-	49,078 (B share)

(Metsä Group's EVP, Strategy), Juha Jumppanen (EVP of Metsä Forest), Jaakko Anttila (EVP of Metsä Wood), Ismo Nousiainen (CEO of Metsä Fibre), Mika Joukio (CEO of Metsä Board Corporation) and Esa Kaikkonen (CEO of Metsä Tissue Corporation).

The Group's Executive Management Team as a whole has broad experience of international business, management and good governance in various sectors, including the forest industry and forestry, the energy industry, the metal industry, and the ICT sector. The Executive Management Team also possesses broad competence and experience concerning sustainability management and the assessment of related risks and opportunities.

In 2023, the Group's Executive Management Team comprised eight (8) members, 87.5% of whom were men (7), and 12.5% women (1). The Board members' ages range from 46 to 62.

The composition of the Group's Executive Management Team and the members' CVs are available on Metsä Group's website, under "Investors – Management and administration".

Internal control, internal audit and risk management

Profitable business requires that operations are monitored continuously and with adequate efficiency. Metsä Group's internal control covers Metsä Group's business units and head office functions. Internal control produces transparency to the efficiency and appropriateness of internal operations, as well as the reliability of financial reporting and compliance with the relevant laws and regulations. The functionality of internal control is evaluated by Metsä Group's internal audit. Internal control is implemented throughout the organisation. Internal control methods include internal guidelines and reporting systems that support control. The principles, objectives and responsibilities of Metsä Group's internal control and the principles of internal audits are described below. Metsä Group's executive management, risk management director and internal audit are responsible for composing the principles above, and the Board of Directors for ultimately ratifying them.

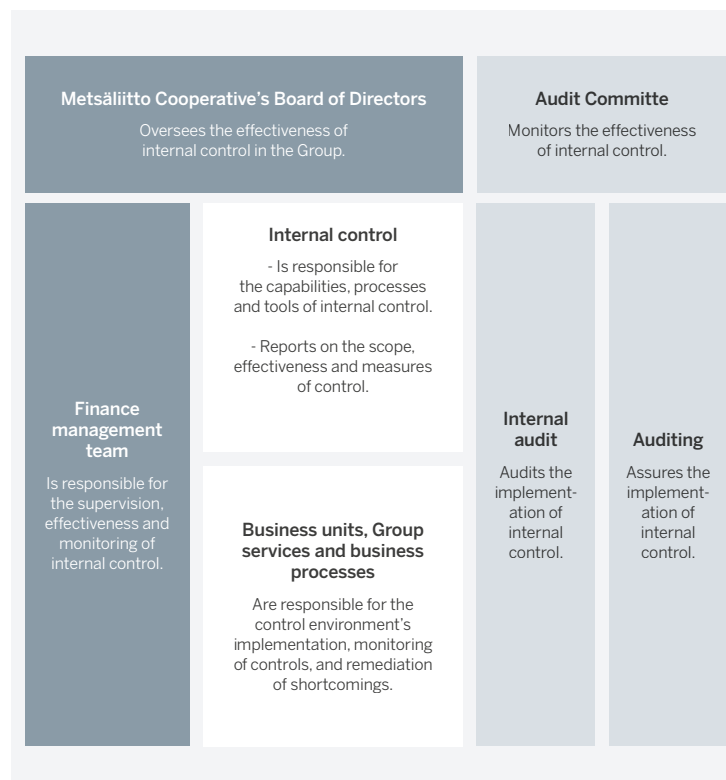
Internal control

In Metsä Group, internal control covers the control of financial and business operations from a risk-oriented perspective. Internal control is implemented by the Board of Directors, the Audit Committee and the executive management, as well as the entire personnel. Internal control refers to those management activities that seek to ensure:

- Metsä Group's corporate social responsibility performance;
- Achievement of the objectives set for Metsä Group and the economical, appropriate and efficient use of resources;
- Appropriate management of operational risks;
- Reliable and correct financial and other management information;
- Adherence to external regulations and internal policies;
- Good practices in relations with external stakeholders (e.g. suppliers, customers, social actors);
- Sufficient security of people, operations, information and property; and
- Arrangement of adequate and suitable manual and IT systems to support operations.

Internal control is divided into (i) proactive control, such as defining Metsä Group's values and general operational and business principles, as well as its goals and strategy; (ii) daily control, such as general control and follow-up with business processes, operational management systems and work guidelines; and (iii) subsequent control, such as different management evaluations and inspections, comparisons and verifications, the aim of which is to ensure that the goals are met and that the agreed operational and control principles are followed. Metsä Group's corporate culture, governance and the approach to control together create the basis for the entire process of internal control.

Values and corporate culture



Control of the financial reporting process, credit control and authorisation rights

The financial organisations of the business areas and the Group are responsible for financial reporting. The units and business areas report the financial figures each month. Business area controllers check the monthly performance of units from each business area and report them further to the Group's financial administration. The profitability development and business risks and opportunities of business areas are discussed monthly at the meetings of Metsä Group's Executive Management Team attended by the senior management of Metsä Group and of each business area, as well as at financial management team meetings attended by the Group CFO and director of finance and the CFO of each business area, among others. The results are reported to the Board of Directors of Metsäliitto Cooperative each month. The results of the business areas are additionally reported to the Boards of Directors of their parent companies each month. Metsä Group's Controllers' Manual describes the reporting and control regulations and the reporting procedure in detail. Credit control in Metsä Group is carried out by each business area in accordance with the group's

credit control policy and the business area-specific credit control policy based on it. Credit control is carried out by the group's central credit control organisation in cooperation with the management of the business areas. Authorisation rights concerning expenses, significant contracts and investments have been continuously specified for different organisation levels, according to the decision-making order confirmed by the board and the authority separately granted by the President and CEO and other management personnel. Investment approval and follow-up are carried out by the business areas and the group's financial administration according to the decision-making order and investment policy approved by the Board of Directors. The most significant investments are prepared in cooperation with the group's technology unit and, when required by the decision-making policy, submitted to the group's Executive Management Team for review and to the Board of Directors of the group's parent company or the business area's parent company for approval. The technology unit ensures that the final reporting and follow-up monitoring of these projects are implemented in accordance with the investment policy.

Internal audit

Internal audit is an independent and objective assessment, assurance and consulting activity designed to add value to Metsä Group and improve its operations. Internal audit assists the Board in its supervisory role and supports Metsä Group and its management in achieving the company's objectives by providing a systematic approach to assessing and improving the effectiveness of risk management, control, governance and management processes. Audit work is carried out in compliance with the internal audit guideline ratified by the Audit Committee. The internal audit function reports to the Audit Committee on operations and to the President and CEO on administration. Internal audit draws up a six-monthly action plan which is approved by the Audit Committee. The audit work is risk-based and focuses on the Group's activities and units that are considered to be key to achieving the objectives set for the operations. Internal audit, in cooperation with the audit function, ensures that the plans are coordinated to allow adequate coverage of audit work and to avoid duplication of work. Similarly, cooperation is carried out with other assurance functions within the Group, such as risk management, internal controls and compliance. An audit report on the results of the audit is shared with the Group's President and CEO, the CFO, the management of the audited entity and the persons in charge. The audit reports are provided to the auditor. Internal audit provides the Audit Committee with a six-monthly summary report on the audits carried out, the main findings and recommendations, and the management action plans and their implementation. The Chair of the Audit Committee and the Audit Director also meet regularly without the presence of management. An annual summary report of the internal audit activities is prepared for the Board of Directors.

Risk management

Risk management is an essential part of Metsä Group's standard business planning and leadership. Risk management is part of daily decision-making, operations follow-up and internal control, and it promotes the objectives set by the company and ensures that they are met. Linking business management effectively with risk management is based on the operational principles confirmed by Metsäliitto Cooperative's Board of

Directors. The aim of the principles is to maintain risk management as a process that is well defined, understandable and sufficiently practical. Risks and their development are reported on a regular basis to the board's Audit Committee. The most crucial objective of risk management is to identify and evaluate those risks, threats and opportunities that may have an impact on the implementation of the strategy and on the achievement of short- and long-term objectives. The most significant investment proposals also include a separate risk review. The business areas regularly evaluate and monitor the risk environment and related changes as part of their annual and strategic planning. The risks identified and their means of control are reported to the company's management, Audit Committee and Board of Directors at least twice a year. Business risks also involve opportunities, and they can be capitalised on within the boundaries of the agreed risk limits. Conscious risk-taking decisions must always be based on an adequate evaluation of the risk-bearing capacity and the profit/loss potential, among other things.

Risk management responsibilities

Risk management responsibilities in Metsä Group are divided as follows:

- The Board of Directors is responsible for Metsä Group's risk management and confirms the company's risk management policy.
- The Audit Committee evaluates the adequacy of Metsä Group's risk management and the essential risk areas and provides the Board with related proposals.
- The President and CEO and the members of the Executive Management Team are responsible for the specification and adoption of the risk management principles. They are also responsible for ensuring that the risks are taken into account in the company's planning processes and that risk reporting is adequate and appropriate.
- The Group's risk management director is in charge of the development and coordination of Metsä Group's risk management process and the implementation of risk assessment.
- The Group's insurance director is in charge of key insurance solutions.
- Business areas and services functions identify and evaluate the essential risks related to their own areas of responsibility in their planning processes, prepare for them, take the necessary preventive action and report on the risks as agreed.

Risk management process

The essential elements of Metsä Group's risk management include implementing a comprehensive corporate risk management process that supports the entire business, protecting property and ensuring business continuity, Metsä Group's security and its continuous development, as well as crisis management and continuity, and recovery plans. According to the risk management policy and principles, adequate risk management forms a necessary part of the preliminary review and implementation stages of projects that are financially or otherwise significant. The tasks of risk management are to:

- Ensure that all identified risks with an impact on personnel, customers, products, property, information assets, corporate image, corporate responsibility or operational capacity are controlled according to applicable laws and based on the best available information and financial aspects;
- Ensure that Metsä Group's objectives are met;

- Fulfil the expectations of stakeholders;
- Protect property and ensure disruption-free business continuity;
- Optimise the profit/loss possibility ratio;
- Ensure the management of Metsä Group's overall risk exposure and minimise the overall risks. The most significant risks and uncertainties that Metsä Group is aware of are described in the report of the Board of Directors.

■ Insider guidelines

Metsä Group complies with the EU's market abuse regulation (Regulation (EU) No 596/2014 of the European Parliament and of the Council; hereinafter referred to as "MAR"), securities market legislation, and the insider guidelines of the parent company Metsäliitto Cooperative and the subsidiary Metsä Board Corporation, prepared in accordance with the rules and instructions of the Helsinki stock exchange. Metsä Group requires every employee to follow the insider regulations. Under Article 14 of MAR and Chapter 51 of the Criminal Code of Finland, a person in possession of insider information may not: (i) engage or attempt to engage in insider dealing by acquiring or disposing of the company's financial instruments under their own or a third party's name; (ii) recommend that another person engage in insider dealing or induce another person to engage in insider dealing; or (iii) disclose inside information to another person unless this occurs as part of the normal performance of work, tasks or the profession. Insider guidelines aim to enable the people considered the company's insiders to hold shares in the company openly while maintaining public trust in trading and price formation with the company's securities. Metsä Group only recommends long-term investments and the use of purchase programmes. Insiders are provided with instructions and training at frequent intervals. Following MAR's entry into force on 3 July 2016, Metsä Group companies no longer have public insiders, nor do they maintain permanent company-specific insider registers, but rather only project- or event-specific insider lists. The lists include information on persons participating in insider projects who are not allowed to trade the financial instruments of the company in question during the project. Metsäliitto Cooperative has defined its managers as referred to in MAR to include the members of the Supervisory Board, the members of the Board of Directors, and the President and CEO. The managers in question and their related parties are obligated to inform the company and the Financial Supervisory Authority of their transactions in Metsäliitto Cooperative's financial instruments, and Metsäliitto Cooperative publishes such transactions as stock exchange releases. The aforementioned persons are subject to a closed period of 30 calendar days prior to the publication of Metsä Group's interim reports and financial statements, during which the managers may not trade in Metsäliitto Cooperative's financial instruments. In addition to the managers subject to the disclosure obligation the company specifies such other persons who, in the course of their duties, participate in the preparation of interim reports and financial statements and may not trade in Metsäliitto Cooperative's financial instruments during the closed period. Metsäliitto Cooperative did not have any traded financial instruments in circulation on a regulated market on 31 December 2023. Metsä Board Corporation has defined its managers as referred to in MAR to include the members of the Board of Directors and the President and CEO. The managers in question and their related parties are obligated

to inform the company and the Financial Supervisory Authority of their transactions concerning Metsä Board's shares and financial instruments, and Metsä Board will publish such transactions as stock exchange releases. The aforementioned persons are subject to a closed period of 30 calendar days prior to the publication of Metsä Group's interim reports and financial statements, during which time the managers may not trade Metsä Board's financial instruments. In addition to the managers subject to the disclosure obligation, the company specifies such other persons who, in the course of their duties, participate in the preparation of interim reports and financial statements and may not trade Metsä Board's shares or financial instruments during the closed period.

■ Related party transactions

Metsäliitto Cooperative and its Group companies assess and monitor related party transactions. Related parties are determined in accordance with International Accounting Standards (IAS 24), and they include, among others, all Group companies and the members of the Board of Directors and the Executive Management Team, as well as their immediate family members. Any conflicts of interest are taken into account in decision-making and, in accordance with the Corporate Governance Code, each Group company maintains a list of the members of its related parties. Transactions between Group companies are carried out on an arm's length basis and, where necessary, external valuations are also used to prepare decisions on related party transactions.

■ Audit

According to the rules of Metsäliitto Cooperative, Metsäliitto Cooperative has one auditor, which must be an auditing firm authorised by the Finland Chamber of Commerce. The Representative Council elects the auditor to review the accounts for the year underway, and their task ends at the closure of the next annual meeting of the Representative Council. The task of the auditor is to audit the financial statements and accounting of the group and the parent company and the administration of the parent company. The auditor provides a statutory auditor's report to the members of Metsäliitto Cooperative in connection with the annual financial statements and regularly reports on their observations to the Board of Directors and the management of Metsä Group. In accordance with the resolution of the Representative Council meeting in the spring of 2023, Metsäliitto Cooperative's auditor for 2023 is KPMG Oy Ab, firm of authorised public accountants, with Kirsi Jantunen, APA, as the Auditor-in-Charge.

In 2023 audit fees were paid as follows:

Principal auditor's fees	2023	2022
To KPMG in Finland and internationally	1,802,000	1,502,000
For services unrelated to the audit proper	550,000	411,000
Total	2,352,000	1,913,000
To audit firms other than KPMG	105,000	97,000
For services unrelated to the audit proper to others than KPMG	4,012,000	1,676,000
Total	4,117,000	1,773,000

Metsäliitto Cooperative's Representative Council

Members of Metsäliitto Cooperative elect a Representative Council from among the members every four years by mail, telecommunications or by some other technical device. The Representative Council is the highest decision-making body.

Anttila Juha	Farmer	Mänttä-Vilppula
Björknäs Roger	Farmer	Kristiinankaupunki
Finne Christer	Farming Entrepreneur	Mustasaari
Halkilahti Jaakko	Farmer	Salo
Hall Hans	Farming Entrepreneur	Leppävirta
Hirvijoki Mika	Change of Ownership Specialist, Farming Entrepreneur	Ikaalinen
Isomuotia Harri	Forester	Hämeenkyrö
Kaitfors Mats	Farmer	Kruunupy
Kallinen Saara	Forest Engineer, Support Specialist	Kärsämäki
Kallio Maarit	Agrologist, Farming Entrepreneur	Sastamala
Kankaanpää Antti	Rural entrepreneur	Orivesi
Kela Leena	CEO	Suomussalmi
Kerkele Antti	Farmer	Kemijärvi
Koljonen Antti	Farmer, Agrologist	Hämeenlinna
Koponen Osmo	Farmer	Liperi
Korpela Liisa	Forester	Kärkölä
Korpi-Tassi Jussi	Entrepreneur	Kurikka
Kosonen Erkki	Forest Entrepreneur	Savonlinna
Lehtimäki Esko	Training Manager, Farming and Forest Entrepreneur	Teuva
Lehtonen Aarne	Farmer	Mynämäki
Leikola Mikko	Farmer	Lohja
Leinonen Tapio	Business Expert	Kitee
Lähdesmäki Elisa	Forest Entrepreneur, MBA	Helsinki

Manninen Heikki	Forester	Mikkeli
Minkkinen Timo	Forest Entrepreneur	Viitasaari
Muilo Matti	Work Supervisor, Student	Lapua
Määttä Esa	Forest Expert, Pensioner	Sotkamo
Nurmo Mika	Farming Entrepreneur	Kokemäki
Orjala Jari	Farming Entrepreneur, Full-time Teacher	Kannus
Pietilä Juho	Farming Entrepreneur	Loimaa
Pulkka Ville	Forest Engineer	Mäntyharju
Ruskanen Timo	Forest and Forest Machine Entrepreneur	Heinävesi
Ryymän Jaakko	Forest Owner	Iisalmi
Soronen Mauno	Vicar	Haapavesi
Sorsa Eero	Farming Entrepreneur	Kouvola
Suhonen Teemu	Farmer	Joroinen
Suppola Jouni	Forest Entrepreneur, Farming Expert	Parikkala
Suutala Pauli	Forest Engineer, Entrepreneur	Alavus
Toivanen Sakari	Farmer	Kaavi
Tupala Arto	Farmer	Joutsa
Tyskas Kim	Farmer, Salesperson	Lapinjärvi
Törmälä Pekka	Forest Entrepreneur	Liminka
Uotila Kirsi	Forestry Entrepreneur	Helsinki
Uusitalo Tarmo	Forest Engineer	Pello
Vasama-Kakko Kaisa	Agrologist, Entrepreneur	Somero
Vastamäki Ari	Forester	Nakkila
Waris Antti	Service Manager	Konnevesi
Ylitalo Martti	Farmer, Pensioner	Ii

Metsäliitto Cooperative's Supervisory Board

The Supervisory Board's duty is to supervise the appropriate management of Metsäliitto Cooperative in compliance with the relevant regulations, the Supervisory Board's decisions, and in the interests of Metsäliitto Cooperative. It also supervises the implementation of the Representative Council's decisions and elects Metsäliitto Cooperative's Board of Directors.

Chair			Deputy Chair		
Paajanen Juha	Farming and Forestry Entrepreneur	Savonlinna	Siponen Ahti	Master of Social Sciences	Kiuruvesi
Members					
Airaksinen Seppo	Forestry entrepreneur	Vantaa	Lukkarinen Jouni	Agricultural entrepreneur	Pielavesi
Alatalo Matti	Farmer	Soini	Miettinen Petri	Agricultural entrepreneur	Juva
Brandt Mats	Agrologist	Kokkola	Mikkonen Eeva	Sales Person, Forest Engineer	Rääkkylä
Haikkonen Aila	Master of Science, Agricultural entrepreneur	Pori	Moilanen Jussi	Agricultural technician	Suomussalmi
Haukilahti Tapani	Farmer	Veteli	Mulari Keijo	Rural entrepreneur	Suomussalmi
Hiekka Matti	Farmer, Entrepreneur	Ikaalinen	Mäkinen Laura	Engineer	Petäjävesi
Kiviranta Esko	Farmer, Master in Law	Sauvo	Niemelä Henry	Farmer	Lapua
Kontinen Kati	Licentiate of Science (Agriculture and Forestry)	Mikkeli	Rousu Simo	Forest entrepreneur	Ylitornio
Laatikainen Markus	Executive Manager	Posio	Sarvijärvi Janne	Agricultural entrepreneur	Ylöjärvi
Laineenoja Jari	Agronomist	Huittinen	Savolainen Jyrki	Farmer	Laukaa
Laitinen Pirkko	Agrologist	Utajärvi	Turtiainen Matti	M.Sc. (Agriculture and Forestry), Farmer	Savonlinna
Lalli Jarmo	Rural entrepreneur	Pöytyä	Uusitalo Ilkka	Farmer	Salo
Lauttia Petri	Farmer	Renko	Virnala Jukka	Entrepreneur	Kurikka
Lillandt Anders	Farmer	Kristiinankaupunki	Wasström Anders	Agricultural entrepreneur	Raasepori
Personnel representatives					
Hämäläinen Jari	Production foreman	Savonlinna			
Koljonen Timo	Solution Owner	Helsinki			
Korkiamäki Juha	Forest Specialist, Wood supply and forest services	Pori			
Kääriäinen Osmo	Chief Shop Steward	Sumiainen			

Metsäliitto Cooperative's Board of Directors

The Annual General Meeting 2023 elected the following persons as members of the Board of Directors:



JUSSI LINNARANTA

b. 1972
M.Sc (Agriculture and Forestry)
Agronomist

Member of the Board since 2017, Chair of the Board since 2020

Primary working experience:

Forest and Agricultural entrepreneur (2001–)

Thermal entrepreneur (2003–)

Ministry of Agriculture and Forestry, Information and Research Centre, various positions (1997–2007)

Other positions of trust:

Metsäliitto Cooperative, Member of the Supervisory Board (2004–2016), Member of the Board (2017–), Vice Chair of the Board (2019), Chair of the Board (2020–)

Metsä Board Corporation, Member of the Board (2017–), Vice Chair of the Board (2020–)

Pellervo Coop Center, Member of the Board (2020–)

Pohjois-Savo Cooperative bank, Member of the representative Council (2014–2017)

The Central Union of Agricultural Producers and Forest Owners (MTK), Member of the Energy Committee (2007–2008, 2014–2016)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 349,966

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 36,211 (B-shares)



MIKKO MÄKIMATTILA

b. 1971
M.Sc (Agriculture and Forestry)
Agronomist

Member of the Board since 2020, Vice Chair of the Board since 2023

Primary working experience:

Forestry and agriculture entrepreneur (1994–)

RockRobot Oy, CEO (2021–)

Dometal Oy, CEO, partner (2011–2021)

Multiva Magyarország Kft., CEO of the Hungarian subsidiary (2013–2021)

Potila Tuotanto Oy, CEO (2017–2020)

Farmit Website Oy, CEO (2005–2010)

Lännen Tehtaat Oyj, Development manager (2003–2005)

Suomen Gallup Elintarviketieto Oy, Research manager (2001–2003)

Pellervon taloudellinen tutkimuslaitos, Researcher (1998–2001)

Other positions of trust:

Metsä Board Corporation, Member of the Board (2023–)

Pellervo Coop Center, Member of the Delegation (2023–)

LähiTapiola Loimi-Häme Regional Mutual Insurance Company, Member of the Board (2008–2022)

LähiTapiola General Mutual Insurance Company, Member of the Supervisory Board (2014–)

Dometal Oy, Member of the Board (2012–2021)

Potila Tuotanto Oy, Member of the Board (2013–2020)

Lähivakuutus Cooperative, Member of the Supervisory Board (2011–2014)

Forestry Management Association Loimijoki, Member of the Delegation (2005–2019)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 151,563

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 5,052 (B-shares)



TEUVO HATVA

b. 1968
M.Sc (Admin.)

Member of the Board since 2024

Primary working experience:

Forest and Agricultural entrepreneur (1988–)
The Kajaani City Board, Chair (2017–)
Fisheries Local Action Group Kainuu and Koillismaa, Adviser (2008–2013)
ProAgria Oulu, Business adviser (2005–2008)

Other positions of trust:

Council of Europe, Member of the Chamber of Regions (2021–),
Vice-president of the Governance Committee (2021–2023),
Member of the Governance Committee (2023–)
Metsäliitto Cooperative, Member of the Supervisory Board (2008–2023)
Centre Party, Chair of the Kainuu district (2020–2022)
Kainuu Cooperative bank, Member of the Board (2012–2020)
Kainuu Forestry Association, Member of the Board (2008–2010)
Metsäliitto Cooperative, Member of the Representative Council
(2003–2007)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 121,122

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 4,666 (B-shares)



TAAVI HEIKKILÄ

b. 1962
M.Sc. (Econ)
Vuorineuvos (Finnish honorary title)

Member of the Board since 2021

Primary working experience:

Boardman, partner (2020–)
Aalto University School of Business, Executive in Residence (2021–)
Trailmaker Oy, Senior Advisor (2021–)
Evolv Oy, Advisor (2020–)
SOK Corporation, CEO and Chair of the Board (2014–2020)
Osuuskauppa Hämeenmaa, CEO, Chair of the Board (2004–2013)
SOK Corporation, Director of Development, Member of the Management of SOK (2000–2004)
Intrade Partners Oy, CEO (1997–2000)
SOK Corporation, CFO (1994–1997)
SOK Corporation, various tasks (1987–1994)

Other positions of trust:

SOK Board of Directors, Chair (2014–2020), Member (2007–2011), Vice Chair (2008–2011)
SOK Liiketoiminta Oy, Chair of the Board (2014–2020)
Sokotel Oy, Chair of the Board (2014–2020)
Finnish Commerce Federation, Member of the Board and Board's Working committee (2014–2020), Chair of the Board ja Board's Working committee (2016–2017)
Confederation of Finnish Industries, Member of the Board and Executive committee (2015–2019), Vice Chair of the Board (2015)
Finnish Chambers of Commerce, Member of the Board (2015–2019)
ICC Finland, Member of the Board (2015–2019)
Pellervo Coop Center, Member of the Board (2017–2021)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 6,282

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 1 500 (B-shares)



EIJA PITKÄNEN

b. 1961
M.Sc.
(Food microbiology)

Member of the Board since 2023

Primary working experience:

Telia Finland Oyj, Head of Sustainability (2014–)
TeliaSonera AB, Vice President, Head of Group Sustainability (2011–2014)
Stora Enso Oyj, Senior Vice President, Sustainability (2002–2011)
Danisco A/S, Vice President, Head of Sustainable Development (1999–2002)
Cultor Ltd., Vice President, Environment (1997–1999)

Other positions of trust:

Vestas Wind Systems A/S, Member of the Board of Directors (2012–2019)
Suomen Pakolaisapu ry, Member of the Board of Directors (2016–2021)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 260

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 1 300 (B-shares)



NINA PÄRSSINEN

b. 1961
LL.M

Member of the Board since 2021

Primary working experience:

City of Alajärvi, Administrative Director (2019–2022)
Finnish Forest Industries, Labor Market Director (2015–2019)
Finnish Education Employers, CEO (2004–2014)
Service Sector Employers Palta, Ombudsman (2001–2004)
Työsuhtejuristit ry, Legal Counsel (1997–2001)
Attorneys Rödl & Partner Oy, Partner, Attorney (1996–1997)
Attorneys Delex Oy / Attorneys Viljamaa & Pärssinen Oy (1990–1996)
Vs. Lahden kaupunginviskaali (1990)

Other positions of trust:

National Conciliators's Office, Part-time conciliator (2024–)
TT Botnia Oy, Member of the Board (2019–2022)
Labour Court of Finland, Part-time member (2010–2018)
Education Fund, Deputy Member of the Supervisory Board (2006–2018)
The Insurance Court, Deputy Member (2002–2014)
YT-lakikomitea, Member of the Committee (2005–2006)
Tasa-arvolain kehittämistoimikunta, Member of the Committee (2001–2002)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023 : EUR 720

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: no ownership



ILKKA SALONEN

b. 1965

M.Sc (Econ)

Member of the Board since 2018

Primary working experience:

YIT Corporation, Chief Financial Officer,

Deputy to the President and CEO (2018–2021)

Lemminkäinen Corporation, Chief Financial Officer (2014–2018)

Forest BtL Oy, Director and Advisor to the Board of Directors (2013–2014)

Neste Oil Corporation, Chief Financial Officer (2009–2012)

Pohjola Bank plc, Chief Financial Officer (2006–2008)

Pohjola Group Ltd, Chief Financial Officer (2003–2005)

Comptel Corporation, various management positions (2000–2003)

Svenska Handelsbanken AB (publ), Branch Operation in Finland,

Analyst (1997–2000)

Postipankki Ltd, Analyst (1994–1997)

Other positions of trust:

Betolari Oyj, Member of the Board (2022–), Chair of the Board (2023–)

Antilooppi GP Oy, Chair of the Board (2023–)

Nordea Mortgage Bank Plc, Member of the Board and Chair of the Audit Committee (2022–)

NADMED Oy, Member of the Board and Vice Chair of the Board (2022–)

Parmaco Oy, Member of the Board (2013–2018)

Governia Oy, Member of the Board (2014–2018)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 124,549

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: no ownership



JUSSI VANHANEN

b. 1971

MBA,

LL.M.

Member of the Board since 2022

Primary working experience:

Vexve Armatury Group Oy, CEO, co-investor (2019–2024)

Vexve Oy, CEO, co-investor (2017–2024)

Mondi Group Plc, CEO, Fibre Packaging (2014–2017)

The Boston Consulting Group (BCG), Senior Advisor (2013–2014)

UPM-Kymmene Corporation, various management positions (1999–2013)

Other positions of trust:

Teknologioteollisuus ry, Member of Pirkanmaa Regional board (2020–2023)

Logistikas Oy, Chair of the Board (2021–2022)

Peikko Group Oyj, Member of the Board (2011–2013), Chair (2014–2020)

WWF, Finland, Member of the Supervisory Board (2010–2016)

Participation (own, under common ownership and by controlled corporations) in Metsäliitto Cooperative on 31 December 2023: EUR 760

Shares (own and by controlled corporations) in Metsä Board Corporation on 31 December 2023: 4,000 (B-shares)

Metsä Group Executive Management Team

Members of the company's executive management team:



ILKKA HÄMÄLÄ

b. 1961
M.Sc (Engineering)
Vuorineuvos, (Finnish honorary title)
President and CEO, Metsä Group
CEO, Metsäliitto Cooperative

Member of the Executive Management Team since 2008

Primary working experience:

Metsä Group, President and CEO (2018–)
Metsäliitto Cooperative, CEO (2018–)
Metsä Fibre Oy, CEO (2008–2017)
Oy Metsä-Botnia Ab (now Metsä Fibre Oy),
previously various management positions (1988–2008)

Other positions of trust:

Metsä Board Corporation, Chair of the Board (2018–)
Metsä Fibre Oy, Chair of the Board (2018–)
Metsä Spring Oy, Chair of the Board (2018–)
Metsä Tissue Corporation, Chair of the Board (2018–)

Finnish-Swedish Chamber of Commerce, Member of the Council (2023–)
China Office of Finnish Industries Oy, Member of the Board (2022–)
Confederation of European Paper Industries (CEPI), Member of the Board (2018–), Member of the Steering Committee (2020–)
Finnish Forest Industries Federation, Member of the Board (2012–),
Vice Chair of the Board and the Board's Working Committee (2021–), Chair of the Election Committee (2021–)
Ilmarinen Mutual Pension Insurance Company, Member of the Supervisory Board (2009–), Chair of the Supervisory Board (2021–)
Finnish Business and Policy Forum EVA, Member of the Board (2021–)
ETLA Economic Research, Member of the Board (2021–)
Jyväskylän yliopiston varainhallintatoimikunta, Member (2021–)
Finnish Chambers of Commerce, Member of the Delegation (2018–)
Helsinki Region Chamber of Commerce, Member of the Delegation (2018–)
Finnish Quality Association, Member of the Board (2018–), Chair of the Board (2020–), Member of the Advisory Board (2008–)
Pohjolan Voima Oyj, Deputy Member of the Board (2009–)

Participation in Metsäliitto Cooperative on 31 December 2023:
no ownership

Shares in Metsä Board Corporation on 31 December 2023:
294,814 (B-share)



JAAKKO ANTTILA

b. 1977
M.Sc (Eng.)
EVP, Metsä Wood

Member of the Executive Management Team since 2022

Primary working experience:

Metsä Wood, Executive Vice President (2022–)
Metsä Fibre Oy, SVP, Pulp Production (2019–2022)
Metsä Fibre Oy, VP, Sales Operations (2018–2019)
Metsä Fibre Oy, VP, Joutsenon pulp mill (2014–2018)
Metsä Fibre Oy, Sales Director (2011–2013)
LITEONMOBILE, Director, Account Management (2010–2011)
LITEONMOBILE, various positions in sales and project management (2003–2007)

Participation in Metsäliitto Cooperative on 31 December 2022:
no ownership

Shares owned in Metsä Board Corporation on 31 December 2023:
13,282 (B share)



MIKA JOUKIO

b. 1964
M.Sc (Technology), MBA
CEO, Metsä Board Corporation

Member of the Executive Management Team since 2012

Primary working experience:

Metsä Board Corporation, CEO (2014–)
Metsä Tissue Corporation, CEO (2012–2014)
M-real Corporation (now Metsä Board Corporation),
Head of Consumer Packaging (2006–2012)
Metsä-Serla Corporation and M-real Corporation (now Metsä Board Corporation), various positions in management (1990–2005)

Other positions of trust:

Metsä Fibre Oy, Member of the Board (2014–)
Varma Mutual Pension Insurance Company, Member of the Supervisory Board (2019 –)
Husum Pulp AB, Chair of the Board (2021–)
Finnish Forest Industries Federation, Chair of the Trade Policy Committee (2022–)
Atria Plc, Member of the Board (2022–)

Participation in Metsäliitto Cooperative on 31 December 2023:
EUR 199,450

Shares in Metsä Board Corporation on 31 December 2023:
315,173 (B-share)



JUHA JUMPPANEN

b. 1977
M.Sc (Agriculture and Forestry)
EVP, Metsä Forest

Member of the Executive Management Team since 2022

Primary working experience:

Metsä Forest, Executive Vice President (2021–)
Metsä Forest, Senior Vice President, wood trade and forest services (2019–2021)
Metsä Forest, Senior Vice President, member services (2010–2018)
Metsäliitto Osuuskunta and Metsämannut Oy, various positions (2000–2010)

Other positions of trust:

Finnish Forest Industries Federation, Member of the Forest Committee (2022–)
Suomen Metsäsäätiö, Member of the Board (2020–),
Chair of the Board (2023–)
Pellervo economic research PTT, Member of the Board (2023–)
Suomen Puukauppa Oy, Member of the Board (2021–2022)
Pellervo-instituutti, Member of the Board (2011–2017)

Participation in Metsäliitto Cooperative on 31 December 2023:
EUR 3,773

Shares owned in Metsä Board Corporation on 31 December 2023:
14,465 (B-share)



ESA KAIKKONEN

b. 1969

LL.M, trained on the bench

CEO, Metsä Tissue Corporation

Member of the Executive Management Team since 2008

Primary working experience:

Metsä Tissue Corporation, CEO (2018–)

Metsä Wood, Executive Vice President (2013–2018)

Metsä Group, Executive Vice President, Strategy (2017–2018)

Metsä Group, General Counsel (2003–2013)

Metsäliitto Group, (now Metsä Group) Legal counsel (2000–2003)

Metsä-Serla Corporation, (now Metsä Board Corporation),

Legal counsel (1998–2000)

Other positions of trust:

Finnish Forest Industries Federation, Member of the Board (2018–)

Metsä Spring Oy, Member of the Board (2018–)

Metsä Fibre Oy, Member of the Board (2017–)

Pohjolan Voima Oyj, Member of the Board (2017–)

Teollisuuden Voima Oyj, Member of the Board (2017–)

Maanpuolustuskurssiyhdistys ry, Member of the Board (2020–)

Federation of the Finnish Woodworking Industries,

Chairman of the Board (2015–2016), Member of the Board (2017–2018)

Participation in Metsäliitto Cooperative on 31 December 2022:

no ownership

Shares owned in Metsä Board Corporation on 31 December 2023:

49,078 (B-share)



ISMO NOUSIAINEN

b. 1966

M.Sc (Engineering)

CEO, Metsä Fibre Oy

Member of the Management Team since 2018

Primary working experience:

Metsä Fibre Oy, CEO (2018–)

Metsä Fibre Oy, SVP, Production (2008–2017)

Oy Metsä-Botnia Ab (now. Metsä Fibre Oy), various management positions (2001–2007)

VTT Technical Research Centre of Finland Ltd, various positions (1996–2001)

Finntech Finnish Technology Ltd Oy, Researcher (1993–1996)

Other positions of trust:

Mittaportti Oy, Chair of the Board (2008–2014)

Botnia Mill Service Oy, Member of the Board (2007–2017)

Participation in Metsäliitto Cooperative on 31 December 2022:

no ownership

Shares owned in Metsä Board Corporation on 31 December 2023:

54,075 (B-share)



SARI PAJARI-SEDERHOLM

b. 1968
M.Sc (Engineering)
EVP, Strategy, Metsä Group

Member of the Executive Management Team since 2021

Primary working experience:

Metsä Group, EVP, Strategy (2021–)
Metsä Board Corporation, SVP, Sales and Marketing (2017–2021)
Metsä Board Corporation, SVP, Business Development (2011–2017)
Metsä Group, CIO (2009–2011), Director (2007–2008)
IBM, Business Development Executive (2002–2007)
PwC, Senior Strategy Consultant (2000–2002)
Pöyry, various positions (1990–2000)

Other positions of trust:

Suominen Oyj, Member of the Board (2019–2022)
Tieto Oyj, Member of the Board (2012–2018)

Participation in Metsäliitto Cooperative on 31 December 2023:
no ownership

Shares in Metsä Board Corporation on 31 December 2023:
87,472 (B-share)



VESA-PEKKA TAKALA

b. 1966
M.Sc (Economy)
Chief Financial Officer, Metsä Group
Deputy Managing Director, Metsäliitto Cooperative

Member of the Executive Management Team since 2010

Primary working experience:

Metsä Group, Chief Financial Officer (2010–)
Metsäliitto Cooperative, Deputy Managing Director (2017–)
Outotec Group, Chief Financial Officer and Director of Finance (2006–2010), member of the management team, deputy to the CEO
Outokumpu Group, Chief Financial Officer (2001–2006), Member of the management team (2005)
Outokumpu Group, various management positions in the financial administration

Other positions of trust:

Metsä Group Treasury Oy, Chair of the Board (2013–)
Metsä Spring Oy, Member of the Board (2018–)
Metsä Tissue Corporation, Member of the Board (2018–)
Metsä Fibre Oy, Member of the Board (2021–)
Fortum Oyj, Member of the Board (2023–), Member of the Audit and Risk Committee (2023–), Member of the Technology and Investment Committee (2023–)
Outokumpu Oyj, Member of the Board (2019–2023),
Chair of the Audit committee (2022–2023)

Participation in Metsäliitto Cooperative on 31 December 2023:
EUR 62,676

Shares owned in Metsä Board Corporation on 31 December 2023:
155,123 (B-share)

Remuneration

Introduction

Remuneration in Metsä Group is based on the following principles:

- **Ensuring sustainable and responsible business operations**
Our remuneration supports the achievement of Metsä Group's vision, strategic and operational goals, and sustainability targets. We encourage activities in line with our values and Metsä Group's interests – responsible profitability, reliability, renewal and cooperation.
- **Ensuring performance and profitable growth**
With remuneration, we encourage excellent performance and results in both the short and long term. We remunerate our people for achieving and exceeding targets and for profitable growth and the increase of shareholder and stakeholder value.
- **Supporting competence development and renewal**
With remuneration we support competence development and the commitment of talent. We encourage continuous improvement, renewal and the creation of conditions needed for future success. In addition to monetary remuneration, we develop personnel's competencies and offer opportunities for career development. Our leadership is of a high quality and we encourage the personnel's participation.
- **Consistency, competitiveness and transparency**
The remuneration is fair and based on clear principles and structures. We offer competitive overall remuneration. We communicate and report on remuneration transparently and in compliance with requirements.

■ Short-term and long-term goals

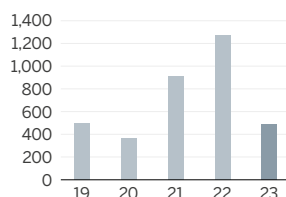
Metsä Group has a short-term incentive system with a review period of one calendar year, as well as a long-term incentive system with a performance period of three years and a restriction period of one to two years. The targets of the long-term incentive system, tied to return on capital employed, operating result and equity ratio, impact the long-term development of shareholder value. With the support of the incentive systems, the Board of Directors steers Metsä Group's operations over the short and long term. Metsä Group's financial result has a direct impact on the President and CEO's remuneration through both the short- and long-term incentive systems.

■ Compliance with the remuneration policy

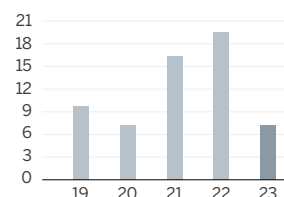
Metsä Group's remuneration policy was complied with throughout the financial year 2023, and the policy was not deviated from in any respect.

■ Metsä Group's financial development

OPERATING RESULT, COMPARABLE
EUR million



RETURN ON CAPITAL EMPLOYED, COMPARABLE
%



■ Development of remuneration in 2019–2023

Over the past five years, the monthly remuneration of the Chair of the Supervisory Board has increased by approximately 10%, and the monthly remuneration of the Deputy Chair of the Supervisory Board by approximately 11%. In 2023, the monthly remuneration of the Chair was raised to EUR 4,500, and the monthly remuneration of the Deputy Chair to EUR 2,000. The meeting fee paid to the members of the Supervisory Board has increased by 25% in the past five years. In 2023, the meeting fee paid to the members of the Supervisory Board was raised to EUR 1,000.

During the last five years, the monthly compensation paid to the Chair of the Board has been increased by 4%, taking into account the fees previously paid to the Chair for the position of Vice Chair of the Board of Metsä Fibre Oy and Metsä Tissue Corporation. The monthly remuneration of the Vice Chair has been increased by 15% and that of the other Board members by 33% over the last five years. The monthly remuneration of the Chair of the Board of Directors was last raised in 2022, and it is EUR 12,000. The monthly remuneration of the Vice Chair of the Board of Directors was raised to EUR 6,000 in 2023. The monthly remuneration

of other members of the Board of Directors was raised to EUR 5,600 in 2023. The meeting fee paid to the members of the Board of Directors has increased by 14% in the past five years. The meeting fee is EUR 800. For 2024, the meeting fee was raised to EUR 1,000. The fees and remuneration for Board work correspond to general remuneration trends in companies belonging to Metsä Group's peer group.

In addition, a separate monthly remuneration is paid to the chairs of the Board of Directors' Audit Committee and HR Committee, which was raised for 2022. The monthly remuneration of the Chair of the Audit Committee was raised from EUR 1,200 to EUR 1,300 and that of the Chair of the HR Committee from EUR 1,000 to EUR 1,100. Over the past five years, no other changes were made to the separate monthly remuneration of the chairs of the committees.

The total earnings of Metsä Group's President and CEO Ilkka Härmälä have been strongly influenced by Metsä Group's success. The development of employees' average earnings has been moderate.

DEVELOPMENT OF THE SUPERVISORY BOARD'S AND THE BOARD OF DIRECTORS' REMUNERATION, THE REMUNERATION OF THE PRESIDENT AND CEO, AND THE AVERAGE EARNINGS OF EMPLOYEES

(IN EUROS)	2023	2022	2021	2020	2019
Chair of the Supervisory Board Juha Paajanen as of 4 May 2017	78,100	71,600	77,600	78,300	68,850
Deputy Chair of the Supervisory Board Ahti Siponen as of 4 May 2017	39,300	33,200	33,600	33,600	36,950
Other members of the Supervisory Board (in total)	186,500	152,800	191,600	146,800	167,100
Chair of the Board of Directors ¹⁾ Jussi Linnaranta, as of 1 January 2020 Martti Asunta, until 31 December 2019	167,700	166,554	170,840	163,940	158,330
Vice Chair of the Board of Directors Mikko Mäkimattila Timo Saukkonen, 1 January – 31 December 2023 Jussi Linnaranta 1 January – 31 December 2019	91,600	82,400	83,200	83,800	72,950
Other members of the Board of Directors (on average)	88,583	74,867	69,967	72,167	65,558
President and CEO ²⁾ Ilkka Härmälä, as of 1 April 2018	1,649,222	2,976,557	2,695,238	2,289,521	2,540,578 ³⁾
Average earnings of employees ⁴⁾	48,060	51,218	48,101	44,305	44,784

¹⁾ The figures for 2019 include, in addition to the remuneration paid to Martti Asunta for board work in Metsäliitto Cooperative, the remuneration paid to him for board work in Metsä Fibre and Metsä Tissue Corporation. The remuneration paid for board work in Metsä Board Corporation is disclosed in Metsä Board Corporation's remuneration report.

²⁾ The President and CEO's remuneration details include the salaries and rewards paid for the year in question. For Ilkka Härmälä, the figures also include the rewards earned as the CEO of Metsä Fibre. The figures shown in the table do not include paid supplementary pension contributions.

³⁾ In 2019, Ilkka Härmälä was also paid deferred long-term remuneration (EUR 825,927), which he had earned in his previous position as the CEO of Metsä Fibre.

⁴⁾ The average earnings of employees have been calculated from the employee costs of the entire Group by deducting social security costs from the total and dividing the remainder by the average number of employees.

Remuneration of the Supervisory Board

REMUNERATION PAID TO THE SUPERVISORY BOARD AND THE COSTS OF THE SUPERVISORY BOARD MEMBERS' PENSION ARRANGEMENTS IN 2023 (IN EUROS)

	Monthly remuneration	Meeting fees ¹⁾	Pension benefit ²⁾	Total
Juha Paajanen , Chair	52,400	25,700	12,652	90,752
Ahti Siponen , Deputy Chair	23,200	16,100	6,367	45,667
Other members (in total)	-	186,500	-	186,500
Total	75,600	228,300	19,019	322,919

¹⁾ The meeting fees also include meeting fees paid for attending meetings of the Board of Directors as well as district councils and other committees.

²⁾ The Chair and Deputy Chair of the Supervisory Board hold voluntary TyEL pension policies (the Finnish statutory pension system).

Remuneration of the Board of Directors

REMUNERATION PAID TO THE BOARD OF DIRECTORS AND THE COSTS OF THE BOARD MEMBERS' PENSION ARRANGEMENTS IN 2023 (IN EUROS)

	Monthly remuneration	Meeting fees ¹⁾	Pension benefit ²⁾	Total
Jussi Linnaranta , Chair ³⁾	144,000	23,700	29,683	197,383
Mikko Mäkimattila , Vice Chair	72,000	19,600	16,213	107,813
Taavi Heikkilä	80,400 ⁴⁾	17,200	15,811	113,411
Juha Parpala	67,200	13,600	13,090	93,890
Eija Pitkänen , as of 1 January 2023	67,200	13,600	13,090	93,890
Nina Pärssinen	67,200	19,400	14,029	100,629
Ilkka Salonen	82,800 ⁵⁾	18,200	16,362	117,362
Jussi Vanhanen	67,200	17,500	14,992	99,692
Total	648,000	142,800	133,270	924,070
Former members of the Board of Directors				
Saukkonen Timo until 31 December 2022	-	2,400	389	2,789

¹⁾ The meeting fees of the Board of Directors also include the meeting fees of committees and district councils.

²⁾ The members of the Board of Directors hold voluntary TyEL pension policies.

³⁾ The remuneration paid for board work in Metsä Board Corporation is disclosed in Metsä Board Corporation's remuneration report.

⁴⁾ Includes the monthly remuneration paid to the Chair of the HR Committee.

⁵⁾ Includes the monthly remuneration paid to the Chair of the Audit Committee.

Remuneration of the President and CEO

SALARIES AND REWARDS PAID TO THE PRESIDENT AND CEO AND THE COST OF THE SUPPLEMENTARY PENSION ARRANGEMENT IN 2023 (IN EUROS)

	2023
Base salary, including fringe benefits ¹⁾	863,798
Incentives paid by other Group companies	135,392
Short-term incentive ²⁾	650,032
Long-term incentive ³⁾	-
Total	1,649,222
Supplementary defined-benefit pension insurance	417,934

¹⁾ The base salary paid by Metsäliitto Cooperative, which includes a company housing, car and phone benefit, extended healthcare, travel and accident insurance, as well as other minor fringe benefits.

²⁾ The short-term incentive paid concerns performance in 2022.

³⁾ The long-term incentive was not paid in 2023 due to a change in the long-term incentive system.

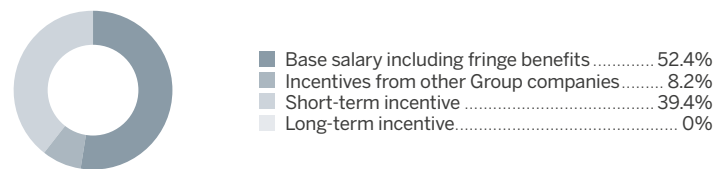
The short-term incentive paid to the President and CEO was based on performance in 2022. The maximum level of remuneration available in the short-term remuneration system in 2022 was, accounting for Metsä Group's EBIT multiplier, 93.75% of the fixed annual salary. The incentive was based on Metsä Group's operating result (weighting 50%) and the strategic targets defined by the Board of Directors (weighting 50%), as well as the realisation of Metsä Group's EBIT multiplier. The President and CEO's short-term incentive for 2022, accounting for Metsä Group's EBIT multiplier, was 39% of the total earnings paid in 2023. The reward was paid in March 2023. The 2023 short-term incentive system was based on the same principles as that of 2022. The reward for 2023 will be paid in March 2024.

In 2019, Metsäliitto Cooperative's Board of Directors decided on a long-term performance-based incentive system using synthetic shares for 2020–2024. The system consists of three performance periods of three years. Each performance period is followed by a restriction period of approximately one year. The reward will be paid fully in cash after the end of the restriction period. The amount of the reward has been limited. The President and CEO's maximum bonus is 250% of their fixed annual salary (a cut-off level of 325% of the fixed annual salary). The reward will be based on the development of Metsä Group's return on capital employed (ROCE, %) as determined by the Board of Directors. Minimum levels have also been set for the operating result and equity ratio.

Any rewards in Metsä Group's long-term incentive system based on synthetic shares, which has been in force since 2020, will be paid after the restriction period. Therefore, no rewards were paid from Metsä Group's long-term incentive system in 2023. The first payment from the incentive system based on synthetic shares will be made in 2024 for the 2020–2022 performance period. The potential reward for the performance period 2021–2023 will be paid in March 2025.

In 2022, Metsäliitto Cooperative's Board of Directors decided on a new long-term performance-based incentive system using synthetic shares for 2023–2027. The system consists of three performance periods of three years. Each performance period is followed by a restriction period of approximately one year. The reward will be paid fully in cash after the end of the restriction period. The amount of the reward has been limited. The President and CEO's maximum bonus is 250% of their fixed annual salary (a cut-off level of 325% of the fixed annual salary). The reward will be based on the development of Metsä Group's return on capital employed (ROCE, %) as determined by the Board of Directors. Minimum levels have also been set for the operating result and equity ratio.

BREAKDOWN OF THE PRESIDENT AND CEO'S REMUNERATION INTO FIXED BASE SALARY, INCENTIVES PAID BY OTHER GROUP COMPANIES, SHORT-TERM INCENTIVE AND LONG-TERM INCENTIVE IN 2023



The variable pay (short- and long-term incentives) constitutes a significant part of the President and CEO's remuneration. The relative portions of variable pay and the fixed annual base salary are shown in the graph above.

The President and CEO's retirement age is determined in accordance with the Employees Pensions Act. The President and CEO is also covered by a supplementary defined benefit pension insurance, where he has already reached the retirement age of 62 years in 2023, as defined in the supplementary pension scheme. Therefore, insurance premiums contributing to the supplementary pension are no longer paid to the supplementary pension arrangement. After the retirement age, the supplementary pension arrangement may incur index increase fees. In 2023, the index increase fee was EUR 417,934. No other financial benefits were paid to the President and CEO in 2023.

Financial reporting

Metsä Group does not comment on the Group's financial performance or similar matters during the silent period from the end of each reporting period until the publication of the period's financial report, apart from substantial changes in market conditions or to rectify incorrect information.

Financial information

The financial reports and annual reports are published in pdf format in Finnish and English on www.metsagroup.com/investors/financial-information/financial-reporting. The annual brochure can be ordered by e-mail from communications@metsagroup.com or on the Group's website www.metsagroup.com/news-and-publications/publications/order-publications.

Stock exchange releases, interim reports and financial statements are updated on Metsä Group's website in real time. In addition, the website

presents the Group's products, customers, sales network, environmental matters and organisation. You can provide feedback on the website. Metsä Group's general email address is communications@metsagroup.com.

Metsä Group aims to offer company-related information that is up to date and easy to utilise on a regular and open basis. The company aims to provide reliable and truthful information on its operations, financial position and short-term outlook. All investors are treated equally.

Metsä Group publishes its financial reports in 2024 as follows:

Silent period	Financial report	Publishing date
1 January– 7 February 2024	Financial Statements Bulletin for 2023	8 February 2023
1–24 April 2024	Interim Report for January–March 2024	25 April 2023
1–31 July 2024	Half-year Report for January–June 2024	1 August 2023
1–23 October 2024	Interim Report for January–September 2024	24 October 2023

Metsä Group's annual reporting includes four parts:
Metsä Group's Annual review and Annual brochure
and Metsä Board's Annual review and Sustainability review.
Each report is available in both Finnish and English.

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Metsä's year
2023



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Annual review 2023



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