StoraEnso

Stora Enso

Annual Report 2024

The renewable materials company

Contents

Remuneration Report 2024 is available at
storaenso.com/annualreport

Our year 2024

Stora Enso in brief

The forest is at the heart of Stora Enso and we believe that everything made from fossil-based materials today can be made from a tree tomorrow. As a leading provider of renewable packaging, biomaterials, and wooden construction, and one of the largest private forest owners globally, we actively contribute to the circular bioeconomy focusing on climate change, circularity, and biodiversity. Our low-carbon and recyclable fiber-based products support our customers in choosing renewable options. Stora Enso's shares are publicly traded on the Helsinki (STEAV, STERV) and Stockholm (STE A, STE R) stock exchanges, as well as in the USA as ADRs on OTC Markets (OTCQX) and ordinary shares (SEOAY, SEOFF, SEOJF).

Image: Stora Enso's newly opened headquarter building in Helsinki, the largest mass timber building in Finland. The building is owned by mutual pension insurance company Varma.

We are the renewable materials company

Our purpose

- Do good for people and the planet
- Replace non-renewable materials with renewable products

Our values

- Lead
- Do what's right

We create better choices for society by accelerating the transition to a circular bioeconomy. Our aim is to contribute positively to nature, and ensure the most effective use of fiber-based renewable materials.

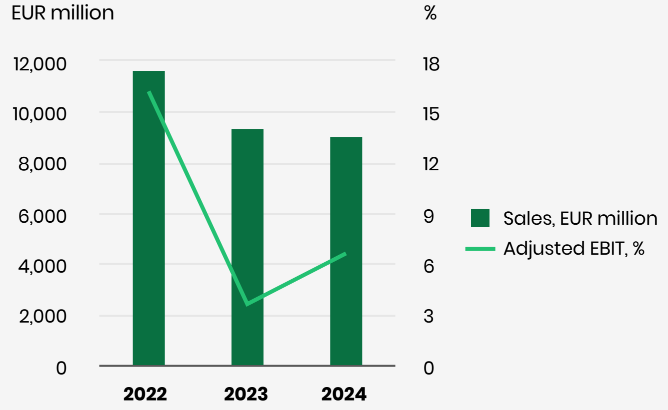
Employees

19,000

Our divisions

- Packaging Materials
- Packaging Solutions
- Biomaterials
- Wood Products
- Forest

Sales and adjusted EBIT margin



Renewable materials

Wood, our raw material, is renewable, recyclable, and fossil-free

Circularity

Our renewable products contribute to a circular bioeconomy

Heritage

1288	1862	1872	1998	2005	2014	2016	2018	2019	2021	2023	2024
First documents of the Swedish mining company Stora Kopparbergs Bergslag.	This business progressed to become Stora Kopparbergs Bergslag encompassing mining, iron, and wood activities.	The Enso branch of the company emerge with the establishment of a steam-powered sawmill in Kotka, Finland, by Hans Gutzeit.	Stora Enso was formed through the merger of the Finnish Enso Oyj and the Swedish STORA.	Start-up of the Veracel pulp mill in Brazil (50% owned joint operation).	Start-up of the Montes del Plata pulp mill in Uruguay. (50% owned joint venture)	Start-up of the Beihai mill in China. The converted paper machine at the Varkaus mill in Finland starts production of containerboard.	Acquisition of forest assets in Sweden led to a total of 1.4 million hectares in holdings.	Stora Enso issues its first green bonds.	The converted paper machine at the Oulu mill in Finland starts production of packaging board.	Acquisition of De Jong Packaging Group in the Netherlands. Paper business is discontinued.	Stora Enso initiated the sale of approximately 12% of its 1.4 million hectares of forest assets in Sweden.

Q&A with Hans Sohlström, President and CEO

We spoke with Hans Sohlström to gain his perspective on Stora Enso's performance in 2024. We also discussed key priorities and the strategic direction for the business.

Q: Take us through 2024 for Stora Enso and the industry. How would you sum it up?

Thanks to several efficiency improvement and cost-saving actions across the entire Company, we were able to deliver a significantly higher adjusted EBIT and reduce working capital compared to 2023. However, we were still far from our long-term financial targets, and our systematic efforts to improve profitability and reduce debt will continue.

Over the course of the year, the market gradually recovered compared to the full year of 2023, although consumer confidence and spending has yet to fully rebound. Market uncertainties, along with fluctuations in demand and pricing, persisted throughout 2024.

Our Forest division delivered record-high results, primarily driven by increased wood prices. However, high wood costs have continued to pressure margins across the Group. We faced several challenges in the market, including weak demand for consumer board, overcapacity in corrugated board, a volatile pulp market, a persistently weak construction sector, and continued tightness in wood markets. To mitigate these challenges, our Group-wide cost-saving measures will continue to deliver results.

Q: What were your key focus areas for improvement in 2024, and what was the biggest challenge?

Close relationships and engagements with both our customers and employees are crucial, and I am pleased that we continue to attain high scores in customer satisfaction and employee engagement, reflecting the strengths of Stora Enso.

In my first year, we identified two key areas to enhance shareholder value: improving operational performance to boost competitiveness and achieving commercial excellence in sales and sourcing. The positive impact of this approach is evident in the 75% increase of our adjusted EBIT.

"Stora Enso's profit improvement, working capital reduction, and value creation actions – focusing on cost reduction through improved sourcing, operational, and commercial efficiencies – made good progress across all divisions."

The biggest challenge has been the continued volatility and market weakness, but we focus on controlling what we can. We will do more with less and become more efficient. My main mission is to drive results and build a performance culture, where I see significant potential for value creation. This positive performance culture is based on the 4As: ambition, agility, analytical approach, and accountability. This is not just a project but a new culture and way of working. The underlying effectiveness of our organisation and our competitiveness must improve, and my key performance indicator as a CEO is total shareholder return, to maximise value for all our shareholders.

Q: How did Stora Enso progress towards achieving its long-term strategic objectives in 2024?

Stora Enso's profit improvement, working capital reduction, and value creation actions—focusing on cost reduction through improved sourcing, operational, and commercial efficiencies—made good progress across all divisions. Our systematic working capital reduction actions during the last 1.5 years resulted in a significant reduction of operating working capital of about EUR 700 million reducing the relation to net sales from above 14% to 7%

Initiated in February 2024, Stora Enso's profit improvement programme, focused on fixed cost savings, progressed successfully. The programme aimed to reduce fixed costs and enhance annualised adjusted EBIT by EUR 120 million, and includes a reduction of approximately 1,000 employees, with no closures of production sites. These reductions were proportional to division sizes and addressed persistently weak and uncertain market conditions. The full impact in fixed cost savings is starting from 2025.

Q: What strategic actions were taken during the year to make Stora Enso more competitive?

The ongoing consumer board investment of EUR 1 billion at the Oulu site in Finland progressed according to plan. Production ramp-up will begin in the first half of 2025, with full capacity estimated to be reached by 2027.

During the second half of the year, we decided to stop the divestment process and instead retain our Beihai consumer packaging board production site and forestry business. We recognise that the value of using these assets internally exceeds the achievable proceeds from a sale. This decision supports our strategic aim to augment our leadership in the sustainable fiber-based packaging market. By optimising the product mix, the Beihai site will further elevate our position as a leading global consumer board supplier, particularly in the Asia-Pacific region. We are committed to financial prudence, with no significant capital expenditure expected in the mid-term as we pursue these strategic enhancements.

As part of our ongoing efforts to improve financial stability, we announced the decision to prepare for the sale of approximately 12% of our forest assets in Sweden, covering 1.4 million hectares with a book value of EUR 6.3 billion. This divestment seeks to strengthen our balance sheet and crystallise the economic value of our forest holdings. While prioritising financial stability through strategic decisions such as the divestment of forest assets in Sweden, we remain equally dedicated to upholding the highest environmental standards across all areas of operation.

We also announced the acquisition of Junnikkala Oy, a Finnish sawmill company, for a total enterprise value of up to EUR 137 million, depending on its performance in the next years. This strategic move will bolster our wood supply for Stora Enso's packaging board site in Oulu, Finland, while shoring up our wood products business. Located near our Oulu site, Junnikkala operates three sawmills, creating significant synergies, including a stable supply of raw materials.

During the year, Stora Enso partnered with Altris, a Swedish developer of sodium-ion batteries, to incorporate renewable lignin in producing sustainable anode materials for these batteries. This initiative seeks to lower carbon emissions and promote a circular economy in battery manufacturing.

We also entered a collaboration with Södra, Sweden's largest forest owner association, to secure a stable supply of kraft lignin. This partnership will support Stora Enso's production of sustainable lignin-based materials with high added value, advancing the Company's commitment to renewable products and reducing its environmental impact.

Q: Please take us through Stora Enso's sustainability progress during the year.

I am pleased to announce significant progress in our sustainability efforts. As part of our long-term commitment to sustainability, we have set ambitious science-based targets aligned with the 1.5-degree scenario. By the end of 2024, we achieved a 53% reduction in our Scope 1 and 2 emissions from 2019. This surpasses our target of a 50% reduction by 2030 and underscores our commitment to proactive climate action. We remain dedicated to maintaining and further reducing our emissions in line with our business strategy.

"Stora Enso holds leading market positions in renewable packaging, biomaterials, and sustainable construction segments."

Scope 1 and 2 emissions, originating directly from our operations and the energy we consume, are areas where we can implement emission reductions through investments and fuel switching. Our success in these categories demonstrates our ability to effectively mitigate our direct impact on climate through operational efficiency and the implementation of new technologies. We are also committed to achieving a 50% reduction in our Scope 3 emissions by 2030, which include indirect emissions from activities such as purchased goods and the processing of sold products. Essentially, these emissions represent the Scope 1 and 2 emissions of other companies within our value chain.

As we continue working toward our Scope 3 target, we are actively engaging and partnering with our suppliers and customers. It is essential that the full value chain commits to climate action together. By doing so, we are not only achieving crucial emission reductions for Stora Enso but also paving the way for businesses of the future.

Q: What are your expectations and focus areas for 2025 and beyond?

All the businesses in which we operate are in growing segments, driven by strong sustainability trends. Stora Enso holds leading market positions in renewable packaging, biomaterials, and sustainable construction segments, all of which are positioned for long-term growth. These areas align with evolving sustainability trends and regulatory developments, favouring our renewable and innovative product offerings. Increased consumer demand and brand owners' focus on sustainability drive our commitment to offering more sustainable products, strengthening the market position of our circular solutions and making them a preferred choice in the industry.

We are leveraging these advantages to increase our market presence and continue our progress. This strategic alignment positions us to seize current opportunities while building resilience for future advancement. Looking ahead, we are prioritising capital allocation and asset strategy in expanding market segments to amplify competitiveness and drive profitable growth across the Group.

Promoting a positive performance culture has been essential in creating an environment that supports customer focus, operational efficiency, innovation, and excellence. Our annual employee engagement survey, conducted in November 2024, had both a high response rate and an overall strong engagement rate, exceeding the industry benchmark. I am proud of how our people and the organisation have performed during challenging times and as a team, we will continue the good work going forward.

As we pursue our long-term financial targets, we are well-equipped to embrace new opportunities, tackle future challenges, and deliver value to all our stakeholders. I want to thank our owners, employees, customers and business partners who have worked with us throughout the year. Thank you for your continued collaboration, trust, and support.

Key figures

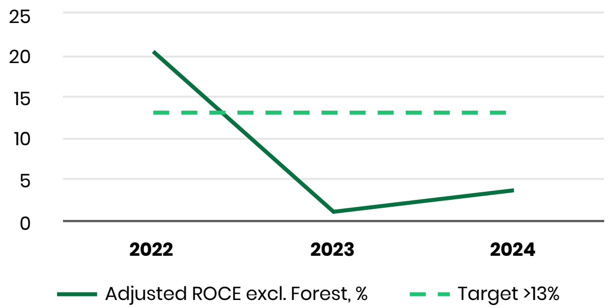
Key targets

	2024	2023	2022	Target	Performance against target
Financials					
Sales growth	-4%	-20%	17%	>5% per annum	Not achieved
Adjusted ROCE[1] excl. Forest	3.6%	1.0%	20.4%	>13%	Not achieved
Net debt to adjusted EBITDA[1]	3.0	3.2	0.7	<2.0	Not achieved
Net debt to equity	37%	29%	15%	<60%	Achieved
Dividend per share (EUR)[2]	0.25	0.2	0.6	See below[3]	Achieved
Non-financials					
Reduction of absolute CO_2e emissions (Scope 1 and 2) from 2019 base year[4]	-53%	-43%	-28%	-50% by 2030	On track
Reduction of absolute CO_2e emissions (Scope 3) from 2019 base year[4]	-39%	-35%	-24%	-50% by 2030	On track
Forest certification coverage	99%	99%	99%	96%	Achieved
Circularity[4]	94%	93%	94%	100% recyclable products by 2030	On track

1 Last 12 months
2 For 2024, dividend proposal, The Board of Directors proposes that the dividend be paid in two instalments, during the second and fourth quarter of 2025.
3 To distribute 50% of EPS excluding fair valuation over the cycle.
4 Comparative figures are restated due to structural changes or additional data after the previous annual report.

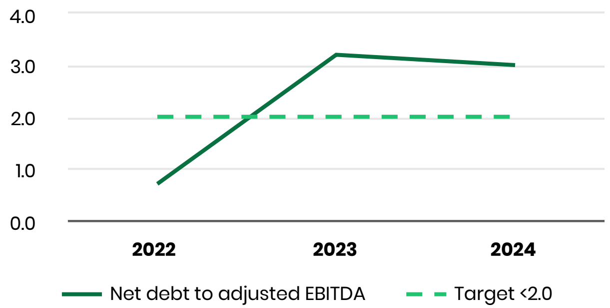
Achieved
On track
Not achieved

Adjusted ROCE excl. Forest*, %



*Last 12 months

Net debt to adjusted EBITDA



*Last 12 months

Earnings per share (basic)

EUR -0.17

last 12 months

Proposed dividend

EUR 0.25

per share

The Board of Directors proposes that the dividend be paid in two instalments, during the second and fourth quarter of 2025.

Climate change

Our Scope 1 & 2 CO_2e emissions were

53%

lower than in the base year 2019

Biodiversity

99%

of the land we own or manage was covered by forest certification schemes

Circularity

94%

of our products were technically recyclable

Events in 2024

Stora Enso discontinues the divestment process of its Beihai production site in China

Stora Enso decided to discontinue the divestment process for its Beihai packaging board production site and forestry business. This decision supports Stora Enso's strategic aim to strengthen its leadership in the fiber-based packaging market.

Read more on our website

Stora Enso prepares to sell parts of its forest assets in Sweden

Stora Enso initiated the sale of approximately 12% of its 1.4 million hectares of forest assets in Sweden. This sell aims to reduce debt and strengthen Stora Enso's balance sheet, highlighting the financial value of its forest holdings.

Read more on our website

Stora Enso strengthens wood supply chain in Oulu by sawmill acquisition

Stora Enso entered into an agreement to acquire 100% of the Finnish sawmill company Junnikkala Oy. The acquisition aims to secure a cost-efficient wood supply to Stora Enso's packaging board site in Oulu, Finland.

Read more on our website

Profit improvement programme and value creation actions to improve long-term profitability

Stora Enso launched a profit improvement programme aimed at reducing gross fixed costs to boost annualised adjusted EBIT by EUR 120 million, The programme covers a reduction of approximately 1,000 employees but does not involve any closures of production sites. Stora Enso also implemented value creation actions across the group, focused on sourcing, operational, and commercial efficiencies.

Read more on our website

Stora Enso partners with IUCN on positive impacts on biodiversity

Stora Enso has developed a science-based framework using technology and data to forecast and enhance biodiversity impacts. The company's partnership with the International Union for Conservation of Nature (IUCN) will offer expert insights to further refine and validate this framework.

Read more on our website

Sustainability statement in accordance with the Corporate Sustainability Reporting Directive

Stora Enso's Sustainability statement provides a comprehensive overview of the risks and opportunities arising from social, environmental, and governance issues, and on the impact of our activities on people and the environment.

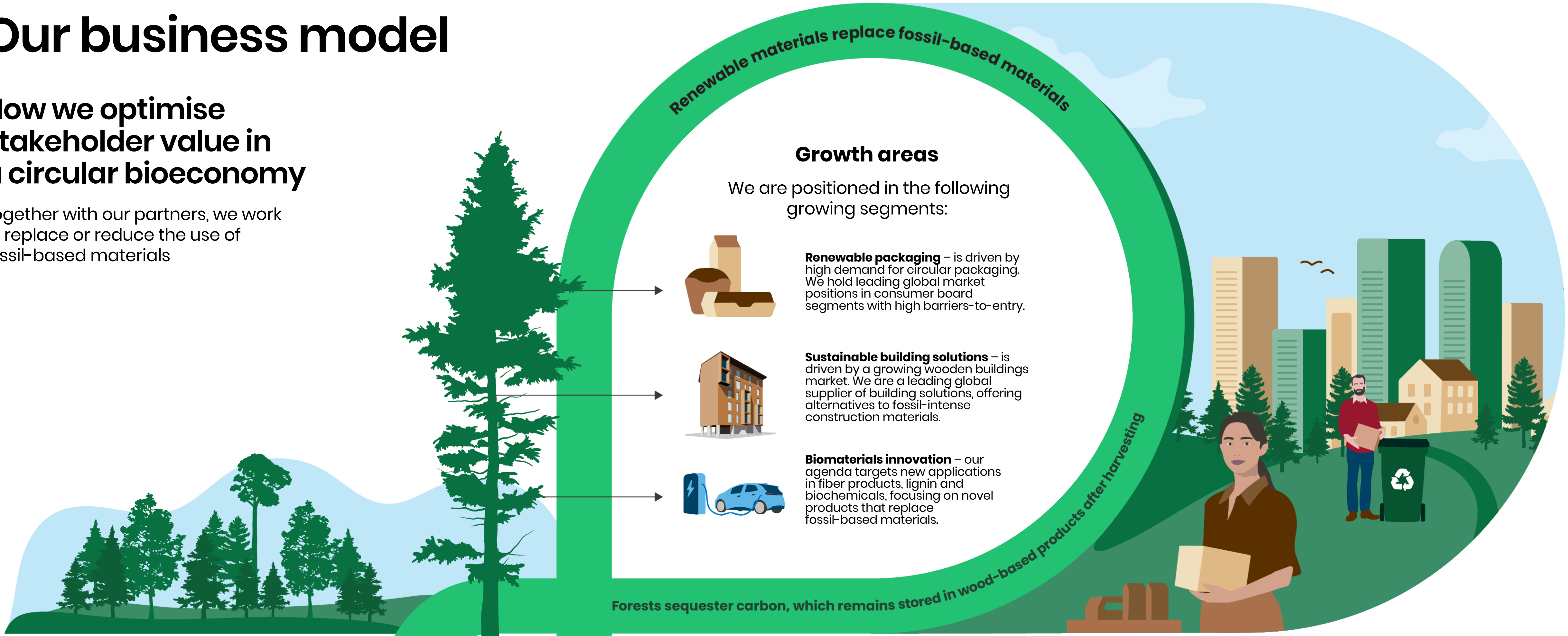
Read more in the Report of the Board of Directors

This is Stora Enso

Our business model

How we optimise stakeholder value in a circular bioeconomy

Together with our partners, we work to replace or reduce the use of fossil-based materials



Growth areas

We are positioned in the following growing segments:

Renewable packaging – is driven by high demand for circular packaging. We hold leading global market positions in consumer board segments with high barriers-to-entry.

Sustainable building solutions – is driven by a growing wooden buildings market. We are a leading global supplier of building solutions, offering alternatives to fossil-intense construction materials.

Biomaterials innovation – our agenda targets new applications in fiber products, lignin and biochemicals, focusing on novel products that replace fossil-based materials.

Forest

Our value creation has its foundation in the forest, where wood represents the largest part of our raw material. The forest is a value accretive real asset and functions as a long-term fiber supply for our products. Sustainable forest management ensures that new generations of trees replace those that are harvested.

Suppliers

With over 20,000 contractors, sub-contractors and suppliers, we prioritise responsible raw material sourcing and foster long-term relationships with key partners.

Operations

We constantly improve resource efficiency and make use of material streams that would otherwise end up as waste. Operating in a circular economy, many of our products and materials can be reused and recycled to reduce environmental impact and maximise value.

Customers

Our investments in energy, raw material efficiency, and product development enable customers to achieve their climate and circularity goals. By partnering with customers and other stakeholders, we create sustainable, valuable products that enhance our customer relationships and market share.

Consumers

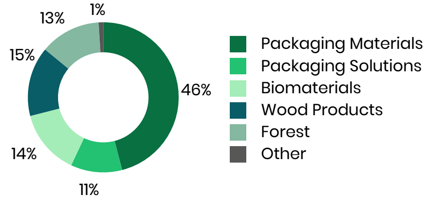
Stora Enso supports its customers in meeting the growing consumer demand for low-carbon, circular products and, when possible, replacing fossil-based products with renewable ones. Consumers world-wide use our products daily, such as milk cartons, boxes for products bought online, and wooden housing.

Our divisions

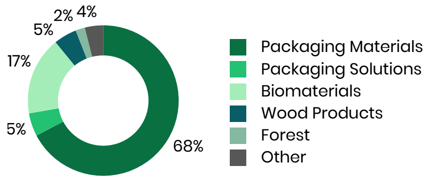
Division	Products and applications	Main customer groups	Key figures	Market position
 **Packaging Materials** The Packaging Materials division is a global leader and expert partner in circular packaging providing premium packaging board, made from virgin and recycled fiber. Stora Enso helps customers reduce the use of fossil-based materials by offering renewable and recyclable products for their food, beverage, and transport packaging based on a wide selection of base board and barrier coatings.	• Liquid packaging board • Foodservice board • Fresh cartonboard • Containerboard • Book paper • Newsprint, magazine paper	Packaging converters, food producers, brand owners, retailers, and book and newspaper producers	**Sales:** EUR 4,502 million Adjusted EBIT: EUR 172 million **Adjusted ROOC*:** 4.9%	**#1** globally in liquid packaging board **#1** in Europe in fresh cartonboard
 **Packaging Solutions** The Packaging Solutions division is a packaging converter that produces a wide-range of fiber-based packaging products for leading brands across multiple market areas, including retail, e-commerce, and industrial applications. Additionally, the division provides design, packaging automation and sustainability services to help customers optimise material use, improve logistics, and reduce CO_2 emissions.	• Boxes and trays for packaging • Packaging design and automation • Converting of carton and corrugated board	Brand owners in fresh produce, horticulture, food and beverage, industrial applications, e-commerce, electronics, retail and transport industries	**Sales:** EUR 987 million Adjusted EBIT: EUR -15 million **Adjusted ROOC*:** -1.6%	**#3** in corrugated boxes in the Nordic countries **#2** in corrugated boxes in the Benelux countries
 **Biomaterials** The Biomaterials division's foundation is built on pulp, with the aim of becoming customers' first choice in selected grades. To unlock the full potential of a tree the division also leverages all fractions to create innovative biobased solutions, that replace fossil-based and other non-renewable materials.	• Pulp • Hard carbon battery material • Lignin • Biobased binders • Wood foams • Biobased chemicals • Formed fiber • Tall oil and turpentine	Packaging, paper, tissue, specialty paper, hygiene products, construction, and furniture industries and chemical producers	**Sales:** EUR 1,587 million Adjusted EBIT: EUR 231 million **Adjusted ROOC*:** 9.3%	**#1** fluff producer in Europe
 **Wood Products** The Wood Products division is Europe's largest sawn timber producer and a leading provider of sustainable wood-based solutions for the global building sector. The division provides the building sector with renewable and low-carbon wood-based solutions that help decarbonise the built environment. Additionally, the division offers windows and door components, and co-products such as pellets made from wood residuals.	• Material for mass timber construction: CLT, LVL • Services and digital tools • Building concepts • Window and door components • Sawn and planed wood • Pellets • Sawdust	Construction companies, wholesalers and retailers	**Sales:** EUR 1,522 million Adjusted EBIT: EUR -16 million **Adjusted ROOC*:** -2.7%	**#1** globally in construction cross-laminated timber **#2** in Europe in classic sawn wood
 **Forest** The Forest division is responsible for wood sourcing for Stora Enso's Nordic and Baltic operations, as well as for B2B customers. It manages the Group's forest assets in Sweden and a 41% share in Tornator, whose forests are primarily located in Finland. The division's operations are based on sustainable forest management encompassing planning, logistics, harvesting, and forest regeneration.	• Wood procurement • Management of the Group's own forests • Biodiversity management • Forest management and other services for private forest owners	Stora Enso's Nordic and Baltic production sites, B2B customers, private forest owners	**Sales:** EUR 2,827 million Adjusted EBIT: EUR 309 million **Adjusted ROCE*:** 5.2%	One of the largest private forest owners in the world

*Last 12 months

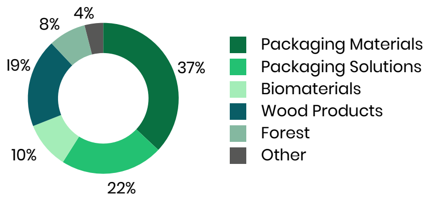
Share of external sales



Share of capital expenditure



Share of personnel



Stora Enso's products in everyday life

Folded boxes for dry food
Food safe, renewable materials to replace plastic in dry foods such as cereals, pasta or chocolate.

Wood-based building solutions
Mass timber elements for offices, schools, and multi-storey buildings cut carbon emissions by up to 60%, storing carbon throughout their lifetime.

Paperboard tube with a fiber-based closure
Used for cosmetics and personal care applications. All components are designed for recycling.

Renewable leak-tight flower packaging box
Allows customers to move from plastic buckets to renewable cardboard boxes optimised for transport.

Transport box for fruit
High quality and food safe white top kraftliner packaging board made from fresh fibers. Strong and light material suited for fresh produce transport and retail.

Prefabricated building solutions
Prefabricated building solutions includes everything needed to create a modern, sustainable wood structure.

Ready-meal trays and cups
Lightweight and 100% food safe in virgin fiber, suitable for frozen and chilled ready meals or take-away.

Building concepts
Linking architectural guidelines with building concepts for low-carbon, cost-efficient offices, schools, residential and industrial buildings.

Corrugated board for industrial, bulk and heavy-duty transport packaging
A cost and weight-efficient packaging that is easy to assemble, handle, and recycle.

Hard carbon for batteries
Hard carbon from lignin is a biobased material for batteries, offering a sustainable alternative to mined or fossil-based materials and ideal for use in electric vehicles, energy storage systems, and more.

E-commerce packaging
Recyclable solutions for e-commerce packaging, ensuring protection and cushioning while enabling easy returns.

Paper cups
Cupstock designed for hot and cold beverage cups with sealable barriers and high resistance.

Wood foams
Recyclable and biodegradable cellulose-based packaging foam that, replaces fossil-based foam in cushioning.

Unbleached fluff pulp
Used for hygiene applications such as baby care and feminine care products. 30% lower carbon footprint compared to traditional fluff pulp.

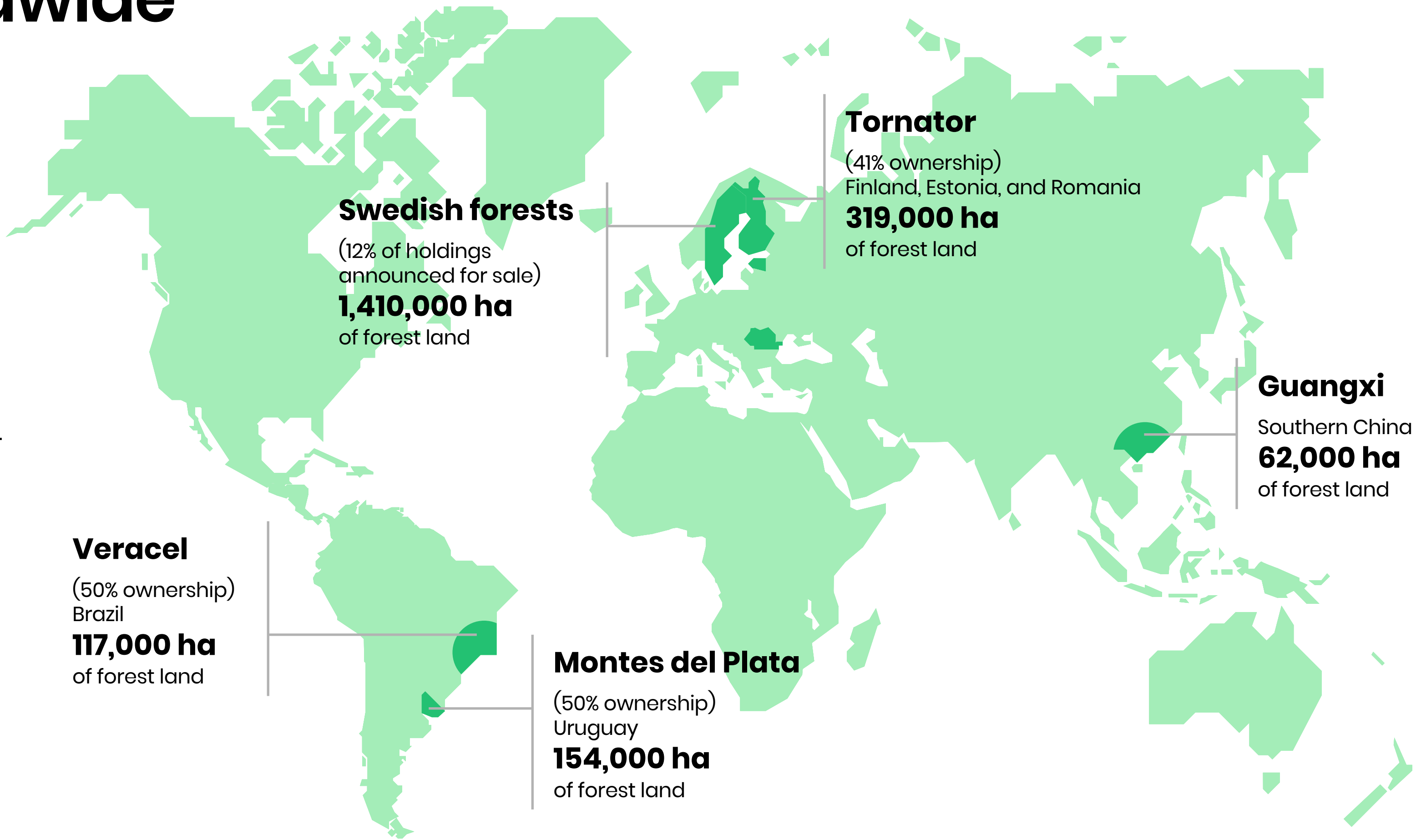
Fresh food trays
Easy-peeling packaging board used for products such as cold cuts, fish, and cheese. Consists of 90% wood fiber, keeping plastic usage to a minimum.

Carton packaging for liquid food
Wood fiber-based packaging materials used for packaging juices, milk, yogurt, soups and other liquid-based products are suitable for recycling.

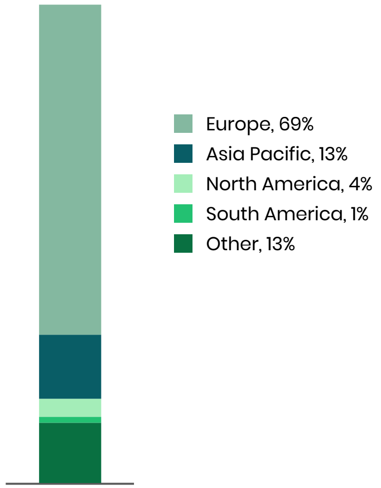
Stora Enso worldwide

Stora Enso operates globally and focuses on using renewable materials to create value in packaging, biomaterials, and wooden construction. Our customers include global companies such as packaging manufacturers, brand owners, retailers, industrial component manufacturers, and construction companies.

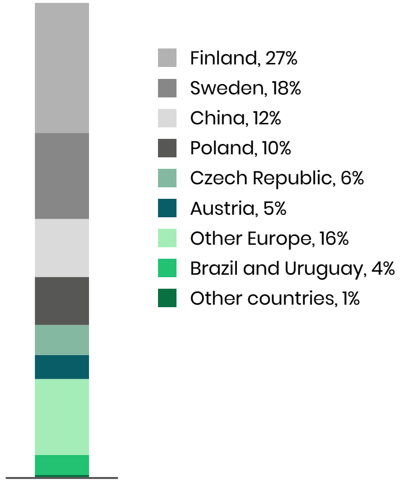
Stora Enso manages its own and leased forest land covering a total area of 2.1 million hectares worldwide.



Sales by destination



Employees by country[1]



1 Including 50% of the employees at Veracel in Brazil and Montes del Plata in Uruguay.

Europe

We are a leading European producer of packaging board, pulp, and wood-based products, with most of our sales and production located across eleven countries in Europe.

We primarily source our wood, our main raw material, from our own Northern European forests located near our production facilities. We also source wood from forest associates and private forest owners, ensuring strategic sourcing flexibility. In Central Europe, we source wood and recycled fiber for our production facilities through our own organisation.

South America

We obtain high-quality pulp from eucalyptus plantations in South America. In Brazil, we have a 50/50 joint venture with Suzano, called Veracel. In Uruguay, we have a 50/50 joint venture with Arauco, Montes del Plata. Our share of the eucalyptus pulp produced is partly used in our production sites and partly sold as market pulp, primarily to Europe and Asia.

Asia

Our consumer board site in Guangxi, China, mainly serves the Asian markets with virgin fiber-based board. Our operations also include eucalyptus plantations that supply our production facilities in the region. In addition, we supply renewable packaging products to our customers in Asia through our global operations from production sites in Europe and South America.

Value from our forest assets

Our forests are the foundation of our business. They are a scarce resource and a critical asset for the global renewable materials market, the balance and protection of biodiversity, and the well-being of our communities.

Stora Enso, one of the world's largest private forest owners, holds forest assets valued at EUR 8.9 billion as of the end of 2024, spanning 2.06 million hectares globally. The company meets 36% of its wood raw material needs from its own sources and long-term agreements, mitigating wood market volatility while enhancing long-term yields and financial flexibility.

In addition to sourcing wood from its own forests and tree plantations, Stora Enso purchased wood from approximately 21,000 private forest owners during the year. In 2024, approximately 83% of Stora Enso's wood came from forests in Europe, most of which are privately owned.

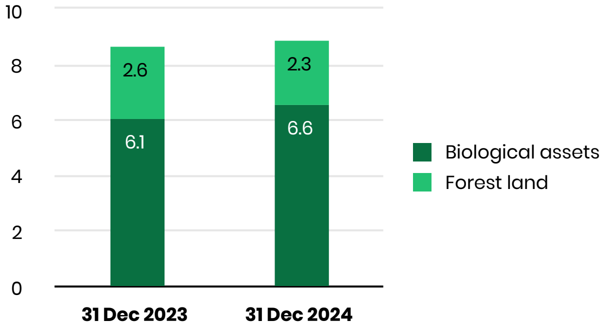
Our long-term target is to increase the total value of our forest assets

While increasing the value of our forest assets, we are actively addressing climate change through adaptation and mitigation. Trees are a renewable resource that grow back when forests are managed sustainably. We ensure forest regeneration after harvesting, as growing trees absorb carbon dioxide and wood-based products store carbon, replacing fossil fuel-based products.

We support the cascading use of wood, which means that all parts of harvested trees, forestry residuals, and industrial side streams are used in the most efficient way. Our biological assets, primarily standing trees, serve as raw materials for pulp and mechanical wood production, while wood residues are used as biofuels, mainly in our own operations.

Group's forest assets value

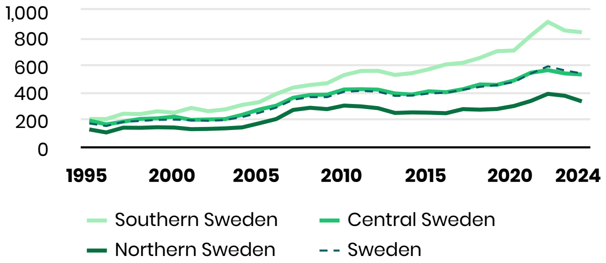
EUR billion



Including leased land and Stora Enso's share of Tornator.

Market transaction-based forest prices in Sweden

Index
SEK/m^3fo



Source: Ludvig & Co report, based on nominal prices.
Stora Enso's forest assets are located in Central and Northern Sweden.

Benefits of owning forest assets

Raw material efficiency and optimisation of timber value for various end uses.

Support Stora Enso's growth plans by securing a **36% self-sufficiency of wood supply.**

Stable income from wood sales with increasing long-term demand for renewable materials.

Yield improvement initiatives to increase harvesting sustainably in our own forests through tree breeding, fertilisation, and advanced forest management practices.

Returns from land development include increased wind power capacity, land swaps, compensations for protected areas, and revenue from land sales and hunting rights.

Opportunity to develop forest management practices that respond to changing market and climate conditions while enhancing biodiversity.

Stora Enso forest areas in Sweden and Tornator forest areas in Finland

Board, pulp and paper production sites

Sawmills

Innovation for future-fit forests

Our forest assets, forest professionals, and international network enable us to focus on development and innovation, optimise land utilisation, and create new revenue streams. We are intensifying initiatives in our Swedish forests, concentrating on research, development, and the adoption of new technologies and digitalisation.

Digitalisation, remote sensing technology, and artificial intelligence enhance our operations in forests and the wood supply chain while aiding in biodiversity protection and restoration. With precise data, we can accurately monitor forest volume, yield, and variety, and detect diseases early. This data also supports our efforts to implement more effective biodiversity actions.

In the future, we aim to monitor tree species composition and deadwood creation with high granularity, identifying key areas for biodiversity. We also encourage our partners to adopt similar approaches.

Sustainable forestry and biodiversity

Sustainable forest and plantation management ensures the long-term availability of wood while preserving ecosystems and biodiversity, crucial for forest resilience. Biodiversity refers to the variability of life at genetic, species, and habitat levels. Globally, biodiversity is declining, and more action is needed to reverse this trend.

As one of the world's largest private forest owners, we have a responsibility to protect biodiversity across all our operations.

Annual harvesting

10.5

million m³ forest cubic metres

Across all our forests, wood harvesting is planned to align with the unique characteristics of each site.

Estimated annual forest growth

13.9

million m³ forest cubic metres

Sustainable forest management promotes healthy, thriving forests.

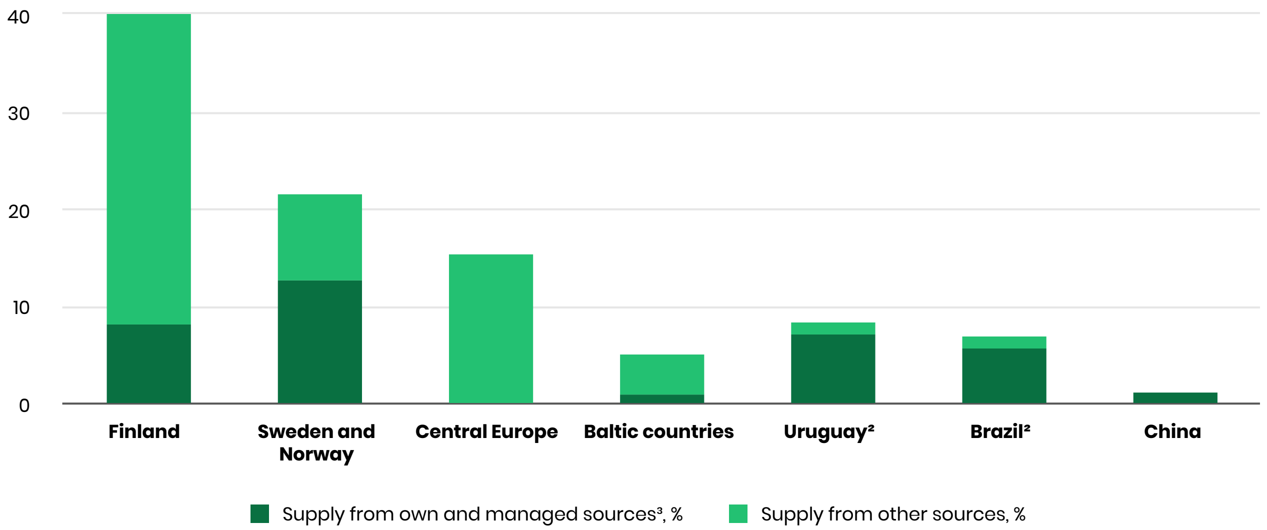
Annual CO_2 sequestration

4.3

million tonnes CO_2

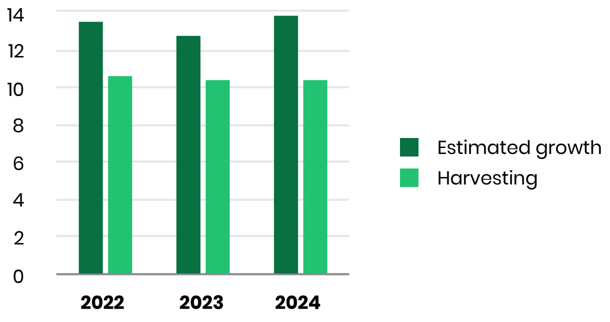
CO_2 sequestered in our own or leased productive forest lands, 3-year annual average.

Wood procurement by countries/region[1]

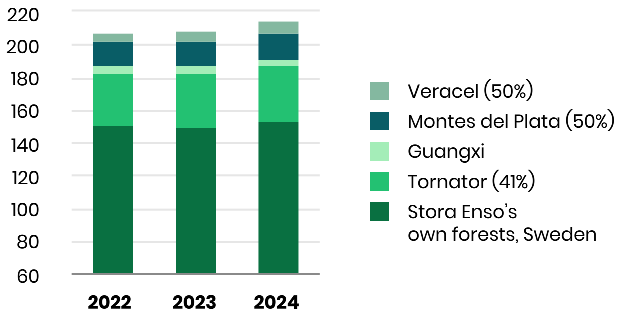


1 Total amount of wood (roundwood and chips) procured within these regions for delivery to our units (million m³ solid under bark).
2 Figures for Brazil and Uruguay include 50% of the wood procurement of our joint operations Veracel and Montes del Plata.
3 Includes wood delivered from Stora Enso's forests to third-parties. Managed sources consist of long-term harvesting rights and contracts. In 2024, we harvested in own and leased forests and sourced from long-term agreements a total of 10.5 million m³. Our deliveries to our mills were 29.0 million m³ in total excluding energy wood.

Total growth and harvesting



Total standing stock



Our strategy

Global megatrends underpin our business strategy

Megatrends and market dynamics are affecting our business, driving growth, improving margins, and creating new business opportunities. However, these factors could also potentially bring significant challenges and uncertainties. At the same time, sustainability initiatives, technological advancements, and shifts in consumer preferences toward replacing fossil-based materials are influencing purchasing behaviour. Global megatrends are fuelling the demand for renewable materials, supporting our growth and value creation.

Key megatrends

Circularity

Circularity is gaining momentum across various sectors and regions, driven by policy, innovation, and consumer demand. The world needs materials that are both renewable and recyclable, and supporting a circular bioeconomy to combat climate change, conserve natural resources, and minimise waste.

Eco-awareness

Climate change necessitates the more efficient use of natural resources, and consumer demand for sustainable products is growing. Investors and other financial institutions are increasingly factoring climate and biodiversity impacts into their investment strategies. Meanwhile, policymakers and regulators are developing regulations to mitigate and adapt to climate change and halt biodiversity loss.

Climate change

The increase in average global temperatures has significant impacts on the environment, society, and economy, as seen in melting ice caps, rising sea levels, extreme weather events, biodiversity loss, food insecurity, and health risks. A key factor in decelerating climate change, and where Stora Enso can contribute, is replacing fossil-based materials with renewable alternatives.

Resource scarcity

Population growth, increasing consumption patterns, and climate change have led to the depletion of natural resources, subsequently increasing their price. This emphasises the need for efficient resource utilisation, establishing circular material flows, and waste reduction.

Market dynamics

Macroeconomic and geopolitical disruption

By navigating macroeconomic and geopolitical disruptions, Stora Enso can access new markets, streamline operations, and enhance its competitiveness. However, these disruptions could affect market demand, prices, profit margins, and product volumes. They may also increase costs and complexity. Global instability could disrupt supply chains, heightening risks while also creating opportunities to strengthen resilience and innovate in supply management.

Regulatory change

Political or regulatory developments could have both positive and negative impact on Stora Enso's businesses.

Access to raw materials

The growing demand for bio-based materials, along with external factors such as climate change and geopolitical instability, may limit Stora Enso's access to wood-based raw materials. However, these challenges also create opportunities to innovate and identify alternative sources, potentially driving greater sustainability and efficiency in the industry.

Climate change

Climate change could pose challenges to Stora Enso's forests and operations, impacting resource availability. However, it also presents opportunities to innovate and adapt, leading to advancements in sustainable forestry practices. Such improvements could enhance resilience while positioning the company as a leading provider of renewable fiber-based solutions, attracting new customers and markets.

Business environment and value creation

Business environment

Stora Enso's forest operations are based on the principles of sustainable forestry and demand for renewable wood raw material for packaging and construction. Stora Enso capitalises on the growing demand for renewable resources, aligning with market needs focused on reducing carbon emissions and promoting circular economy.

The market for sustainable packaging is growing, fuelled by increasing environmental concerns and changes in consumer behaviour. Fiber-based packaging for food is a significant growth area and e-commerce continues to expand. There is higher demand for packaging that is both functional and sustainable. Stora Enso's renewable and recyclable packaging products, are well-positioned to benefit from this trend.

The market for pulp is driven by demand in packaging, tissue, speciality papers and disposable hygiene products. Leveraging renewable technologies enhances the ability to tap into sustainability trends and seize opportunities.

The market demand for wood products is driven by factors such as housing and construction trends, consumer preferences for natural materials, and environmental sustainability considerations.

Our value creation

- Wood fiber-based products
- Renewable packaging
- Wood Products & pulp
- Sustainability trends as a key driving force

Strong market positions with high entry barriers in growing segments

- Growth per year >5%
- Net debt to adj. EBITDA <2
- LTM adj. ROCE excl. Forest >13%

Optimised and competitive production assets

- 2030: 50% less CO_2 emissions
- 2030: 100% recyclable products
- 2040: Net-zero emissions

One of the world's largest private forest owners

- Customer value and innovation
- Positive performance culture
- Safety, Diversity & Inclusion

Growth opportunities in biobased materials and markets

A focused and disciplined approach to capital allocation drives shareholder value

Cash flow generation

Allocating capital for sustainable profitable growth

Organic growth – CAPEX at or below depreciation over the cycle.

M&A – Selective M&A to support growth in both Packaging and Building Solutions.

Returning capital to shareholders

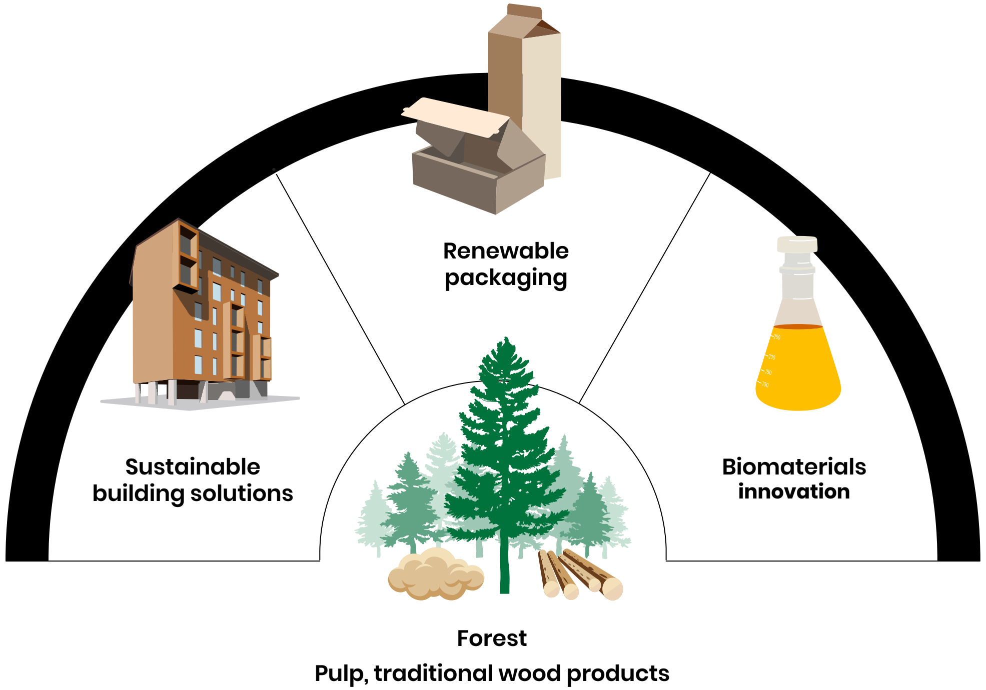
Dividend – To distribute 50% of EPS excluding fair valuation over the cycle.

Strategic focus areas

We create value for our shareholders by growing our leading positions in packaging, biomaterials innovations, and building solutions, combined with a strict capital allocation strategy, cost control, and other financial measures.

Sustainability supports our growth strategy

Growth and value drivers



Renewable packaging

In Packaging, we continue to see strong demand for plastic substitution and circular solutions. Fiber-based packaging is the most sustainable option for many products as it can be recycled, reused, or composted. It is the fastest growing packaging material globally and is expected to outpace plastic alternatives in the long term.

We hold leading global market positions in high-value segments and long-term customer partnerships. Our wide range of fiber-based packaging materials and solutions for cartons, boxes, trays, cups, and bags serve industries such as food and beverage, e-commerce, pharmaceutical, and cosmetics.

Biomaterials innovation

In Biomaterials, we focus on providing innovative and sustainable biobased solutions for high-growth, high-margin markets. Through our expertise, strategic collaborations and partnerships, we accelerate breakthrough innovations in new fiber products, biochemicals, and lignin-based applications, such as anode material for batteries and bio-based binders for construction, which can replace fossil-based materials.

Sustainable building solutions

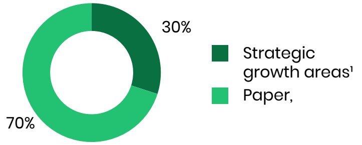
There are growth opportunities in the building industry, particularly with wooden alternatives to materials such as concrete and steel, which have larger carbon footprints. The global construction market is shifting towards modular building methods that use less energy and reduce carbon emissions. Mass timber products now enable the construction of safe and sustainable high-rise buildings. We are well-positioned to capture more value across the entire supply chain with our products and value-added services, including prefabricated bespoke wooden elements, new concepts, and digital services.

Forest

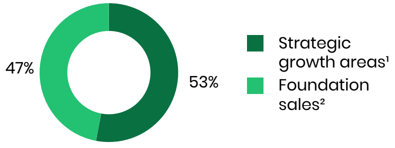
Forests are the foundation for Stora Enso's renewable solutions. Stora Enso owns forest assets in Sweden and holds a 41% share in Tornator, whose forest assets are primarily located in Finland. The Forest division manages the forest assets in Sweden and is also responsible for wood sourcing for Stora Enso's Nordic and Baltic operations.

Strategic growth areas

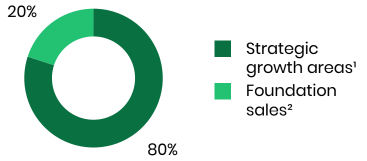
Sales 2006



Sales 2024



Sales 2030



Calculations are based on external sales.

1 Strategic growth areas include Renewable packaging, Sustainable building solutions, and Biomaterials innovations.
2 Foundation businesses include pulp, traditional wood products, and forest.

Ambition to significantly reduce earnings cyclicality

- Developing a more value-added pulp product mix
- Growth in packaging with increased integration of captive pulp
- Growing the share of building solutions
- 36% self-sufficiency in wood supply

Strategic progress

Value creation actions and profit improvement programmes for long-term competitiveness

Our value creation actions, focused on improved sourcing, operational efficiency and commercial excellence, made good progress across all divisions. These efforts have significant impacted profits and cost competitiveness during the year.

Additionally, our profit improvement programme, targeting annual gross fixed cost saving of EUR 120 million, advanced successfully.

Together, these initiatives are contributing to sustained enhancements in profitability and competitiveness. Furthermore, we reduced operating working capital by EUR 228 million during the year, driven by ongoing efforts to enhance capital release.

Investments and capital allocation

Stora Enso's EUR 1 billion investment to convert the idle paper machine at the Oulu site in Finland into a high-volume consumer board production line is proceeding according to plan. This investment supports growth in renewable packaging, with production expected to begin in early 2025.

In 2024, we initiated the sale of approximately 12% of our 1.4 million hectares of forest assets in Sweden. This sale aims to reduce debt and strengthen the balance sheet by showcasing the financial value of our forest holdings.

During the year, we decided to discontinue the divestment process for our Beihai packaging board production site and forestry business. This decision aligns with our strategic aim to strengthen our leadership in the fiber-based packaging market.

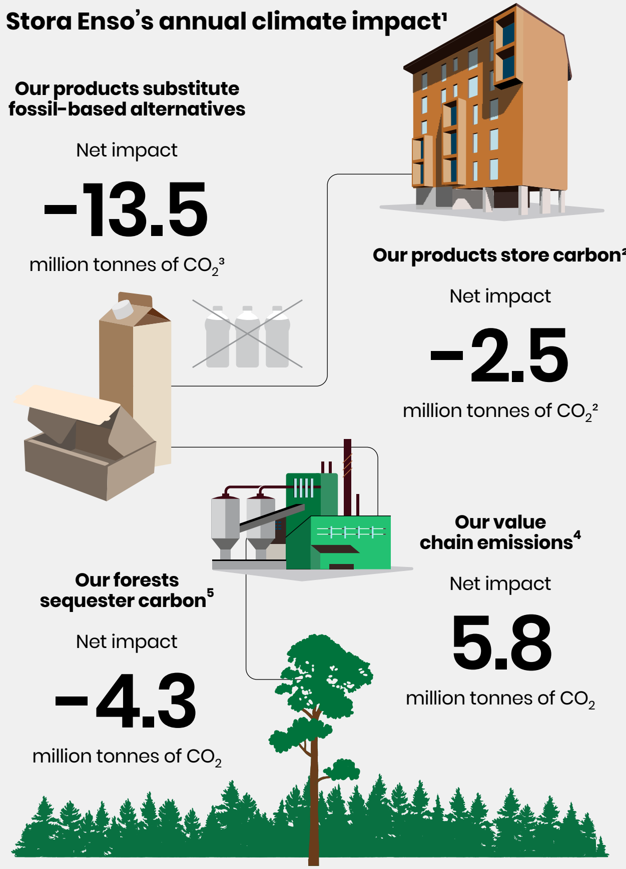
We also made a strategic decision to enter into an agreement to acquire 100% of the Finnish sawmill company Junnikkala Oy. The acquisition aims to secure a cost-efficient wood supply for our packaging board site in Oulu, Finland, and will support our wood products business with new production assets.

Sustainability progress

During 2024, we continued to make progress on our sustainability targets, achieving reductions in carbon emissions across all three Scope categories. Both active measures to reduce emissions and the closure of sites and production lines contributed to a 53% decrease in Scope 1 and 2 emissions and a 39% decrease in Scope 3 emissions compared to the 2019 baseline.

Our commitment to circularity involves reducing, reusing, and recycling materials in both production and consumption. We integrate circularity into our product development and collaborate with customers and partners to promote product recycling. By the end of 2024, 94% of our products were technically recyclable.

Our biodiversity initiatives aim for a net positive impact, with action programmes in place until 2030 to enhance biodiversity at the species, habitat, and landscape levels. Additionally, the share of forest certification coverage of the land we own or manage remained high at 99%.



1 Negative value indicates a net removal from atmosphere.
2 A modelled 100-year average with IPCC tool. Calculated by the Swedish University of Agricultural Sciences (SLU) based on Stora Enso's forest and production figures: Climate effects of a forestry company – including biogenic carbon fluxes and substitution effects.
3 Substitution effect describes the amount of greenhouse gas emissions avoided from using our products and biomass energy compared to more carbon-intensive fossil products and fuels. Calculated based on Stora Enso's product portfolio.
4 Stora Enso's CO_2e emissions in 2024 including direct emissions from our operations, emissions from purchased energy, and emissions from other sources along our value chain (Scope 1, 2, and 3). Calculated based on the Greenhouse Gas Protocol guidance.
5 Annual CO_2 sequestration in Stora Enso's owned or leased productive forest lands, three-year annual average. For further details, see Sustainability Statement, ESRS E1.

Our people

People and culture

To lead in a changing world, Stora Enso developed a People Promise and Expectations framework in 2024, closely aligned with its strategy.

Employee engagement

Stora Enso strives to understand employee perspectives and measure progress on our People Promise. We continuously adjust and refine our approach to support teams growth and improve through the all-employee survey, Engage. In year 2024 we ran a global survey as well as several divisional surveys to support the development of our decentralised operating model. The global survey conducted in 2024, had a response rate of 79%. The engagement score was 7.8, slightly above the industry benchmark.

Ways of working in a decentralised model

In 2024, Stora Enso made further progress in identifying optimal practices within its decentralised operating model. This approach aims to empower our divisions, create leaner Group functions, and increase customer-centricity. These efforts have involved organisational changed management across the company. Throughout this process, we have carefully adhered to national, union, and Works Council guidance, while providing managers and employees with continuous support and communication through various channels

Our positive performance culture

To foster a positive performance culture, we introduced the concept of 4As at the end of 2023. Ambition, Agility, Analytical Approach and Accountability guide us in developing high-performing teams and building a strong, transparent company culture. We are raising the bar by challenging ourselves and creating an active feedback culture. Our focus is on enhancing efficiency by raising a high clock speed. We utilise new forums to facilitate quicker problem-solving and connecting performance management processes across the organisation. Additionally, we are committed to embedding a culture of continuous improvement as our standard way of working, to encourage ongoing development and progress.

Cornerstones of our People Promise

Provide a safe, diverse, and inclusive environment

We value diversity and inclusion as they boost competitiveness, improve decision-making, and encourage job satisfaction, innovation, and agility. More information on our diversity, equity, and inclusion initiatives can be found on the next page.

Across all our operations and offices, we encourage all our people to actively participate in continuous safety improvement. We promote mental health awareness and physical safety through webinars and discussion forums.

Drive customer value, performance, and innovation

Stora Enso prioritises customer value to guide its direction and actions, promoting high performance and innovation across the organisation, supported by diversity and collaboration. We enhance managers' skills, agility, capabilities, and build expert partnerships through various training programmes, workshops, webinars, and conferences. Our Sales Academy is designed to drive value and performance in the marketplace for sales teams and other functions.

Grow to your full potential

We encourage all employees to drive their growth, set high ambitions, and embrace development opportunities to enhance their knowledge, skills, and networks. Our strategic workforce planning ensures the organisation has the necessary capabilities to meet market demands. We focus on recruitment and talent initiatives to address workforce gaps and support employee development.

Diversity, equity, and inclusion

Stora Enso is committed to offering an inclusive and equitable workplace where we respect and value individual differences. To meet market demands and effectively respond to our customers' needs, we recognise the importance of having employees from diverse backgrounds who bring a variety of perspectives.

Stora Enso is committed to diversity, equity, and inclusion (DE&I) in the workplace. We respect and value individual differences, striving to create an inclusive and equitable environment for all employees.

Reflecting the diverse societies in which we operate is essential to achieving our strategic goals. Diversity and inclusion drive improved performance, collaboration, and innovation. We appreciate diversity of thought and encourage employees to share their views. We have a zero-tolerance policy for discrimination, harassment, or bullying.

While we have set key performance indicators (KPIs) related to gender balance, we acknowledge that diversity includes more than just gender. It also includes age, ethnicity, national origin, and other aspects of identity. Our commitment to a safe, diverse, and inclusive working environment is outlined in our People Promise and Expectations.

Stora Enso is actively working towards greater inclusion through various initiatives. We regularly monitor employee feedback and perspectives on our diversity and inclusion efforts through engagement surveys. In 2024, we introduced a new Inclusion Index in our global employee engagement survey, which scored 8.4, placing Stora Enso in the average rank among the manufacturing sector.

Employee resource groups (ERGs) foster awareness and a sense of belonging. For example, the Rainbow Alliance ERG supports LGBTQI+ employees and allies. We also run communication campaigns to increase awareness on DE&I, coinciding with events such as International Women's Day, Pride Month, and Mental Health Day.

Each division has its own diversity focus areas and actions to enhance a sense of belonging. For instance, the Packaging Materials division promotes psychological safety through workshops, the Packaging Solutions division emphasises gender diversity in recruitment. One of the recruitment initiatives is the "Female Leader Engineer Talent Programme Cooperation", which also includes active collaboration of other divisions such as Biomaterials and Packaging Solutions.

The Wood Products division incorporates diversity metrics into its Purpose report, with development initiatives at both divisional and unit levels. As part of the Gender Balance Project in Austria, the division established a hybrid "Female Power Talks" programme, which included four events in 2024 aimed at empowering women and fostering support networks.

In addition to other aspects of diversity, the Forest division focuses on age diversity, with programmes such as the Young Advisory Board which serves as a development platform for junior and early-career talents in Sweden. The "Experienced and Still Sparkling" programme launched in 2024, aims to recognise and value more experienced employees.

Overall, Stora Enso is committed to continuously improving DE&I, creating an environment where every employee feels valued, respected, and that they belong.

Stora Enso ranked

top leader

in the Financial Times Diversity Leaders index

Share of women

24%

among all managers

Employees representing

80

different citizenships

Community engagement

With its strong global presence, Stora Enso depends on thriving and resilient communities. Our Purpose “Do Good for the People and the Planet” and our Values “Lead” and “Do What’s Right” underline our commitment to conducting business responsibly in the communities in where we operate.

Our operations depend on local communities for a skilled workforce and the supply of our primary raw material, wood. In turn, we contribute to local employment, income generation, and infrastructure development. Additionally, our community development programmes and employee volunteering initiatives are designed to further enhance the livelihoods of these communities.

We prioritise open and transparent relationships with stakeholders to discuss the impact of our operations, build trust, and address concerns. We have a long history of engaging with local communities in diverse settings and cultures. The form and frequency of our engagement vary based on the local context. This may involve interaction through community representatives or direct and inclusive contact. Active cooperation with forest owners and stakeholders near our harvesting sites helps to promote sustainable sourcing, share knowledge, and gain social acceptance.

Two examples of how we work with indigenous people

We are a significant private forest owner in Sweden and a key forestry operator in Finland. We acknowledge our responsibilities to the indigenous Sámi people who reside near the lands where we operate or source our wood. Our forestry planning team engages in ongoing dialogue with the local Sámi communities in Sweden, including discussions about forestry and reindeer herding, and identifying opportunities and challenges together. Before commencing any forestry operations, we consult with the Sámi communities. Annual evaluation meetings assess the year’s activities and consultations, ensuring continuous communication and collaboration. This partnership has resulted in solutions such as minimising damage to lichen during soil preparation for replanting, which is essential for feeding reindeer during winter.

Our approach to engaging with local communities and indigenous peoples, as well as managing our impact, is further described in the Sustainability Statement.

The Pataxó and Tupinambá communities, comprising nearly 25,000 indigenous people, live near Veracel, our joint venture in Brazil. In cooperation with indigenous communities, Veracel’s community liaison team plans activities to foster dialogue and preserve traditional culture. Community consultations are held before logging operations begin and after activities near harvesting sites are completed to avoid or mitigate any potential impact. We are committed to managing our actions responsibly, minimising adverse impacts on the environment and people while maximising positive outcomes.

Governance

Corporate Governance Stora Enso in 2024

The duties of the various bodies within Stora Enso Oyj ("Stora Enso" or the "Company") are determined by the laws of Finland and by the Company's corporate governance policy, which complies with the Finnish Companies Act and the Finnish Securities Market Act. The rules and recommendations of the Nasdaq Helsinki Oy and Nasdaq Stockholm AB stock exchanges are also followed, where applicable. The corporate governance policy is approved by the Board of Directors ("Board").

Stora Enso complies with the Finnish Corporate Governance Code 2025 issued by the Securities Market Association (the "Finnish Code"). The Finnish Code is available at cgfinland.fi. Stora Enso also complies with the Swedish Corporate Governance Code (the "Swedish Code"), with the exception of the deviations listed in Appendix 1 of this Corporate Governance Report. The deviations are due to differences between Swedish and Finnish legislation, governance code rules and practices, and in these cases Stora Enso follows the practice in its domicile. The Swedish Code is issued by the Swedish Corporate Governance Board and is available at corporategovernanceboard.se.

This Corporate Governance Report is available as a PDF document at storaenso.com/investors/governance.

General governance issues

The Board and the President and CEO are responsible for the management of the Company, the roles and responsibilities of which are described in more detail later in this report. Other governance bodies have an assisting and supporting role.

The Stora Enso group prepares Consolidated financial statements and interim reports conforming to International Financial Reporting Standards (IFRS Accounting Standards). The Company's sustainability statement is prepared in accordance with the European Sustainability Reporting Standards. The annual financial statement, the Report of the Board of Directors including the sustainability statement and interim reports are published in Finnish and English. Stora Enso prepares its financial statements in accordance with the Finnish Accounting Act.

The Company's head office is in Helsinki, Finland, and it also has head office functions in Stockholm, Sweden.

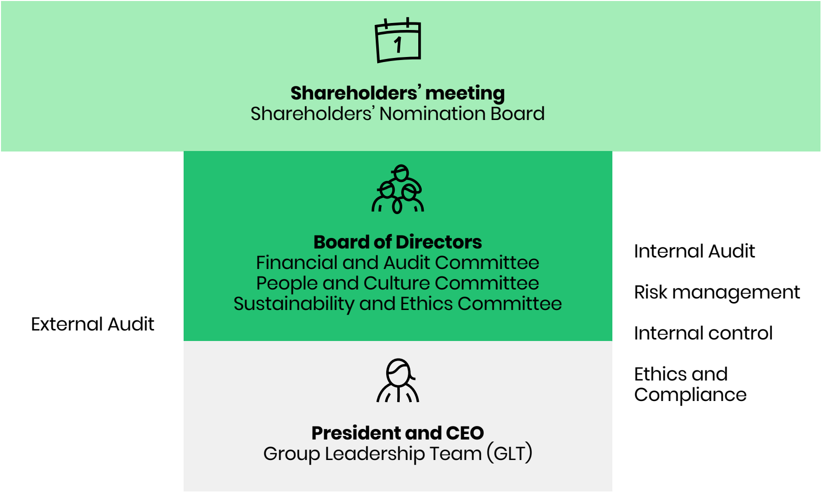
Stora Enso has one statutory auditor elected by the shareholders at the Annual General Meeting (the "AGM"). To the maximum extent possible, corporate actions and corporate records are taken and recorded in English.

Objectives and composition of governance bodies

The shareholders exercise their ownership rights through the shareholders' meetings. The decision-making bodies responsible for managing the Company are the Board and the CEO, while the Group Leadership Team (GLT) supports the CEO in managing the Company.

The day-to-day operational responsibility rests with the GLT members supported by divisional and function teams.

Governance bodies



Shareholders' meetings

The AGM is held annually to present detailed information about the Company's performance and to deal with matters such as adopting the annual accounts, setting the dividend (or distribution of funds) and its payment, and appointing the Chair, Vice Chair, and the members of the Board of Directors, as well as the Auditor.

Shareholders may exercise their voting rights and take part in the decision-making process of Stora Enso by participating in shareholders' meetings. Shareholders also have the right to ask the Company's management and Board of Directors questions at shareholders' meetings. Major decisions are taken by the shareholders at Annual or Extraordinary General Meetings. At a shareholders' meeting, each A share and every ten R shares carry one vote. Shareholders may also exercise their decision-making rights by means of pre-voting, which has been offered by the Company as a means of exercising voting rights since 2020.

The Board of Directors convenes a shareholders' meeting by publishing a notice of the meeting at the Company's website not more than three months before the last day for advance notice of attendance mentioned in the notice of the meeting and not less than three weeks before the date of the meeting. In addition, the Company publishes details on the date and location of the meeting, together with the address of the Company's website, in at least two Finnish and two Swedish newspapers. Other regulatory notices to the shareholders are delivered in the same way.

The AGM shall be held annually by the end of June in Helsinki, Finland. The Finnish Companies Act and Stora Enso's Articles of Association specify in detail that the following matters have to be dealt with at the AGM:

- presentation and adoption of the annual accounts
- presentation of the Board of Directors report and the Auditor's report
- use of the result and distribution of funds to the shareholders
- resolution concerning discharge of the members of the Board and the CEO from liability
- presentation of the remuneration policy and/or report
- decision on the number and the remuneration of the members of the Board and the Auditor
- election of the Chair, Vice Chair, and other members of the Board and the Auditor
- any other matters notified separately in the notice of the meeting.

In addition, the AGM shall take decisions on matters proposed by the Board of Directors. A shareholder may also propose items for inclusion in the agenda provided that they are within the authority of the shareholders' meeting and the Board of Directors was asked to include the items in the agenda no later than on the date set out by the Company, which must be not earlier than four weeks before the publication of the notice of the meeting and which will be announced at the Company's website no later than by the end of the financial year preceding the AGM.

An Extraordinary General Meeting of Shareholders is convened when considered necessary by the Board of Directors or when requested in writing by the Auditor or shareholders together holding a minimum of one tenth of all the shares to discuss a specified matter which they have indicated.

In 2024

Stora Enso's AGM was held on 20 March 2024 in Helsinki, Finland. Of all issued and outstanding shares in the Company, a total of 66.7% of all shares (69.3% in 2023) and a total of 83.2% of all votes (85.9%) were represented at the meeting, with 91.4% of all A shares (94.2%) and 59.6% of all R shares (62.2%) represented. All Board members and most of the GLT members as well as Company's Auditor were present at the meeting. The AGM, in addition to regular matters, authorised the Board to decide on a share issue or share repurchase covering a maximum of 2,000,000 R shares in order to carry out the Company's compensation or remuneration schemes. No Extraordinary General Meetings of Shareholders were convened in 2024.

Shareholders' Nomination Board

Shareholders at the AGM have established a Shareholders' Nomination Board to exist until otherwise decided, and to annually prepare proposals to the shareholders' meeting concerning:

- the number of members of the Board;
- the Chair, Vice Chair, and other members of the Board;
- the remuneration for the Chair, Vice Chair, and members of the Board;
- the remuneration for the Chair and members of the committees of the Board.

The AGM has approved the Charter of the Shareholders' Nomination Board and shall approve any proposed amendments of the Charter, other than technical updates. The Shareholder's Nomination Board according to its Charter comprises four members:

- the Chair of the Board;
- the Vice Chair of the Board;
- two members appointed annually by the two largest shareholders (one each) as of 31 August.

The Board through its Chair shall ensure that the annual appointment of the members to the Shareholders' Nomination Board is carried out as set out in the Charter as decided by the AGM. The Board Chair shall annually convene the first meeting of the Shareholders' Nomination Board, which shall elect its Chair amongst its members that are annually appointed by the Company's two largest shareholders.

The Shareholders' Nomination Board shall serve until further notice, unless the AGM decides otherwise. Its members are elected annually, and their term of office shall end when new members are elected to replace them.

In 2024

The Shareholders' Nomination Board comprised four members: Kari Jordan (Chair of the Board), Håkan Buskhe (Vice Chair of the Board) and two other members appointed by the two largest shareholders, namely Jouko Karvinen (Solidium Oy) and Marcus Wallenberg (FAM AB). Marcus Wallenberg was elected Chair of the Shareholders' Nomination Board.

The main tasks of the Shareholders' Nomination Board were to prepare the proposals for the AGM 2025 concerning Board members and their remuneration. During its working period 2024–2025, the Shareholders' Nomination Board convened four (4) times. All members were male. Each member of the Shareholders' Nomination Board attended all the meetings. Kari Jordan and Håkan Buskhe did not participate in the preparations or the decision-making regarding Board remuneration.

In its proposal for the AGM 2025, the Shareholders' Nomination Board proposes that of the current members of the Board of Directors Håkan Buskhe, Helena Hedblom, Astrid Hermann, Kari Jordan, Christiane Kuehne, Richard Nilsson and Reima Rytsölä be re-elected members of the Board of Directors until the end of the following AGM and that Elena Scaltritti and Antti Vasara be elected new members of the Board of Directors for the same term of office. It is proposed that Kari Jordan be elected Chair of the Board and Håkan Buskhe Vice Chair of the Board. Elisabeth Fleuriot has informed the Shareholders' Nomination Board that she is not available for re-election. The Shareholders' Nomination Board also proposes that the annual remuneration for the Chair, Vice Chair, and members of the Board of Directors, as well as for the Chairs and members of Board Committees be increased by 3 percent.

For the purpose of carrying out its tasks, the Shareholders' Nomination Board has received the results of the external evaluation of the Board of Directors as well as the assessment of each director's independence of the Company and of significant shareholders. The Shareholders' Nomination Board has taken the results of the Board evaluation and the requirements relating to director independence into account in its work. The Shareholders' Nomination Board further considers the principles of the Board Diversity Policy in preparing its proposal. The Shareholders' Nomination Board has a Charter that defines its tasks and responsibilities in more detail.

Remuneration

No remuneration is paid for members of the Shareholders' Nomination Board as decided by the AGM. The Shareholders' Nomination Board Charter is presented at storaenso.com/investors/governance.

Composition of the Shareholders' Nomination Board in 2024

Kari Jordan[1], member	Håkan Buskhe[1], member
Chair of Stora Enso's Board of Directors	Vice Chair of Stora Enso's Board of Directors
Marcus Wallenberg, Chair	**Jouko Karvinen, member**
Chair of Stora Enso's Shareholders' Nomination Board. Born 1956. B.Sc. (Foreign Service). Chair of the Board of Directors of FAM AB.	Member of Stora Enso's Shareholders' Nomination Board. Born 1957. M.Sc. (Tech.). Chair of the Board of Directors of Solidium Oy.

1 Curriculum vitae of Kari Jordan and Håkan Buskhe, see chapter Members of the Board of Directors.

Board of Directors

Stora Enso is managed by the Board acting in accordance with the Finnish Companies Act as well as other applicable legislation.

According to the Company's Articles of Association, the Board comprises six to eleven ordinary members appointed by the shareholders at the AGM for a one-year term. The majority of the directors shall be independent of the Company. In addition, at least two of the directors comprising this majority shall be independent of significant shareholders of the Company. A significant shareholder is a shareholder that holds at least 10% of all the Company's shares or the votes carried by all the shares or a shareholder that has the right or the obligation to purchase the corresponding number of already issued shares. The independence is evaluated annually in accordance with the Finnish Corporate Governance Code.

All directors are required to deal at arm's length with the Company and its subsidiaries and to disclose circumstances that might be perceived as a conflict of interest.

The shareholders at the AGM decide the remuneration of the Board members (including the remuneration of the members of the Board committees).

The Board supervises the operation and management of Stora Enso and decides on significant matters relating to strategy, investments, organisation, finance, and sustainability.

The Board is responsible for overseeing management and for the proper organisation of the Company's operations. Likewise, it is responsible for overseeing the proper supervision of accounting and the control of financial and sustainability matters.

The Board has defined a working order, the principles of which are published in chapter Working order of the Board in this report and at storaenso.com/investors/governance.

The AGM elects the Chair and Vice Chair of the Board. Should the Chair or Vice Chair of the Board of Directors resign or become otherwise unable to act as Chair or Vice Chair during their term of office, the Board may elect a new Chair or Vice Chair from among its members for the remaining term of office.

The Board annually agrees on focus areas for the Board's work during the upcoming year constituting the Board Agenda.

The Board appoints the CEO, Chief Financial Officer (CFO), and other GLT members. The Board approves the main organisational structure of the Company.

The Board reviews and determines the remuneration of the CEO, which is described in the Annual Report and on the Company's website. The Board and each of its Committees evaluates its performance annually. The results of the Board's evaluation are reviewed by the Board and shall be communicated to the Shareholders' Nomination Board, which shall take the results of the Board evaluation into account in its work. The Board also reviews the corporate governance policy annually and amends it when required.

The Board's work is supported through its committees – the Financial and Audit Committee, the People and Culture Committee and the Sustainability and Ethics Committee. Each committee's Chair and members are appointed by the Board annually.

The Board meets at least five times a year. The Board members meet regularly without management in connection with the Board meetings.

Board Diversity Policy

The Company has established a Board Diversity Policy setting out the principles concerning the diversity of the Board. The Shareholders' Nomination Board shall, in connection with preparing its proposals for the nomination of directors to the AGM, consider the principles of the Company's Board Diversity Policy.

Directors shall be nominated on the basis of their merits and with consideration of the benefits of diversity and the principles that the Company refers to as Diversity of Thought, including, but not limited to, criteria of diversity such as gender, age, nationality, and individual differences both in professional and personal experiences. The merits of directors include knowledge of the operational environment of the Company, its markets and of the industry within which it operates, and may include elements such as financial, sustainability or other specific competency, geographical representation, and business background as required in order to achieve the appropriate balance of diversity, skills, experience, and expertise of the Board collectively. The foremost criteria for nominating director candidates shall be the candidates' skills and experiences, industrial knowledge as well as personal qualities and integrity. The composition of the Board as a whole shall reflect the requirements set by the Company operations and its development stage. The number of directors and the composition of the Board shall be such that they enable the Board to see to its duties efficiently. Both genders shall be represented on the Board and the aim of the Company shall be to strive towards a good and balanced gender distribution.

The Shareholders' Nomination Board has taken the principles of the Board Diversity Policy into account in its work. The Shareholders' Nomination Board finds that the composition of the Board as proposed to the AGM 2025 reflects diversity and a good variety of skills and experiences among the Board members following the principles set out in the Board Diversity Policy. The aim of the Shareholders' Nomination Board going forward is to maintain a good and balanced gender distribution.

The Board Diversity Policy is presented at storaenso.com/investors/governance.

In 2024

The Board had eight members at the end of 2024, all of them independent of the Company. The Board members are also independent of significant shareholders of the Company with the exception of Håkan Buskhe (CEO of FAM AB), Richard Nilsson (Investment Director at FAM AB) and Reima Rytsölä (CEO of Solidium Oy).

The Board members nominated at the AGM in 2024 were Kari Jordan (Chair), Håkan Buskhe (Vice Chair), Elisabeth Fleuriot, Helena Hedblom, Astrid Hermann, Christiane Kuehne, Richard Nilsson and Reima Rytsölä. The Board convened ten times during the year. The members' participation rate in meetings amounted to 100%.

An external evaluation relating to the Board's work has been conducted during 2024, which together with the evaluation of the Board members' independence has been provided to the Shareholders' Nomination Board for information. Overall assessment of the Board's work and performance has been effective and positive. The Board has worked according to all applicable rules and regulations. For detailed information about the Board members and their share ownerships, see chapter Members of the Board of Directors.

Remuneration

Board remuneration is decided by the AGM each year. The AGM 2024 decided on an annual remuneration of EUR 215,270 for the Board Chair, EUR 121,540 for the Vice Chair and EUR 83,430 for other members, which is paid partly in Company shares as set out in the resolution of the AGM. In addition, remuneration may be paid based on Board Committee memberships.

Board Diversity in 2024

During 2024, the Board has been composed of eight members representing five different nationalities and a diverse range of experience from global companies and industrial sectors. All Board members have university degrees from different fields such as engineering, technology, finance, and law. All members have vast experience from global companies either from operative positions or through board memberships. A detailed description of the educational and professional backgrounds of the Board members can be found in chapter Members of the Board of Directors.

The Board members represent a good knowledge of the operational environment of the Company as well as particular experience of amongst others sustainability, ESG, financial competence, and the business environment relevant to the operations of the Company. At the end of 2024 the age of the Board members varied from 51 years to 69 years and the Board was composed of four women and four men.

In 2024, the Shareholders' Nomination Board has considered its previous evaluation of competencies that may be further strengthened in the long-term Board succession planning. In its proposal for the AGM 2025, the Shareholders' Nomination Board has proposed a Board composition that includes four women and five men in the age range of 51 years to 69 years and representing a total of five different nationalities. With the proposed Board composition, the gender balance of the Board of Directors will comprise 44.4% female and 55.6% male. The proposed new Board members Elena Scaltritti and Antti Vasara would bring strong science and technology competence and experience to the Board, and would, in the view of the Shareholders' Nomination Board, add strong value to the Board as a collective.

The aim of the Shareholders' Nomination Board going forward is to maintain a good and balanced gender distribution.

Working order of the Board

The working order describes the working practices of the Board.
A summary of key contents is presented below.

Board meetings

- occur regularly, at least five times a year, according to a schedule decided in advance;
- special Board meetings, if requested by a Board member or the CEO, are held within 14 days of the date of request;
- agenda and material shall be delivered to Board members one week before the meeting.

Information

- the Board shall receive information monthly concerning financial performance, the market situation, and significant events within the Company's and the group's operations;
- Board members shall be informed about all significant events immediately.

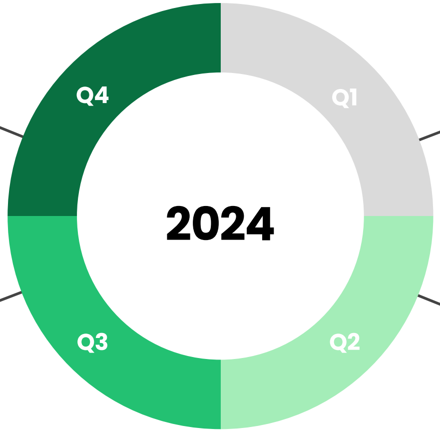
Matters to be handled at Board meetings

- matters specified by the Finnish Companies Act;
- approval of business strategy;
- organisational and personnel matters:
  - decisions concerning the basic top management organisation;
  - decisions concerning the composition of the GLT;
  - remuneration of the CEO;
  - appointment and dismissal of the CEO and approval of heads of divisions and other members of the GLT, based on the CEO's proposal;
  - appointment of Committee Chairs and members;
  - remuneration of GLT members based on the CEO's proposal;
  - review talent management and succession planning process (in particular the CEO);
- economic and financial matters:
  - approval and review of the annual budget;
  - approval of loans and guarantees, excluding intra-group loans and guarantees;
  - approval of share repurchases, if any, as well as the report of share repurchases;
  - approval of financial reports;
- sustainability matters
  - approval of the double materiality assessment;
  - approval of the sustainability statement;
- investment matters:
  - approval of major investments;
  - approval of major divestments;
  - receive relevant analyst meeting presentations and analyst reports;
- approval of the governing documents as defined in the Policy on Delegation of Authority, including the following:
  - Board and Committee Charters;
  - Board Diversity Policy;
  - Corporate Governance Policy;
  - Disclosure Policy;
  - Insider Guidelines;
  - Remuneration Policy;
  - Group Financial Risk Policy;
  - Internal Control Policy;
  - Enterprise Risk Management Policy;
- other matters:
  - report of the CEO on the group's operations;
  - reports of the Financial and Audit Committee, People and Culture Committee, and Sustainability and Ethics Committee by the chairs of the respective committees. The recommendations and proposals by the Shareholders' Nomination Board shall be reported to the Board by the Chair of the Board;
  - annual self- or external assessment of Board work and performance as well as independence;
- other matters submitted by a member of the Board or the CEO.

The Board of Directors' and management's annual working cycle

Board meeting / SECo, FAC, PCC
Inside Committee meeting
Ethics and Compliance Management Committee meeting
Board meeting (Q3) / FAC, PCC
Inside Committee meeting

Board meeting (strategy) / SECo, FAC
Inside Committee meeting
Ethics and Compliance Management Committee meeting
Board meeting (Q2) / FAC
Inside Committee meeting



Ethics and Compliance Management Committee meeting
Inside Committee meeting
Board meeting (Full year and Q4 + annual governance update) / SECo, FAC, PCC
Inside Committee meeting
Annual General Meeting / Board meeting / SECo

Ethics and Compliance Management Committee meeting
Inside Committee meeting
Board meeting (Q1) / FAC, PCC
Board meeting

SECo = Sustainability and Ethics Committee
FAC = Financial and Audit Committee
PCC = People and Culture Committee

Monthly

GLT meetings
Investment Working Group meetings
Divisional performance meetings

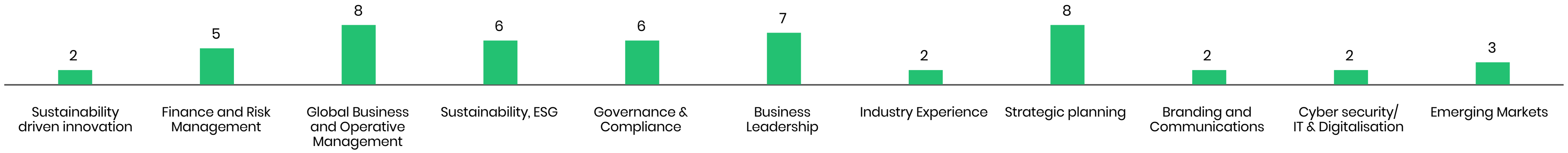
Quarterly

Meetings with auditors

Board skills matrix

	Kari Jordan	Håkan Buskhe	Elisabeth Fleuriot	Helena Hedblom	Astrid Hermann	Christiane Kuehne	Richard Nilsson	Reima Rytsölä
Qualifications and Experience								
Sustainability driven innovation			●	●				
Finance and Risk Management	●	●			●		●	●
Global Business and Operative Management	●	●	●	●	●	●	●	●
Sustainability, ESG			●	●	●	●	●	●
Governance & Compliance	●		●		●	●	●	●
Business Leadership	●	●	●	●		●	●	●
Industry Experience	●						●	
Strategic planning	●	●	●	●	●	●	●	●
Branding and Communications			●			●		
Cyber security/IT & Digitalisation		●			●			
Emerging Markets			●	●		●		
Additional Qualifications and Information								
Director since	2022	2020	2013	2021	2023	2017	2014	2024
Independent of Company	●	●	●	●	●	●	●	●
Independent of Owners	●	○	●	●	●	●	○	○
FAC membership 2024			Member		Member		Chair	
SECo membership 2024				Member		Chair	Member	
PCC membership 2024	Chair	Member						Member
Other current listed Boards*	1	1	0	0	0	0	1	2
Gender	Male	Male	Female	Female	Female	Female	Male	Male

Principal Skills (out of 8 Directors)

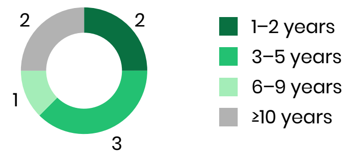


● yes ○ no *at 31 December 2024
The table sets out the primary skills of each Board member. The fact that an item is not highlighted for a Board member does not mean that such member does not possess that qualification or skill.

Board diversity in figures

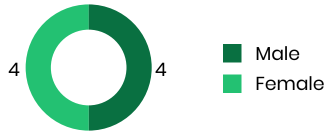
Tenure

Number of persons



Gender

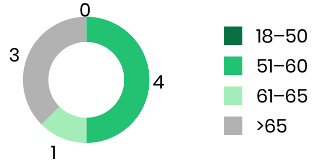
Number of persons



The Board of Directors features equal representation of both genders, with a composition of 50% female and 50% male.

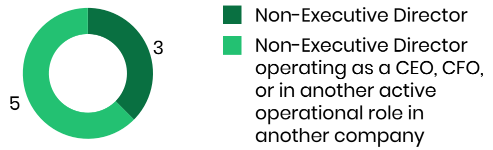
Age*

Number of persons



Occupation*

Number of persons



Board committees

The tasks and responsibilities of the Board committees are defined in their charters, which are approved by the Board. All the committees evaluate their performance annually, are allowed to use external consultants and experts when necessary, and shall have access to all information required. Each committee's Chair and members are appointed by the Board annually.

Financial and Audit Committee

The Board has a Financial and Audit Committee to support the Board in maintaining the integrity of the Company's financial and sustainability reporting and the Board's control functions. It regularly reviews and monitors the system of internal control and internal audit as well as its efficiency, the management and reporting of financial risks, the audit process, the Company's procedures for monitoring related party transactions, the annual corporate governance report, and the Report of the Board of Directors including the Sustainability Statement. It makes recommendations regarding the appointment of external auditor for the Parent Company and the main subsidiaries, and monitors the auditor's independence.

The Committee comprises three to five Board members who are independent of and not affiliated with the Company. The members of the Committee must have sufficient expertise and experience to be able to challenge and evaluate the Company's internal accounting function and internal and external audit functions. At least one member must have the relevant expertise in accounting and auditing as required by the applicable regulation. The Financial and Audit Committee meets regularly, at least four times a year. The Committee members meet the external and internal auditors regularly without the management being present. The Chair of the Committee presents a report on each Financial and Audit Committee meeting to the Board. The tasks and responsibilities of the Financial and Audit Committee are defined in its charter, which is approved by the Board. Financial and Audit Committee members may receive remuneration solely based on their role as directors.
The compensation is decided by the shareholders at the AGM.

In 2024

The Financial and Audit Committee comprised three members: Richard Nilsson (Chair), Elisabeth Fleuriot and Astrid Hermann. The Committee convened seven times. The members' participation rate in meetings amounted to 100%.

The main task of the Committee is to support the Board in maintaining the integrity of Stora Enso's financial and sustainability reporting and the Board's control functions. To fulfil its task, the Committee regularly reviews the Company's system of internal control, management, and reporting of financial and enterprise risks (including IT and cyber security), as well as the internal and external audit processes. During the year the Committee continued to follow-up on the forest land and Finnish power asset valuations. In respect of the EU Corporate Sustainability Reporting Directive (CSRD), the Committee monitored compliance with the legal and regulatory requirements, and the quality and controls of the reporting processes. In addition, the Committee reviewed finance plans, treasury activities and material items affecting comparability and impairments, including items relating to activities such as mergers & acquisitions and restructurings. In addition, the Committee further reviews relevant material compliance related cases relating to the integrity of financial reporting or fraud investigations that have been reported to Internal Audit and Ethics and Compliance during the year.

Remuneration

Chair EUR 23,278 per annum and member EUR 16,377 per annum as decided by the AGM.

The Financial and Audit Committee Charter is presented at storaenso.com/investors/governance.

People and Culture Committee

The Board has a People and Culture Committee which ensures that the remuneration, talent and succession plans support the strategic aims of Stora Enso. The Committee is responsible for preparing for the Board's approval the Remuneration Policy and Report, management nominations, compensation and incentive plans, including equity incentive remuneration plans. The Committee also reviews and proposes the total compensation of the CEO and evaluates the CEO performance. There is a People and Culture Committee representative present at the AGM to answer questions relating to management remuneration. The Board appoints the CEO and approves his/her remuneration as well as the nomination and compensation of other members of the GLT.

The Committee comprises three to four Board members who are independent of and not affiliated with the Company. The People and Culture Committee meets at least once a year. The Chair of the People and Culture Committee presents a report on each People and Culture Committee meeting to the Board. The tasks and responsibilities of the People and Culture Committee are defined in its charter, which is approved by the Board. People and Culture Committee members may receive remuneration solely based on their role as directors.
The compensation is decided by the shareholders at the AGM.

In 2024

The People and Culture Committee comprised three members: Kari Jordan (Chair), Håkan Buskhe and Reima Rytsölä.[1] The Committee convened four times. The members' participation rate in meetings amounted to 92%.

The main task of the Committee is to recommend, evaluate, and propose executive nominations and remunerations, review the Company's remuneration reporting, and to make recommendations to the Board relating to management remuneration in general, including short- and long-term incentive programmes.

In 2024, the Committee has focused on remuneration and developing the talent pipeline for GLT positions. Subsequently three GLT nominations have been made; EVP Forest Division, EVP Packaging Solutions Division and CFO.

Remuneration

Chair EUR 11,639 and member EUR 7,004 per annum as decided by the AGM.

The People and Culture Committee Charter is presented at storaenso.com/investors/governance.

1 The Committee prior to the AGM on 20 March 2024 comprised the following three members: Kari Jordan (Chair), Håkan Buskhe and Antti Mäkinen.

Sustainability and Ethics Committee

The Board has a Sustainability and Ethics Committee which is responsible for overseeing the Company's sustainability and ethical business conduct, its strive to be a responsible corporate citizen, and its contribution to sustainable development. The Committee regularly reviews Stora Enso's Sustainability Strategy and Ethics and Compliance Strategy and, in accordance with Stora Enso's corporate governance structure, oversees their effective implementation as well as reviews the Company's external sustainability reporting. In its work the Committee takes into consideration Stora Enso's Purpose and Values as well as the Stora Enso Code and Business Practice Policy. The topics of the Committee meetings include safety, sustainability (in particular, climate change, circularity and biodiversity) and ethics.

The Committee comprises two to four Board members who are nominated annually by the Board. The members are independent of and not affiliated with the Company. At least one Committee member is expected to have sufficient prior knowledge and experience in handling sustainability and ethics matters.

The Committee meets regularly, at least twice a year. The Chair of the Committee presents a report on each Sustainability and Ethics Committee meeting to the Board. The tasks and responsibilities of the Committee are defined in its charter, which is approved by the Board. Sustainability and Ethics Committee members may receive remuneration solely based on their role as directors. The compensation is decided by the shareholders at the AGM.

In 2024

The Sustainability and Ethics Committee comprised three members: Christiane Kuehne (Chair), Helena Hedblom and Richard Nilsson.[1] The Committee convened six times. The members' participation rate in meetings amounted to 100%.

The Committee in each of its meetings reviews the areas relevant for the Committee's work, including safety and sustainability matters, as well as ethics and compliance matters. The Committee further reviews safety status and sustainability and ethics and compliance KPI's, sustainability reporting, as well as relevant sustainability and safety initiatives and processes carried out during the year. In 2024 the main topics were divisional deep-dives in the area of safety and sustainability, and the implementation of the new Corporate Sustainability Reporting Directive (CSRD). During the year, the committee had two extra meetings focusing on the double materiality assessment process and results. In addition, an important part of the Committee's work consisted of overseeing reported compliance cases and environmental incident reports.

Remuneration

Chair EUR 11,639 and member EUR 7,004 per annum as decided by the AGM.

The Sustainability and Ethics Committee Charter is presented at storaenso.com/investors/governance.

1 The Committee prior to the AGM on 20 March 2024 comprised the following two members: Christiane Kuehne (Chair) and Helena Hedblom.

Management of the Company

Chief Executive Officer (CEO)

The CEO is in charge of the day-to-day management of the Company in accordance with the Finnish Companies Act and the instructions and orders issued by the Board. It is the duty of the CEO to ensure that the Company's accounting principles comply with the law and that financial matters are handled in a reliable manner.

The Board approves the main organisation, including the functions reporting to the CEO. At the end of 2024 the CEO was directly in charge of the following functions, which also reported to him:

- Divisions (Packaging Materials, Packaging Solutions, Biomaterials, Wood Products and Forest)
- CFO Office (responsible for Accounting, Controlling, Internal Audit, Investor Relations, Information and Cyber Security, Global Business Services, Tax, Transformation and Treasury)
- People and Communication
- Legal
- Strategy and Sustainability (responsible for Strategic Projects, Sustainability, Corporate Finance and M&A, Investment Process, Energy Services, Enterprise Risk Management and Corporate Affairs)

The CEO is also responsible for preparatory work with regard to Board meetings. In addition, the CEO supervises decisions regarding key personnel and other important operational matters. As of 1 November 2024, the Company no longer has a deputy to the CEO.

Group Leadership Team as at 31 December 2024

President and CEO Hans Sohlström	**CFO**[1]

Packaging Materials Hannu Kasurinen	**Packaging Solutions**[2] Carolyn Wagner	**Biomaterials** Johanna Hagelberg	**Wood Products** Lars Völkel	**Forest, Country Manager Finland**[3] Tuomas Hallenberg

People and Communication Katariina Kravi	**Legal** Micaela Thorström	**Strategy and Sustainability** Tobias Bäärnman	**Country Manager Sweden**[4] Per Lyrvall

1 Seppo Parvi, CFO and Deputy CEO, Country Manager Finland was a member of GLT until 31 October 2024. Pasi Kyckling, Acting CFO 1 November 2024–12 January 2025 was not a member of GLT. Niclas Rosenlew started in his position as new CFO and GLT member on 13 January 2025.
2 Ad Smit, EVP Packaging Solutions was a member of GLT until 31 October 2024.
3 Per Lyrvall, EVP Forest until 14 October 2024.
4 Per Lyrvall remains as a Country Manager Sweden and GLT member until his retirement 1 April 2025. The role of Country Manager Sweden will be assumed by Tobias Bäärnman, EVP Strategy and Sustainability as of 1 April 2025.

Group Leadership Team (GLT)

The GLT is chaired by the CEO. The GLT members are appointed by the CEO and approved by the Board. At the 2024 year end, the ten GLT members were the CEO, the heads of the divisions, People and Communication, Legal (who is also General Counsel), Strategy and Sustainability, as well as Country Manager Sweden. New CFO started in his position 13 January 2025.

The GLT assists the CEO in supervising the Group and divisional performance against agreed targets, portfolio strategy, ensuring the availability and value-creating allocation of Group funds and capital, and statutory, governance, compliance, and listing issues and policies.

The GLT meets regularly every month, and as required.

In 2024

The GLT had ten members at the end of 2024. The GLT convened 19 times during the year. Important items on the agenda in 2024 were financial performance, safety, strategy and transformation, sustainability, digitalisation, performance culture, and preparatory work for Board meetings.

Divisions and other functions

The divisions are responsible for their respective line of business and are organised and resourced to deal with all business issues. The CEO steers the divisions through in monthly performance meetings (including innovations) as well as the GLT meetings.

Strategic investment projects are approved on the group level following the mandate by the CEO and Board of Directors. Larger projects are reviewed by the Investment Working Group (IWG) comprising group and division representatives and chaired by the Executive Vice President (EVP), Strategy and Sustainability (in addition, the allocation proposals are made by IWG).

Innovation and R&D is organised in two structures. On the group level, the long-term research and company-wide collaborations with academia and external R&D providers are managed by a small team of experts. The innovation related to current and future offering of the businesses are executed within the divisions to drive market and customer focus.

Transformation work has been organized both at Group level and in each business division. The objective of the Transformation is to both improve financial performance of the Group and develop ways of working and culture. Each division is responsible for their respective transformation work. Group Transformation Office coordinates the overall Transformation work.

At Stora Enso, sustainability work is led by the EVP, Strategy and Sustainability, who reports directly to the CEO and is part of the Group Leadership Team (GLT). The CEO holds the ultimate responsibility for the successful implementation of Company's sustainability agenda. The everyday implementation of Stora Enso's sustainability agenda is the responsibility of the divisions and line management supported by functional experts at all levels. Sustainability reporting is conducted through collaboration between Group Sustainability and the CFO Office. Stora Enso's sustainability work during 2024 was steered by the Sustainability Council, which included Heads of Sustainability from the divisions. Chaired by the Chief Sustainability Officer, its work involves identifying longer-term opportunities and challenges that may require a Group-wide response as well as sharing of good practices. The Sustainability Council met ten times during 2024. Both the GLT and the Board of Directors are regularly informed about sustainability progress and other topical issues.

The Company has established proper disclosure policies and controls, and a process for quarterly and other ongoing reporting.

Other supervisory bodies and norms

Auditor

The AGM annually elects one auditor for Stora Enso. The Financial and Audit Committee monitors the auditor selection process and gives its recommendation as to who should serve as the auditor to the Board for the purpose of making the proposal to the shareholders at the AGM. The auditor shall be an authorised public accounting firm, which appoints the responsible auditor.

Auditor's fees and services

	Year Ended 31 December	
EUR million	**2024**	**2023**
Audit fees	4	4
Audit-related	0	0
Tax fees	0	0
Other fees	0	0
Total	**5**	**5**

In 2024

On the recommendation of the Financial and Audit Committee, the Board proposed that PricewaterhouseCoopers Oy be re-elected auditor by the AGM 2024 for the seventh year as the Company's auditors. The AGM 2024 elected PricewaterhouseCoopers Oy as auditor for a term of office expiring at the end of the AGM 2025.

Internal Audit

Group Internal Audit is an independent and objective assurance and advisory function designed to add value by providing systematic way to audit governance, risk management and internal controls system of Stora Enso.

Internal Audit reports regularly the status of the audits as well as key findings and recommendations to the Financial and Audit Committee. Internal Audit reports also on regular basis to Stora Enso Sustainability and Ethics Committee related to sustainability findings.

Administratively, the Head of Internal Audit reports to the Stora Enso CFO and functionally to CEO. The Financial and Audit Committee approves the appointment of the Head of the Internal Audit following the recommendation by the CEO.

Internal Audit annual plan is created on risk- and assurance-based method. Internal Audit co-operates with second line functions during the year in order to avoid overlapping work with other assurance activities, and to be able to identify possible gaps. During the year, Internal Audit executes possible special engagements based on a separate request. The Financial and Audit Committee approves the Internal Audit Annual Plan including changes during the year, cost estimate and Internal Audit Charter.

Ethics and Compliance Management Committee

Stora Enso's Ethics and Compliance Management Committee supervises and monitors legal and regulatory ethics and compliance related policies, the implementation and maintenance of processes and tools regarding the same, and concrete compliance cases of principle interest. The Ethics and Compliance Management Committee consists of the General Counsel (Chair), CEO, CFO, Head of People and Communication, Head of Strategy and Sustainability and the Head of Internal Audit, with the SVP, Ethics and Compliance being the secretary. The Ethics and Compliance Management Committee shall convene at least four times every year.

Ethics and Compliance

Stora Enso is committed to taking responsibility for its actions, to complying with all applicable laws and regulations wherever it operates, and to creating and maintaining ethical relationships with its customers, suppliers and other stakeholders. The Stora Enso Code is a single set of values defined for all employees to provide guidance on the Company's approach to ethical business practices, environmental values, and human and labour rights. These same values are applied wherever Stora Enso operates. The Business Practice Policy complements the Code, and sets further out Stora Enso's approach to ethical business practices and describes the processes for reporting on violations thereof. Continuous e-learning, communication, face-to-face training, and sign-off are organised in order to ensure that these are part of the everyday decision-making and activities at Stora Enso.

The Company has established divisional compliance forums to assess the risk and monitor compliance in all operational activities. The divisions use a tool called the Ethics and Compliance Self-Assessment Tool (T.E.S.T.) to give them a better overview of the progress their units are making in policy implementation, compliance measures taken, and possible gaps and risks in compliance. The results of the T.E.S.T. are covered in the divisional compliance forums and in the development of appropriate action plans and follow-up.

Stora Enso's employees are encouraged to report any suspected cases of misconduct or unethical behaviour to their own supervisor, or to People and Culture or Legal functions. Stora Enso uses an additional external service, the reporting channel Speak Up, through which employees and any third party globally can anonymously report potential non-compliance cases by phone, mail, or online. This service, which covers all of Stora Enso's units, is available 24/7. All cases are upon completion reported to and closed by the Disciplinary Committee. The Disciplinary Committee consists of the General Counsel, the Head of People and Communication, the SVP, Ethics and Compliance and the Investigation Manager being the secretary. All cases are also reported to the Board of Directors' Sustainability and Ethics Committee and in cases related to fraud or the integrity of financial reporting, also to the Financial and Audit Committee.

Insider administration

The Company complies with the EU and Finnish insider regulation as well as the guidelines of Nasdaq Helsinki Oy. The Company's internal insider guidelines are published and distributed throughout the group. Stora Enso's legal function and the General Counsel are responsible for the procedures relating to inside administration, including monitoring compliance with applicable regulation, the keeping of inside lists, and internal training. The Company has established an Inside Committee composed of the CEO, CFO as well as representatives of Strategy and Sustainability, IR and Legal for the purpose of continuously reviewing pending projects and the existence of inside information in the Company.

Persons discharging managerial responsibilities (PDMR's) in Stora Enso are the members of the Board, the CEO and the CFO, as well as other members of the Group Leadership Team (GLT). PDMR's, as well as their closely related persons, are subject to a duty to notify the Company and the Finnish Financial Supervisory Authority of all transactions with the securities of the Company.

The Company also keeps a list of persons that are involved in the preparation of interim reports and financial results, which is approved by the General Counsel (Closed Period List). Persons included in the list are, e.g., members of the Division management teams, key business leaders in the Divisions, members of Investor Relations, as well as the heads and certain team members of Treasury, Group Accounting and Reporting and Legal.

Persons who participate in the development and preparation of a project that constitutes inside information, are considered project specific insiders. A separate project-specific insider register is established when required by the decision of the General Counsel.

The insider guidelines do not permit Stora Enso PDMR's or persons involved in the preparation of interim reports or financial results and entered into the Closed Period List to buy or sell any of the Company's securities (i.e., shares or listed bonds) during the closed period defined below or when they possess information that could have a material impact on the Stora Enso share price.

Closed period

Stora Enso's closed period starts when the reporting period ends or 30 days prior to the announcement of the results, whichever is earlier, and lasts until the results are announced. The dates are published in the financial calendar at storaenso.com/calendar.

During the closed periods, Stora Enso PDMR's or persons entered into the Company's Closed Period List are not allowed to trade in Company securities.

Guidelines for Related Party Transactions

The principles applicable to the monitoring of Stora Enso related party transactions are set out in Stora Enso's Guideline for Related Party Transactions. The Guideline defines Stora Enso related parties and sets out the decision-making order and principles for monitoring related party transactions, including a description of Stora Enso internal controls with regards to related party transactions. Information on material transactions with related parties is set out in note 6.3 of Stora Enso's consolidated financial statements.

Stora Enso business activities may include regular or less frequent transactions with related parties. Transactions with related parties shall always promote the purpose of the Company and be concluded on market terms and in the interest of the Company, as well as in compliance with prevailing regulation. Internal controls have been designed to ensure that related party transactions are duly monitored and identified.

Related party transactions, which are part of the ordinary course of business and undertaken on market terms are approved in accordance with the Company's internal guidelines. Any transaction which would not meet these terms must be reported to the Financial and Audit Committee and be approved by the Board of Directors. The Board of Directors is responsible for overseeing the processes established for monitoring related party transactions.

Internal control and risk management related to financial reporting

Internal control over financial reporting

The system of internal control related to financial reporting in the Stora Enso group is based upon the framework issued by the Committee of Sponsoring Organisations (COSO) and comprises five principal components of internal control: control environment, risk assessment, control activities, information and communication, and monitoring.

The internal controls related to financial reporting are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with applicable laws and regulations, generally accepted accounting principles, and other requirements for listed companies. Stora Enso's internal control framework over financial reporting is documented in the minimum internal control requirements and applied for all business units and Group functions. In 2024, Stora Enso created a new framework for sustainability reporting, which is further described in the Sustainability Statement section (ESRS 2 GOV-5).

Control environment

Stora Enso's control environment sets the tone of the organisation providing the company purpose and values, policies, processes and structures as a foundation for carrying out internal control across the organisation.

The Board, supported by the Financial and Audit Committee, has the overall responsibility for setting up an effective system of internal control and risk management. Responsibility for maintaining effective risk management and internal controls over financial reporting is delegated to the CEO. The GLT and senior management issue corporate guidelines in accordance with Stora Enso's policy management process. These guidelines stipulate responsibilities and authority and constitute the control environment for specific areas, such as legal, sustainability, people and culture, finance and sourcing and logistics. Internal control responsibilities have been described in Stora Enso's Internal Control Policy which also outlines the responsibilities of the first and second line of defence. Internal control is divided into Group and division functions. Group Internal Control, under the supervision of CFO and Group Controller, is responsible for internal control governance, processes, tools and internal control reporting, whereas division internal control functions are responsible for executing the internal control processes in divisions. Divisions, various support and service functions are accountable for operating effective internal controls.

Risk assessment

Stora Enso's management specifies objectives relating to the preparation of financial statements. The Company applies a process to manage risks by identifying, assessing and responding to risks over significant financial statement accounts and disclosures based on the overall materiality. The assessment of risks includes risks related to fraud and irregularities as well as the risk of loss or the misappropriation of assets.

Control activities

Stora Enso's control activities are the policies, guidelines, procedures and organisational structures in place to ensure that management directives are carried out and that necessary action is taken to address risks related to the achievement of objectives relating to financial reporting. Stora Enso's minimum internal control requirements are aimed at preventing, detecting, and correcting material accounting and disclosure errors and irregularities and are performed on all company levels. They include a range of activities such as approvals, authorisations, verifications, reconciliations, reviews of operating performance, the security of assets, and the segregation of duties, as well as IT general controls.

Information and communication

The Company's information and communication channels support the completeness and correctness of financial reporting. For example, the management communicates information about Stora Enso's financial reporting objectives, financial control requirements, policies and procedures regarding accounting and financial reporting to all employees concerned. The management also communicates regular updates and briefings regarding changes in accounting policies and reporting and disclosure requirements. Subsidiaries and operational units make regular financial and management reports to the management, including the analysis of and comments on financial performance, scenarios and risks. The Board receives monthly financial reports. The Company has internal and external procedures for the anonymous reporting of violations related to accounting, internal controls, and auditing matters.

Monitoring

The Company's financial performance is reviewed at each Board meeting. The interim and annual financial statements and the Report of the Board of Directors are reviewed by the Financial and Audit Committee and approved by the Board.

The effectiveness of the process for assessing risks and the execution of control activities are monitored continuously at various levels. Information on the development of essential risk areas as well as executed and planned activities in these areas are regularly communicated to the Financial and Audit Committee. Monitoring involves both formal and informal procedures applied by management, including reviews of results which are compared against the set budgets, plans and key performance indicators. Stora Enso Group Internal Control function monitors the control design and control operating effectiveness and prepares quarterly internal control report to the management.

In addition to Group Internal Control function, the Stora Enso Group Internal Audit has an independent oversight role on internal control over financial reporting governance. The Group Internal Audit regularly evaluates the effectiveness and efficiency of Stora Enso's governance, risk management and system of internal control over financial reporting.

Members of the Board of Directors

Kari Jordan

Born 1956. Male. M.Sc. (Econ.). Vuorineuvos (Finnish honorary title).

Position

Chair of Stora Enso's Board of Directors since March 2023. Member since March 2022. Chair of the People and Culture Committee since March 2023. Member since March 2022.

Board memberships

Chair of the Board of Outokumpu Oyj.

Principal work experience and other information

President and CEO of Metsä Group 2006–2018. CEO of Metsäliitto Cooperative 2004–2017. Various board positions and senior executive management positions in Nordea Group 1998–2004, Merita Bank 1995–2000 and OKOBANK 1987–1994 as well as other key positions in the financial sector.

Total remuneration 2024, EUR[1]	226,909
Meeting attendance	10/10
FAC attendance	
PCC attendance	4/4 ●
SECo attendance	
Shareholding in Stora Enso[2]	15,818 R shares
Independent member	Yes

Håkan Buskhe

Born 1963. Male. M.Sc. (Eng.), Licentiate of Engineering.

Position

Vice Chair of Stora Enso's Board of Directors since March 2021. Member since June 2020. Member of the People and Culture Committee since March 2021.

Board memberships

Chair of the Board of Directors of IPCO AB. Vice Chair of the Board of AB SKF. Member of the Board of Kopparfors Skogar AB, The Grand Group, Navigare Ventures AB, Qarlbo Energy AB, Swedish Defence University and Industrikraft i Sverige AB.

Principal work experience and other information

CEO of FAM AB. CEO and President of SAAB AB 2010–2019 and E.ON Nordic 2008–2010. Executive positions in E.ON Sweden 2006–2008, CEO of the logistics company Schenker North 2001–2006, as well as several positions in Storel AB 1998–2001, Carlsberg A/S 1994–1998 and Scansped AB 1988–1994.

Total remuneration 2024, EUR[1]	128,544
Meeting attendance	10/10
FAC attendance	
PCC attendance	4/4 ▲
SECo attendance	
Shareholding in Stora Enso[2]	15,912 R shares
Independent member	Yes/no[3]

Elisabeth Fleuriot

Born 1956. Female. M.Sc. (Econ.).

Position

Member of Stora Enso's Board of Directors since April 2013. Member of the Financial and Audit Committee since March 2019.

Board memberships

Chair of the Board of Foundation Caritas.

Principal work experience and other information

Senior advisor at Astanor Venture Capital. President and CEO of Thai Union Europe Africa 2013–2017. Senior Vice President, Emerging Markets and Regional Vice President, France, Benelux, Russia and Turkey, in Kellogg Company 2001–2013. General Manager, Europe, in Yoplait, Sodiaal Group 1998–2001. Several management positions in Danone Group 1979–1997.

Total remuneration 2024, EUR[1]	99,807
Meeting attendance	10/10
FAC attendance	7/7 ▲
PCC attendance	
SECo attendance	
Shareholding in Stora Enso[2]	35,506 R shares
Independent member	Yes

Helena Hedblom

Born 1973. Female. M.Sc. (Material Tech.).

Position

Member of Stora Enso's Board of Directors since March 2021. Member of the Sustainability and Ethics Committee since March 2021.

Board memberships

Member of the Board of Wallenberg Investments AB.

Principal work experience and other information

President and CEO of Epiroc since 2020. Prior to her current position she was Senior Executive Vice President Mining and Infrastructure at Epiroc. Various General Management and Research and development positions in Atlas Copco, since 2017 President for Atlas Copco's Mining and Rock Excavation Technique business area.

Total remuneration 2024, EUR[1]	90,434
Meeting attendance	10/10
FAC attendance	
PCC attendance	
SECo attendance	6/6 ▲
Shareholding in Stora Enso[2]	8,994 R shares
Independent member	Yes

FAC Financial and Audit Committee
PCC People and Culture Committee
SECo Sustainability and Ethics Committee

● Chair ▲ Member

1 Detailed description of remuneration for Board and Committee memberships as decided by the AGM in 2024 can be found in the Remuneration Report.
2 Shares held by Board members and related parties.
3 Håkan Buskhe is independent of the company but not of its significant shareholders due to his position as the CEO of FAM AB.

The independence is evaluated in accordance with Recommendation 10 of the Finnish Corporate Governance Code 2025. The full recommendation can be found at cgfinland.fi. A significant shareholder according to the recommendation is a shareholder that holds at least 10% of all company shares or the votes carried by all the shares or a shareholder that has the right or the obligation to purchase the corresponding number of already issued shares.

Astrid Hermann

Born 1973. Female. B.Sc. (Business and MBA).

Position

Member of Stora Enso's Board of Directors since March 2023. Member of the Financial and Audit Committee since March 2023.

Board memberships

—

Principal work experience and other information

CFO of Beiersdorf AG since 2021. Prior to that several managerial finance roles at Colgate-Palmolive 2004–2020 and at The Clorox Company 1997–2004.

Total remuneration 2024, EUR[1]	99,807
Meeting attendance	10/10
FAC attendance	7/7 ▲
PCC attendance	
SECo attendance	
Shareholding in Stora Enso[2]	5,477 R shares
Independent member	Yes

Christiane Kuehne

Born 1955. Female. LLM., B.B.A.

Position

Member of Stora Enso's Board of Directors since April 2017. Chair of the Sustainability and Ethics Committee since March 2019.

Board memberships

Member of the Board of James Finlays Ltd and Foundation Pierre du Bois.

Principal work experience and other information

Operative roles within the Nestlé Group 1977–2015. Her last operative role at Nestlé was as Senior Vice President Strategic Business Unit Food with strategic responsibility for the food business of Nestlé at global level.

Total remuneration 2024, EUR[1]	95,069
Meeting attendance	10/10
FAC attendance	
PCC attendance	
SECo attendance	6/6 ●
Shareholding in Stora Enso[2]	20,067 R shares
Independent member	Yes

Richard Nilsson

Born 1970. Male. B.Sc. (BA and Econ.).

Position

Member of Stora Enso's Board of Directors since April 2014. Chair of the Financial and Audit Committee since April 2016 and member since April 2015. Member of the Sustainability and Ethics Committee since March 2024.

Board memberships

Member of the Board of IPCO AB and group companies, Cinder Invest AB, AB SKF and Tbox Sweden AB. Member of the supervisory Board of GROPYUS AG.

Principal work experience and other information

Investment Director at FAM AB since 2022. Investment Manager at FAM AB 2008–2022. Pulp & paper research analyst at SEB Enskilda 2000–2008, Alfred Berg 1995–2000 and Handelsbanken 1994–1995.

Total remuneration 2024, EUR[1]	113,712
Meeting attendance	10/10
FAC attendance	7/7 ●
PCC attendance	
SECo attendance	3/3[3] ▲
Shareholding in Stora Enso[2]	32,609 R shares directly, 127 A shares and 236 R shares through related persons (spouse)
Independent member	Yes/no[4]

Reima Rytsölä

Born 1969. Male. M.Soc.Sc. (Social Sciences, Econ.)

Position

Member of Stora Enso's Board of Directors since March 2024. Member of the People and Culture Committee since March 2024.

Board memberships

Member of the Board of Metso Oyj and Nokian Renkaat Oyj.

Principal work experience and other information

CEO of Solidium Oy since 2022. Deputy CEO and Chief Investment Officer at Varma Mutual Pension Insurance Company 2014–2022. Various positions in Pohjola Bank, amongst others as Senior Executive Vice President, Head of Banking 2008–2013.

Total remuneration 2024, EUR[1]	90,434
Meeting attendance	8/8[5]
FAC attendance	
PCC attendance	2/3[6] ▲
SECo attendance	
Shareholding in Stora Enso[2]	2,638 R shares
Independent member	Yes/no[7]

FAC Financial and Audit Committee
PCC People and Culture Committee
SECo Sustainability and Ethics Committee

● Chair ▲ Member

1 Detailed description of remuneration for Board and Committee memberships as decided by the AGM in 2024 can be found in the Remuneration Report.
2 Shares held by Board members and related parties.
3 Meetings attended out of the meetings held after election as SECO member.
4 Richard Nilsson is independent of the company but not of its significant shareholders due to his employment at FAM AB.
5 Meetings attended out of the meetings held after election as Board member.
6 Meetings attended out of the meetings held after election as PCC member.
7 Reima Rytsölä is independent of the company but not of its significant shareholders due to his position as the CEO of Solidium Oy.

The independence is evaluated in accordance with Recommendation 10 of the Finnish Corporate Governance Code 2025. The full recommendation can be found at cgfinland.fi. A significant shareholder according to the recommendation is a shareholder that holds at least 10% of all company shares or the votes carried by all the shares or a shareholder that has the right or the obligation to purchase the corresponding number of already issued shares.

Antti Mäkinen was Member of Stora Enso's Board of Directors since March 2018 until his resignation on 20 March 2024. Mäkinen has participated in all Board and relevant Committee meetings held during 2024 prior to his resignation. He was independent of the company and the significant shareholders.

Members of the Group Leadership Team (31 December 2024)

Hans Sohlström

Born 1964. Male. M.Sc. (Tech.), M.Sc. (Econ.)

Position

President and Chief Executive Officer (CEO). Member of the GLT since 2023. Joined the company in 2023.

Board memberships, principal work experience and other information

Member of the Board of Stora Enso Oyj 2021–2023. President and CEO of Ahlstrom Oyj 2018–2022. President and CEO of Ahlström Capital 2016–2018 and of Rettig Group Oy 2012–2016. Member of UPM-Kymmene Corporation's Group Executive Team since 2004, responsible for Marketing 2004–2007, New Businesses and Biofuels 2007–2008, and Corporate Relations and Development 2008–2012. In 1990–2004 several managerial positions at UPM leading profit units, mills and sales.

Shareholding in Stora Enso

100,620 R shares directly, 179 R shares through related persons (spouse)

Tobias Bäärnman

Born 1977. Male. M.Sc. (Econ.).

Position

Executive Vice President, Strategy and Sustainability. Member of the GLT since 2020. Joined the company in 2017.

Board memberships, principal work experience and other information

SVP Controlling, Strategy and IT for Consumer Board division 2017–2019. Prior to that Finance Director at Iggesund Paperboard and various positions at Statoil and Procter and Gamble.

Shareholding in Stora Enso

8,449 R shares

Johanna Hagelberg

Born 1972. Female. M.Sc. (Industrial Eng. and Mgmt) and M.Sc. (Eng. and Mgmt of Manufacturing Systems).

Position

Executive Vice President, Biomaterials Division. Member of the GLT since 2014. Joined the company in 2013.

Board memberships, principal work experience and other information

EVP, Sourcing and Logistics 2014–2021. SVP Sourcing, Stora Enso Printing and Living 2013–2014. Chief Procurement Officer at Vattenfall AB 2010–2013. Prior to that leading Sourcing positions at NCC, RSA Scandinavia and within the Automotive Industry for Scania, Saab and General Motors. Chair of the Board of Veracel. Member of the Board of Höegh Autoliners AS and Montes del Plata.

Shareholding in Stora Enso

40,825 R shares

Tuomas Hallenberg

Born 1971. Male. M.Sc. (Forestry), MBA.

Position

Executive Vice President, Forest Division, Country Manager Finland. Member of the GLT since 15 October 2024. Joined the company 15 October 2024.

Board memberships, principal work experience and other information

SVP, Property Development and Renewables at Metsähallitus (the Finnish national forest company) 2020–2024. Prior to that several leadership roles at Metsähallitus since 2014. Various leadership and management roles at UPM, mainly in the wood sourcing and forest operations 1998–2014. Member of the Board of the Defence Guilds' Federation of Finland. Member of the Board of Finnish Forest Industries Federation and member of the Business Council of International Chamber of Commerce Finland as of 1 January 2025.

Shareholding in Stora Enso

0

Hannu Kasurinen

Born 1963. Male.

Position

Executive Vice President, Packaging Materials Division. Member of the GLT since 2019. Joined the company in 1993.

Board memberships, principal work experience and other information

Several leadership positions in Stora Enso, including EVP and SVP, Liquid Packaging and Carton Board in Consumer Board Division, Group Treasurer, SVP of Strategy and EVP of Wood Products Division.

Shareholding in Stora Enso

62,415 R shares

Katariina Kravi

Born 1967. Female. LLM., Trained on the Bench.

Position

Executive Vice President, People and Communication. Member of the GLT since 2020. Joined the company in 2020.

Board memberships, principal work experience and other information

EVP, HR and Chief People and Culture Officer at Tieto Oyj 2012–2020. Prior to that several HR management positions at Nokia. Vice Chair of the Board of Elisa Oyj. Member of the supervisory board of Varma Mutual Pension Insurance Company.

Shareholding in Stora Enso

16,175 R shares

Per Lyrvall

Born 1959. Male. LLM.

Position

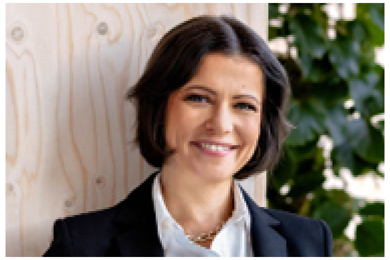
Country Manager Sweden since 2013. Member of the GLT since 2012. Joined the company in 1994.

Board memberships, principal work experience and other information

EVP, Forest Division 2022–14.10.2024. EVP, Legal, General Counsel 2008–2022. Legal Counsel 1994–2008. Prior to joining Stora Enso legal positions at Swedish courts, law firms and Assi Domän. Member of the Board of Antidoping Sverige AB and the Swedish Forest Industry Association (Skogsindustrierna).

Shareholding in Stora Enso

89,368 R shares directly, 1,257 R shares through related persons (spouse)



Micaela Thorström

Born 1976. Female. LLM.

Position

Executive Vice President, Legal and General Counsel. Member of the GLT since 2023. Joined the company in 2015.

Board memberships, principal work experience and other information

VP Group Legal 2022–2023. Legal Counsel 2015–2022. Prior to joining Stora Enso several senior-level positions at Finnish companies and law firms such as PricewaterhouseCoopers, Hannes Snellman, Lindholm Wallgren Attorneys and Roschier. Member of the Board of Securities Market Association. Member of the Nomination Committee of Finnish Fair Foundation.

Shareholding in Stora Enso

813 R shares

Lars Völkel

Born 1975. Male. M.Sc. (BA).

Position

Executive Vice President, Wood Products Division. Member of the GLT since 2020. Joined the company in 2020.

Board memberships, principal work experience and other information

CEO of Ambibox GmbH 2018–2020. CEO of Franke Kitchen Systems 2014–2017. EVP Luxury retail & CEO of Poggenpohl at Nobia 2011–2014. Has held various managerial positions at Electrolux incl. VP Western Europe.

Shareholding in Stora Enso

25,801 R shares

Carolyn Wagner

Born 1968. Female. Grad. Eng. (Packaging Technology)

Position

Executive Vice President, Packaging Solutions Division. Member of the GLT since 1 November 2024. Joined the company 1 November 2024.

Board memberships, principal work experience and other information

Divisional CEO of the Packaging Division at the German Klingele Paper & Packaging Group 2021–2024. Prior to that several senior positions at other corrugated packaging companies, amongst others, DS Smith and SCA.

Shareholding in Stora Enso

0

Seppo Parvi, CFO and Deputy CEO, Country Manager Finland was a member of GLT until 31 October 2024. Pasi Kyckling, Acting CFO 1 November 2024–12 January 2025 was not a member of GLT. Niclas Rosenlew started in his position as new CFO and GLT member on 13 January 2025.

Ad Smit, EVP Packaging Solutions was a member of GLT until 31 October 2024.

Appendix 1

Due to differences between Swedish and Finnish legislation, governance code rules and corporate governance practices Stora Enso's Corporate Governance deviates in the following aspects from the Swedish Corporate Governance Code:

Rule 1.4 The company's nomination committee is to propose a chair for the annual general meeting. The proposal is to be presented in the notice of the meeting.

- According to Finnish annual general meeting (AGM) practice, the Chair of the Board of Directors opens the meeting and proposes the chair for the AGM. The proposed chair is normally an attorney-at-law.

Rule 2.1 The nomination committee is also to make proposals on the election and remuneration of the statutory auditor.

- According to the Finnish Code, the Financial and Audit Committee shall make a recommendation on the auditor election for the Board, which shall give its proposal on the matter to the AGM.

Shareholders

Stora Enso ensures that all material information that has an impact on Stora Enso's share price is simultaneously available to the general public and financial community in order to ensure the right share price level in relation to the company's history, assets and future prospects. In its engagement with the capital markets, Stora Enso supports the brand with accurate, consistent and credible financial information.

Information for shareholders

Annual General Meeting (AGM)

Stora Enso Oyj's Annual General Meeting (AGM) will be held on Thursday 20 March 2025 at 16:00 EET at Marina Congress Center in Helsinki.

Shareholders are invited to a Q&A session with Stora Enso's President and CEO Hans Sohlström and CFO Niclas Rosenlew at Marina Congress Center, prior to the AGM. The event will take place from 14:30 to 15:30 EET. Please note that this event is not part of the AGM and will be conducted in Finnish, with simultaneous interpretation into English.

Detailed information on how to register for the Annual General Meeting (AGM) and vote in advance is available on Stora Enso's website at storaenso.com/agm.

AGM and dividend in 2025

10 March	Record date for AGM
20 March	Annual General Meeting (AGM)
24 March	Record date for dividend (first instalment)
2 April	Dividend payment (first instalment)
25 September	Record date for dividend (second instalment)
2 October	Dividend payment (second instalment)

Dividend

The Board of Directors proposes to the AGM that a dividend of EUR 0.25 per share to be distributed on the basis of the balance sheet adopted for the year ending 31 December 2024. The Board of Directors proposes that the dividend be paid in two instalments. The dividend payable on shares registered with Euroclear Sweden will be forwarded by Euroclear Sweden AB and paid in Swedish crowns. The dividend payable to ADR holders will be forwarded by Citibank N.A. (Citi) and paid in US dollars.

Publications dates for 2025

11 February	Interim report for October-December and full-year report for 2024
13 February	Annual Report 2024
25 April	Interim report for January-March 2025
23 July	Half-year report for January–June 2025
23 October	Interim report for January–September 2025

Distribution of financial information

Stora Enso's Annual Report in English can be downloaded as a pdf file at storaenso.com/annualreport.

The official financial statements in Finnish are available at the same address. The governance and remuneration sections are also available in Finnish. The interim, half-year and full-year reports are published in English and Finnish at storaenso.com/press.

Information for holders of American Depositary Receipts (ADRs)

The Stora Enso dividend reinvestment and direct purchase plan is administered by Citibank N.A. The plan makes it easier for existing ADR holders and first-time purchasers of Stora Enso ADRs to increase their investment by reinvesting cash distributions or by making additional cash investments. The plan is intended for US residents only. Further information on the Stora Enso ADR programme is available at citi.com/DR.

Contact information for Stora Enso ADR holders

Citibank Shareholder Services
Computershare
P.O. Box 43077
Providence, Rhode Island 02940-3077
Email: citibank@shareholders-online.com
Toll-free number: (877)-CITI-ADR
Direct dial: (781) 575-4555

Investor relations contact

storaenso.com/investors
investor.relations@storaenso.com

Stora Enso in the capital markets

Shares and shareholders

Shares and voting rights

The shares of Stora Enso Oyj are divided into A and R shares, which entitle holders to the same dividend but different voting rights. Each A share and every ten R shares carry one vote at a shareholders' meeting. However, each shareholder has at least one vote. As at 31 December 2024, Stora Enso had 175,664,079 A shares and 612,955,908 R shares in issue, of which the Company held no A shares or R shares. The total number of Stora Enso shares in issue was 788,619,987 and the total number of votes was 236,959,669.

Share listings

Stora Enso shares are listed on the Nasdaq Helsinki and the Nasdaq Stockholm. Stora Enso shares are quoted in Helsinki in euros (EUR) and in Stockholm in Swedish crowns (SEK).

American Depositary Receipts (ADRs)

Stora Enso has a sponsored Level I American Depositary Receipts (ADR) facility. Stora Enso ADRs are traded over-the-counter (OTC) in the USA. The ratio between Stora Enso ADRs and R shares is 1:1, i.e. one ADR represents one Stora Enso R share. Citibank, N.A. acts as the depositary bank for the Stora Enso ADR programme. The trading symbols of the ADRs and Ordinary Shares are SEOAY, SEOFF, SEOJF. The CUSIP number is 86210M106.

Share registers

The Company's shares are entered in the Book-Entry Securities System maintained by Euroclear Finland Oy, which also maintains the official share register of Stora Enso Oyj. As at 31 December 2024, 788,619,987 of the Company's shares including both A and R shares were registered in Euroclear Finland, 63,697,486 A and R shares in Euroclear Sweden AB and 12,704,576 shares in ADR form at Citibank, N.A.

Distribution by book-entry system, 31 December 2024

Number of shares	Total	A shares	R shares
Euroclear Finland Oy	788,619,987	175,664,079	612,955,908
Euroclear Sweden AB[1]	63,697,486	4,095,266	59,602,220
Citi administered ADRs[1]	12,704,576	-	12,704,576
Total	**788,619,987**	**175,664,079**	**612,955,908**

1 Shares registered in Euroclear Sweden and ADRs are both nominee registered in Euroclear Finland.

Trading codes and currencies

	Helsinki	Stockholm	OTC
A share	STEAV	STE A	-
R share	STERV	STE R	-
ADRs	-	-	SEOAY
Segment	Large Cap	Large Cap	-
Sector	Materials	Materials	-
Currency	EUR	SEK	USD
ISIN, A share	FI0009005953	FI0009007603	
ISIN, R share	FI0009005961	FI0009007611	
CUSIP	-	-	86210M106
Reuters			STERV.HE
Bloomberg			STERV FH Equity

Stora Enso's activities during 2024

Stora Enso's Investor Relations activities in 2024 focused on promoting a fair valuation of the Company and ensuring continued access to funding sources in the equity markets. The Investor Relations (IR) team provided timely and accurate information on the development of the Company's business operations, strategy, performance, markets, and financial position.

Throughout the year, the IR team conducted numerous individual and group meetings, both in person and virtually, with equity investors. These meetings were separately and with the senior management team members and other experts at Stora Enso. The team also maintained regular contact with equity research analysts at investment banks and brokerage firms. Additionally, the team organised site visits to Stora Enso mills in Sweden, and Finland. To further engage with investors, the senior management and the IR team members gave presentations at virtual and live investor conferences in the Nordics, Continental Europe, Latin America and the United Kingdom.

Overall, Stora Enso's Investor Relations activities in 2024 successfully maintained strong relationships with investors and ensured continued access to funding sources, while also promoting the Company's commitment to sustainability.

Disclosure of financially material ESG topics for investors

Stora Enso's reporting on the material ESG topics is prepared according to several internationally recognised frameworks.

The Sustainability Statement, published as part of the Report of the Board of Directors, is prepared in accordance with the Corporate Sustainability Reporting Directive and the European Sustainability Reporting Standards. The statement provides a comprehensive overview of the risks and opportunities arising from social, environmental, and governance issues, and on the impact of the Group's activities on people and the environment. Stora Enso reports the share of its Taxonomy-eligible and Taxonomy-aligned activities in the 'EU Taxonomy' section of the Sustainability Statement. Stora Enso has identified six eligible activities to report in the EU Taxonomy.

Stora Enso reporting on the SASB's Sustainability Accounting Standards for Forest Management and Containers & Packaging relate to topics that are considered to be financially material in the industry. These include topics such as sustainable forest management and forest certification, greenhouse gas emissions, air quality, energy management, water management, product safety, product life cycle management, and supply chain management. For further details, see the SASB content index.

The Task-force on Nature-related Financial Disclosures (TNFD) provides a framework for risk management and disclosure to identify, assess, respond to, and disclose nature-related issues. In 2024, Stora Enso became a TNFD Early Adopter and has published its first TNFD-aligned report for the financial year 2024. For further details, see TNFD.

Guidance policy

NB: As a change to prior practices, Stora Enso will continue to provide comments on its outlook but not a specific annual EBIT guidance. This aligns with international practices.

Closed period

Stora Enso's closed period start when the reporting period ends or 30 days prior to the announcement of the results, whichever is earlier, and lasts until the day of the announcement of the results. The dates are published in the financial calendar at storaenso.com/investors. During closed periods, Stora Enso PDMR's or persons entered into the Company's Closed Period List are not allowed to trade in the Company's securities. In addition, there are no communications in regards to the Group's financials and/or financially related topics with the capital markets or financial media during the closed period. This applies to meetings, telephone conversations or other means of communication.

Shareholders

At the end of 2024, the Company had approximately 108,290 registered shareholders, including about 51,361 Swedish and 56,020 Finnish shareholders and 909 ADR holders. Each nominee register is entered in the share register as one shareholder.

The free float of shares, excluding shareholders with holdings of more than 5% of shares or votes, is approximately 600 million shares, corresponding to 79% of the total number of shares issued. The largest shareholder in the Company is Solidium Oy based in Finland.

Shareholdings of other Group-related bodies

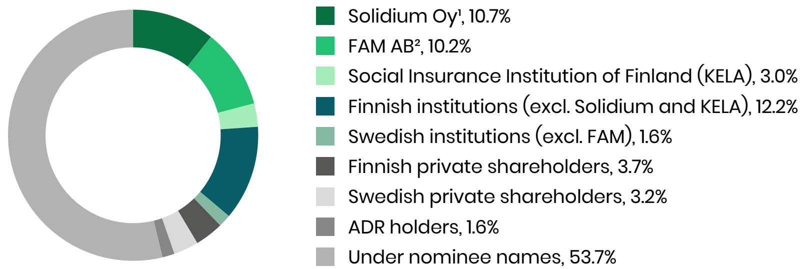
On 31 December 2024, E.J. Ljungberg's Foundation owned 1,780,540 A shares and 2,336,224 R shares, Mr. and Mrs. Ljungberg's Testamentary Foundation owned 5,093 A shares and 13,085 R shares and Bergslaget's Healthcare Foundation owned 626,269 A shares and 1,609,483 R shares.

Ownership distribution, 31 December 2024

	% of shares	% of votes	% of shareholders
Solidium Oy[1]	10.7%	27.4%	0.0%
FAM AB[2]	10.2%	27.4%	0.0%
Social Insurance Institution of Finland (KELA)	3.0%	10.1%	0.0%
Finnish institutions (excl. Solidium and KELA)	12.2%	8.6%	2.5%
Swedish institutions (excl. FAM)	1.6%	1.0%	1.1%
Finnish private shareholders	3.7%	2.3%	49.4%
Swedish private shareholders	3.2%	2.1%	45.3%
ADR holders	1.6%	0.5%	0.8%
Under nominee names	53.7%	20.7%	1.0%

1 Entirely owned by the Finnish State
2 As confirmed to Stora Enso

Ownership distribution, % of shares held



1 Entirely owned by the Finnish State
2 As confirmed to Stora Enso

Major shareholders as at 31 December 2024

By voting power	A shares	R shares	% of shares	% of votes
1 Solidium Oy[1]	62,655,036	21,792,540	10.7%	27.4%
2 FAM AB[2]	63,123,386	17,000,000	10.2%	27.4%
3 Social Insurance Institution of Finland (KELA)	23,825,086	-	3.0%	10.1%
4 Ilmarinen Mutual Pension Insurance Company	4,159,992	18,670,446	2.9%	2.5%
5 Varma Mutual Pension Insurance Company	5,163,018	1,140,874	0.8%	2.2%
6 MP-Bolagen i Vetlanda AB[2]	4,885,000	1,000,000	0.7%	2.1%
7 Elo Mutual Pension Insurance Company	2,010,000	10,087,000	1.5%	1.3%
8 E.J. Ljungberg's Foundation	1,780,540	2,336,224	0.5%	0.9%
9 Bergslaget's Healthcare Foundation	626,269	1,609,483	0.3%	0.3%
10 The State Pension Fund (Finland)	-	5,600,000	0.7%	0.2%
11 Lannebo fonder	-	4,904,100	0.6%	0.2%
12 Unionen (Swedish trade union)	-	4,800,000	0.4%	0.2%
13 OP Finland Fund	-	3,041,759	0.4%	0.1%
14 Nordea Finnish Stars Fund	-	3,017,418	0.4%	0.1%
15 The Society of Swedish Literature in Finland	-	3,000,000	0.4%	0.1%
Total	**168,228,327**	**97,999,844**	**33.8%**	**75.1%**
Nominee-registered shares[3]	75,519,278	478,429,538	70.3%	51.6%

1 Entirely owned by the Finnish State
2 As confirmed to Stora Enso
3 According to Euroclear Finland. As some of the shareholdings on the list are nominee registered, the percentage figures do not add up to 100%.

The list has been compiled by the Company on the basis of shareholder information obtained directly from the large shareholders, and from Euroclear Finland, Euroclear Sweden and a database managed by Citibank, N.A. This information includes directly registered holdings, thus certain holdings (which may be substantial) of shares held in nominee or brokerage accounts cannot be included. The list is therefore incomplete.

Share capital

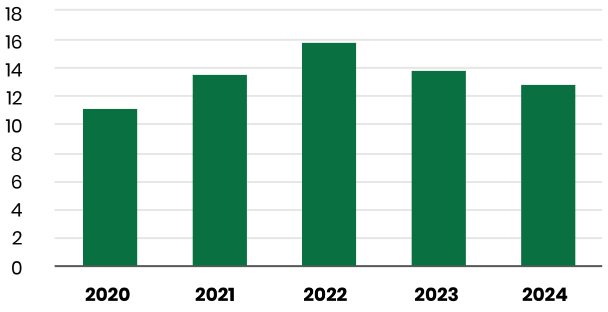
On 31 December 2024, the Company's fully paid-up share capital entered in the Finnish Trade Register was EUR 1,342 million. The current accountable par of each issued share is EUR 1.70.

Conversion

According to the Articles of Association, holders of Stora Enso A shares may convert these into R shares at any time. The conversion of shares is voluntary. The conversions of a total of 566,837 A shares into R shares were recorded in the Finnish Trade Register during the year 2024.

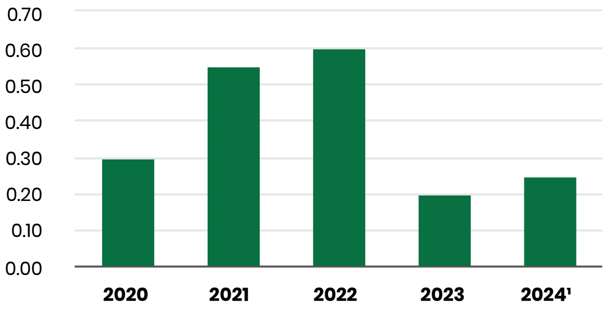
Equity per share

EUR



Dividend per share

EUR



1 Board of Directors' proposal to the AGM for distribution of dividend. The Board of Directors proposes that the dividend be paid in two instalments, during the second and fourth quarter of 2025.

Changes in share capital 2015–2024

	No. of A shares issued	No. of R shares issued	Total no. of shares	Share capital (EUR million)
Stora Enso Oyj, 31 Dec 2015	**176,532,090**	**612,087,897**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2015–Nov 2016	-25,000	25,000	-	-
Stora Enso Oyj, 31 Dec 2016	**176,507,090**	**612,112,897**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2016–Nov 2017	-114,770	114,770	-	-
Stora Enso Oyj, 31 Dec 2017	**176,392,320**	**612,227,667**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2017–Nov 2018	-79,648	79,648	-	-
Stora Enso Oyj, 31 Dec 2018	**176,312,672**	**612,307,315**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2018–Nov 2019	-55,838	55,838	-	-
Stora Enso Oyj, 31 Dec 2019	**176,256,834**	**612,363,153**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2019–Nov 2020	-2,419	2,419	-	-
Stora Enso Oyj, 31 Dec 2020	**176,254,415**	**612,365,572**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2020–Nov 2021	-10,366	10,366	-	-
Stora Enso Oyj, 31 Dec 2021	**176,244,049**	**612,375,938**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2021–Nov 2022	-5,769	5,769	-	-
Stora Enso Oyj, 31 Dec 2022	**176,238,280**	**612,381,707**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2022–Nov 2023	-7,364	7,364	-	-
Stora Enso Oyj, 31 Dec 2023	**176,230,916**	**612,389,071**	**788,619,987**	**1,342**
Conversion of A shares into R shares, Dec 2023–Nov 2024	-566,837	566,837	**-**	**-**
Stora Enso Oyj, 31 Dec 2024	**175,664,079**	**612,955,908**	**788,619,987**	**1,342**

For more historical data about the share capital, please visit storaenso.com/investors/shares.

Share price performance and volumes

Helsinki

The Stora Enso R (STERV) share price decreased by 24% during 2024 (5% decrease in 2023). Over the same period, the OMX Helsinki Index decreased by 7% (7% decrease in 2023) and the OMX Helsinki Basic Materials Index decreased by 22% (3% decrease in 2023).

Stockholm

The Stora Enso R (STE R) share price decreased by 21% during 2024 (5% decrease in 2023). Over the same period, the OMX Stockholm Index increased by 6% (15% increase in 2023) and the OMX Stockholm Basic Materials Index decreased by 10% (10% increase in 2023).

OTC

Stora Enso ADR (SEOAY) share price decreased by 27% during 2024 (1% decrease in 2023). Over the same period, the Standard & Poor's Global Timber and Forestry Index decreased by 6% (11% increase in 2023).

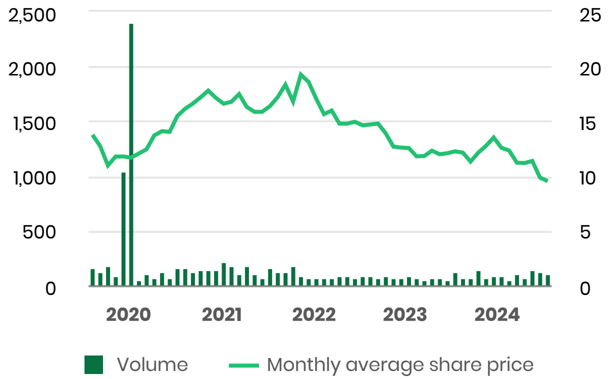
The volume-weighted average price of R shares over the year was EUR 11.53 in Helsinki (EUR 11.93 in 2023), SEK 130.79 in Stockholm (SEK 136.88 in 2023) and USD 12.58 on the OTC in the USA (USD 13.00 in 2023). Total market capitalisation of the Company was EUR 8.3 billion (EUR 10.5 billion) at the end of 2024.

Share prices and volumes in 2024

		Helsinki, EUR	Stockholm, SEK	OTC, USD
	A share	14.00	160.50	
High	R share	13.84	160.90	15.04
	A share	9.10	102.00	
Low	R share	9.12	104.10	9.47
	A share	9.68	110.00	
Closing, 31 Dec 2023	R share	9.72	111.50	10.12
	A share	-23.8%	-21.8%	
Change from previous year	R share	-23.5%	-21.3%	-26.8%
	A share	1,192,396	697,516	
Cumulative trading volume, no. of shares	R share	423,418,972	66,870,949	14,515,641

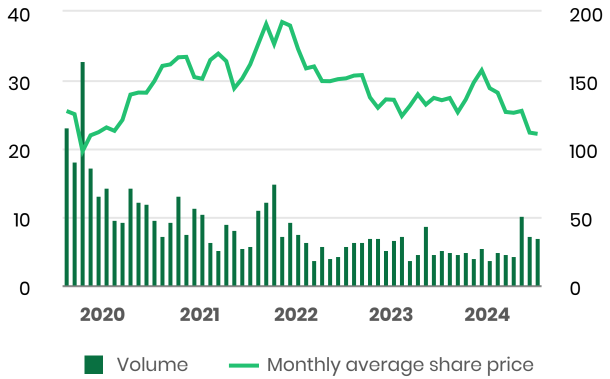
Helsinki, Stora Enso A

Number of shares, thousand | Share price (EUR)



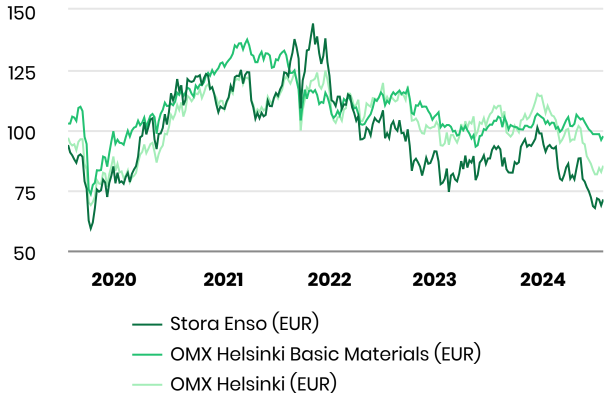
Stockholm, Stora Enso R

Number of shares, million | Share price (SEK)



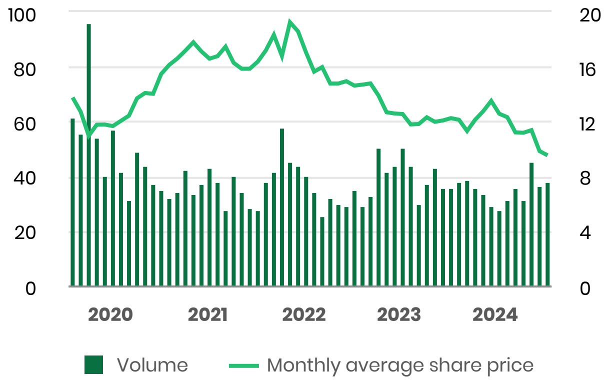
Stora Enso R share vs Nasdaq Helsinki indices

1.1.2020 = 100



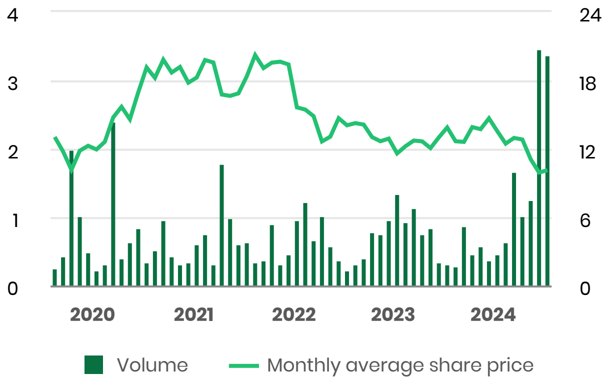
Helsinki, Stora Enso R

Number of shares, million | Share price (EUR)



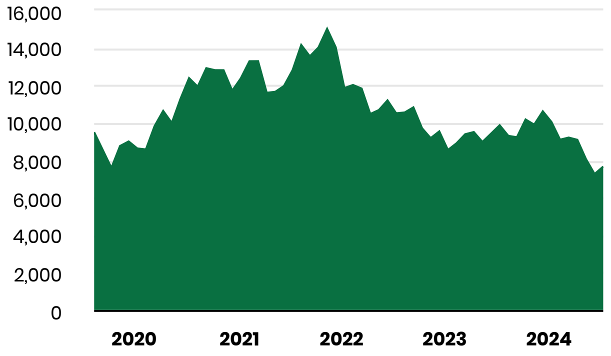
New York, Stora Enso ADR

Number of shares, million | Share price (USD)



Market capitalisation on Nasdaq Helsinki

EUR million



Stora Enso actively participates in the following ESG assessment schemes:

ESG rating	Stora Enso score / best possible score	Rating compared to peers
CDP	Climate A-/A Forest A/A Water A-/A	Among the highest ranked in the industry
FTSE Russell	4.4/5	Among the highest ranked in the industry
ISS Corporate Rating	B/A+	Among the highest ranked in the industry
ISS QualityScore	Governance 5/1* Social 1/1* Environment 2/1*	Above the industry average
MSCI	AAA/AAA	Among the highest ranked in the industry
Sustainalytics	15.6/0**	Among the highest ranked in the industry
VigeoEiris	71/100	Among the highest ranked in the industry

*1 to 10 (1 indicating the lowest risk)
**0 to 100 (0 indicating the lowest risk)

Stora Enso is included in several stock market indices worldwide. Stora Enso is also included in several stock market ESG indices worldwide. These indices provide investors with a representation of the performance of leading companies based on various categories and specific ESG criteria.

Stora Enso is included in the following indices amongst others

OMX INDICES	STOXX INDICES	FTSE INDICES	MSCI INDICES	EURONEXT INDICES	SUSTAINABILITY INDICES
OMX Helsinki	EURO STOXX	FTSE RAFI All-World 3000	MSCI Finland	Euronext Europe 500	EURO STOXX Climate Transition Benchmark
OMX Helsinki 25	EURO STOXX Mid	FTSE Developed Europe All Cap	MSCI Europe	Euronext World	EURO STOXX Paris-Aligned Benchmark
OMX Helsinki Large Cap	STOXX Developed World	FTSE Finland 25 Index	MSCI World	Euronext Developed Market	Euronext Climate Europe
OMX Helsinki Basic Materials	STOXX Developed Europe		MSCI World IMI		Euronext Low Carbon 300 World PAB
OMX Stockholm	STOXX Developed Nordic		MSCI ACWI		FTSE4Good Index
OMX Stockholm Large Cap	STOXX Global 3000		MSCI ACWI IMI		MSCI Acwi ESG Leaders
OMX Stockholm Basic Materials	STOXX Nordic				MSCI Europe ESG Leaders
Nasdaq OMX Nordic 120					MSCI World Climate Change
					MSCI World ESG Leaders
					MSCI World SRI
					OMX Sustainability Finland
					STOXX Europe Sustainability
					STOXX Global ESG Leaders
					ISS STOXX World AC Biodiversity

Key share data 2015–2024, total operations (for calculations see Alternative performance measures)

According to Nasdaq Helsinki	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Earnings per share, EUR	-0.17	-0.45	1.97	1.61	0.79	1.12	1.28	0.79	0.59	1.02
– diluted, EUR	-0.17	-0.45	1.97	1.61	0.79	1.12	1.28	0.79	0.59	1.02
– excl. FV, EUR[1]	-0.56	-0.73	1.55	1.19	0.45	0.61	1.26	0.89	0.65	1.24
Equity/share, EUR	12.86	13.93	15.89	13.55	11.17	9.42	8.51	7.62	7.36	6.83
Dividend/share, EUR[2]	0.25	0.20	0.60	0.55	0.30	0.30	0.50	0.41	0.37	0.33
Payout ratio excluding FV % [3]	-44.6%	-27.4%	38.6	46.3	66.7	49.2	39.7	46.1	56.9	26.6
Dividend yield, %										
A share	2.6	1.6	4.3	3.3	1.9	2.2	4.5	3.1	3.6	3.9
R share	2.6	1.6	4.6	3.4	1.9	2.3	5.0	3.1	3.6	3.9
Price/earnings ratio (P/E), excl. FV										
A share	-17.3	-17.1	9.0	14.0	35.3	22.2	8.8	14.8	16.0	6.8
R share	-17.3	-17.2	8.5	13.6	34.8	21.2	8.0	14.9	15.7	6.8
Share prices for the period, EUR										
A share										
– closing price	9.68	12.45	13.90	16.60	15.90	13.55	11.05	13.20	10.40	8.40
– average price	11.54	12.82	16.61	16.68	12.06	12.88	16.36	11.93	8.50	8.87
– high	14.00	15.55	20.60	18.70	16.20	14.45	18.45	13.79	10.45	11.01
– low	9.10	11.00	13.40	14.45	9.26	10.85	10.75	10.26	6.56	6.70
R share										
– closing price	9.72	12.53	13.15	16.14	15.65	12.97	10.09	13.22	10.21	8.39
– average price	11.53	11.93	16.12	15.70	11.52	11.05	14.61	11.54	7.88	8.70
– high	13.84	14.25	20.01	17.67	15.85	13.05	18.29	13.75	10.28	10.95
– low	9.12	10.11	12.66	13.67	7.25	9.10	9.92	9.70	6.50	6.58
Market capitalisation at year-end, EUR million										
A share	1,700	2,194	2,450	2,926	2,802	2,388	1,948	2,328	1,836	1,483
R share	5,957	7,670	8,053	9,884	9,580	7,939	6,175	8,094	6,250	5,135
Total	7,657	9,864	10,503	12,809	12,383	10,328	8,123	10,422	8,085	6,618
Number of shares at the end of period, (thousands)										
A share	175,664	176,231	176,238	176,244	176,254	176,257	176,313	176,392	176,507	176,532
R share	612,957	612,389	612,382	612,376	612,366	612,363	612,307	612,228	612,113	612,088
Total	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620
Trading volume, (thousands)										
A share	1,199	968	1,174	1,750	4,662	1,299	3,068	6,768	1,254	1,641
% of total number of A shares	0.7	0.5	0.7	1.0	2.6	0.7	1.7	3.8	0.7	0.9
R share	425,082	476,654	455,952	422,493	605,233	679,475	610,300	571,717	765,122	798,507
% of total number of R shares	69.3	77.8	74.5	69.0	98.8	111.0	99.7	93.4	125.0	130.5
Average number of shares (thousands)										
basic	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620	788,620
diluted	789,772	789,714	789,391	789,126	789,182	789,533	789,883	790,024	789,888	789,809

1 Earnings per share (EPS) excl. FV was added to the list of non-IFRS measures in 2020 replacing the key figure of EPS excl. IAC. Comparatives are recalculated for 2018-2019. For 2015–2017 table includes EPS excl. IAC figures.
2 Board of Directors' proposal to the AGM for distribution of dividend for 2024. 3 Excluding IAC in 2011–2017 **IAC** = Items affecting comparability

Debt investors

Funding strategy

Stora Enso's funding strategy is based on the Group's financial targets. Stora Enso should have access to sufficient and competitively priced funding at any time to be able to pursue its strategy and achieve its financial targets. Stora Enso maintains consistent dialogue with fixed-income community with informative and transparent communication and meetings in conferences and roadshows. The Company's Treasury function is responsible for fixed income investor communication.

Funding is obtained in the currencies of the Group's investments and assets (primarily EUR, SEK, CNY and USD). Commercial paper markets are used for short-term funding and liquidity management.

In 2024, the liquidity and funding position continued to be strong. Stora Enso had approximately EUR 2.0 billion cash and cash equivalents at 31 December 2024. The Company also had in total EUR 800 million committed undrawn credit facilities at year-end. Additionally, the Company has an undrawn EUR 435 million loan commitment from European Investment Bank and has access to EUR 830 million statutory pension premium loans in Finland. Stora Enso has a good access to various funding sources.

Public debt structure as at 31 December 2024

	EUR	USD	SEK
Public issues	EUR 500 million 2026	USD 300 million 2036	SEK 3500 million 2025
	EUR 300 million 2027		SEK 2950 million 2027
	EUR 300 million 2028		SEK 2750 million 2028
	EUR 500 million 2029		
	EUR 500 million 2030		
Private placements	EUR 125 million 2025		SEK 1000 million 2026
	EUR 25 million 2027		SEK 425 million 2033

Debt programmes and credit facilities as at 31 December 2024

	EUR	SEK
Commercial paper programmes	Finnish Commercial Paper Programme EUR 750 million	Swedish Commercial Paper Programme SEK 10 000 million
EMTN (Euro Medium-Term Note programme)	EUR 5 000 million	
Back-up facility	EUR 700 million sustainability linked revolving credit facility 2028[1]	
	EUR 100 million Bilateral Committed Credit Facility 2027 undrawn	

1 Undrawn committed credit facility EUR 700 million. Part of the pricing for the facility agreement is based on Stora Enso's Science Based Targets to combat global warming by reducing greenhouse gases, including CO_2.

Stora Enso has integrated sustainability agenda to its funding and financial services. The Group has the long-term aim to secure funding partners that have sustainability as a fundamental part of their agenda. It aims to influence and develop the financial markets to ensure that sustainability becomes an integral part of decisions and credit evaluation. For more information, visit storaenso.com/investors.

Green bonds

In 2024, Stora Enso did not issue any bonds. Stora Enso has a Green and Sustainability-Linked Financing Framework. The framework is based on Stora Enso's sustainability agenda and goals, driving the transformation towards a circular bioeconomy.

The green financing element of the framework comprises the following six eligible asset categories: sustainable forest management; sustainable product processes, energy efficiency, renewable energy and waste to energy, sustainable water management, and waste management and pollution control. The categories are designed to promote the transition towards a low-carbon and environmentally sustainable society in accordance with Stora Enso's sustainability agenda. The sustainability-linked financing element specifies key performance indicators for Stora Enso's performance on climate change, biodiversity and circularity.

Read more about sustainable financing on Stora Enso's website: Sustainable finance.

Rating strategy

Stora Enso Group's target is to have at least one public credit rating with the ambition to remain investment grade and sustain such metrics throughout business cycles. The present rating and outlook from Moody's and Fitch Ratings are shown below.

Ratings as at 31 December 2024

Rating agency	Long/short-term rating	Valid from
Fitch Ratings	BBB- (stable)	26 July 2024
Moody's	Baa3 (stable) / P-3	21 November 2024

Stora Enso's current credit ratings are: Baa3 with stable outlook from Moody's and BBB- with stable outlook from Fitch Ratings. Both ratings correspond to an Investment Grade rating.

Stora Enso's goal is to ensure that rating agencies continue to be comfortable with Stora Enso's strategy and performance. The Company's strategy is to achieve liquidity well in line with the comfort level of the agencies. Review meetings are arranged with the Stora Enso management annually, and regular contact is maintained with the rating analysts.

Read more about debt and loans in note 5.3 Interest-bearing assets and liabilities.

Stora Enso as a taxpayer

Stora Enso aims to be transparent with respect to economic value generation. For this purpose, Stora Enso makes a voluntary commitment to provide information on the Group's tax approach and details of the corporate income taxes paid by the Group. Stora Enso follows the GRI 207 standard as a reference for its tax disclosure. This means that the Group describes its tax policy and approach to tax and explains its processes around tax governance, controls, and risk management. Moreover, Stora Enso describes how it engages with stakeholders and deals with any concerns there may be related to tax. The Group also discloses the corporate income taxes paid and accrued, and other financial country-by-country information.

Tax policy

The Stora Enso Tax Policy addresses the Group's tax strategy, including approach to tax, tax governance, compliance, tax risk management and tax authority co-operation. The Tax Policy has been approved by the President and CEO of Stora Enso and is reviewed annually. This report discusses the principles of the Tax Policy.

Approach to tax

As a responsible taxpayer, Stora Enso is committed to observing the letter and the spirit of applicable tax laws, rules and regulations, including international transfer pricing guidelines and local legislation in all jurisdictions where it conducts business activities or has otherwise any tax obligation. In addition to legal and regulatory requirements, the tax principles comply with Stora Enso's values to 'Lead' and 'Do what's right'.

The strategic priorities of Stora Enso's tax function are confirmed annually by the Group CFO.

Stora Enso seeks to ensure that the tax strategy is aligned with the Group's business and commercial strategy. Stora Enso only undertakes tax planning that is duly aligned to economic activity and does not take aggressive tax planning positions. This means that all tax decisions are made in response to commercial activity, and tax is one of many other factors that are considered when making business decisions. Stora Enso has an obligation to manage tax costs as part of the Company's financial responsibility to societies and shareholders. Stora Enso may therefore respond to tax incentives and exemptions granted by governments on reasonable grounds, and currently has operations in countries that offer favourable tax treatments, where their location also is justified by sound commercial considerations.

Stora Enso has operations in the following locations that offer favourable tax treatments:

- The joint operation Montes del Plata operates a pulp mill in a Special Economic Zone with favourable tax treatment in Uruguay. As of 2024 the operations are subject to the global minimum tax requirement under the OECD Pillar Two rules, with potential additional tax.
- Stora Enso's two forestry companies in Guangxi, China are entitled to exemption from corporate income tax from forestry income and value added tax on their sales, and Stora Enso's related industrial company is entitled to reduced corporate income tax rate until 2025.
- Stora Enso conducts business, mainly consisting of sales support services, in the United Arab Emirates, Singapore, and Hong Kong.

Tax governance, control, and risk management

Stora Enso acts, as part of protecting shareholder value, with integrity in all tax matters. The Group's Tax team, reporting to the Group CFO, works closely with the businesses and other internal stakeholders to identify and manage business and compliance tax risks to ensure a sustainable yet business feasible platform for operations. The Group's Tax team regularly reports key tax matters to the Group management and the Finance and Audit Committee of the Board of Directors.

Tax affairs are managed under an extensive set of Group policies and guidelines. Internal stakeholders are continuously trained on tax-related matters in order to enhance capabilities and improve overall tax compliance and quality of tax reporting. Compliance processes are subject to internal controls, and tax risks are annually reviewed as part of the Group's enterprise risk management process. The Tax team monitors changes in tax legislation and regularly reviews tax affairs and risks with stakeholders to ensure that Stora Enso can sufficiently identify, assess, and mitigate tax risk.

In case employees have any concerns about unethical or unlawful behaviour or the Company's integrity, the anonymous Speak Up Hotline can be used to report any suspected cases also regarding tax matters.

The Group's tax disclosures are included in the assurance process of the Annual Report. This 'Stora Enso as a taxpayer' report is subject to limited assurance.

Stakeholder engagement and concerns related to tax

Stora Enso's commitment to tax transparency is also reflected in the Group's relationships with tax authorities and governments. Stora Enso seeks to work positively, proactively and openly with tax authorities on a global basis, utilising transparent advance processes to minimise potential disputes. Stora Enso also works with government representatives, mainly through associations, by providing corporate views and impacts at request to aid law-making and implementation. Stora Enso readily responds to investor enquiries, and constantly follows the development of tax sustainability and transparency expectations.

Country-by-country reporting of income taxes in 2024: How to read the report

The country-by country (CbC) data is reported along the line of the GRI 207-4 standard. However, while the reporting required in GRI 207-4 is based on the data in Stora Enso's consolidated Financial Statements, the reporting is unconsolidated and does not fully reconcile with the consolidated Financial Statements. The financial information in the CbC report is the sum of the legal entities' local standalone IFRS reported balances in each country. Group level consolidation adjustments, such as elimination of group internal transactions, are excluded. Due to this the financial information is different than what is presented in the consolidated financial statements for 2024.

Country-by-country information for financial year 2024

MEUR	Total revenue[1]	Profit/loss before income tax[2]	Income tax paid (on cash basis)[3]	Income tax accrued (current year)[4]	Number of employees[5]	Tangible assets (other than cash and equivalents)[6]	Primary activity in jurisdiction[7]	Main reasons for differences between current tax accrued and tax as per statutory rate[8]
Australia	96	3	0	0	32	50	Sales	
China	709	-369	1	2	2,340	703	Manufacturing, sales, support services, forestry	Tax losses
Hong Kong	32	0	0	0	7	0	Support services	
India	0	0	0	0	5	0	Support services	
Japan	2	0	0	0	12	0	Sales, support services	
Singapore	4	1	0	0	14	0	Support services	
Austria	424	20	5	3	948	126	Manufacturing, sales	
Belgium	388	7	8	9	502	113	Manufacturing, sales	Timing differences
Germany	120	-35	1	1	492	7	Manufacturing, sales	Tax losses
Estonia	206	20	0	2	532	31	Manufacturing, sales, support services	Taxation not based on profit
Spain	2	0	0	0	14	0	Support services	
Finland	6,066	131	9	3	5,211	2,979	Manufacturing, R&D, procurement, sales, group management	Result includes non-taxable internal dividends
France	54	0	0	0	27	5	Sales, support services	
Italy	6	3	2	1	26	0	Support services	
Lithuania	116	4	0	1	309	20	Manufacturing, sales	
Latvia	200	14	0	3	376	48	Manufacturing, sales	
Netherlands	504	37	-3	0	786	303	Manufacturing, sales, support services	Result includes non-taxable internal dividends
Portugal	0	0	0	0	0	0	Support services	
Slovenia	23	1	0	0	5	2	Sales	
Slovakia	1	0	0	0	1	0	Procurement	
Czechia	367	12	-3	3	1,154	151	Manufacturing, sales	
Denmark	11	0	0	0	4	0	Support services	
Poland	831	13	2	6	1,908	407	Manufacturing, sales	
Sweden	4,208	-2	44	2	3,550	7,352	Manufacturing, R&D, procurement, sales, group management, forest ownership	Timing differences
United Kingdom	192	3	2	1	70	27	Sales, support services	
Norway	112	0	0	0	4	8	Procurement	
Turkey	0	0	0	0	2	0	Support services	
Ukraine	0	0	0	0	1	0	Support services	
Mexico	1	0	0	0	9	0	Support services	

MEUR	Total revenue[1]	Profit/loss before income tax[2]	Income tax paid (on cash basis)[3]	Income tax accrued (current year)[4]	Number of employees[5]	Tangible assets (other than cash and equivalents)[6]	Primary activity in jurisdiction[7]	Main reasons for differences between current tax accrued and tax as per statutory rate[8]
United States	86	20	0	0	33	17	Sales, support services	Tax losses
United Arab Emirates	1	0	0	0	7	0	Support services	
South Africa	0	0	0	0	2	0	Support services	
Brazil	171	-7	1	1	538	294	Manufacturing, forestry	
Uruguay	635	208	7	7	313	1,835	Manufacturing, forestry	Favourable tax treatment. Additional tax will be due under Pillar Two minimum tax rules.
Stora Enso Group	**15,573**	**87**	**78**	**44**	**19,233**	**14,480**		

Names of the resident entities can be found in note 6.2 Group companies in the Financial Statements.
1 Revenues is the total amount of income (excl. internal dividends) from domestic and foreign parties of the entities in the jurisdiction.
2 Profit/loss before tax is the total amount of the group entities' profit or loss before tax in the jurisdiction, as reported under IFRS. The reported amounts include temporary and permanent differences between accounting and taxation, such as non-taxable dividends from other group companies, and thus do not represent the taxable income on which taxes are calculated in the jurisdiction's taxation.
3 Corporate income tax paid on a cash basis contains the total of corporate income taxes paid during the reported period by the companies in the jurisdiction to the home jurisdiction and all other jurisdictions. The amount contains tax payments for previous years and excess payments refundable in following years.
4 Corporate income tax accrued on profit/loss is the IFRS reported current tax expense of the reported period. The amounts do not include deferred taxes from temporary differences and tax losses, and thus do not represent the total tax expense of the entities in the income statement. The amounts do not contain taxes from previous periods.
5 Number of employees is the total average number of full-time equivalents in the jurisdiction during the year.
6 Tangible assets other than cash and cash equivalents states the total of IFRS reported values of tangible assets in the entities of the jurisdiction.
7 Primary activities in the jurisdiction lists the main activities of all group entities in the jurisdiction.
8 Reasons for differences between income tax accrued and tax as per statutory rate explains the main reasons for the difference between the reported corporate income tax accrued for the year (4), and the amount of tax when applying the jurisdiction's statutory corporate income tax rate to the profit/loss before tax (2). The reasons for differences may come from several sources, many of which are reporting technical. For example, profit/loss before tax (2) may contain items that will become taxable earlier or later than they are recognised in bookkeeping, creating timing differences on which deferred tax is recognised. In addition, differences may be due to utilization of tax losses or incurring new loss, for which deferred tax is also normally recognised. However, as per the standard, the accrued income tax (4) is reported here excluding deferred taxes, which creates a timing related difference between tax accrued and tax as per the statutory rate. Other main reasons for differences listed in this column may be tax exempt items such as group internal dividends, costs not deductible for tax purposes, favourable tax treatments (see previous page), and taxes from previous years.

Head office photos: Stora Enso / © Tuomas Uusheimo

Report of the Board of Directors

Introduction

Business model

The forest is at the heart of Stora Enso and we believe that everything made from fossil-based materials today can be made from a tree tomorrow. We are the leading provider of renewable products in packaging, biomaterials, and wooden construction, and one of the largest private forest owners in the world. We create better choices for society by accelerating the transition to a circular bioeconomy. We aim to contribute positively to nature, and have the most effective use of fiber-based renewable material.

Stora Enso had approximately 19,000 employees at the end of 2024. The Group sales in 2024 were EUR 9 billion, with an adjusted EBIT of EUR 598 million. Stora Enso shares are listed at the Helsinki (STEAV, STERV) and Stockholm (STE A, STE R) stock exchanges. In addition, the shares are traded on OTC Markets (OTCQX) in the USA as ADRs and ordinary shares (SEOAY, SEOFF, SEOJF).

Strategy

We create value for our shareholders by growing our leading positions in packaging, biomaterials innovations, and building solutions, combined with a strict capital allocation strategy, cost control, and other financial measures. Global sustainability megatrends underpin our growth strategy. We see the greatest potential for scalable innovation and commercialisation of new products in the following three areas:

Renewable packaging

We have leading global market positions in high-value segments and long-term customer partnerships in our packaging business. We continue to see strong demand for plastic substitution and circular solutions. Fiber-based packaging is the most sustainable option for many products as it can be recycled, reused, or composted. It is the fastest growing packaging material globally and is expected to outpace plastic alternatives in the long term.

Sustainable building solutions

There are growth opportunities in the building industry, particularly with wooden alternatives to materials such as concrete and steel, which have larger carbon footprints. The global construction market is shifting towards modular building methods that use less energy and reduce carbon emissions. Mass timber products now enable the construction of safe and sustainable high-rise buildings. We are well-positioned to capture more value across the entire supply chain with our products and value-added services, including prefabricated bespoke wooden elements, new concepts, and digital services.

Biomaterials innovations

In Biomaterials, we focus on providing innovative and sustainable biobased solutions for high-growth, high-margin markets. Through our expertise, strategic collaborations and partnerships, we accelerate breakthrough innovations in new fiber products, biochemicals, and lignin-based applications, such as anode material for batteries and bio-based binders for construction, which can replace fossil-based materials.

Forests are the foundation for our renewable solutions

Forest is a valuable, growing asset that facilities a long-term fiber supply for our products. Our growth strategy is supported by cost-efficient wood flows and resource optimisation. By streamlining these processes, we can ensure a more efficient operation and better use of our resources.

Key targets

	2024	2023	2022	Target
Financials				
Sales growth	-4%	-20%	17%	>5% per annum
Adjusted ROCE[1] excl. Forest	3.6%	1.0%	20.4%	>13%
Net debt to adjusted EBITDA[1]	3.0	3.2	0.7	<2.0
Net debt to equity	37%	29%	15%	<60%
Dividend per share (EUR)[2]	0.25	0.20	0.6	See below[3]
Non-financials				
Reduction of absolute CO_2e emissions (Scope 1 and 2) from 2019 base year[4]	-53%	-43%	-28%	-50% by 2030
Reduction of absolute CO_2e emissions (Scope 3) from 2019 base year[4]	-39%	-35%	-24%	-50% by 2030
Forest certification coverage	99%	99%	99%	96%
Circularity[4]	94%	93%	94%	100% recyclable products by 2030

1 Last 12 months
2 Dividend proposal for 2024. The Board of Directors proposes that the dividend be paid in two instalments, during the second and fourth quarter of 2025.
3 To distribute 50% of EPS excluding fair valuation over the cycle.
4 Compared to the 2019 baseline. Historical figures are restated due to structural changes or additional data after the previous annual report.

Year 2024

The year began with signs of a gradual market recovery compared to 2023, although high interest rates and consumer confidence issues persisted. Stora Enso anticipated increased demand and higher prices for board and pulp. However, the Company faced challenges such as higher maintenance costs and strikes in Finland, which impacted profits. Despite these short-term challenges, Stora Enso focused on efficiency, decisiveness, and essential operations to navigate the market uncertainties.

In the second quarter, Stora Enso's performance met expectations, reinforcing the upgraded 2024 guidance. The Company saw advances in profitability and cash flow improvement initiatives, supported by more favourable market conditions in some segments. Higher volumes and reduced fixed and chemical costs contributed to the positive earnings trend, despite rising wood costs and political strikes in Finland.

The third quarter witnessed a strong increase in Stora Enso's financial performance compared to the previous year. This was driven by higher prices and volumes, particularly in the Packaging Materials division. The Biomaterials division also performed well, although demand weakened with decreasing pulp prices. The Forest division achieved record results due to increased wood prices. However, challenges persisted in the Wood Products division due to a weak construction sector, and the Packaging Solutions division faced price lags and market overcapacity.

Towards the end of the year, Stora Enso anticipated a slowdown in market recovery, with weak consumer board demand, overcapacity in corrugated board, and ongoing weakness in the construction sector. High wood costs continued to pressure margins. Despite these challenges, Stora Enso's profitability improvement initiatives positively impacted earnings, and the Company remained confident in its ability to focus on long-term growth opportunities.

Throughout 2024, Stora Enso navigated the market dynamics by focusing on efficiency, profitability improvement initiatives, value accretive actions, and strategic capital allocation. The Company remained committed to investing in both human and capital resources to provide exceptional service to customers and create robust shareholder value growth. This commitment is expected to build a more profitable, competitive, and valuable Stora Enso.

Main strategic actions

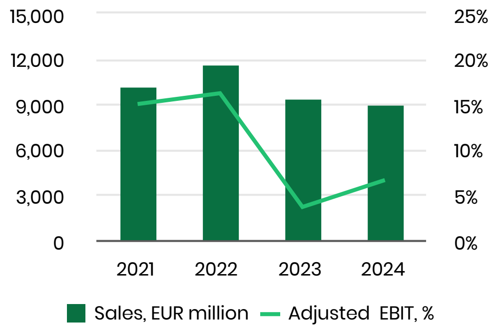
Actions to improve sourcing and operational efficiency as well as commercial excellence, and the implementation of cost reductions across the Company have borne fruit, enhancing profitability and competitiveness. Despite facing macroeconomic uncertainties, fluctuations in market demand, and rising wood costs, these actions have progressed well.

In September, Stora Enso initiated the sale of approximately 12% of its 1.4 million hectares of forest assets in Sweden. This transaction aims to reduce debt, highlighting the financial value of the Group's forest holdings. The sale is dependent on finalising terms with investors, including long-term wood supply and forest management agreements.

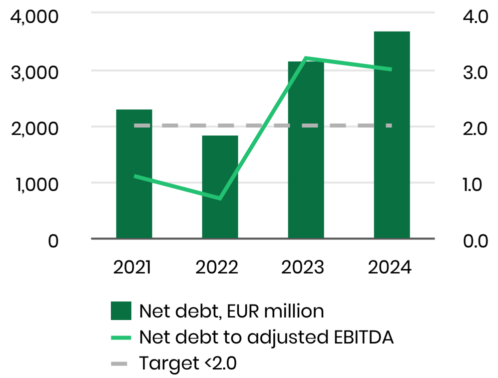
The divestment process for the Beihai packaging board production site and forestry business, announced in December 2022, was discontinued in October 2024. Stora Enso is of the view that the value in own use of the assets exceeded the achievable transaction value, and therefore retained these operations within the Group.

In October, Stora Enso entered into an agreement to acquire 100% of the Finnish sawmill company Junnikkala Oy. The total enterprise value for the transaction is up to EUR 137 million, a significant part of it being contingent upon achieving specific production milestones. The acquisition, subject to customary closing conditions including regulatory approvals, aims to secure a cost-efficient wood supply to Stora Enso's packaging board site in Oulu, Finland, and to support the Group's wood products business with new production assets.

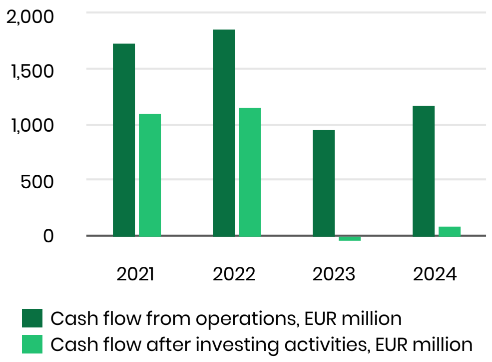
Sales and adjusted EBIT margin



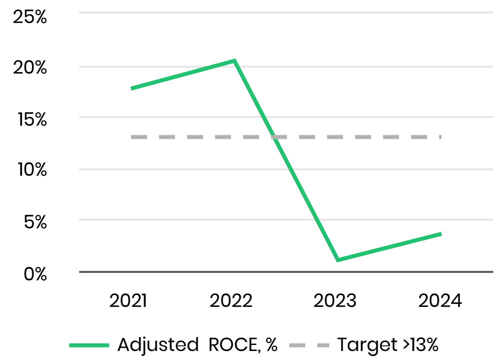
Net debt to adjusted EBITDA



Cash flow



Adjusted ROCE excl. Forest



Markets and deliveries

Global cartonboard consumption experienced a rebound in 2024 following a challenging year in 2023. The demand recovery was particularly strong in Europe and North America, driven by the end of a long destocking period throughout 2023. However, demand recovery slowed down during the second half of 2024 due to increased macroeconomic uncertainties.

Global containerboard demand increased in 2024. The growth was driven by the end of destocking that occurred during 2023. Despite this growth, increased economic uncertainties caused a slowdown in the demand increase as 2024 progressed.

European paper demand was relatively stable in 2024 after a sharp decline in 2023. During the second half of 2024, demand continued to follow the long-term structural demand erosion.

In Europe, demand for corrugated packaging grew by 4% in 2024, mainly due to growth in retail spending, driven by the ongoing recovery in purchasing power in e-commerce and retail sales. Nevertheless, the market is still facing an overcapacity originating from many capacity expansion decisions made during the past years. The expected increase in retail sales and lower interest rates are expecting to support a modest growth in the European corrugated packaging demand going forward.

Global demand for chemical market pulp fell 2% in 2024. Demand for hardwood pulp declined 1% whereas softwood pulp demand was down 3.5%. Demand for unbleached kraft pulp (UKP) continued to fall whereas demand for fluff pulp was steady. Chinese demand dropped by 20% y-o-y during the Q2-Q3 due to destocking in 2024 that followed stock building in 2023. Demand growth in other regions was not able to offset the decline in Asia.

The global chemical market pulp capacity increased by 2% in 2024. The hardwood pulp capacity increased by 5% thanks to new capacity ramping up in South America. Softwood pulp capacity declined by 1.5% and UKP by 8% due to capacity closures. The overall shipment-to capacity balance stood at 87%, 3 percent points down from 2023.

Global pulp inventories were considered balanced in H1 2024 but started to elevate towards the end of the year. Softwood pulp inventories were on low side in first half of the year, peaked after summer months before balancing by the end of the year thanks to capacity closures. Hardwood pulp inventories were balanced in H1 after which the inventories increased due to weaker demand and new capacity ramping up.

After weak markets in 2023, global sawn wood consumption increased in 2024 by +1.3% according to FEA (Forest Economic Advisor), with weaker development experienced in Europe. Through the 2024 market supply and demand reached better balance (due to supply curtailments) which stabilised prices in most markets. During 2024, interest rates decreased somewhat but remained still at a high level in most markets, and combined with unclear geopolitical situation, customer confidence remained low, which resulted in further drops in the number of building permits and housing starts in comparison to 2023.

Estimated consumption of board, pulp, sawn softwood, and paper in 2024

Tonnes, million	Europe	North America	Asia and Oceania
Consumer board	10.9	9.2	33.3
Containerboard	35.8	32.1	97.9
Corrugated board (billion m^2)[1]	8.5	n/a	n/a
Chemical market pulp	16.1	7.7	37.9
Sawn softwood (million m^3)	75.3	100.0	71.5
Newsprint	2.6	1.0	4.8
Uncoated magazine paper	1.4	0.6	0.1

1 European focus markets (Benelux, FI, PL, SE)
Source: Afry, CEPI, Numera, ICCA, PPPC, Stora Enso, Forest Economic Advisors (FEA)

Production and external deliveries

	2024	2023	Change % 2024–2023
Consumer board deliveries, 1,000 tonnes	2,778	2,691	3.3%
Consumer board production, 1,000 tonnes	2,793	2,593	7.7%
Containerboard deliveries, 1,000 tonnes	1,242	1,236	0.5%
Containerboard production, 1,000 tonnes	1,530	1,592	-3.9%
Corrugated packaging European deliveries, million m^2	1,205	1,167	3.2%
Corrugated packaging European production, million m^2	1,157	1,094	5.7%
Market pulp deliveries, 1,000 tonnes	2,029	2,220	-8.6%
Wood products deliveries, 1,000 m^3	3,892	3,897	-0.1%
Wood deliveries, 1,000 m^3	13,451	13,667	-1.6%
Paper deliveries, 1,000 tonnes	611	761	-19.7%
Paper production, 1,000 tonnes	592	752	-21.3%

Alternative performance measures

The alternative performance measures used by Stora Enso are explained in the chapter Alternative performance measures.

Financial results – Group

Group sales decreased by 4% year-on-year to EUR 9,049 (9,396) million, due to by structural changes. Adjusted EBIT was EUR 598 (342) million, and the adjusted EBIT margin was 6.6%. Adjusted EBIT increased mainly due to increased sales volumes and prices, decreased fixed costs partly offset by increased wood costs. Earnings per share was EUR -0.17 (-0.45) and earnings per share excluding fair valuations was EUR -0.56 (-0.73).

The IFRS operating result was EUR 93 (-322) million. The IFRS operating result includes a positive net effect of EUR 421 (positive 209) million from biological asset valuation from subsidiaries and joint operations. The positive impact comes mainly from the increase in fair valuation in Stora Enso owned forests in Sweden, mostly driven by increases in estimated wood prices and standing stock. There is also a positive net effect of EUR 52 (positive 136) million from Stora Enso's share of net profit of associated companies. The positive impact comes mainly from Finnish forests operational profit, through Stora Enso's 41% investment in Tornator.

Tangible and intangible asset (including goodwill) impairments amounted to EUR 746 (776) million.

The items affecting comparability (IAC) had an adverse impact of EUR 870 (895) million on IFRS operating result. The main IACs in 2024 mainly relate to the impairments in Packaging Materials, Packaging Solutions and Wood Products divisions as well as restructuring related costs. The IACs in 2023 mainly relate to the impairments in the Packaging Materials, Biomaterials, Wood Products divisions and segment Other, restructurings related to Sunila, De Hoop, Anjalankoski and Kvarnsveden sites and Group functions and Packaging Materials division, as well as disposal of Nymölla, Maxau, Hylte and Wood Products DIY sites, and biocomposite business. Fair valuations and non-operational items (FV) had a positive net impact on the IFRS operating result of EUR 364 (231) million. The main IAC and FV items are presented in the chapter Alternative Performance Measures.

Net financial expenses at EUR 211 (173) million were EUR 38 million higher than a year ago. Net interest expenses, at EUR 127 million, increased by EUR 14 million as a result of higher interest rates on borrowings and higher amount of gross debt. Other net financial expenses, at EUR 64 million, were EUR 25 million higher, mainly due to write-down of Russia related loan receivables and higher factoring and supply chain financing costs. The net foreign exchange impact in respect of cash equivalents, interest-bearing assets and liabilities and related foreign-currency hedges amounted to a loss of EUR 20 (loss of EUR 22) million, mainly due to revaluation of foreign currency net debt in subsidiaries located in China.

The net tax totalled EUR -65 (64) million, equivalent to an effective tax rate of -55.4% (13.0%), as described in more detail in note 2.5 Income taxes.

The loss attributable to non-controlling interests was EUR 48 (EUR 74) million, leaving a loss of EUR 136 (loss of EUR 357) million attributable to Company shareholders.

Adjusted return on capital employed was 4.3% (2.4%).

The Group capital employed was EUR 13,696 million on 31 December 2024, a decrease of EUR 360 million, mainly due to impairments partly offset by investment projects, mainly the consumer board investment at the Oulu site, and increase of the fair valuation of forest assets.

Key figures

	2024	2023	2022
Sales, EUR million	9,049	9,396	11,680
Adjusted EBIT, EUR million	598	342	1,891
Adjusted EBIT margin	6.6%	3.6%	16.2%
Operating result (IFRS), EUR million	93	-322	2,009
Operating result margin (IFRS)	1.0%	-3.4%	17.2%
Return on equity (ROE)	-1.7%	-3.8%	13.3%
Adjusted ROCE	4.3%	2.4%	13.7%
Adjusted ROCE excl. Forest division	3.6%	1.0%	20.4%
Net debt/equity ratio	0.37	0.29	0.15
EPS (basic), EUR	-0.17	-0.45	1.97
EPS excluding FV, EUR	-0.56	-0.73	1.55
Dividend per share[1], EUR	0.25	0.20	0.60
Payout ratio, excluding FV	-44.6%	-27.4%	38.6%
Payout ratio (IFRS)	-145.4%	-44.2%	30.5%
Dividend yield, (R share)	2.6%	1.6%	4.6%
Price/earnings (R share), excluding FV	-17.33	-17.17	8.46
Equity per share, EUR	12.86	13.93	15.89
Market capitalisation 31 Dec, EUR million	7,657	9,864	10,503
Closing price 31 Dec, A share, EUR	9.68	12.45	13.90
Closing price 31 Dec, R share, EUR	9.72	12.53	13.15
Average price, A share, EUR	11.54	12.82	16.58
Average price, R share, EUR	11.53	11.93	16.12
Number of shares 31 Dec (thousands)	788,620	788,620	788,620
Trading volume A shares (thousands)	1,199	968	1,174
% of total number of A shares	0.7%	0.5%	0.7%
Trading volume R shares (thousands)	425,082	476,654	455,952
% of total number of R shares	69.3%	77.8%	74.5%
Average number of shares, basic (thousands)	788,620	788,620	788,620
Average number of shares, diluted (thousands)	789,772	789,714	789,391

1 Proposed dividend. The Board of Directors proposes that the dividend be paid in two instalments. See the Board of Directors' proposal for the distribution of dividend.

Breakdown of capital employed change

EUR million	Capital employed
31 December 2023	**14,056**
Capital expenditure excluding investments in biological assets less depreciation	509
Investments in biological assets less depletion of capitalised silviculture costs	-6
Impairments and reversal of impairments	-745
Fair valuation of forest assets	229
Unlisted securities (mainly PVO)	-208
Associated companies	28
Net liabilities in defined benefit plans	35
Operative working capital and other interest-free items, net	-180
Emission rights	-35
Net tax liabilities	79
Acquisition of subsidiary companies	72
Disposal of subsidiary companies	-8
Translation difference	-107
Other changes	-23
31 December 2024	**13,696**

Financing

Cash flow from operations was EUR 1,187 (954) million and cash flow after investing activities was EUR 74 (-40) million. Working capital decreased by EUR 283 (300) million, inventories increased by EUR 136 million and trade receivables decreased by EUR 244 million. Trade payables increased by EUR 115 million and thus had a positive impact on working capital. Payments related to the previously recognised provisions were EUR 100 million.

Operative cash flow

EUR million	2024	2023
Adjusted EBITDA	1,223	989
IAC on adjusted EBITDA	-125	-126
Other adjustments	-194	-210
Change in working capital	283	300
Cash flow from operations	1,187	954
Cash spent on fixed and biological assets	-1,113	-989
Acquisitions of associated companies	-1	-5
Cash flow after investing activities	74	-40

As at 31 December 2024, Group net interest-bearing liabilities were EUR 3,707 (3,167) million. The increase in net interest-bearing liabilities was mainly driven by significant investments such as the consumer board investment at the Oulu site in Finland. Cash and cash equivalents net of bank overdrafts decreased to EUR 1,993 (2,464) million. The net debt/equity ratio at 31 December 2024 increased to 0.37 (0.29). The ratio of net debt to the last 12 months' adjusted EBITDA decreased to 3.0 (3.2) due to higher adjusted EBITDA. The average interest rate on borrowings for the full year 2024 increased to 4.1% (3.7%) with a run-rate of 4.0% as per the end of the fourth quarter.

In July 2024, Stora Enso secured a EUR 435 million long-term loan from the European Investment Bank to fund its EUR 1 billion investment at the Oulu site in Finland. Loan repayment extends until 2037, and the loan is currently undrawn.

During the second quarter, Stora Enso signed extensions of one to two years for a total of EUR 350 million of its existing bilateral loans. The Company also signed a two-year extension to its EUR 100 million committed credit facility.

During 2024, Stora Enso's total repayments of SEK bond notes amounted to a nominal of EUR 135 million.

Stora Enso had in total EUR 800 million committed undrawn credit facilities as per 31 December 2024. Additionally, the Company has access to EUR 830 million statutory pension premium loans in Finland.

The changes in the fair value of forest land, net of deferred taxes, which are recognised in other comprehensive income (OCI) decreased the equity by EUR 223 million (decreased by EUR 39 million) mainly due to increase in the discount rate.

The changes in the fair valuation of equity investments fair valued through other comprehensive income decreased equity by EUR 203 (decreased by EUR 645) million. The decrease is mainly due to a lower fair valuation of the Group's shareholding in Pohjolan Voima Oy (PVO), explained especially by lower electricity price forecasts. The changes in the fair valuation of cash flow hedges fair valued through other comprehensive income decreased equity by EUR 65 million, mainly driven by weaker SEK and stronger USD.

At the end of the year, the ratings for Stora Enso's rated bonds were as follows:

Rating agency	Long/short-term rating	Valid from
Fitch Ratings	BBB- (stable)	26 July 2024
Moody's	Baa3 (stable) / P-3	21 November 2024

Financial results – Segments

Packaging Materials division

The Packaging Materials division is a global leader and expert partner in circular packaging providing premium packaging boards, made from virgin and recycled fiber. Stora Enso helps customers reduce the use of fossil-based materials by offering renewable and recyclable products for their food, beverage, and transport packaging based on a wide selection of base boards and barrier coatings.

EUR million	2024	2023
Sales	4,502	4,557
Adjusted EBITDA	472	267
Adjusted EBITDA margin	10.5%	5.9%
Adjusted EBIT	172	-57
Adjusted EBIT margin	3.8%	-1.3%
Fair valuations and non-operational items (FV)[1]	2	12
Items affecting comparability (IAC)[1]	-343	-597
Operating result (IFRS)	-169	-642
Adjusted EBIT, LTM	172	-57
Operating capital, LTM	3,490	3,580
Adjusted ROOC, LTM	4.9%	-1.6%
Cash flow from operations	462	370
Cash flow after investing activities	-323	-235
Board deliveries, 1,000 tonnes	4,920	4,963
Board production, 1,000 tonnes	4,916	4,843

1 The IAC for 2024 included asset impairments of EUR -141 million for China operations, EUR -90 million for the Varkaus containerboard unit, EUR -47 million for the Langerbrugge paper unit, EUR -27 million for the Poland containerboard unit, and EUR -38 million restructuring and other related to various units (mainly HQ, Anjalankoski, Imatra, Swedish operations, China). The IAC for 2023 included impairments of fixed assets of EUR -228 million for the Oulu containerboard unit, EUR -202 million for China operations, EUR -12 million for the Anjalankoski site's paper assets, EUR -26 million of goodwill impairments related to the Anjalankoski and De Hoop sites, restructuring costs related to De Hoop site closure of EUR -79 million, closing down one paper line at Anjalankoski site of EUR -26 million, restructuring program in division management and support functions of EU -12 million and other restructuring costs of EUR -9 million, and other IAC cases of -3 million. The fair valuations for 2024 included non-operational fair valuation changes of biological assets of EUR 2 (12) million.

The Packaging Materials division's sales decreased by 1% to 4,502 (4,557) million, but excluding structural changes, sales improved by 3% or EUR 140 million driven by increased volumes.

Adjusted EBIT improved by EUR 229 million to EUR 172 (-57) million, driven by structural changes and improved operating rates. Increasing fiber costs were more than offset by decline in other variable costs (especially energy and chemicals). Fixed costs were significantly lower due to structural changes and positive impact from profit improvement actions. Depreciations declined following the 2023 impairments.

Packaging Solutions division

The Packaging Solutions division is a packaging converter that produces premium fiber-based packaging products for leading brands across multiple market areas, including retail, e-commerce, and industrial applications. Additionally, the division provides design and sustainability services to help customers optimise material use, improve logistics, and reduce CO_2 emissions.

EUR million	2024	2023
Sales	987	1,077
Adjusted EBITDA	62	111
Adjusted EBITDA margin	6.3%	10.3%
Adjusted EBIT	-15	43
Adjusted EBIT margin	-1.5%	4.0%
Items affecting comparability (IAC)[1]	-379	-26
Operating result (IFRS)	-394	17
Adjusted EBIT, LTM	-15	43
Operating capital, LTM	934	874
Adjusted ROOC, LTM	-1.6%	4.9%
Cash flow from operations	78	145
Cash flow after investing activities	31	62
Corrugated packaging European deliveries, million m^2	1,217	1,178
Corrugated packaging European production, million m^2	1,157	1,094

1 The IAC for 2024 included asset impairments of EUR -371 million related to operations in western Europe, and EUR -8 million restructuring costs related to various units. The IAC for 2023 included EUR -19 million restructuring costs in China and EUR -16 million related to the acquisition of De Jong Packaging Group, and EUR -1 million other cases.

The Packaging Solutions division's sales declined by 8% to EUR 987 (1,077) million, driven by price pressure due to soft demand and overcapacity.

Adjusted EBIT was EUR -15 (43) million. Volumes were higher, however, margin pressure due to increased containerboard prices during Q2-Q3, soft demand, and overcapacity, combined with the continued ramp-up of the new De Lier site in the Netherlands, decreased profitability.

Biomaterials division

The Biomaterials division's foundation is built on pulp, with the aim of becoming customers' first choice in selected grades. To unlock the full potential of a tree the division also leverages all fractions to create innovative biobased solutions, that replace fossil-based and other non-renewable materials.

EUR million	2024	2023
Sales	1,587	1,587
Adjusted EBITDA	372	256
Adjusted EBITDA margin	23.4%	16.1%
Adjusted EBIT	231	118
Adjusted EBIT margin	14.6%	7.4%
Fair valuations and non-operational items (FV)[1]	32	25
Items affecting comparability (IAC)[1]	-7	-224
Operating result (IFRS)	256	-81
Adjusted EBIT, LTM	231	118
Operating Capital, LTM	2,480	2,625
Adjusted ROOC, LTM	9.3%	4.5%
Cash flow from operations	507	431
Cash flow after investing activities	332	234
Pulp deliveries, 1,000 tonnes	2,207	2,277

1 The IAC for 2024 included EUR -7 million restructuring costs related to various units. The IAC for 2023 included restructuring expenses from the closure of the Sunila pulp production of EUR -116 million, impairments of fixed assets of EUR -59 million for the Uimaharju site, impairment of goodwill of EUR -44 million for the Nordic Mills, EUR -4 million of other cases. The fair valuations for 2024 included non-operational fair valuation changes of biological assets of EUR 32 (25) million.

The Biomaterials division's sales were EUR 1,587 (1,587) million. The impact of higher pulp sales prices was offset by the impact of lower volumes due to the closure of the Sunila site in 2023. Market conditions were better, especially in the first half of the year.

Adjusted EBIT at EUR 231 (118) million increased by 96%, primarily driven by higher sales prices and actions reducing costs.

Wood Products division

The Wood Products division is Europe's largest sawn timber producer and a leading provider of sustainable wood-based solutions for the global building sector. The division provides the building sector with renewable and low-carbon wood-based solutions that help decarbonise the built environment. Additionally, the division offers window and door components, and co-products such as pellets made from wood residuals.

EUR million	2024	2023
Sales	1,522	1,580
Adjusted EBITDA	27	-17
Adjusted EBITDA margin	1.8%	-1.0%
Adjusted EBIT	-16	-64
Adjusted EBIT margin	-1.1%	-4.1%
Items affecting comparability (IAC)[1]	-57	-22
Operating result (IFRS)	-73	-86
Adjusted EBIT, LTM	-16	-64
Operating capital, LTM	609	687
Adjusted ROOC, LTM	-2.7%	-9.3%
Cash flow from operations	45	43
Cash flow after investing activities	-4	3
Wood products deliveries, 1,000 m^3	3,718	3,727

1 The IAC for 2024 included asset impairments of EUR -56 million related to the operations in northern Europe. The IAC for 2023 included asset impairments of EUR -12 million related to the operations in northern Europe, asset impairments of EUR -4 million related to the operations in southern Europe, EUR -4 million impact from disposal of the Näpi site and EUR -3 million from disposal of Wood Products DIY unit, EUR 1 million other cases.

The Wood Products division's sales were EUR 1,522 (1,580) million, down 4%, due to the continued weak market demand and closure of two units. Weakness in construction industry remained through the year, and the number of building permits and housing starts in Europe declined further, pressing the demand for the division's products. To balance the lower demand, production curtailments were implemented.

Adjusted EBIT remained negative, at EUR -16 (-64) million, but the result increased 75%. Implemented fixed costs savings and lower variable costs, except for raw material, delivered an improvement in the results.

Forest division

The Forest division is responsible for wood sourcing for Stora Enso's Nordic and Baltic operations as well as for B2B customers. It manages the Group's forest assets in Sweden and a 41% share in Tornator, whose forests are primarily located in Finland. The division's operations are based on sustainable forest management encompassing planning, logistics, harvesting, and forest regeneration.

EUR million	2024	2023
Sales	2,827	2,490
Adjusted EBITDA	364	305
Adjusted EBITDA margin	12.9%	12.2%
Adjusted EBIT	309	253
Adjusted EBIT margin	10.9%	10.2%
Fair valuations and non-operational items (FV)[1]	342	206
Items affecting comparability (IAC)[1]	-5	2
Operating result (IFRS)	646	461
Adjusted EBIT, LTM	309	253
Operating capital, LTM	5,989	5,740
Adjusted ROCE	5.2%	4.4%
Cash flow from operations	220	70
Cash flow after investing activities	171	19
Wood deliveries, 1,000 m^3	33,794	32,401
Operational fair value change of biological assets	119	120

1 The IAC for 2024 included EUR -2 million related to environmental provision and EUR -3 million of restructuring costs. The IAC for 2023 included a reversal of land related impairment of EUR 5 million and other provision updates of EUR -3 million. The fair valuations for 2024 included non-operational fair valuation changes of biological assets of EUR 382 (156) million, non-operational items of associated companies of EUR -34 (56) million, and EUR -6 (-5) million impact from adjustments for differences between fair value and acquisition cost of forest assets upon disposal.

The Forest division's sales were EUR 2,827 (2,490) million, up 14%, due to higher sales prices and increased demand.

Adjusted EBIT at EUR 309 (253) million increased by 22%. The increase was due to the strong operational performance and higher sales prices in the Group's own forest assets.

Segment Other

The segment Other includes the divested paper sites until the completion of the divestments, the reporting of the emerging businesses (including Formed Fiber) as well as Stora Enso's shareholding in the energy company Pohjolan Voima (PVO), and Group Head Office and Global Business Services.

EUR million	2024	2023
Sales	176	964
Adjusted EBITDA	-63	18
Adjusted EBITDA margin	-36.0%	1.9%
Adjusted EBIT	-72	1
Adjusted EBIT margin	-41.0%	0.1%
Fair valuations and non-operational items (FV)[1]	-12	-13
Items affecting comparability (IAC)[1]	-79	-28
Operating result (IFRS)	-162	-41
Cash flow from operations	-125	-105
Cash flow after investing activities	-134	-123

1 The IAC for 2024 included EUR -45 million of consulting costs related to profit improvement programme, EUR -8 million other restructuring costs, EUR -4 million related to closure and disposal of De Hoop, EUR -7 million related to closure and disposal of Sunila, EUR -8 million related to disposal of Selfly Store and EUR -7 million related to updates in environmental provisions. The IAC for 2023 included EUR 29 million related to restructuring of Kvarnsveden, EUR 9 million to restructuring of Veitsiluoto, and EUR -15 million to restructuring of Group Functions, EUR 52 million related to disposal of Maxau, EUR -30 million to disposal of Nymölla, EUR -45 million to disposal of Hylte, EUR -14 million to disposal of biocomposite business, and EUR -6 million on disposal transactions costs, EUR -14 million related to fixed asset impairments in Group Operations unit and EUR 6 million related to environmental provision updates. The fair valuations for 2024 included non-cash income and expenses related to CO_2 emission rights and liabilities of EUR -11 (-13) million.

Sales for the segment Other were at EUR 176 (964) million and adjusted EBIT EUR -72 (1) million. The reduction from the previous year was mainly driven by the sale of the paper production units in Sweden and Germany, but also reduced energy market prices and decentralised operating model.

Capital expenditure

Additions to fixed and biological assets including internal costs capitalised in 2024 totalled EUR 1,090 (1,125) million. The total amount includes additions in biological assets of EUR 81 (71) million.

The EUR 1 billion investment at the Oulu site in Finland to convert the remaining idle paper machine into a high-volume consumer board line is progressing according to schedule. Production is expected to start during the first half of 2025. The investment supports the Group's growth strategy in renewable packaging by providing new capacity for growing packaging segments. The targeted end-use segments are food and beverage packaging, especially frozen and chilled, as well as dry and fast food, mainly in Europe and North America.

The EUR 30 million Heinola boiler and fuel handling modification project announced in February 2023, is ongoing and is expected to be brought into use 2025.

The EUR 38 million investment in unbleached kraft pulp (UKP) production at the Enocell site in Finland was finalised during the fourth quarter.

The EUR 42 million investment in improvements to fluff pulp production at the Skutskär site in Sweden is ongoing, and is expected to be completed in the first half of 2025.

The ramp-up of the new corrugated packaging site in De Lier in the Netherlands is ongoing and is expected to be completed in 2026.

The EUR 30 million upgrade and expansion of the Ostrołęka corrugated plant in Poland is ongoing and is expected to be completed in 2026.

Innovation, research and development

Stora Enso's growth focus is on the development of sustainable and resource-efficient packaging applications to replace fossil-based materials, innovative biomaterials for high-end applications, and sustainable wooden-based materials and components that store carbon and improve the energy efficiency of buildings. Stora Enso actively engages with young and growing companies that are developing technology and solutions aligned with the Company's core and growth areas, using a venture client approach.

Stora Enso's long-term science and research priority is to address early-stage research at universities and institutes to enable breakthroughs and build competence to meet the needs of its divisions. The Group's Innovation and R&D team works closely with strategic partner universities, research institutes, and excellence centres to tackle key scientific questions related to renewable materials. Stora Enso engages in multiple research programmes along the value chain, from forests to products and circular material flows.

Stora Enso's total spend on innovation, research, and development in 2024 was EUR 78 (114) million, equivalent to 1.0% (1.2%) of total sales. Research and development work is fundamental to staying relevant and competitive in relation to customers. In 2024, Stora Enso employed approximately 330 people in research and development. The responsibility for product innovations and development of services is with the business divisions.

Intellectual property (IP) is an important tool to support Stora Enso's development of innovative products and processes while safeguarding the Group's intellectual assets. In 2024, Stora Enso continued to strengthen its patent portfolio by applying for patents for 50 new innovations, primarily in the Biomaterials and Packaging Materials divisions. The Biomaterials division focused on patents for Lignode, biobinders, biofoam, and circular chemicals, while the Packaging Materials division filed for patents related to barriers, board technology and circular packaging.

During 2024, the patent portfolio was streamlined, mainly in Packaging Solutions, with the aim of saving costs and further adapting it to current and future business needs. Several IP divestment and licensing activities were initiated and/or concluded during the year. Stora Enso's patent portfolio now amounts to over 3,200 applications and granted patents.

Employees

On 31 December 2024, there were 18,558 (19,842) full-time employees in the Group. The average number of employees in 2024 was 19,233, which is 1,589 less than a year before. At the end of 2024, the Group's top four countries in respect to the number of employees were Finland, Sweden, China, and Poland.

Nature-related financial disclosures (TNFD)

The Taskforce on Nature-related Financial Disclosures (TNFD) is a science-based initiative supported globally by national governments, businesses, and financial institutions. It provides a framework for risk management and disclosure to identify, assess, respond to, and disclose nature-related issues. The TNFD recommendations align with the global policy goals outlined in the Kunming-Montreal Global Biodiversity Framework and are structured around four pillars: Governance, Strategy, Risk & Impact Management, and Metrics & Targets.

In 2024, Stora Enso became a TNFD Early Adopter and committed to publishing its first TNFD-aligned report for the financial year 2024. The Group's reporting under the Corporate Sustainability Reporting Directive (CSRD) comprises nature-related disclosures, which are in line with the TNFD recommendations. It is recognised that the nature-related disclosures will evolve over time as more data and information become available, enabling a gradual increase in detail, scope, and emphasis.

Stora Enso utilised the LEAP (Locate, Evaluate, Assess, and Prepare) framework in the 2024 TNFD reporting to demonstrate how the Group addresses nature-related impacts, risks, and dependencies. This approach was complemented by in-depth analyses of individual mills and divisions. The table below summarises the outcomes of the Group-level LEAP exercise, which focused on Stora Enso's direct operations, including its forest assets.

Stora Enso's ambition regarding nature is to establish, maintain, and develop practises across its value chain that contribute to a nature-positive impact on society. This approach aims to enhance the valuation of nature, while mitigating environmental impacts and preserving biodiversity. In 2025, the Group plans to explore its consolidated nature offerings for customers within its nature framework.

The TNFD index table, available for downloading on storaenso.com/annualreport, provides further references to relevant sections in the Group's Annual Report. This includes the Sustainability Statement prepared in accordance with the European Sustainability Reporting Standards (ESRS).

Stora Enso's TNFD Leap framework

	Process		Key outcomes
1. Locate: Interface with nature	Mapping of Stora Enso's direct operations, including forest assets, using geospatial data to identify proximity to sensitive locations by utilising the Integrated biodiversity Assessment Tool (IBAT) and WRI Aqueduct Water Risk Atlas. Guiding questions: • Which of the Group's activities are located in sensitive areas?	→	Stora Enso manages its own and leased forest land, covering a total area of 2.1 million hectares worldwide. Largest part is boreal forests located in Sweden (68% of total forest area) and in Finland and the Baltics (15%) via Tornator (41% ownership). Stora Enso also owns and leases eucalyptus plantations in China (3%), Brazil (6%), and Uruguay (7%). Stora Enso's Forest Resources Information Systems include locations of the Company's forest assets and sensitive areas, aiding in effective forest management and conservation planning. Moreover, Stora Enso employs third-party verified wood traceability systems to know the origin of procured wood and ensuring that it is not sourced from sensitive areas. Stora Enso operates 57 production facilities mainly in Northern, Western, and Central Europe, but also has operations in China and via joint ventures in Brazil and Uruguay. According to the mapping assessment, five of the Group's units operate in regions with High Baseline Water Stress and five units with High Biodiversity Significances. These units are defined as material locations and are disclosed in the section "Sustainability data by production unit" of the Annual Report.
2. Evaluate: Dependencies & impacts	Evaluation of impact drivers and dependencies relevant to Stora Enso using the TNFD sector guidance for Forestry, pulp and paper. Guiding questions: • What environmental assets, ecosystem services, and impact drivers are associated with the Group's business processes, activities, and assessment locations? • What are the dependencies and impacts on nature?	→	Stora Enso's business depends on several natural capital inputs as raw materials, such as wood and fresh water, and are supported by soil quality, alongside ecosystem services for bioremediation, forest disease, and pest control, as well as climate regulation, among others. The Group's impact on living organisms, people, and the environment originates from use of land, renewable and non-renewable resources, and the generation of waste, emissions, effluents, and noise. Location-specific nature and environmental impact assessments are performed in local management systems (ISO 14001) where significant environmental aspects are determined and prioritised. These systems also monitor compliance with environmental permits and manage the chemical and ecological status in local recipient control systems. Stora Enso has, as a business with over 20,000 suppliers around the world, an important role within global supply chains to influence upstream suppliers positively on nature, biodiversity, environmental health, human well-being, and business perspectives.
3. Assess: Risks & opportunities	The basis for the risk and opportunities assessment was based on the TNFD sector guidance for Forestry, pulp and paper and the double materiality assessment (DMA) process implemented for the reporting according to Corporate Sustainability Reporting Directive. This approach is also integrated into the ERM process, including climate scenario analysis. During 2024, Stora Enso executed in-depth assessments on Group-level, for two mills, and an upstream pilot for one of the divisions. Guiding questions: • What are the nature-related risks and opportunities for the organisation? • Which risks and opportunities are material and should be prioritised?	→	The scenario analysis recognises that long-term changes in precipitation patterns, periods of drought, frequent extreme weather events, and higher average temperatures that increase the risk of forest fires and insect outbreaks, could cause damage to operations, forests, and tree plantations. This would affect forests asset values and regional wood prices. More frequent extreme weather events also increase the risk of disruptions in the production, logistics, and supply of raw materials and energy. Reputational risks may arise as a consequence of incidents or non-compliant behaviour, including failure to comply with norms, laws and regulations, or policy documents. Damage to Stora Enso's reputation and brand may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues. There is a risk that new policies and regulations for forestry and biodiversity could limit harvesting levels in EU forests, potentially resulting in significant increases in wood prices and supply limitations. This could lead to reduced competitiveness of products. Owning forests provides Stora Enso with strategic advantages, including securing a reliable and consistent wood supply, reducing reliance on external suppliers, promoting environmental stewardship through sustainable forestry practices, preserving and actively managing biodiversity, working with conservation of protected areas, and contributing to carbon sequestration efforts. Stora Enso has adopted an adaptive approach to biodiversity management and monitors progress with indicators, and then adapts actions accordingly. The Group also uses the latest technologies, data, and modelling to predict future biodiversity based on current management practices.
4. Prepare: To respond & report	Stora Enso's TNFD disclosure includes core metrics set by the TNFD recommendations and sector-specific metrics set by the TNFD sector guidance for Forestry, pulp and paper. The process has been integrated into the DMA and the preparation of the Sustainability Statement and ESRS E1-5. Guiding questions: • What risk management, strategy, and resource allocation decisions should be made? • How will targets be set, and progress be defined and measured? • What will be disclosed in line with the TNFD recommended disclosures? • Where and how will the nature-related disclosures be presented?	→	Biodiversity initiatives aim for a net positive impact, with action programmes in place until 2030 to enhance biodiversity at species, habitat, and landscape levels. Stora Enso has set a target to reduce Scope 1, 2 & 3 emissions by 50% from the 2019 baseline as verified by Science Based Targets initiative. Further to achieve Net Zero by 2040. Indicators are reported in the Sustainability Statement, section ESRS E1-5. Next steps for future assessments, target setting, and disclosure: • Further addressing material risks and opportunities at the Group's production sites • Advancing the assessment in the supply chain and for the Group's joint venture operations

Risk management

In this section

Approach to risk management

Risk is an integral element of business and corporate governance, characterised by both opportunities and threats. These factors can influence future performance, results and the Group's ability to meet social and environmental objectives. Stora Enso is committed to systematic and proactive risk management as a core organisational capability, embedding it into its culture and decision-making process. Through dynamic risk analysis and scenario planning, Stora Enso enhances opportunities and mitigates risks to achieve its business goals.

Risk governance

Stora Enso defines risk as the effect of uncertainty on the Group's ability to meet organisational values, objectives and goals. The Group Risk Policy, approved by the Board of Directors, outlines the overall approach to governance and risk management in accordance with the COSO (Committee of Sponsoring Organizations) framework and aligned with ISO 31000. The Board retains the ultimate responsibility for the overall risk management process and determines predominantly through Group policies, the appropriate and acceptable level of risk.

The Board has established a Financial and Audit Committee to support the Board in monitoring the adequacy of the risk management process within Stora Enso, and particularly in the management and reporting of financial risks. This oversight scope also includes monitoring cybersecurity risks.

The Sustainability and Ethics Committee is responsible for overseeing the company's sustainability efforts, ethical business conduct, commitment to being a responsible corporate citizen, and contribution to sustainable development.

The head of Enterprise Risk Management, reporting to the Executive Vice President, Strategy and Sustainability, is responsible for designing, developing and monitoring the top-down implementation of the Group risk management framework. Each division and Group function head, together with their respective management teams, is responsible for executing the process and cascading the framework and guidelines further down the organisation. The Internal Audit unit evaluates the effectiveness and efficiency of Stora Enso's risk management process.

Risk management process

Risk management is embedded in all decision-making processes, with holistic risk assessments also conducted as part of all significant investment decisions. In connection with the annual strategy process, business divisions and Group service and support functions conduct a holistic baseline risk assessment linked to their key objectives. Specific guidance regarding the risk management process is outlined in the enterprise risk management instructions.

Business entities and functions identify the sources of risk events including changes in circumstances, their causes, and potential consequences. Stora Enso's risk model defines the overall risk universe which supports holistic risk identification and risk consolidation, while also providing taxonomy and consistency in risk terminology.

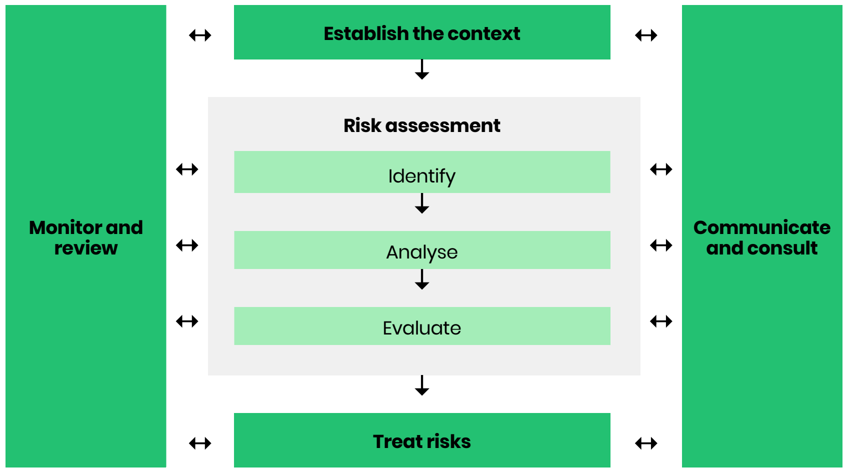
Risk analysis involves developing an understanding of risks to provide an input for risk evaluation. The purpose of risk evaluation is to prioritise risks and support decision-making in determining which risks require treatment or actions. Risks are assessed based on their impact and likelihood of occurrence, often using specific risk scenarios. The effectiveness of existing risk reduction is factored in to define the residual risk level. Pre-defined impact scales consider financial, safety, compliance, and reputational impacts, on both a quantitative and qualitative basis.

Risk treatment involves selecting one or more risk management option, such as avoidance, reduction, sharing or retention. Additional risk mitigation actions are determined for risks which exceed the perceived risk tolerance incorporating the assignment of responsibility, schedules, and timetable for risk response actions.

Following the annual baseline assessment, prioritised and emerging risks, along with the corresponding risk mitigation and business continuity plans, are reviewed during divisional business review meetings on a semi-annual basis.

Despite the measures taken to manage and mitigate risks, some risks remain beyond the direct control of management. As such, there can be no absolute assurance that risks, if they occur, will not have a materially adverse effect on Stora Enso's business, financial condition, operating profit or ability to meet financial obligations.

Risk management process



Main risks

Risk	Description	Mitigation	Opportunity
Reputation	Negative impacts on reputation often reflects the combined effects of various types of risks and may result from incidents or non-compliant behaviour by employees, contractors, suppliers or other business partners. This includes failures to comply with norms, laws and regulations, or policy documents. Damage to Stora Enso's reputation and brand could lead to a loss of investor and customer confidence, resulting in higher cost of capital and decreased revenues.	Policies such as the Stora Enso Code and Supplier Code of Conduct ensure that the Board has oversight. Continuous and mandatory training sessions for employees and, occasionally for, suppliers guarantee that the policies are being implemented, and audits are conducted to monitor that Stora Enso's requirements are met. Stora Enso has established a Speak Up Hotline, through which employees and any third party globally can anonymously report potential non-compliance cases. All reported cases are subject to an established investigation and reporting process, with proven cases leading to actions. Stora Enso continuously engages with its stakeholders to enhance relationships, to respond to developing needs, and inform its strategy.	Stakeholder engagement, internal and external, is key to building and fostering a strong corporate reputation. It ensures good communication flows and solid collaborative alliances. Consistently delivering high quality, compliant products and services is the foundation of Stora Enso's brand reputation. Stora Enso provides visibility into its sustainability roadmap, deliver on its key commitments and comply with the evolving regulatory framework through stringent processes. Finally, the Group ensures strong community outreach and involvement in the areas where is has operations.
Strategic risks			
Macroeconomy, geopolitics, and currency rates	Changes in global economic conditions, such as sharp market corrections and foreign exchange volatility, could have a negative and material impact on Stora Enso's profit, cash flows and financial position. Stora Enso is exposed to several financial market risks, which the Group is responsible for managing under policies approved by the Board of Directors. The objective is to achieve cost-effective funding for Group companies and manage financial risks by using financial instruments to reduce earnings volatility. The main exposures for the Group, besides currency risk, are interest rate risk, liquidity risk, refinancing risk, commodity price risk and credit risk. Financial risks are discussed in detail in note 5.1 Financial risk management.	Stora Enso has a diversified portfolio of businesses which mitigates exposure to any one country or product segment. The external environment is continuously monitored and planning assumptions take into account important near- to medium-term and long-term drivers and risks related to key macro-economic factors. Compliance with the Board-approved risk appetite is closely monitored and cash flow and liquidity are actively managed. Stora Enso hedges 15–60% of the highly probable 12-month net foreign exchange flows in main currency pairs. Currency translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset. The divisions regularly monitor their order flows and other leading indicators, where available, so they can respond quickly to a deterioration in trading conditions. In the event of a significant deterioration in general economic condition and in main leading economic indicators, the Group has the ability to implement cost reduction measures to offset the impact on margins from a decline in sales.	Despite the volatility in the macroeconomy, global megatrends drive the demand for renewable materials supporting Stora Enso's growth and value creation. A diverse business portfolio and geographical presence, competitive strength and resilient balance sheet reduce the Group's risk exposures.
Climate change – physical impacts	Long-term (25–30 years) changes in precipitation patterns, periods of drought, frequent extreme weather events and higher average temperatures that increase the risk of forest fires and insect outbreaks, could cause damage to operations, forests and tree plantations, affecting forests asset values and regional wood prices. Milder winters could also impact on the harvesting and transport of wood, as well as related costs in northern regions. More frequent extreme weather events also increase the risk of disruptions in the production, logistics and supply of raw materials and energy. In 2024, the focus was on deep dives into specific physical risk impacts and further developing transition scenarios.	Physical risks are largely subject to risk transfer and therefore covered by Stora Enso's property and business interruption insurance programmes. With regards to forest and plantation assets, Stora Enso benefits from strategic resilience through geographical diversification within its asset portfolio. Diligent plantation planning ensures the avoidance of frost sensitive areas, and R&D programmes are applied to increase tolerance to extreme temperatures. Stora Enso maintains a diversity of forest types and structures and enforces diversification in wood sourcing. Wood harvesting in soft soils involves the implementation of best practices guidelines.	Nordic forests in Finland and Sweden could also benefit from increased heat summation and longer growing seasons, leading to accelerated forest growth with a direct positive impact on the value of Stora Enso's own forest assets and an indirect impact related to market wood availability and costs.
Biodiversity loss	Stora Enso's forestry and industrial operations have an impact on biodiversity. At the same time, Stora Enso's business depends on raw material inputs from natural capital, such as wood and fresh water. Biodiversity is essential for maintaining the stability of ecosystem processes in changing environments. Biodiversity loss can negatively impact the value of Stora Enso's forest assets and acceptability of wood as a raw material. Read more in the TNFD chapter.	Stora Enso is committed to achieving a net positive impact on biodiversity in its own forests and plantations through active biodiversity management. Biodiversity management is an integral part of all Stora Enso's forest and plantation management practices. Operations are supported by new technologies and digitalisation, as well as continuous research and innovation. For example, Stora Enso's forest units have established special programmes focusing on biodiversity management. In addition, Stora Enso uses tools, such as wood traceability and forest certification, and engages in collaboration with various stakeholders to protect ecosystems and safeguard natural resources.	Sustainable forest management maintains forest health and vitality. Active biodiversity management and conservation in Stora Enso's forest operations, such as spatially optimising the volume of deadwood and protection of key habitats, contribute to a positive biodiversity impact. Healthy and biodiverse forests improve resilience against external calamities and a changing climate.
Competition and market demand	The packaging, pulp, paper, and wood products industries are mature, capital-intensive and highly competitive. Stora Enso's principal competitors include several large international forest products companies and numerous regional and more specialised competitors. Customer demand is influenced by general economic conditions and inventory levels, which in turn affect product price levels. Product prices, which tend to be cyclical, are affected by capacity utilisation, which decreases in times of economic slowdowns. Price changes differ between products and geographic regions. See Table 1 for the operating profit sensitivity to a +/- 10% change in either price or volume for different segments.	The ability to respond to changes in product demand and consumer preferences and to develop new products on a competitive and economic basis requires innovation, continuous capacity management, and structural development. Risks related to factors such as demand, price, competition, and customers are regularly monitored by each division and unit as a routine part of business management. These risks are also continuously monitored and evaluated at the Group level to gain a perspective on Stora Enso's total asset portfolio and overall long-term profitability potential.	Stora Enso, one of the largest private forest owners in the world, also benefits from a strategic renewable resource base. The Group's expertise in wood and wood-based renewable materials is focused on responding to changing customer and consumer preferences, driven by climate change. Products based on renewable materials with a low carbon footprint help customers and society at large to reduce CO_2 emissions by providing an alternative to solutions based on fossil fuels or other non-renewable materials.

Risk	Description	Mitigation	Opportunity
Regulatory changes	Stora Enso's businesses may be affected by political or regulatory developments in any of the countries and jurisdictions where it operates, including changes to forest, biodiversity, environmental, fiscal, tax or other regulatory regimes. Potential impacts include higher costs and capital expenditure to meet new requirements, the expropriation of assets, imposition of royalties or other taxes targeted at the industry, and requirements for local ownership or beneficiation. The EU Green Deal and its climate targets for 2030 and 2050 have resulted in a proliferation of future legislation and may impact Stora Enso's future operations. The policy initiatives from the European Commission include policies and legislation on areas such as the EU Forest and Biodiversity strategies, the Renewable Energy Directive, the EU Emission Trading System (ETS), the European Sustainable Products Regulation (ESPR), the Packaging and Packaging waste revision as well as EU taxonomy. Political decisions on forest resources, could limit the availability of wood, increase costs and reduce investment opportunities. Stora Enso has been granted various investment subsidies and has made certain investment commitments in different countries such as Finland, China and Sweden. If committed planning conditions are not met, local officials may pursue administrative measures to reclaim some of the previously granted investment subsidies or impose penalties on Stora Enso. The outcome of such a process could result in a negative financial impact on Stora Enso.	Active monitoring of regulatory and political developments in the countries where Stora Enso operates as well as participation in policy development primarily through industry associations and other partnership programmes are important risk mitigation measures related regulatory changes.	Regulatory changes can also present significant opportunities by driving market growth for sustainable products and creating competitive advantage through resource efficiency and renewability.
Strategic investments	To succeed in implementing its strategy, Stora Enso must understand the needs of its customers and find the best way to serve them with the right offering and the right production asset portfolio. Failure to complete strategic projects in accordance with the agreed schedule, budget or specifications can, therefore, have serious impacts on Stora Enso's financial performance. Significant, unforeseen changes in costs or an inability to sell the envisaged volumes or achieve planned price levels may prevent Stora Enso from achieving its business goals.	Risks are mitigated through thorough and detailed pre-feasibility and feasibility studies which are prepared for each large investment. Investment guidelines stipulate the process, governance, risk assessment, management and monitoring procedures for strategic projects, including climate related risk factors. The guidelines also require the calculation of potential cost and income for CO_2 emissions as part of the investment proposal. Environmental and Social Impact Assessments (ESIAs) are conducted for all new projects that could cause significant adverse effects in local communities. Post completion audits are carried out for all significant investments.	Replacing fossil-based materials by innovating and developing new products and services based on wood and other renewable materials.
Mergers, acquisitions, and divestments	Failure to realise the expected benefits from the acquisition of a company or asset can have serious financial impacts on Stora Enso. The Group may also find itself liable for past acts or omissions of the acquired business, without any adequate right of redress. Failure to achieve expected values from the sales of assets or deliveries beyond the expected receipt of funds may also impact Stora Enso's financial position. Divestments or business restructuring may involve additional costs due to historical and unaccounted liabilities as well as reputational impacts.	Rigorous M&A guidelines, including due diligence procedures are applied to the evaluation and execution of all acquisitions. Structured governance and policies, such as the policy for responsible right-sizing, are followed when making restructuring decisions.	A strong balance sheet and cash flow enable value enhancing M&A, when the timing and opportunity are right.

Operational risks

Risk	Description	Mitigation	Opportunity
Personal safety – employees and wider workforce	Failure to maintain high levels of safety management can result in harm to Stora Enso's employees and contractors, as well as to communities near our operations and the environment. Impacts in addition to physical injury, health effects and environmental damage could include liability to employees or third parties, damage to reputation, or an inability to attract and retain skilled employees. Government authorities could also enforce the closure of our operations on a temporary basis. Personnel safety and security can never be compromised. Therefore, Stora Enso must be aware of potential safety risks and provide adequate guidelines to people for managing risks related to, for example, travelling, working, and living in countries with security or crime concerns.	Stora Enso's goal is to provide an accident-free workplace. Encouraging a Group-wide safety culture means that everyone is responsible for making every workday healthy and safe – from top management throughout the Group. The approach to safety extends to contractors, suppliers, and on-site visitors. Everyone is encouraged to share feedback and suggest ideas for further improving safety. Additionally, safety is promoted among contractors and suppliers through a dedicated e-learning. The Group also emphasises the importance of safety by asking suppliers to provide information on their safety performance in the tendering process. Stora Enso's Health and Safety Policy defines the objectives for safety management, as well as the governance model for managing health and safety topics in practice and integrating them into annual planning and reporting.	Achieving strong health and safety performance can enhance Stora Enso's employer brand, as well as improve engagement, efficiency and productivity.

Risk	Description	Mitigation	Opportunity
Physical assets	The installed capacity of Stora Enso's production facilities has an inherent risk of potential for failure or off-specification operations, which could result in poor product quality, unplanned production downtime, lower output, or increased production costs. It may also impact Stora Enso's ability to meet delivery commitments and business plan objectives. In some instances, these risks arise from inherent design deficiencies, failures in the mode of operation, or operating practices. The most significant asset risks are predominantly in integrated pulp and board production and related energy generation.	Protecting production assets and business results is a high priority for Stora Enso. This is achieved through structured methods of identifying, measuring and controlling different types of process risk and exposure. Divisional risk specialists manage this process together with insurance companies and other loss prevention specialists. Each year a number of technical risk inspections are carried out at production units. Risk improvement programmes and cost-benefit analyses of proposed investments are managed through internal reporting and risk assessment tools. Internal and external property loss prevention guidelines, fire loss control assessments, key machinery risk assessments and specific loss prevention programmes are also utilised. Planned stoppages for maintenance and other work are important to keep machinery in good order.	Preventive maintenance programmes and spare part criticality analyses are utilised to secure the high availability and efficiency of key machinery.
Product safety	Some of Stora Enso's products are used for packaging liquids and food consumer products, where any defects could affect health or packaging functionality, leading to costly product recalls. Wood products are used in construction, potentially exposing Stora Enso to product liability related to failures in structural design, product selection or installation. Failure to ensure product safety could result in recalls involving significant costs including compensation for customers' indirect expenses, and reputational damage.	Mills producing food and drink contact products have established certified hygiene management systems based on risk and hazard analysis. To ensure product safety, Stora Enso actively participates in CEPI (Confederation of European Paper Industry) working groups on chemical and product safety. In addition, Stora Enso mills have certified ISO quality management systems. Contractual liability limitation and insurance protection further mitigate Stora Enso's risk exposure.	Stora Enso recognises the opportunity of differentiation and value creation through superior product quality and the highest level of product conformity.
People and capabilities	Competition for personnel is intense and Stora Enso may, in the long term, not be successful in attracting or retaining qualified personnel. The loss of key employees, the inability to attract new or adequately trained employees, or a delay in hiring key personnel could seriously harm Stora Enso's business and impede reaching the Group's strategic objectives. Labour market disruptions and strikes, especially in times of restructuring and redundancies due to divestments and mill closures or during labour market negotiations, could also have adverse material effects on Stora Enso's business, financial position and profitability.	Stora Enso manages the risks and loss of key talents through a combination of different actions. Some of the activities aim towards making the Stora Enso employer brand better known both internally and externally, globalising some of the remuneration practices and intensifying the efforts to identify and develop talents. Finally, the Group actively focuses on talent and management assessments, including succession planning for key positions. The majority of employees are represented by labour unions under several collective agreements in different countries where Stora Enso operates, thus relations with unions are of high importance to manage labour disruption risks.	Stora Enso recognises that skilled and dedicated employees are essential for success. Engaged, high-performing individuals drive the implementation of transformation strategy and contribute to commercial success.
Sourcing	Increasing input costs or challenges in availability of materials, goods and services may adversely affect Stora Enso's profitability. Securing access to reliable, low-cost supplies and proactively managing costs and productivity are key priorities. Reliance on external energy suppliers also makes Stora Enso susceptible to fluctuations in energy market prices. Additionally, the supply chain faces heightened risks of disruption due to cyber incidents, political instability, and other factors related to global trade. See Table 2 for Stora Enso's major cost items. In many areas Stora Enso depends on suppliers and their ability to deliver products or services on time and at required quality. Key inputs include fiber, chemicals, energy, and machinery and equipment for capital investment projects. Increased demand for carbon neutral primary and secondary biomass fuels may drive up energy costs. Critical services, such as transport and outsourced business support, are also essential. For some of these inputs, reliance on a limited number of suppliers poses a risk.	Input cost volatility is closely monitored at the business unit, divisional and Group levels, and a consistent long-term energy risk management approach is applied. Price and supply risks are mitigated through increased in-house generation, shareholding in competitive power assets such as PVO/TVO, physical long-term contracts, and financial derivatives. Stora Enso hedges price risks in raw material and end-product markets and supports the development of financial hedging mechanisms. A wide range of suppliers is utilised and monitored to avoid situations that might jeopardise continued production, business transactions, or development projects. Suppliers and subcontractors are required to comply with Stora Enso's sustainability standards, as they form part of the Group's value chain. These sustainability requirements, along with audit schemes encompass raw materials, and other goods and services procured. Suppliers are assessed for risks related to environmental, social and business practices using an internal risk assessment tool. Supplier Code of Conduct audits are conducted for high-risk suppliers, and findings from these audits are followed-up. If mitigation is not possible, supplier contracts may be terminated.	Stora Enso also has the opportunity to add value and drive innovation globally by building strong, measurable relationships with top suppliers, enforcing harmonised sourcing processes to enhance capabilities, improve tender quality, reduce costs, and nurture sustainable suppliers.

Risk	Description	Mitigation	Opportunity
Information technology, security, and digitalisation	Stora Enso is dependent on IT systems for both internal and external communications and for the day-to-day management of its operations. Information systems, personnel, and facilities are subject to cyber security risks, such as ransomware. In addition, the accidental disclosure of confidential information due to a failure to follow information handling guidelines, as a result of an accident or criminal act, may result in financial damage, penalties, disrupted or delayed launch of new business lines or ventures, loss of customer and market confidence, loss of research secrets, breach of data privacy regulations, and other business-critical information.	The management of risks is actively pursued in the Information Risk Management System, and best practice change management and project methodologies are applied. We actively work to prevent cybercrime. Several security controls have been implemented to strengthen the protection of confidential information and to ensure compliance with international regulations.	Opportunities may arise from efficient operations, performance optimisation, innovative product offerings. New customer services through digitisation also present potential benefits. Additionally, sophisticated IT systems, as well as new technologies offering significant potential for higher level of process optimisation and automatisation. These improvements can generate new business and enhance value propositions for customers and consumers.
Ethics and compliance	Stora Enso operates in a highly regulated business area and is therefore exposed to risks related to breaches of applicable laws and regulations, including those related to capital markets regulation, company and tax laws, customs, the environment, human rights, and safety. This also covers areas addressed by policies such as the Stora Enso Code and Business Practice Policy, including fraud, anti-trust, corruption, conflict of interests, and other forms of misconduct. Breaches may lead to high compliance and remediation costs, including prosecution costs, fines, penalties, and contractual, financial, and reputational damage.	Stora Enso's Ethics and Compliance Programme, which includes policy setting, promoting values, training, knowledge sharing and grievance mechanisms, is continuously updated and developed. Other compliance mechanisms include Stora Enso Group's internal control system and Internal Audit assurance, as well as the Supplier Code of Conduct in supplier contracts, risk assessments, trainings and audits. In response to capital markets regulations, Stora Enso's Disclosure Policy emphasises the importance of transparency, credibility, responsibility, proactivity and interaction. Environmental risks are minimised through environmental management systems and environmental due diligence for acquisitions and divestments, and indemnification agreements where effective and appropriate remediation projects are required. Special remediation projects related to discontinued activities and mill closures are executed based on risk assessments.	Focusing on ethics in a wider sense, rather than merely complying with laws and regulations, promotes a value-driven and more successful business, fosters accountability, and enhances corporate reputation.

The table 1 shows the operating profit sensitivity to a +/- 10% change in either price or volume for different segments based on figures for 2024.

Table 1. Operating profit: Impact of changes +/- 10%, EUR million

Segments	Price	Volume
Packaging Materials	418	102
Packaging Solutions	96	34
Biomaterials	145	57
Wood Products	147	28
Forest	279	11

The table 2 shows Stora Enso's major cost items.

Table 2. Composition of costs in 2024

Operative costs	% of costs	% of sales
Logistics and commissions	11%	10%
Manufacturing costs		
Fiber	36%	34%
Chemicals and fillers	8%	7%
Energy	6%	6%
Material	10%	9%
Personnel	14%	14%
Other	9%	8%
Depreciation	6%	6%
Total costs and sales	**100%**	**94%**
Total operative costs and sales in EUR million	**8,538**	**9,049**
Associated companies, operational		87
Adjusted EBIT (EUR million)		**598**

Sustainability Statement

In this section

General information

In this section

General basis for preparation of the Sustainability Statement (BP-1)

Stora Enso's Sustainability Statement has been prepared on a consolidated basis in accordance with Chapter 7 of the Finnish Accounting Act and the European Sustainability Reporting Standards (ESRS). It follows the same consolidation principles as the Financial Statements prepared in accordance with the IFRS Accounting Standards. Unless otherwise stated, the Group's consolidated performance figures expressed in this report relate to the parent company, Stora Enso Oyj, and all companies in which the Group holds 50% or more of the voting rights, directly or indirectly. For more information on Group's structure, see Financial Statements, note 6.2 Group structure.

Joint control refers to the contractually agreed sharing of control of a joint arrangement, which exists only when decisions on relevant activities require the unanimous consent of all parties sharing control. Joint operations are joint arrangements in which the parties with joint control have rights to the assets, and obligations for the liabilities associated with the arrangement.

Stora Enso has two joint operations, Veracel in Brazil and Montes del Plata in Uruguay. In both companies, Stora Enso holds a 50% ownership. In the Group's Financial Statements, the joint operations are recognised and consolidated based on Stora Enso's share of the assets, liabilities, revenues, expenses, and cash flows of the joint operation.

In its current adopted form, ESRS lacks guidance on the consolidation principle for joint operations. Regarding its joint operations, Stora Enso does not have full authority to introduce and implement operating policies, practices, and targets, rendering most of the ESRS reporting requirements invalid. The same principle applies to financial reporting, where the Group's joint operations follow their own financial risk policies, which may differ from those of Stora Enso. Unlike financial reporting, where joint operations comply with IFRS accounting standards, joint operations do not adhere to ESRS.

To ensure consistency with Stora Enso's financial reporting, the Sustainability Statement covers information proportional to Group's ownership in the joint operations in the following ESRS disclosure requirements: E1-5, E1-6, E1-7, E2-4, E3-4, E4-5, E5-4, E5-5, and S1-6 (total number of employees). These disclosures encompass all intensity ratios related to the Group's financial revenue. However, due to the lack of full authority over daily operations, joint operations are not governed by Stora Enso's policies, internal controls, or targets.

Following the double materiality principle, Stora Enso's Sustainability Statement contains relevant upstream and downstream value chain information where necessary to understand the Group's material impacts, risks, and opportunities and to provide information that meets the qualitative characteristics outlined in the Corporate Sustainability Reporting Directive (CSRD). In the descriptions of material topics, joint operations are referred to as 'joint operations' to distinguish them from the Group's own operations, over which the Group has full authority regarding the operating policies.

Due to the sensitivity of information, Stora Enso has exercised the option to not to disclose specific details related to intellectual property, know-how, or the outcomes of innovation. In accordance with the Finnish Accounting Act chapter 7 13 § (21.12.2023/1249), Stora Enso does not disclose information on impending developments or matters under negotiation. Following the Finnish Accounting Act, Stora Enso has also opted to omit value chain metrics and comparative data from previous periods for the first reporting year.

This Sustainability Statement has been verified by an independent third-party assurance provider in accordance with the Finnish Auditing Act. PricewaterhouseCoopers Oy has provided a level of Limited Assurance, using the ESRS Standards and the requirements of the delegated acts of the Taxonomy Regulation serving as criteria, covering the Sustainability Statement as defined under BP-1. PricewaterhouseCoopers Oy applies the International Standard on Quality Management (ISQM) 1. Additionally, a level of Reasonable Assurance, using the GHG Protocol as criteria, has been provided for Stora Enso's reporting on direct and indirect greenhouse gas (GHG) emissions (Scope 1 and 2). The Assurance Reports are available on page 216 of the Annual Report.

Disclosures in relation to specific circumstances (BP-2)

Stora Enso's Sustainability Statement fulfils the characteristics of specific circumstances in some of its disclosures.

Due to the nature of Stora Enso's operations, the time horizons differ from the definitions provided in the CSRD. For risks, Stora Enso defines short-term as up to one year, medium-term as two to ten years, and long-term as ten years or more. This definition aligns with Stora Enso's enterprise risk management process.

Stora Enso applies phase-in provisions in accordance with Appendix C of ESRS 1 and does not disclose anticipated monetary impacts of environmental risks for the financial year 2024. The phase-in provisions are applied to E1-9, E2-6, E3-5, E4-6, E5-6, S1-7, S1-8 (covers only EEA countries), S-11, S1-13, and S1-14 (88 d, e).

In cases involving value chain estimation, outcome uncertainty, and disclosures stemming from other legislation or generally accepted sustainability reporting pronouncements, the information is presented alongside the accounting principles of each metric. In ESRS E1-6, the metrics related to Scope 3 are subject to a higher level of measurement uncertainty, due to the data encompassing the full value chain.

Unless otherwise stated, the metrics disclosed in the Sustainability Statement have not been validated by an external body other than the assurance provider.

The role of the administrative, management, and supervisory bodies (GOV-1)

The Board and the President and CEO (CEO) are responsible for the management of the Company. The Board supervises the operation and management of Stora Enso and decides on significant matters relating to strategy, investments, organisation, and finance. It is also responsible for overseeing the proper supervision of accounting and the control of financial and sustainability matters. The CEO is responsible for the day-to-day management of the Company in accordance with the Finnish Companies Act and the instructions and orders issued by the Board. Other governance bodies have an assisting and supporting role.

The duties of the various bodies within Stora Enso are determined by the laws of Finland and by the Company's corporate governance policy, which complies with the Finnish Companies Act and the Finnish Securities Market Act. The working order of the Board sets out the Board's working practices of the Board, and the tasks and responsibilities of the Board committees are defined in their charters. There is no employee representative on the Board.

The Corporate Governance Policy addresses corporate governance within Stora Enso. The Group Risk Policy outlines the overall approach to governance and the management of risks in accordance with the COSO (Committee of Sponsoring Organizations) framework and in line with ISO

31000. Both policies are approved by the Board of Directors. The Board's work is supported by its committees:

Financial and Audit Committee (FAC): Supports the Board in maintaining the integrity of the Company's financial and sustainability reporting, as well as the Board's control functions.

People and Culture Committee (PCC): Responsible for recommending and evaluating executive nominations and remunerations, and making recommendations to the Board on management remuneration issues.

Sustainability and Ethics Committee (SECo): Responsible for overseeing the Company's sustainability and ethical business conduct, impacts, risks, and opportunities; supporting the FAC in approval of the Report of the Board of Directors; and approving sustainability targets.

The Board of Directors, the Sustainability and Ethics Committee, and the Financial and Audit Committee charters were updated in 2024 to reflect new regulatory requirements on sustainability reporting. In addition, the Sustainability and Ethics Committee's agenda was realigned to prioritise material topics, and the Committee's collaboration with the Financial and Audit Committee was strengthened. The Sustainability and Ethics Committee reviews, evaluates, and oversees Stora Enso's double materiality assessment, including the identified material impacts, risks, and opportunities, was well as the associated targets and action plans. The Board approves the double materiality assessment. Furthermore, the Financial and Audit Committee reviews and supports the material content of the Sustainability Statement, as recommended by the Sustainability and Ethics Committee, for inclusion in the Report of the Board of Directors, subject to Board approval.

As stipulated by the Board Diversity Policy, the merits of directors include knowledge of the Company's operational environment, its markets, and the industry in which it operates. This may also encompass elements such as financial, sustainability or other specific competencies, geographical representation, and business background as required to achieve the appropriate balance of diversity, skills, experience, and expertise on the Board collectively. In 2024:

- The Board comprised eight members, all non-executive.
- Diversity: 50% gender balance, with an average ratio of female to male board members being 1:1. The age range was 51 to 69 years, and the members represented five different nationalities.
- 2/8 of the Board members had industry experience, 3/8 had specific experience in emerging markets, and all members had experience in global business and operational management.
- 100% of the Board members were independent of the Company. Three of the Board members were independent of the Company but not of its significant shareholders.

In 2024, five of the Board members possessed sustainability or ESG-related expertise as their primary skill. Additionally, two of the Board members had specific expertise in sustainability-driven innovation. These skills are aligned with the material topics identified as part of Stora Enso's transition plans: Climate change, Biodiversity and Circularity. Two out of the three members of the Sustainability and Ethics Committee possessed expertise in governance and compliance as their primary skill, and all the members of the Financial and Audit Committee held this expertise. All Board committees are allowed to engage external consultants and experts when necessary. To ensure access to sufficient and relevant sustainability expertise and skills, the Group's subject matter experts present sustainability topics and updates to the committees. More details are provided under ESRS 2 GOV-2.

The Sustainability and Ethics Committee comprises two to four Board members who are nominated annually by the Board. At least one Committee member is expected to have sufficient prior knowledge and experience in handling sustainability and business ethics matters. To ensure the Board's insight and competence on the Company's material sustainability-related topics, the Board regularly reviews and discusses material impacts, risks and opportunities, targets, and external reporting as described below under ESRS 2 GOV-2.

The CEO is responsible for overseeing effective risk management and internal controls over financial and sustainability reporting. The Group Internal Control function, supervised by the CFO and Group Controller, is accountable for internal control governance, processes and tools. Division internal control functions execute the internal control processes within their respective divisions. The head of Enterprise Risk Management, reporting to the Executive Vice President of Strategy and Sustainability, is responsible for designing, developing, and monitoring the implementation of the Group's risk management framework. To ensure control over the management of impacts, risks, and opportunities, Stora Enso has set procedures to update the Board on incidents related to safety and environmental non-compliances. In addition, the Board is responsible for annually approving the updated Double Materiality Assessment and reviewing strategic and operational risks.

Sustainability work is led by the Executive Vice President (EVP) responsible for strategy and sustainability, who reports directly to the CEO and is part of the Group Leadership Team (GLT). The CEO holds ultimate responsibility for the successful implementation of Company's sustainability agenda. The Sustainability Council, which includes Heads of Sustainability from the divisions, steered Stora Enso's sustainability efforts in 2024. Chaired by the SVP, Group Sustainability, the Council's work involves identifying longer-term opportunities and challenges that may require a Group-wide response, as well as the sharing of good practices. The EVP Legal, General Counsel, is responsible for ethics and compliance matters at Stora Enso and reports to the CEO. Both the Group Leadership Team and the Board of Directors are regularly updated on sustainability progress and other topical issues. Group functions leading the work in their specific areas propose Stora Enso's sustainability targets related to material impacts, risks, and opportunities, which are then approved by the Board's Sustainability and Ethics Committee. The Board of Directors receives quarterly updates on performance against the targets.

Information provided to and sustainability matters addressed by the administrative, management, and supervisory bodies (GOV-2)

The key role of the Sustainability and Ethics Committee includes agreeing on sustainability focus areas based on materiality, approving sustainability targets, supporting the FAC in providing recommendations for the Report of the Board of Directors' approval, and approving targets for the next year. Furthermore, the Sustainability and Ethics Committee receives in-depth updates twice a year on material topics, which are held together with the divisions. This ensures that the Board is well-informed about these significant topics and possesses the necessary expertise in relation to them.

The main responsibilities of the Sustainability and Ethics Committee include determining the key sustainability focus areas based on their materiality, approving sustainability targets, and supporting the Financial and Audit Committee in providing recommendations for the approval of the Board of Directors' Report. All non-compliance cases are reported to the Sustainability and Ethics Committee upon completion, and cases related to fraud or the integrity of financial reporting are also reported to the Financial and Audit Committee. Significant non-compliances are reported to Sustainability and Ethics Committee within 24 hours of their occurrence.

The Sustainability and Ethics Committee receives regular updates and engages in discussions with the management, as outlined below in the table. This is done to ensure that the Board remains well-informed about the material topics, follows a structured annual process for reviewing and approving material sustainability issues, and possesses the necessary expertise in relation to them.

Matters addressed by Sustainability and Ethics Committee	
Quarterly updates and discussions	• Safety (TRI and fatalities) statistics • Ethics and Compliance incident reviews • Review of the quarterly sustainability scorecard to assess performance against sustainability targets
Bi-annual updates and discussions	• Deep dives into material sustainability topics with divisions on the management of significant risks, impacts, and opportunities • Sustainability focus areas: proposal and agreement
Annual updates and discussions	• Integrated ERM and Double Materiality Assessment review with the Financial and Audit Committee • Approval of sustainability targets • Review of the Sustainability Statement and support to Financial and Audit Committee in providing recommendations to the Board for the approval of the Board of Directors Report

In addition to the topics listed above, the Board receives updates and discusses other material sustainability topics as needed. The updates are provided by the GLT members and their teams, primarily Group Sustainability and Group Legal. In 2024, these included the Company's net zero plan for 2040, an environmental incident at Stora Enso's harvesting site, the implementation plan for the due diligence process in accordance with the Corporate Sustainability Due Diligence Directive, and an ESG update on market information and international remuneration disclosure practices. The description of the Board's involvement in the double materiality assessment and the setting of thresholds is presented under ESRS 2 IRO-1 and the outcome of the assessment is disclosed under ESRS 2 SBM-3.

The Board supervises the operation and management of Stora Enso and decides on significant matters relating to strategy, investments, organisation, and finance. Information on the development of essential risk areas, as well as executed and planned activities in these areas are regularly communicated to the FAC. SECo receives regular updates on material sustainability topics, including related impacts, risks and opportunities as described above. The two Committees present a report on each meeting to the Board to be utilised in the Board's approval, supervisory and decision-making processes. Risks are reviewed jointly with the FAC and SECo to ensure a holistic approach to overseeing Company risks. In accordance with the Board's working order, matters handled in the meetings include, among others, the approval of major investments and divestments. The Group's Investment Guidelines address sustainability matters to be considered, but do not provide specific guidance on potential trade-offs.

Integration of sustainability-related performance in incentive schemes (GOV-3)

Stora Enso's incentive programmes are designed to drive alignment with common objectives and to create engagement by setting clear targets that each business unit or employee can influence. They consist of both financial and non-financial metrics. For short-term incentives (STI), targets are set for one year and potential payout takes place annually. All of the Group's own employees are eligible to participate in a bonus plan.

The long-term incentive plan (LTI) is primarily targeted at individuals who have the greatest impact on the Company's long-term success and performance. The purpose of the LTI plan is to incentivise and align management with shareholder interests and the Company's long-term strategy. The targets for the LTI plan are set for a three-year period, and payouts in Stora Enso shares are based on the Company's performance against set targets.[1]

The Board's remuneration is not directly linked to the Company's performance, but may be paid partly in Company shares, as decided by the Annual General Meeting.

Since 2022, sustainability measures have been part of the Company's variable remuneration. Sustainability-related objectives are integrated into the STI plans of all employees, currently focusing on occupational safety measures. These objectives extend to the short-term incentive programmes of the CEO[1], CFO, other Group Executives, as well as division and business unit management. For the STI 2024 (payable in 2025), 10% is allocated to safety performance. The LTI plan encompasses around 300 key employees. In the LTI plan, sustainability metrics focus on carbon emission reduction (10%), and improving gender balance (10%) with the exception of the CEO Performance Share Plan (18 September 2023–30 September 2025), in which the sustainability metrics relate only to the carbon emission reduction. The sustainability performance criteria align with Stora Enso's key sustainability targets and key performance indicators (KPIs), thereby contributing to the overall fulfilment of the Group's sustainability ambition.

The Remuneration Policy describes Stora Enso's main principles and the decision-making process for the remuneration of the members of the Board, President and CEO. The performance metrics defined in the policy include sustainability targets as decided by the Board. The Board regularly reviews and defines key performance indicators, both financial and non-financial, to measure the progress of the Company and the completion of strategic objectives. The Group's remuneration programmes are based on this set of key performance indicators. Shareholders at the Annual General Meeting have established a Shareholders' Nomination Board, which is to exist until otherwise decided, and will annually prepare proposals for the Annual General Meeting's approval concerning the number of members of the Board of Directors, the Chair, Vice Chair and other members of the Board, as well as the remuneration for the Chair, Vice Chair and members of the Board and its committees. The compensation of the President and CEO is decided by the Board based on the evaluation and proposal by the Board's People and Culture Committee, and the Company's Remuneration Policy.

1 In accordance with the conditions outlined in the Remuneration Policy 2022, the appointment of a new CEO allows for exemptions from the policy. The Board has decided to exercise this right in the context of nominating the new CEO to ensure full focus on profit turnaround, cash flow improvements, and enhanced competitiveness. The deviation pertains to the performance periods of incentive plans. Following the conclusion of these performance periods, which are tied to the CEO's appointment, the CEO's incentive plans will align with those of the Group Leadership Team, as periodically determined by the Board.

Statement on due diligence (GOV-4)

Stora Enso takes precautionary and systematic action to mitigate and remedy potential adverse environmental and social impacts through, for example, the following processes and tools:

- Due diligence, in which the Company evaluates the impact that current or potential business operations may have on local communities and the environment.
- Third-party certified management systems in place at production units that apply international standards such as ISO 14001, ISO 45001, and ISO 50001.
- SMETA audits focusing on social matters and working conditions.
- Third-party forest management certification for the Group's own forestry operations and suppliers, such as FSC[1] and PEFC[2], which also include community considerations as a prerequisite.
- When necessary, restructuring processes and the closure of operations are conducted in cooperation with the authorities to support communities through related changes and to create opportunities for new business initiatives.
- Grievance mechanisms are available for all external stakeholders, including communities close to the Group's operations.

Stora Enso recognises the human rights-related principles of the UN Global Compact, relevant Children's Rights and Business Principles, and the OECD's Guidelines for Multinational Enterprises. The core elements of Stora Enso's due diligence are further described in the following paragraphs:

1 Stora Enso Communications' FSC® trademark license number is FSC-N001919.
2 Stora Enso PEFC trademark license number is PEFC/02-44-22.

Core elements of due diligence	Paragraphs in the Sustainability Statement
a) Embedding due diligence in governance, strategy and business model	ESRS 2 GOV-2, ESRS 2 GOV-3, ESRS 2 SBM-3
b) Engaging with affected stakeholders in all key steps of the due diligence	ESRS 2 GOV-2, ESRS 2 SBM-2, ESRS 2 IRO-1, ESRS MDR-P
c) Identifying and assessing adverse impacts	ESRS 2 IRO-1, ESRS 2 SBM-3
d) Taking actions to address those adverse impacts	ESRS 2 MDR-A
e) Tracking the effectiveness of these efforts and communication	ESRS 2 MDR-A, ESRS 2 MDR-T
f) Third-party certified management systems	ESRS E1-2, ESRS E4-3

Risk management and internal controls over sustainability reporting (GOV-5)

In 2024, the responsibilities of the Board of Directors were extended to cover sustainability reporting. Correspondingly, Stora Enso's internal control framework was extended to sustainability reporting. A set of internal controls was designed to provide reasonable assurance regarding the reliability of the sustainability reporting and adherence to laws, regulations, policies, and guidelines. Stora Enso's system of internal control follows the principles of the framework issued by the Committee of Sponsoring Organizations (COSO).

The Group's purpose and values, policies, processes, and structures serve as the foundation for carrying out internal control across the organisation. The Board, supported by the Financial and Audit Committee, has the overall responsibility for setting up an effective system of internal control and risk management for sustainability reporting. The responsibility is further delegated within the organisation. The Group Internal Control function is responsible for internal control governance, processes, tools, and internal control reporting. Divisional internal control functions are responsible for executing the internal control processes in the divisions. Divisions and various support and service functions are accountable for operating effective internal controls. Internal control responsibilities for sustainability reporting are described in Stora Enso's Internal Control Policy.

In 2024, a project to implement internal controls for sustainability reporting was carried out, encompassing the entire organisation. Risk assessments were conducted for the end-to-end sustainability reporting processes and risks were prioritised based on their impact and likelihood. The main risks identified were related to the accuracy, timeliness, and completeness of the reporting. To ensure that these risks are appropriately addressed, internal controls were designed and implemented at potential points of failure or error in the process, from the source data to consolidation and disclosures. Control activities implemented include review and approval processes, verifications, reconciliations, IT general controls, and controls supported by IT systems. The Sustainability Statement and qualitative data points are housed in a platform designed to support collaboration and the structured collection of evidence for claims and data. Control activities also include the policies, guidelines, procedures, and organisational structures in place to ensure that management directives are carried out and that necessary actions are taken to address risks related to the achievement of objectives concerning sustainability reporting.

The effectiveness of the process for assessing risks and executing control activities is monitored continuously. Stora Enso's Internal Control function oversees control design and effectiveness providing quarterly internal control reports to management and bi-annual updates to the Board's Financial and Audit Committee. In addition, the Stora Enso Group Internal Audit has an advisory role on governance, risk management, and the internal control system related to sustainability reporting.

Strategy, business model and value chain (SBM-1)

Stora Enso provides wood-based, renewable products in packaging, biomaterials, and wooden construction, and is one of the largest private forest owners in the world. In 2024, the Group's sales were EUR 9,049 million. Stora Enso operates in the following ESRS sector groups and related sectors:

Sector group: Agriculture. Sector: Forestry (code AFO)
Sector group: Manufacturing. Sector: Pulp, Paper & Wood products (MPW)

Stora Enso's strategy is based on creating value in the circular economy with renewable, fiber-based products. The Group's forests serve as a reliable and long-term source of fiber for its products. Stora Enso's key product categories include:

- Packaging materials: liquid packaging board, food service board, fresh cartonboard, fresh and recycled containerboard, paper
- Packaging solutions: boxes and trays for packaging, packaging design and automation, converting of carton and corrugated board
- Biomaterials: pulp, innovative bio-based solutions
- Wood products and building solutions: material for mass timber construction (CLT and LVL), building concepts, sawn and planed wood

Stora Enso's main market is Europe, accounting for approximately 69% of sales. The second largest market is the Asia-Pacific region, contributing 13% of sales. Stora Enso is a business-to-business company, and its key customer segments include packaging converters, brand owners and retailers, industrial component manufacturers, and construction companies. Over half of the Group's sales are directed toward consumer end uses. The Group's financial performance by division and external sales by destination are presented in the Financial Statements, note 2.1 Segment information.

Stora Enso is a significant employer in its operating countries, employing approximately 19,000 people at the end of 2024. The number of employees by countries is presented under ESRS S1-6.

Stora Enso's long-term ambition is to provide regenerative products and solutions by 2050 across all markets, and product and customer categories. This means providing renewable and circular products and solutions that remove more carbon than they emit and support biodiversity restoration. Currently, the long-term ambition aligns with the significant products, markets, and customer groups within the Group. The majority of the products are designed for reuse, recycling, or energy recovery at the end of their lifecycle, underscoring the commitment to the circular economy. Furthermore, Stora Enso has enhanced its metrics for assessing biodiversity impacts and implemented measures aimed at restoring biodiversity.

The key sustainability matters impacting the Company's strategy are climate change and biodiversity loss, which may adversely affect the health and resilience of forests and tree plantations, the value of forest assets, and wood prices. Conversely, the elements of the strategy that impact sustainability matters are mainly related to the renewable, wood-based products that serve as alternatives to fossil-based materials and contribute to mitigating climate change and supporting the circular economy. The main challenge in terms of sustainability matters lies in the evolving regulatory landscape and political decisions on forest resources, which could limit the availability of wood, increase costs, and reduce investment opportunities.

Stora Enso business model

Stora Enso is a business-to-business company focusing on three key growth areas: renewable packaging, sustainable building solutions, and biomaterials innovation. Pulp and traditional wood products, together with the Company's forest assets, form the foundation of the business. The Group procures wood from both internal and external sources, manufacturing it into a range of wood-based products and materials. A global sales and distribution network is used to deliver products to customers worldwide for further processing. The majority of sales are directed towards consumer end uses. The main business actors include private forest owners, chemical suppliers, transportation and logistics partners, and the key customer segments detailed in the illustration below.

Securing a reliable supply of raw materials

Wood as primary raw material

- Owned and leased forest land in Europe and China
- 50% ownership of eucalyptus plantations in Brazil and Uruguay
- Large network of private forest owners providing tactical flexibility in wood sourcing

Other raw materials

- Long-term relationships with key suppliers to ensure a reliable supply of key raw materials
- Large, global supplier base for key raw materials, such as chemicals, fillers, and energy

Upstream

Transport to Stora Enso production sites →

Stora Enso's operations

Purpose

Do good for people and the planet. Replace non-renewable materials with renewable products.

Values

Lead.

Do What's Right.

Production and conversion units worldwide

Focused on resource efficiency

- Utilising harvested trees, forestry residuals, and industrial side streams in the most efficient way
- Developing recycled fiber into new products
- Dedicating efforts and investments towards reducing emissions, water usage, and energy consumption

Skilled and engaged employees

- Safety as a top priority
- Focus on attracting and retaining top talent to secure future skills as a purpose-driven, inclusive company
- Professional development with continuous learning and career growth

Own operations

Transport to customers →

Renewable materials to global customer base

Key customer segments

- Packaging converters, brand owners and retailers, industrial component manufacturers and construction companies

Products

- Fiber-based packaging materials and solutions
- Materials for mass timber construction, building concepts, sawn and planed wood
- Bio-based solutions focused on lignin, wood foams, and biochemicals
- Pulp and traditional wood products

Downstream

Outcomes and benefits

(current and expected)

Financial market

Focused capital allocation driving shareholder value and sustainable profitable growth: dividends to shareholders, and interest and principal payments to lenders

Customers and end-users

Helping customers meet consumer demand for low-carbon, renewable products while maintain the highest product safety standards

People and communities

Safe and inclusive workplace with opportunities for development
Large supplier network creating indirect employment opportunities

Interests and views of stakeholders (SBM-2, incl. S1, S2, S3)

Stora Enso's stakeholder engagement is rooted in both systematic and informal interactions, complemented by regular surveys on topics such as customer and employee satisfaction. The Group also gains insights through its established grievance mechanisms. Stakeholder engagement is conducted continuously and is being integrated into existing engagement practices.

The purpose of the engagement is to:

- build trust and enhance transparency,
- identify market opportunities,
- address concerns and areas for improvement,
- recognise global trends and weak or silent signals,
- promote sustainable business practices, and
- advance industry standards.

Stora Enso engages regularly with affected stakeholders and users of the Sustainability Statement as outlined in the table to the right. During these engagements, key stakeholders have highlighted the opportunities for Stora Enso to advance circular economy through its wood-based products, which are aligned with the Group's business model. They also emphasised the importance of implementing responsible business practices throughout operations and the value chain, as these are crucial for securing the long-term acceptability of the strategy.

The outcomes of stakeholder engagement are incorporated into the annual double materiality assessment process. Moving forward, the Group Leadership Team and the Board of Directors will receive regular updates, at least annually, regarding the perspectives and interests of affected stakeholders and users of the Sustainability Statement. These updates will also include potential implications for Stora Enso's strategy, operations, and significant sustainability-related impacts.

Stakeholder group	How engagement is organised
Affected stakeholders	
Customers	• Bilateral meetings, newsletters • Trade fairs and conferences • Customer satisfaction surveys • Collaboration to create new services and solutions
Employees	• Employee engagement survey, performance and development reviews • Regular all-employee calls • Engagement with union representatives, safety observations, and grievance channels • Trainings, such as business ethics and safety
Suppliers and workers in the value chain	• Continuous collaboration and trainings • Supplier audits, human rights assessments • Commitment to Stora Enso's Supplier Code of Conduct and related criteria • Grievance channels
Forest owners	• Bilateral discussions on forest management, forestry services, and wood purchases • Forest owner events and webinars • Newsletters, forest owner magazines, and digital channels • Forest management platforms, such as eMetsä in Finland
Local communities	• Dialogue and collaboration via different communication channels and meetings • Engagement with local authorities and local community councils • Volunteering initiatives • Group and local level grievance channels
Nature (silent stakeholder)	• Presented via scientific research, ecological data, and data on the conservation of species
Users of Sustainability Statement	
Investors and analysts	• Investor calls and meetings, webinars, teach-ins • Roadshows and conferences, Annual General Meeting, Capital Markets Day • Engagement with ESG specialists and investor initiatives • Analyst and investor perception studies, ESG ratings
Governments and policymakers	• Public consultations, bilateral meetings and events • Engagement in policy-making processes, advocacy through industry associations • Supporting policymakers by providing industry insights and technological capabilities
Non-governmental organisations (NGOs)	• Knowledge sharing and joint initiatives
Industry and trade organisations	• Active participation to develop industry practices and collaboration in joint projects

Material impacts, risks and opportunities and their interaction with strategy and business model (SBM-3)

Stora Enso's material impacts, risks, and opportunities, identified through the double materiality assessment, primarily occur within its own operations and upstream value chain. Summaries for each material topic are provided below, with detailed descriptions of the identified impacts, risks, and opportunities presented at the beginning of each topical standard. These descriptions also include expected time horizons and value chain locations.

Environment

In the short-term, Stora Enso has a direct negative impact on climate change through its GHG emissions from its own operations and an indirect impact through its value chain. Additionally, the Group has positive impacts on climate through forest carbon sequestration, carbon stored in its wood-based products, and substitution of fossil-based materials with renewable alternatives. Stora Enso also identifies an opportunity related to its high energy self-sufficiency. The current financial effects of climate change consist of investments in new boilers and other equipment to enhance energy efficiency and reduce carbon emissions. In the medium-term, the Group recognises regulatory risks related to the treatment of biogenic emissions and the challenge of meeting its Scope 3 reduction targets. The resilience of Stora Enso's strategy and business model to climate change has been tested through various scenario analyses, which are explained in more detail in ESRS E1. The analyses did not identify significant risks before 2040.

Regarding pollution, Stora Enso's industrial activities generate emissions to air and water across short- to long-time horizons, posing risks of environmental non-compliance and significant incidents. In addition, Stora Enso is accountable for environmental provision related to pollution of soil in Falun, Sweden, spanning a short- to long-term horizon.

From a short- to long-term horizon, Stora Enso's own production sites rely on water, especially in board, pulp, and paper production processes. Although most operational units are in areas with low water stress, the Group acknowledges the significance of water as a crucial factor in achieving its objectives. Stora Enso also acknowledges the potential risk of environmental incidents associated with water discharges, which could negatively impact freshwater ecosystems. The current financial effects related to negative impacts include the repayment of grants to authorities in Belgium. This repayment stemmed from a 2019 legionella-related incident, classified as an environmental infringement. The case was resolved in court in 2024.

Owning forest assets provides Stora Enso with strategic advantages. These include securing a reliable and consistent wood supply, reducing dependency on external suppliers, promoting environmental stewardship through sustainable forestry practices, actively managing and preserving biodiversity, and contributing to carbon sequestration efforts. The Group has a positive impact through sustainable forest management in its own operations and upstream value chain. At the same time, Stora Enso recognises its negative impacts on biodiversity, such as damage to key habitats or species. Identified risks are include biodiversity loss, non-compliance with harvesting regulations, and the impacts of climate change on forest ecosystems.

Stora Enso contributes positively to a circular economy through its partnerships, and renewable products and solutions. Beyond its own business activities, business relationships play a critical role in enabling these positive impacts. However, the Group has also identified negative impacts associated with raw material sourcing and waste generation. Stora Enso's strategy is closely aligned with the principles of the circular economy, allowing the Group to effectively leverage its products. The current financial effects from Stora Enso's material opportunities are tied to the revenue generated by its products. For instance, Stora Enso has made a significant investment in expanding its board production capacity at its Oulu site in Finland.

Social

With a workforce of approximately 19,000 employees, Stora Enso has a direct impact on the safety and well-being of its people. Positive impacts are mainly linked to the Group's business model and focus on its own operations. These include creating employment opportunities, supporting professional development, actively promoting work-related rights, advancing gender diversity, and offering training opportunities.

In addition to these positive impacts, the Group has identified negative impacts related to occupational safety incidents, which still occur despite preventive safety measures. The Group also acknowledges its dependency on a talented workforce, and recognises risks associated with attracting and retaining talent, as well as potential incidents of discrimination or harassment.

Through its supplier relationships, Stora Enso is also connected to workers in the value chain. The Group recognises risks related to breaches of its Supplier Code of Conduct and safety incidents for workers across its upstream value chain.

Stora Enso acknowledges that climate change may lead to controversies with local communities and non-governmental organisations concerning forest management practices, biodiversity, and land and water use. Stora Enso is primarily involved in these community-related risks through its joint operations in South America.

Governance

Business conduct is acknowledged as a fundamental aspect of responsible global business, serving as the cornerstone of stakeholder trust and legal compliance. Stora Enso upholds high business standards, an ethical corporate culture, and a robust compliance programme, which generate positive impacts for employees and business partners. However, there are risks of non-compliance with laws, regulations, and internal policies which could lead to significant costs and reputational damage. The Group is exposed to these risks through its own operations and business relationships.

Resilience

Stora Enso tested the resilience of its strategy and business model in 2021, when it established transition plans, and introduced a new sustainability agenda centred around three focus areas: climate, biodiversity and circularity. This was preceded by an assessment of Stora Enso's business model and strategic resilience in relation to future key sustainability risks and opportunities. The assessment's time horizons were set to 2030 and 2050. The analysis indicates that, to future-proof the Group's business model and strategy, it is essential for operations and products to actively remove carbon from the atmosphere and contribute to mitigating biodiversity loss. As a result, Stora Enso has established a transition plan to drive new opportunities and protects its business operations. For further details, see ESRS E1-1 and ESRS E4-1.

The current effects of Stora Enso's material impacts, risks, and opportunities on its business model, value chain, strategy and decision-making focus on climate mitigation, given the scientific consensus on the urgency of taking action. Stora Enso's emission reduction plans are aligned with the 1.5-degree scenario. In addition to reduction actions, the Group focuses on opportunities by optimising biodiversity management through new technical solutions and driving the circular economy through partnerships and product innovation. Due to the substantial environmental footprint of forest management and the manufacturing industry, many of the identified impacts and risks related to pollution, water and biodiversity are predominantly addressed through responsible business practices and resource efficiency rather than significant changes to the Group's strategy or business model. Similarly, the impacts on employees and workers in the value chain are also primarily addressed through robust employee management processes, and HR and sustainable sourcing policies.

The current financial effects of Stora Enso's material opportunities mostly relate to its revenue from renewable products, the valuation of forest assets, and investment in biological assets. For more details, see the Consolidated income statement, Consolidated statement of financial position, and Consolidated cash flow statement in the Financial Statements.

The ESRS requirements addressing material impacts, risks, and opportunities are listed in ESRS 2 IRO-2-56. In addition to the ESRS disclosure requirements, Stora Enso has prepared entity-specific disclosures on biodiversity. These disclosures include data on biodiversity impact indicators and forest certificates.

Description of the process to identify and assess material impacts, risks and opportunities (IRO-1)

Methodologies and assumptions

At the beginning of 2024, Stora Enso conducted a double materiality assessment in compliance with the new Corporate Sustainability Reporting Directive (CSRD) requirements. The main objectives of the assessment were to identify sustainability topics that have a significant impact on the Group's business performance, risks, and opportunities (financial materiality), highlight sustainability topics that reflect significant impacts on people and the environment (impact materiality), and determine the materiality of the information to be reported.

The process adhered to the requirements outlined in the European Commission Delegated Regulation 2023/2772 on European Sustainability Reporting Standards for conducting a double materiality assessment, starting with an overview of Stora Enso's activities, business relationships, and operating context. It identified key stakeholders across the entire value chain, both upstream and downstream. As a part of the process, nature was recognised as a silent stakeholder.

After establishing an overview of the value chain and stakeholders, the next step involved identifying the actual and potential impact, risks, and opportunities associated with sustainability matters. The assessment covered Stora Enso's own operations and the impacts it is, or may be, associated with through its value chain. Once the long list of impacts, risks, and opportunities was established based on scientific research and stakeholder input, it was compared with the full scope of European Sustainability Reporting Standards' environmental, social, and governance matters to ensure the inclusion of all relevant topics. After completing the list, the topics were assessed and rated. Since the Corporate Sustainability Reporting Directive does not provide guidance on setting the threshold, the proposal was aligned with the EU Taxonomy, where only economic activities with a significant impact are included.

Due to an environmental incident in Hukkajoki, Finland (described in ESRS E4-4), Stora Enso conducted a new double materiality assessment to review and adjust the framework of material topics accordingly. The update was also used as an opportunity to integrate the latest Enterprise Risk Management (ERM) results to ensure that the Sustainability Statement and risk reporting remain fully aligned.

The assessment methodologies varied based on topics, but included, for example, interviews, workshops, and data analyses. As part of the assessment finalised in early 2024, a broad representation of key internal and external stakeholders were engaged in discussions and interviews to ensure that the assessment covered all relevant impacts, risks, and opportunities. The stakeholders represented both those affected by the Group's operations and users of the Sustainability Statement as well as other stakeholder groups such as nature (silent stakeholder), public authorities, and non-governmental organisations (NGOs). The focus of the engagement was on open interviews to gain deeper insight into the actual and potential impacts, risks, and opportunities related to Stora Enso's business, operations, and value chain. The outcome of the engagement was consistent with Stora Enso's strategy and business model. Moreover, the Group Leadership Team and the Board's Sustainability & Ethics Committee discussed the double materiality assessment process and its outcomes to provide their views on Stora Enso's material topics.

The underlying assumptions relied on the latest scientific research, according to which climate change and biodiversity loss are accelerating. Climate change was also considered one of the underlying drivers of financial risks.

Assessment of impacts, risks, and opportunities

Stora Enso's assessment of impacts, risks, and opportunities followed the process described below:

1) Impact materiality

Environment

To ensure as objective a view as possible, the identification of environmental impacts began with a review of scientific research, followed by an assessment of the relevance and materiality for Stora Enso, with input from the Group's subject matter experts.

The process for identifying climate-related impacts focused on the Group's own operations, which were considered to be more exposed to possible risks, as well as its joint operations. For pollution and water, the focus was on the Group's own operations. In terms of biodiversity, forestry sites located within the Group's own forest land or in the upstream value chain were included. Since Stora Enso and its upstream value chain are responsible for raw material extraction, the downstream value chain was not considered relevant for the assessment. For resource use and circularity, the assessment covered impacts related to the Group's own resource use across its whole value chain due to the significant volumes of resource inflows, outflows and waste (sourced raw materials, waste, products produced, and end-of-life of products).

The overall process was complemented by additional steps to identify and assess specific environmental matters:

Climate-related impacts
The analysis comprised impacts on climate change through the Group's own operations (Scope 1 and 2) and value chain (Scope 3) emissions as disclosed in ESRS E1-6. Screening was conducted for all production sites and material value chain emission categories. Stora Enso did not utilise other drivers for climate-related impacts in the scenario analysis although the Group recognises the Stockholm Resilience Centre's Planetary Boundaries framework and related tipping points in its sustainability work. In addition to actual impacts, Stora Enso has estimated its potential impacts based on production forecasts. Stora Enso's locked-in GHG emission are described in ESRS E1-1.

Water-related impacts
The analysis of water-related impacts was based on the WRI Aqueduct Water Risk Atlas, which is used to annually assess water-related risks at production sites, providing information on water scarcity, stress, flooding, and water quality. According to the tool, five of the Group's production sites operate in regions with High Baseline Water Stress: Beihai in China, Langerbrugge in Belgium, Wujin and Qianan corrugated units in China, and Łódź in Poland. The assessment is conducted for Stora Enso's own units and does not cover the upstream or downstream value chain.

Biodiversity and ecosystems
The assessment considered biodiversity loss-related systemic risks to society and business through scientific research, such as the Living Planet 2024 report and the Dasgupta Review 2021. Additionally, the assessment examined the tree species used for re-planting and significant incidents that negatively impact biodiversity. The impacts were identified through long-term surveillance of the ecological status of the sites and three sets of biodiversity indicators.

Some of Stora Enso's industrial units are located near biodiversity-sensitive areas, such as Natura 2000, but these sites do not actively contribute to the deterioration of natural habitats due to strict environmental permitting processes. The biodiversity-related impacts and risks connected to industrial units are described in ESRS E2 and ESRS E3. Whenever a new industrial unit is established or production capacities are increased, Stora Enso ensures that the project plan undergoes an environmental impact assessment including a thorough evaluation of biodiversity-sensitive areas. The assessment is used to determine significant impacts. To identify biodiversity-sensitive sites, Stora Enso screened all site locations by applying the IBAT assessment tool to create an overview of key biodiversity areas located in conjunction with its industrial operations. Stora Enso's impacts on biodiversity-sensitive areas are described in ESRS E4 SBM-3.

The Group's own forests and upstream harvesting sites may be near or located in biodiversity-sensitive areas. Despite strict rules in harvesting operations, there have been incidents causing negative impacts to these habitats and their species. In 2024, a significant local negative impact was caused to an endangered species and its habitat near one of Stora Enso's harvesting sites in Finland. See further details in ESRS E4-4.

Stora Enso acknowledges the necessity of implementing measures to mitigate any negative effects on biodiversity. These are part of the Group's ways of working and are further described in ESRS E4-3.

Resource use and circularity
The assessment of resource outflows and product-related impacts relied on Life Cycle Assessments (LCAs) and Environmental Product Declarations (EPDs) conducted by Stora Enso's experts and customers, often in collaboration with academia, expert organisations, or industry associations.

People and Governance

When identifying the impacts on people, the process began by referring to globally recognised human rights principles, such as the International Labour Organisation's Core Convention and the International Bill of Human Rights. Stora Enso also took into account employee survey results, occupational safety performance, and insights provided by the Group's subject matter experts. The identification of actual and potential impacts involved interviews with the Group's employees. In addition, Stora Enso considered external studies conducted over the years, such as pay gap analyses and adequate wage benchmarks. As described in ESRS 2 GOV-4, Stora Enso's due diligence consists of multiple processes and tools. These processes were taken into account in the double materiality assessment when identifying and assessing adverse impacts, such as ongoing business restructurings, third-party certified management systems, and third-party forest management certification.

Consultation of affected stakeholders

Stora Enso consulted with affected stakeholders on the topics related to own employees as part of the double-materiality assessment process. For other topics, Stora Enso did not directly consult the affected stakeholders.

Pollution in terms of air emissions and water effluents generated by Stora Enso's sites are regulated by the relevant authorities, with limits set through environmental impact assessments and permitting processes, which consider local conditions and relevant legislation. Consultations are not conducted directly with affected communities, but indirectly through these assessments and processes. For pollution-related impacts, Stora Enso consulted with environmental managers from its industrial units to determine compliance with environmental permit limits and associated emission levels. The screening process relied on measured values, calculations, or estimates from third-party assessments.

For biodiversity-related impacts, Stora Enso did not conduct consultations with affected communities on sustainability assessments of shared biological resources and ecosystems, since the engagement is otherwise done on a regular basis. The Group's engagement with affected communities is further described in ESRS S3. The engagement is also carried out in situations where a site, raw material production or sourcing activity is likely to have an adverse impact on biodiversity and ecosystems.

Prioritisation of impacts

The different impact types were rated according to the below matrix, on a scale from 1 to 5. Stora Enso applied EFRAG's guidance on the severity of the impact, with severity taking precedence over likelihood when assessing potential impacts to people or the environment. In practice this means that potential impacts that could be difficult to remediate were always rated higher. Following the principle of significant impact, the risks, impacts, and opportunities with "High or critical impact to environment and people" or "Very high or catastrophic impact to environment and people" were considered material from an impact perspective. On impact materiality, scientific frameworks and global human rights principles guided the rating. For example, impacts on planetary boundaries were considered severe.

Impact type	Scale	Scope	Remediability	Likelihood
Actual positive impacts	x	x		
Actual negative impacts	x	x	x	
Potential positive impacts	x	x		x
Potential negative impacts	x	x	x	x

2) Financial materiality: Risks

The identification of financially material topics began by reviewing all financial risks recorded in the Group's Enterprise Risk Management (ERM) process. Stora Enso classifies risks into two categories: strategic and operational risks. Strategic risks refer to internal and external events that may make it difficult, or even impossible, for the Group to achieve strategic goals. These risks can have severe consequences that impact the Group's operations in the long-term. Operational risks refer to risks of losses resulting from disruptions to day-to-day business operations and having a shorter-term impact. While these risks can have significant financial consequences, damage the Group's reputation, and weaken the Company's compliance position, they do not impact the Group's ability to achieve long-term strategic goals.

In addition to the internally recognised risks, the assessment considered scientific reports, global megatrend reports, and Stora Enso's own transition plans to identify all relevant risks and opportunities. The transition plans were established in 2021, when Stora Enso introduced a new sustainability agenda centred around three focus areas: climate, biodiversity, and circularity. This was preceded by an assessment of Stora Enso's business model and strategic resilience in relation to future key sustainability risks and opportunities. The assessment's time horizons were set for 2030 and 2050. The focus of the assessment was on transition events, such as increasing legislation and external stakeholder pressure.

The assessment also incorporated findings from the Group's ERM process, which identified transitional risks associated with growing regulations. Political decisions concerning forest resources could potentially limit wood availability, increase costs, and hinder investment opportunities. Stora Enso will be impacted by transition events on the medium term as the European Commission implements new biodiversity and forest related regulations. Stora Enso has formal traceability systems in place to ensure that the origin of purchased wood and pulp is known. These traceability systems are third-party verified through the FSC Chain of Custody/ Controlled Wood scheme, the PEFC Chain of Custody/Due Diligence System, and ISO 14001. Stora Enso also purchases pulp from external suppliers for reasons related to quality and logistics. Most of the pulp used in operations is produced internally at the Group's mills. In addition, pulp purchased from external suppliers is covered by Stora Enso's traceability systems. However, the new European Deforestation Regulation (EUDR) will also increase the requirements for Stora Enso.

Moreover, there is a potential risk of regulations that could restrict the manufacturing of single-use products, even if they are made from fiber-based materials. The growing demand for biobased materials, particularly wood-based raw materials, can potentially lead to a shortage in the supply of raw materials.

Stora Enso also considered dependencies related to the risks and opportunities that may arise from those dependencies. These risks include, for example, dependencies on a skilled workforce, raw materials, and their availability. Stora Enso is dependent on biodiversity and ecosystems due to wood being its primary raw material. Biodiversity loss can have a negative impact on the value of Stora Enso's forest assets, increase risks of shortages in wood supply, and cause reputational damage. Stora Enso's climate scenario analysis primarily focused on physical and systemic risks that could impact its forests. The ecosystem services considered in the assessment included tree growth and forest health. The climate scenario analysis and results are described in ESRS E1 SBM-3. Stora Enso's board, pulp, and paper sites are dependent on water as the production processes require substantial amounts of water, accounting for over 99% of the Group's total water withdrawal. These units predominantly draw process and cooling water from surface water sources, with 98% of the total water withdrawal derived from surface water in 2024. Approximately 2% is sourced from municipal or groundwater supplies. According to the WRI Aqueduct Water Risk Atlas tool, five of the Group's production units operate in regions with High Baseline Water Stress.

Sustainability-related risks were marked and classified into ESRS sub-sub-categories, and assigned to their corresponding value chain locations. The financial materiality scores relied on the ratings provided by the divisions in their original Enterprise Risk Management assessment, including likelihood, magnitude and nature of effects. Following the principle of significant impact, risks, impacts and opportunities with a 10% or higher divisional EBITDA impact were considered financially material. The divisional EBITDA impact was considered instead of the Group EBITDA to focus on specific activities, business relationships, geographies or other divisional factors that contribute to a heightened risk of adverse impacts. Since sustainability is embedded into the Group's strategy, many of the sustainability-related risks are considered high and prioritised in the ERM process due to strategic or operational importance.

Ethics and compliance risks are assessed as part of Stora Enso's overall risk assessment procedure, outlined in the Enterprise Risk Management instructions. These assessments cover all of Stora Enso's units and compliance areas and are repeated regularly. The results are used by divisional management teams and by the Group Ethics and Compliance team to prioritise and create action plans. For matters related to business conduct, the Ethics and Compliance Self-Assessment Tool (T.E.S.T.) provides divisions and functions with an overview of their progress in implementing policies and compliance measures, while also identifying and managing possible gaps and risks. The results and subsequent actions are addressed through Divisional Compliance Forums, comprising heads of key functions in the divisions.

Assessment of physical and transition risks related to climate
Stora Enso has utilised multiple climate-related scenario analyses to inform the identification and assessment of physical risks, and transition risks and opportunities over the short, medium, and long-term. Due to the nature of Stora Enso's operations, the time horizons differ from CSRD definitions. In strategic risks, Stora Enso defines short term as up to five years, medium term as five to ten years, and long term as ten years or above. This definition is in line with Stora Enso's enterprise risk management process.

- Climate-related physical risks: for the identification of hazards and the assessment of exposure and sensitivity Stora Enso utilised global Shared Socioeconomic Pathway (SSP) scenarios: SSP1-1.9 (Sustainability – Taking the Green Road), SSP2-4.5 (Regional Rivalry – a Rocky Road) and SSP5-8.5 (Fossil-fuelled Development – Taking the Highway) and assessed how its assets and business activities may be exposed and sensitive to these climate related hazards, but did not identify material physical climate change impact risks before 2040. Long-term (25–30 years) changes in precipitation patterns, periods of drought, frequent extreme weather events, and higher average temperatures that increase the risk of forest fires and insect outbreaks could cause damage to operations, forests, and tree plantations. More frequent extreme weather events also increase the risk of disruptions in the production, logistics, and supply of raw materials and energy. The assessment covered the Group's own operations that were considered more exposed to possible risks, as well as its joint operations.
- Climate-related transition risks: identified climate-related transition associated with new legislation and the need to adjust operations to a lower-carbon and resilient economy. In 2021, Stora Enso assessed a business impact scenario for 2030, based on the global transition required to limit the global average temperature increase to 1.5 degrees Celcius, in line with the Paris agreement of 1.5 degrees (RCP 1.9). The assessment concluded that the transition to a low-carbon, circular bioeconomy is well aligned with Stora Enso's strategy. The scenario work also indicated that potential new regulations and market mechanisms, driven motivations to limit climate change and its effects on society and the environment could impact Stora Enso's operating costs. These impacts could include limitations on wood harvesting volumes or forest management practices, as well as increases in greenhouse gas emission costs and energy prices. Sustainable product initiatives and requirements may also influence the Group's future market access, product demand growth, and product development requirements. Due to Stora Enso's location in Europe, the mandates and regulations on existing products and services are considered almost certain in the medium term, as the European Union is implementing EU Green Deal and related legislations. Recent legislation has focused specifically on emission reduction, deforestation, biodiversity and circular economy, all of which are central to Stora Enso's strategy.

3) Financial materiality: Opportunities

The assessment of material opportunities relied on the transition plans described in 2) Financial materiality: risks. The analysis indicates that to future-proof Stora Enso's business and strategy, it is imperative for its operations and products to actively remove carbon from the atmosphere and contribute to halting biodiversity loss. As an outcome, Stora Enso established a transition plan designed to drive new opportunities and future-proof the Group's business in an environment that is constantly changing at an accelerated pace. The development and progress in the identified focus areas (climate change, biodiversity, and circularity) are being closely monitored within the Group, and their status was also factored into the double materiality assessment.

When identifying opportunities within the circular economy, Stora Enso referred to the 2021 transition plans that identified financial opportunities in the downstream value chain through the Group's products and solutions, which enable customers to respond to the growing consumer demand for sustainable products. Stora Enso leverages its deep understanding of customer needs and maintains strong relationships with customers to design products that are functional and create value throughout their lifecycle.

Stora Enso also identified two opportunities related to its dependencies. By further optimising its material use, the Group has an opportunity to reduce its impact on the environment, increase its yield, and lower the financial costs related to raw materials. Stora Enso strives to maximise both environmental and financial value by efficiently utilising side streams generated during production processes. In addition, Stora Enso identified an opportunity related to its dependency on water based on the WRI Aqueduct Water Risk Atlas assessment. Majority of production sites are located in areas with low water stress which contributes to consistent and sufficient water supply and ensures operational stability and efficiency. Moreover, it supports the Group's long-term resilience against climate change as areas with a low risk of water adequacy are less likely to experience the adverse impacts of climate change, such as prolonged droughts or water scarcity.

Input parameters used
Input parameters included scientific research, such as sector specific impacts identified by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), the Planetary Boundaries framework by the Stockholm Resilience Center, reports from the Intergovernmental Panel on Climate Change (IPCC), the WRI Aqueduct Water Risk Atlas tool, and the Science Based Targets for Nature Framework. Regarding impacts on people, the input parameters included globally recognised human rights principles, such as the International Labour Organization's Core Conventions and the International Bill of Human Rights.

Outcome and reporting

The results of the two double materiality assessments conducted during the year were discussed and reviewed with the Sustainability and Ethics Committee, the Financial and Audit Committee, the Sustainability Council, and the Group Leadership Team in a total of nine meetings that took place between January 2024 and February 2025. A third-party and the external assurance provider also reviewed the assessment's results to ensure compliance and the inclusion of material impacts, risks, and opportunities. The Board of Directors approved the double materiality assessment threshold and results in February 2025. An internal control for the double materiality assessment was established as part of the sustainability reporting control implementation project. The project is further described in ESRS 2 GOV-5.

The outcome of the double materiality assessment aligns with Stora Enso's strategy and business model. Based on the results, the Group's ambition to develop 100% regenerative solutions by 2050, along with its sustainability agenda focusing on climate change, biodiversity, and circularity, remains valid. The results are described in more detail in the section ESRS 2 SBM-3, and all material topics covered in this statement are listed in the Sustainability Statement, 'Requirements in ESRS covered by the undertaking's sustainability statement (IRO-2)'.

In 2024, Stora Enso enhanced its process to ensure the monitoring of material impacts, risks, and opportunities, as well as the annual review of the double materiality assessment's results. The updated process was integrated with the Enterprise Risk Management, the Corporate Sustainability Due Diligence Directive, and the Task Force on Nature-related Financial Disclosures preparations. The update takes into account all actual significant impacts the Group had on the environment and people during the year.

Requirements in ESRS covered by the undertaking's sustainability statement (ESRS IRO-2)

The below table presents a list of the disclosure requirements compiled in the Sustainability Statement. The material information has been determined based on the material impacts, risks and opportunities resulting from the Group's materiality assessment. After identifying material topical standards, the materiality was assessed on disclosure requirement and data point level. The materiality assessment process and the use of thresholds is described in ESRS 2 IRO-1.

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General information		
ESRS 2	BP-1 General basis for preparation of sustainability statements	70
ESRS 2	BP-2 Disclosures in relation to specific circumstances	70
ESRS 2	GOV-1 The role of the administrative, management and supervisory bodies	70
ESRS 2	GOV-2 Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	71
ESRS 2	GOV-3 Integration of sustainability-related performance in incentive schemes	72
ESRS 2	GOV-4 Statement on due diligence	72
ESRS 2	GOV-5 Risk management and internal controls over sustainability reporting	73
ESRS 2	SBM-1 Strategy, business model and value chain	73
ESRS 2	SBM-2 Interests and views of stakeholders	75
ESRS 2	SBM-3 Material impacts, risks and opportunities and their interaction with strategy and business model	76
ESRS 2	IRO-1 Description of the process to identify and assess material impacts, risks and opportunities	77
ESRS 2	IRO-2 disclosure requirements in ESRS covered by the undertaking's sustainability statement	80
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E 1 Climate change	ESRS 2 GOV-3 Integration of sustainability-related performance in incentive schemes	72
E 1 Climate change	E1-1 Transition plan for climate change mitigation	91
E 1 Climate change	ESRS 2 SBM-3 Material impacts, risks and opportunities and their interaction with strategy and business model	91
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E 1 Climate change	E1-3 Actions and resources in relation to climate change policies	92
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E2 Pollution	ESRS 2 IRO-1 Description of the processes to identify and assess material pollution-related impacts, risks and opportunities	77
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E2 Pollution	E2-4 Pollution of air, water and soil	100
E3 Water and marine resources	ESRS 2 IRO-1 Description of the processes to identify and assess material water and marine resources-related impacts, risks and opportunities	77
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E4 Biodiversity and ecosystems	E4-1 Transition plan and consideration of biodiversity and ecosystems in strategy and business model	103
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ESRS	Disclosure requirement	Page
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E4 Biodiversity and ecosystems	E4-4 Targets related to biodiversity and ecosystems	105
E4 Biodiversity and ecosystems	E4-5 Impact metrics related to biodiversity and ecosystems change	107
E5 Resource use and circular economy	ESRS 2 IRO-1 Description of the processes to identify and assess material resource use and circular economy-related impacts, risks and opportunities	77
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Social information		
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S1 Own workforce	S1-4 Taking action on material impacts on own workforce, and approaches to managing material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	115
S1 Own workforce	S1-5 Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	116
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S2 Workers in the value chain	S2-4 Taking action on material impacts on value chain workers, and approaches to managing material risks and pursuing material opportunities related to value chain workers, and effectiveness of those action	120
S2 Workers in the value chain	S2-5 Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	120
S3 Affected communities	ESRS 2 SBM-2 – Interests and views of stakeholders	75
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G1 Business Conduct	ESRS 2 IRO-1 Description of the processes to identify and assess material impacts, risks and opportunities	77
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List of data points in cross-cutting and topical standards that derive from other EU legislation

Disclosure requirement and related data point	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Location in the Sustainability Statement
ESRS 2 GOV-1 Board's gender diversity paragraph 21 (d)	Indicator number 13 of Table #1 of Annex 1		Commission Delegated Regulation (EU) 2020/1816 (27), Annex II		71
ESRS 2 GOV-1 Percentage of board members who are independent paragraph 21 (e)			Delegated Regulation (EU) 2020/1816, Annex II		71
ESRS 2 GOV-4 Statement on due diligence paragraph 30	Indicator number 10 Table #3 of Annex 1				72
ESRS 2 SBM-1 Involvement in activities related to fossil fuel activities paragraph 40 (d) i	Indicator number 4 Table #1 of Annex 1		Delegated Regulation (EU) 2020/1816, Annex II		n/a
ESRS 2 SBM-1 Involvement in activities related to chemical production paragraph 40 (d) ii	Indicator number 9 Table #2 of Annex 1		Delegated Regulation (EU) 2020/1816, Annex II		n/a
ESRS 2 SBM-1 Involvement in activities related to controversial weapons paragraph 40 (d) iii	Indicator number 14 Table #1 of Annex 1		Delegated Regulation (EU) 2020/1818 (29), Article 12(1) Delegated Regulation (EU) 2020/1816, Annex II		n/a
ESRS 2 SBM-1 Involvement in activities related to cultivation and production of tobacco paragraph 40 (d) iv		Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 (28) Table 1: Qualitative information on Environmental risk and Table 2: Qualitative information on Social risk	Delegated Regulation (EU) 2020/1818, Article 12(1) Delegated Regulation (EU) 2020/1816, Annex II		n/a
ESRS E1-1 Transition plan to reach climate neutrality by 2050 paragraph 14				Regulation (EU) 2021/1119, Article 2(1)	91
ESRS E1-1 Undertakings excluded from Paris-aligned Benchmarks paragraph 16 (g)		Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 Template 1: Banking book-Climate Change transition risk: Credit quality of exposures by sector, emissions and residual maturity	Delegated Regulation (EU) 2020/1818, Article12.1 (d) to (g), and Article 12.2		91
ESRS E1-4 GHG emission reduction targets paragraph 34	Indicator number 4 Table #2 of Annex 1	Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 Template 3: Banking book – Climate change transition risk: alignment metrics	Delegated Regulation (EU) 2020/1818, Article 6		94
ESRS E1-5 Energy consumption from fossil sources disaggregated by sources (only high climate impact sectors) paragraph 38	Indicator number 5 Table #1 and Indicator n. 5 Table #2 of Annex 1				95
ESRS E1-5 Energy consumption and mix paragraph 37	Indicator number 5 Table #1 of Annex 1				95
ESRS E1-5 Energy intensity associated with activities in high climate impact sectors paragraphs 40 to 43	Indicator number 6 Table #1 of Annex 1				95

Disclosure requirement and related data point	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Location in the Sustainability Statement
ESRS E1-6 Gross Scope 1, 2, 3 and Total GHG emissions paragraph 44	Indicators number 1 and 2 Table #1 of Annex 1	Article 449a; Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 Template 1: Banking book – Climate change transition risk: Credit quality of exposures by sector, emissions and residual maturity	Delegated Regulation (EU) 2020/1818, Article 5(1), 6 and 8(1)		95
ESRS E1-6 Gross GHG emissions intensity paragraphs 53 to 55	Indicator number 3 Table #1 of Annex 1	Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 Template 3: Banking book – Climate change transition risk: alignment metrics	Delegated Regulation (EU) 2020/1818, Article 8(1)		96
ESRS E1-7 GHG removals and carbon credits paragraph 56				Regulation (EU) 2021/1119, Article 2(1)	97
ESRS E1-9 Exposure of the benchmark portfolio to climate-related physical risks paragraph 66					Phased-in, not disclosed in 2024
ESRS E1-9 Disaggregation of monetary amounts by acute and chronic physical risk paragraph 66 (a) ESRS E1-9 Location of significant assets at material physical risk paragraph 66 (c)		Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 paragraphs 46 and 47; Template 5: Banking book - Climate change physical risk: Exposures subject to physical risk.	Delegated Regulation (EU) 2020/1818, Annex II Delegated Regulation (EU) 2020/1816, Annex II		Phased-in, not disclosed in 2024
ESRS E1-9 Breakdown of the carrying value of its real estate assets by energy-efficiency classes paragraph 67 (c).		Article 449a Regulation (EU) No 575/2013; Commission Implementing Regulation (EU) 2022/2453 paragraph 34;Template 2:Banking book -Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral			Phased-in, not disclosed in 2024
ESRS E1-9 Degree of exposure of the portfolio to climate-related opportunities paragraph 69			Delegated Regulation (EU) 2020/1818, Annex II		Phased-in, not disclosed in 2024
ESRS E2-4 Amount of each pollutant listed in Annex II of the E-PRTR Regulation (European Pollutant Release and Transfer Register) emitted to air, water and soil, paragraph 28	Indicator number 8 Table #1 of Annex 1 Indicator number 2 Table #2 of Annex 1 Indicator number 1 Table #2 of Annex 1 Indicator number 3 Table #2 of Annex 1				100
ESRS E3-1 Water and marine resources paragraph 9	Indicator number 7 Table #2 of Annex 1				101
ESRS E3-1 Dedicated policy paragraph 13	Indicator number 8 Table 2 of Annex 1				101
ESRS E3-1 Sustainable oceans and seas paragraph 14	Indicator number 12 Table #2 of Annex 1				Not material
ESRS E3-4 Total water recycled and reused paragraph 28 (c)	Indicator number 6.2 Table #2 of Annex 1				102
ESRS E3-4 Total water consumption in m^3 per net revenue on own operations paragraph 29	Indicator number 6.1 Table #2 of Annex 1				102
ESRS 2- SBM 3 - E4 paragraph 16 (a) i	Indicator number 7 Table #1 of Annex 1				104
ESRS 2- SBM 3 - E4 paragraph 16 (b)	Indicator number 10 Table #2 of Annex 1				103
ESRS 2- SBM 3 - E4 paragraph 16 (c)	Indicator number 14 Table #2 of Annex 1				103
ESRS E4-2 Sustainable land / agriculture practices or policies paragraph 24 (b)	Indicator number 11 Table #2 of Annex 1				104

Disclosure requirement and related data point	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Location in the Sustainability Statement
ESRS E4-2 Sustainable oceans / seas practices or policies paragraph 24 (c)	Indicator number 12 Table #2 of Annex 1				Not material
ESRS E4-2 Policies to address deforestation paragraph 24 (d)	Indicator number 15 Table #2 of Annex 1				104
ESRS E5-5 Non-recycled waste paragraph 37 (d)	Indicator number 13 Table #2 of Annex 1				112
ESRS E5-5 Hazardous waste and radioactive waste paragraph 39	Indicator number 9 Table #1 of Annex 1				112
ESRS 2- SBM3 - S1 Risk of incidents of forced labour paragraph 14 (f)	Indicator number 13 Table #3 of Annex I				114
ESRS 2- SBM3 - S1 Risk of incidents of child labour paragraph 14 (g)	Indicator number 12 Table #3 of Annex I				114
ESRS S1-1 Human rights policy commitments paragraph 20	Indicator number 9 Table #3 and Indicator number 11 Table #1 of Annex I				114
ESRS S1-1 Due diligence policies on issues addressed by the fundamental International Labor Organisation Conventions 1 to 8, paragraph 21			Delegated Regulation (EU) 2020/1816, Annex II		114
ESRS S1-1 processes and measures for preventing trafficking in human beings paragraph 22	Indicator number 11 Table #3 of Annex I				114
ESRS S1-1 workplace accident prevention policy or management system paragraph 23	Indicator number 1 Table #3 of Annex I				114
ESRS S1-3 grievance/complaints handling mechanisms paragraph 32 (c)	Indicator number 1 Table #3 of Annex I				115
ESRS S1-14 Number of fatalities and number and rate of work-related accidents paragraph 88 (b) and (c)	Indicator number 2 Table #3 of Annex I		Delegated Regulation (EU) 2020/1816, Annex II		118
ESRS S1-14 Number of days lost to injuries, accidents, fatalities or illness paragraph 88 (e)	Indicator number 3 Table #3 of Annex I				Phased-in, not disclosed in 2024
ESRS S1-16 Unadjusted gender pay gap paragraph 97 (a)	Indicator number 12 Table #1 of Annex I		Delegated Regulation (EU) 2020/1816, Annex II		118
ESRS S1-16 Excessive CEO pay ratio paragraph 97 (b)	Indicator number 8 Table #3 of Annex I				118
ESRS S1-17 Incidents of discrimination paragraph 103 (a)	Indicator number 7 Table #3 of Annex I				118
ESRS S1-17 Non-respect of UNGPs on Business and Human Rights and OECD Guidelines paragraph 104 (a)	Indicator number 10 Table #1 and Indicator n. 14 Table #3 of Annex I		Delegated Regulation (EU) 2020/1816, Annex II Delegated Regulation (EU) 2020/1818 Art 12 (1)		118
ESRS 2- SBM3 – S2 Significant risk of child labour or forced labour in the value chain paragraph 11 (b)	Indicators number 12 and n. 13 Table #3 of Annex I				119
ESRS S2-1 Human rights policy commitments paragraph 17	Indicator number 9 Table #3 and Indicator n. 11 Table #1 of Annex 1				119
ESRS S2-1 Policies related to value chain workers paragraph 18	Indicator number 11 and n. 4 Table #3 of Annex 1				119
ESRS S2-1 Non-respect of UNGPs on Business and Human Rights principles and OECD guidelines paragraph 19	Indicator number 10 Table #1 of Annex 1		Delegated Regulation (EU) 2020/1816, Annex II Delegated Regulation (EU) 2020/1818, Art 12 (1)		119

Disclosure requirement and related data point	SFDR reference	Pillar 3 reference	Benchmark Regulation reference	EU Climate Law reference	Location in the Sustainability Statement
ESRS S2-1 Due diligence policies on issues addressed by the fundamental International Labor Organisation Conventions 1 to 8, paragraph 19			Delegated Regulation (EU) 2020/1816, Annex II		119
ESRS S2-4 Human rights issues and incidents connected to its upstream and downstream value chain paragraph 36	Indicator number 14 Table #3 of Annex 1				120
ESRS S3-1 Human rights policy commitments paragraph 16	Indicator number 9 Table #3 of Annex 1 and Indicator number 11 Table #1 of Annex 1				121
ESRS S3-1 non-respect of UNGPs on Business and Human Rights, ILO principles or OECD guidelines paragraph 17	Indicator number 10 Table #1 Annex 1		Delegated Regulation (EU) 2020/1816, Annex II Delegated Regulation (EU) 2020/1818, Art 12 (1)		121
ESRS S3-4 Human rights issues and incidents paragraph 36	Indicator number 14 Table #3 of Annex 1				123
ESRS S4-1 Policies related to consumers and end-users paragraph 16	Indicator number 9 Table #3 and Indicator number 11 Table #1 of Annex 1				Not material
ESRS S4-1 Non-respect of UNGPs on Business and Human Rights and OECD guidelines paragraph 17	Indicator number 10 Table #1 of Annex 1		Delegated Regulation (EU) 2020/1816, Annex II Delegated Regulation (EU) 2020/1818, Art 12 (1)		Not material
ESRS S4-4 Human rights issues and incidents paragraph 35	Indicator number 14 Table #3 of Annex 1				Not material
ESRS G1-1 United Nations Convention against Corruption paragraph 10 (b)	Indicator number 15 Table #3 of Annex 1				125
ESRS G1-1 Protection of whistle- blowers paragraph 10 (d)	Indicator number 6 Table #3 of Annex 1				125
ESRS G1-4 Fines for violation of anti-corruption and anti-bribery laws paragraph 24 (a)	Indicator number 17 Table #3 of Annex 1		Delegated Regulation (EU) 2020/1816, Annex II)		126
ESRS G1-4 Standards of anti- corruption and anti- bribery paragraph 24 (b)	Indicator number 16 Table #3 of Annex 1				126

Environmental information

In this section

EU Taxonomy

To meet the EU's climate and energy targets for 2030 and reach the objectives of the European Green Deal, a classification system for sustainable economic activities called EU Taxonomy was introduced in 2020. Companies in the scope of the Corporate Sustainability Reporting Directive are obligated to report the share of Taxonomy-eligibility and Taxonomy-alignment in their operations. Taxonomy-eligibility describes if an economic activity is included in the scope of activities recognised in the EU Taxonomy Regulation. Taxonomy-alignment describes if an economic activity is sustainable based on the technical screening criteria for substantial contribution and do-no-significant harm specified for the activity. Taxonomy-aligned activity needs to be also carried out in compliance with the minimum safeguards, thus to respect basic human rights and follow good business conduct rules.

Breakdown of EU Taxonomy key performance indicators in 2024

EUR million	Turnover[1]		Capex		Opex	
Taxonomy aligned activities	428	4.7%	64	5.9%	68	9.1%
Taxonomy eligible but not aligned activities	140	1.6%	9	0.8%	26	3.4%
Total taxonomy eligible activities	568	6.3%	73	6.7%	94	12.5%
Taxonomy non-eligible activities	8,493	93.7%	1,017	93.3%	654	87.5%
Total	**9,062**	**100%**	**1,090**	**100%**	**747**	**100%**

1 In the EU Taxonomy, turnover includes also rental income, therefore the total turnover figure differs slightly from the Group total sales.

Taxonomy eligible and aligned activities

Stora Enso has identified six eligible activities to report in the EU Taxonomy in the conducted annual exercise. From Stora Enso's main activities, the production of wood-based solutions for construction industry is included in the EU Taxonomy through its contribution to buildings energy efficiency. Other main activities, production of pulp, consumer board, containerboard and corrugated packaging, are yet excluded from the scope of the EU Taxonomy.

Economic activity	Description
1.3 Forest management	The activities in the forests owned by Stora Enso in Sweden. Tree plantations in South America and China are not included in the activity.
1.4 Conservation forestry	Stora Enso's 50% owned joint operation Veracel has dedicated more than half of its land for the protection and restoration of biological biodiversity in natural Atlantic rainforest. This rainforest is excluded from the harvesting activities.
2.4 Remediation of contaminated sites and areas	Remediation projects of contaminated sites and areas related to discontinued operations and mill closures at Stora Enso sites.
3.4 Manufacture of batteries	Pilot plant costs and research and development expenses related to hard carbon innovation. For more information on Lignode® by Stora Enso, see the Group's website storaenso.com/lignode.
3.5 Manufacture of energy efficiency equipment for buildings	Wood-based solutions for the construction industry which contribute to buildings energy efficiency. Door, window and roofing components and external wall systems manufactured from classic sawn, CLT, LVL and construction beams are considered eligible.
4.20 Cogeneration of heat/cool and power from bioenergy	Wood side-streams and by-products from the pulp process are used for energy production. The bioenergy generated from biobased feedstock is considered eligible.

100% of Stora Enso's Swedish forests are certified under certification systems (PEFC or FSC) which lays the foundation for sustainable forest management. Stora Enso considers its 1.3 Forest management and 1.4 Conservation practices aligned with EU Taxonomy, but has been unable to fulfil the third party verification requirement described in forest management and conservation forestry substantial contribution criteria (section 4. Audit). Stora Enso has been actively searching a partner who is capable of conducting EU Taxonomy compliant verification and will continue the search. Until then the Group reports its forest management and conservation forestry as eligible but not-aligned in EU Taxonomy.

The alignment assessment of 3.4 Manufacture of batteries activity is done based on the predicted future industrial scale operations and production which will be aligned with the technical screening criteria of the activity once started.

As Stora Enso is not a manufacturer of the end products, the compliance with the activity's 3.5 Manufacture of energy efficiency equipment for buildings substantial contribution was assessed based on the knowledge of the end use and the energy efficiency related regulations in the primary market areas.

The eligibility and alignment assessments for all activities have been carried out based on the best interpretation of the Taxonomy Regulation and the available guidelines from the European Commission. In case of unclarities, the conservative approach has been chosen.

Accounting principles

The EU Taxonomy KPIs, turnover, capex and opex, are presented in separate tables as defined in the regulation. Double counting is avoided by having a clear cost structure in reporting which ensures that the profit centers and cost elements are separate for each activity. In reporting the activities do not overlap between environmental objectives.

Turnover

The total turnover is the Group's total sales, as presented in the line of sales, in consolidated income statement and in note 2.1 Segment information, and rental income in 2024, which respectively include the IFRS 15 and the IFRS 16 income according to the EU Taxonomy turnover definition. The external sales connected to the economic activities are reported under Taxonomy-eligible turnover. Taxonomy-eligible and aligned shares of turnover remained at the levels of the previous reporting period.

The output of 1.3 Forest management activity, the grown wood, is used mostly internally in Stora Enso's own operations. The forest management turnover in the EU Taxonomy includes the sale of externally sold roundwood and forest residuals.

In category 3.5 Manufacture of energy efficiency equipment for buildings, the external sales related to the share of production that is estimated to end up for doors, windows, roofing and external wall systems, is included under the EU Taxonomy turnover.

In category 4.20 Cogeneration of heat/cool and power from bioenergy, the turnover includes the external sales of the excess electricity and heat which is not consumed internally.

Capex

The total capex is the Group's total capital expenditure in 2024, as presented in the line of additions, excluding goodwill additions, in note 4.1 Intangible assets, property, plant and equipment and right of use assets, and note 4.2 Forest assets. The Taxonomy-eligible capex are the investments related to the assets or processes associated with the respective economic activities. Taxonomy-eligible and aligned shares of capex remained at the levels of the previous reporting period.

In category 1.3 Forest management the capex includes investments that support the forest management activities, such as forest land acquisitions and investments in roads and bridges.

In category 4.20 Cogeneration of heat/cool and power from bioenergy the capex includes the investments made to bioenergy production at Stora Enso sites. The largest investments relate to Oulu and Heinola production sites in Finland.

Opex

The total opex covers the maintenance expenses, short-term lease costs, non-capitalised research and development costs and silviculture costs at the Group level. The Taxonomy-eligible opex include the corresponding direct non-capitalised costs related to the economic activities. Compared to 2023, taxonomy-eligible and aligned shares of capex decreased by 1 percentage point to 13% (14%) and 9% (10%) due to lower R&D costs and closure of a site.

In 2024 the following were reported under the EU Taxonomy opex:
1.3 Forest management, the silviculture costs and related research and development costs.
1.4 Conservation forestry, the costs from the conservation operations.
2.4 Remediation of contaminated sites and areas, the expenses related to the environmental remediation work carried out.
3.4 Manufacture of batteries, the pilot plant costs and research and development expenses related to hard carbon innovation. Turnover for the activity is expected within future years.
3.5 Manufacture of energy efficiency equipment for buildings, the expenses related to the share of production that is estimated to end up for doors, windows, roofing and external wall systems is reported.
4.20 Cogeneration of heat/cool from bioenergy, the maintenance salaries, maintenance material and other direct costs related to the day-to-day serving of the asset.

Minimum safeguards

Minimum safeguards were assessed in Group-level from two angles: by reviewing the company processes for human rights, corruption, taxation and fair competition to determine that the adequate processes and controls are in place, and by investigating that there are no known breaches or violations existing in the parent company, in its subsidiaries or by senior management. The Group considers its processes to be at a robust level and with no violations to meet the alignment with the minimum safeguards. For more information on the Group's governance, see ESRS G1 Business Conduct.

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to 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 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[1]
	Fossil gas related activities	
4.	The undertaking carries out, funds or has exposures to 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

1 Stora Enso holds a 16.1% interest in Pohjolan Voima Oyj (PVO). The investment is fair valued through other comprehensive income (FVTOCI) and therefore not in the scope of the Group's EU Taxonomy reporting. For more information see note 4.4 Equity instruments.

Proportion of Turnover from products or services associated with Taxonomy-aligned economic activities 2024

EUR million

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities	**Code**	**Turnover**	**Proportion of turnover year 2024**	**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 or eligible turnover year 2023**	**Category enabling activity**	**Category transitional activity**
		EUR	%	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)																			
Manufacture of energy efficiency equipment for buildings	CCM 3.5	387	4.3%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	Y	Y	Y	4.4%	E	
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	41	0.5%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	n/a	Y	Y	0.4%		
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**428**	**4.7%**	**4.7%**													**4.8%**		
Of which Enabling		387	4.3%	4.3%													4.4%	E	
Of which Transitional																			T
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	139	1.5%	EL	EL	N/EL	N/EL	N/EL	N/EL								1.3%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	2	0.0%	EL	EL	N/EL	N/EL	N/EL	N/EL								0.0%		
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**140**	**1.6%**	**1.6%**													**1.3%**		
A.Turnover of Taxonomy eligible activities (A.1+A.2)		**568**	**6.3%**	**6.3%**													**6.1%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		8,493	93.7%																
TOTAL[1]		**9,062**	**100%**																

1 In the EU Taxonomy, turnover includes also rental income, therefore the figure differs slightly from the Group total sales.

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective
N/EL – Not eligible, Taxonomy non-eligible activity for the relevant environmental objective
EL - Taxonomy-eligible activity for the relevant objective

Proportion of capex from products or services associated with Taxonomy-aligned economic activities 2024

EUR million

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities	**Code**	**Capex**	**Proportion of capex year 2024**	**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 or eligible capex year 2023**	**Category enabling activity**	**Category transitional activity**
		EUR	%	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)																			
Manufacture of energy efficiency equipment for buildings	CCM 3.5	1	0.1%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	Y	Y	Y	0.4%	E	
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	63	5.8%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	n/a	Y	Y	5.1%		
Installation, maintenance and repair of renewable energy technologies	CCM 7.6																0.3%	E	
Capex of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**64**	**5.9%**	**5.9%**													**5.7%**		
Of which Enabling		1	0.1%	0.1%													0.6%	E	
Of which Transitional																			T
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	9	0.8%	EL	EL	N/EL	N/EL	N/EL	N/EL								0.6%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	—	0.0%	EL	EL	N/EL	N/EL	N/EL	N/EL								0.3%		
Capex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**9**	**0.8%**	**0.8%**													**0.9%**		
A.Capex of Taxonomy eligible activities (A.1+A.2)		**73**	**6.7%**	**6.7%**													**6.6%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Capex of Taxonomy-non-eligible activities		1,017	93.3%																
TOTAL		**1,090**	**100%**																

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective
N/EL – Not eligible, Taxonomy non-eligible activity for the relevant environmental objective
EL - Taxonomy-eligible activity for the relevant objective

Proportion of opex from products or services associated with Taxonomy-aligned economic activities 2024

EUR million

Economic Activities	Code	Opex	Proportion of opex year 2024	Substantial contribution criteria: Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	DNSH criteria ('Does Not Significantly Harm'): Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Minimum safeguards	Proportion of Taxonomy aligned or eligible opex year 2023	Category enabling activity	Category transitional activity
		EUR	%	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)																			
Remediation of contaminated sites and areas	PPC 2.4	2	0.3%	N/EL	N/EL	N/EL	Y	N/EL	N/EL	Y	Y	Y	n/a	Y	Y	Y	0.7%		
Manufacture of batteries	CCM 3.4	16	2.1%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	Y	Y	Y	2.6%	E	
Manufacture of energy efficiency equipment for buildings	CCM 3.5	18	2.4%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	Y	Y	Y	2.5%	E	
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	32	4.3%	Y	N	N/EL	N/EL	N/EL	N/EL	n/a	Y	Y	Y	n/a	Y	Y	4.1%		
Opex of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**68**	**9.1%**	**8.8%**			**0.3 %**										**9.9%**		
Of which Enabling		34	4.5%	4.5%													5.2%	E	
Of which Transitional																			T
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	24	3.2%	EL	EL	N/EL	N/EL	N/EL	N/EL								2.9%		
Conservation forestry	CCM 1.4	1	0.1%	EL	EL	N/EL	N/EL	N/EL	N/EL								0.1%		
Remediation of contaminated sites and areas	PPC 2.4	1	0.1%	N/EL	N/EL	N/EL	EL	N/EL	N/EL								—%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	—	0.0%	EL	EL	N/EL	N/EL	N/EL	N/EL								0.7%		
Opex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**26**	**3.4%**	**3.3%**			**0.1%**										**3.8%**		
A.Opex of Taxonomy eligible activities (A.1+A.2)		**94**	**12.5%**	**12.1%**			**0.4%**										**13.7%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Opex of Taxonomy-non-eligible activities		654	87.5%																
TOTAL		**747**	**100%**																

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective
N/EL – Not eligible, Taxonomy non-eligible activity for the relevant environmental objective
EL - Taxonomy-eligible activity for the relevant objective

ESRS E1 Climate change

Transition plan for climate change mitigation (E1-1)

In 2021, Stora Enso updated its transition plan for climate change mitigation to ensure that its strategy and business model are compatible with the transition to a sustainable economy and the goal of limiting global warming to 1.5 degrees, in line with the Paris Agreement. The transition plan was approved by the Group Leadership Team in 2021. As part of the transition plan update, Stora Enso undertook the following efforts:

- Set climate targets, which are compatible with the goal of limiting global warming to 1.5 degrees in line with the Paris Agreement. These targets align with the Science Based Targets initiative's (SBTi) 1.5-degree pathway, as explained in ESRS E1-4.
- To align the compatibility of the Group's business model with the transition plan, Stora Enso has established mitigation efforts as defined in ESRS E1-3. The decarbonisation levers for climate change mitigation in the Group's own operations include enhancements in energy efficiency, investments in electrification, fuel switches, and the use of renewable energy.

Key significant investments related to climate change mitigation actions are disclosed in ESRS E1-3. The transition plan aligns with the Group's strategy, and incorporates climate-related scenario analysis, which has been used to inform the strategy. Some of the decarbonisation levers link directly to the Group's product portfolio, placing the transition plan at the core of the business model. The climate mitigation actions are included in the financial planning described in ESRS E1-3.

At the end of 2024, Scope 1 and 2 CO_2eq emissions totalled 1.23 million tonnes or -53% less, and Scope 3 emissions 4.53 million tonnes or -39% less than in the base year 2019. In terms of potential locked-in GHG emissions, Stora Enso acknowledges that future investments and new technology are essential to achieve its climate targets. Therefore, the Group intends to continue investments in low-carbon and energy-efficient solutions, particularly to reduce the use of fossil fuels. Actions and investments are further described in ESRS E1-3 and presented as part of the graph 'Achieved and expected reductions' in ESRS E1-4.

Stora Enso reports according to the EU Taxonomy. The forest industry is not central to current legislation, limiting Stora Enso's relevant economic activities for reporting. However, opportunities to expand taxonomy alignment exist in forestry activities where the Group seeks a partner to perform EU Taxonomy-compliant verification, as forest certification audits do not fully meet the criteria. In 2024, Stora Enso's taxonomy-aligned capex was EUR 64 million, see section EU Taxonomy. Stora Enso is not excluded from the EU-Paris aligned benchmarks.

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic	Transition risk	Physical risk
Positive impact on climate through forest carbon sequestration, products substituting fossil-based alternatives, and carbon stored in wood-based products.	Actual positive impact	Short, medium, and long term	Own operations, joint operations	Climate change mitigation		
Direct impact on climate change due to greenhouse gas emissions emitted by production sites.	Actual negative impact	Short, medium, and long term	Own operations	Climate change mitigation		
Indirect impact on climate change due to greenhouse gas emissions resulting from its upstream and downstream value chain.	Actual negative impact	Short, medium, and long term	Joint operations, Upstream and downstream value chain	Climate change mitigation		
Energy-intensive production processes.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Energy		
Operations generate biogenic emissions, which are treated as carbon neutral. Stora Enso recognises a regulatory risk of a possible change in the treatment of these emissions, which would impact the Group's path towards climate neutrality and product lifecycle assessments.	Risk	Medium and long term	Own operations, joint operations, upstream and downstream value chain	Climate change mitigation	x	
Uncertainty in reaching the net zero target for Scope 1 and 2 by 2040 without adequate investments and new technology. The lack of direct control over value chain emissions may lead to challenges in reaching Scope 3 reduction targets. Inability to meet the targets may lead to possible damage to Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues.	Risk	Medium and long term	Own operations, upstream and downstream value chain	Climate change mitigation	x	
Risk of climate-related hazards becoming more common due to climate change, creating physical impacts to production unit assets and operations, and causing disruptions in the supply chain. Examples of such hazards include, but are not limited to: rising sea levels, flooding, severe rains, wind gusts, droughts, snow loads, and forest fires.	Risk	Long term	Own operations, joint operations, upstream and downstream value chain	Climate change adaptation		x
Stora Enso's scenario analysis recognises that long-term (25–30 years) changes in precipitation patterns, periods of drought, frequent extreme weather events, and higher average temperatures that increase the risk of forest fires and insect outbreaks, could cause damage to operations, forests, and tree plantations. This would affect the value of forests assets and regional wood prices. In northern regions, milder winters may also impact the harvesting and transportation of wood and related costs. More frequent extreme weather events also increase the risk of disruptions in the production, logistics, and supply of raw materials and energy.	Risk	Long term	Own operations, joint operations, upstream value chain	Climate change adaptation		x
Opportunity due to high energy self-sufficiency, which reduces the Group's exposure to external cost instability and market disruptions. With access to renewable biomass and fossil-free electricity, Stora Enso is well-positioned to contribute to the green transition and a low-carbon economy.	Opportunity	Short, medium, and long term	Own operations	Energy		
Opportunity in sustainable forest management to enhance the resilience of forest ecosystems, and the potential for changing climate to increase tree growth and species distribution, particularly in northern latitudes.	Opportunity	Medium and long term	Own operations, joint operations, upstream value chain	Climate change mitigation		

E1 disclosure requirement related to ESRS 2 SBM-3

Aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations, Stora Enso utilises scenarios to assess climate change impacts. Stora Enso has tested the resilience of its strategy and business model in relation to climate change through multiple resilience analyses conducted over the past years. These analyses focused on the Group's core business and certain operations that might be more exposed to risks due to their location. No material physical climate change impact risks before 2040 were identified. Resilience analyses have been conducted for Stora Enso's own operations, covering production assets in Sweden, Finland, Poland, and Belgium, as well as for the forest assets in Sweden. In addition, resilience analyses have been conducted for Stora Enso's joint operations in Brazil and Uruguay and the plantations in South America.

The scenario analyses for the operational assets for Stora Enso's own operations and upstream operations (joint operations) were conducted as desktop studies by reviewing location-based historical weather data against five different climate scenarios (SSP1-1.9, SSP5-8.5). For forest assets in Sweden, the study was done as a literature review by a third-party. The analysis for the upstream value chain covering plantations in South America was conducted by a third party. The time horizon on materiality was set to 2040, with an overall horizon extending to 2100.

Stora Enso assumes that the transition to a lower-carbon and resilient economy will affect the Group through emission reductions, regulations, and the need to adapt operations, for example, by electrification.

The results of the resilience analysis show that operational assets in Sweden and Finland have endured similar weather conditions in the past. Stora Enso acknowledges that weather extremes will become more frequent, but there is little evidence to suggest that those would have a material impact on the ability to operate assets before 2040. Assets located in continental Europe, are at a higher risk of climate hazards compared to those in the Nordics. However, no material impact was identified. The results of the resilience analysis for forest assets in Sweden were inconclusive. A warmer climate enhances forest growth, but at the same time, more frequent storms, drought, and pest damage may negatively affect growth. Based on the outcome, there are both risks and opportunities in the changing climate. There is uncertainty in the resilience analysis, as recent climate development suggests that expected time horizons for impacts in different scenarios might be shorter than anticipated. In 2024, the EU's climate service reported that for the first time, global warming had exceeded 1.5°C over the course of an entire year.

Based on the resilience analysis, Stora Enso has the ability to adjust or adapt its strategy to respond to climate change in the short, medium, and long term. Climate-related transition risks relate to Stora Enso's capability to reduce its emissions across the value chain, and also its capability to position its business offering to support the global transition to a low-carbon, circular economy. Stora Enso's operations and value chain benefit from their wide geographical distribution, as it is unlikely that all locations would be impacted simultaneously. In 2021, Stora Enso assessed a business impact scenario that identified climate-related transition opportunity. The results concluded that the overall transition to a low carbon, circular economy is aligned with the Group's strategy.

Policies related to climate change mitigation and adaptation (E1-2)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

Policy for Energy and Climate Change

The policy outlines the ambition for combatting climate change through objectives across products, industrial operations, and the value chain. The policy addresses the management of negative impacts related to GHG emissions generated from Stora Enso's own operations by continuously improving energy efficiency and increasing the deployment of renewable energy through a higher share of biomass. The policy also promotes working with suppliers, customers, and partners to decarbonise the value chain, thereby aiming to mitigate the negative impacts resulting from emissions generated within the value chain. In addition, the policy includes a commitment to collaborating with customers and stakeholders to substitute non-renewable materials, and to sustainable forest management practices. The efforts contribute to positive climate impacts through forest carbon sequestration, the use of products as substitutes for fossil-based alternatives, and the carbon stored in wood-based products.

The policy applies to Stora Enso's own operations, and the EVP, Strategy and Sustainability, is accountable for its implementation.

Environmental Guidelines

The guidelines address topics related to environmental management and circularity, energy and climate change, pollution, water, forests, plantations, and land use. The guidelines require that all of Stora Enso's production units implement and maintain a third-party certified environmental management system. Third-party certified management systems (ISO 14001 and ISO 50001) help improve environmental performance and energy efficiency. In relation to energy and climate change, the guidelines address both the negative and positive impacts outlined in the Policy for Energy and Climate Change.

The scope of the guidelines covers Stora Enso's own operations. The Chief Sustainability Officer and Head of Sustainability for each division are accountable for their implementation.

Supplier Code of Conduct (SCoC)

The SCoC outlines minimum standards for suppliers in addition to applicable laws and regulations. The policy lists objectives for responsible business practices, occupational health and safety, human and labour rights, supporting and engaging with communities, and protecting the environment. It requires suppliers to actively monitor, report, and work to reduce GHG emissions from their own operations and value chain. The supplier must allow Stora Enso, or a third party authorised by Stora Enso, to verify compliance with the requirements of this SCoC through dialogue, disclosure of information or, if considered necessary by Stora Enso, an audit of the supplier's operations. The policy also addresses managing the negative impacts resulting from GHG emissions in the Group's value chain.

The scope of the policy covers all Stora Enso's business activities and operations globally. Accountability for the implementation of the SCoC lies with the EVP, Head of each division. The SCoC is provided to suppliers during the pre-qualification process, where they are required to commit to adhering to it.

Actions and resources in relation to climate change policies (E1-3)

Stora Enso's climate ambition extends across its entire value chain, encompassing forests, its own operations and products. The Group's climate ambition and mitigation actions align with the Paris Agreement and the SBTi's 1.5 degree pathway.

Climate change mitigation in the Group's own operations

The action plan consists of the two decarbonisation levers described below, encompassing the Group's own operations. The action plan contributes to the Group's target to reduce GHG emissions for Scope 1 and 2 by 50% by 2030 from the 2019 baseline. The plan supports the achievement of the objectives outlined in the Policy for Energy and Climate Change and the Environmental Guidelines on climate change mitigation, as well as managing the negative impacts resulting from the GHG emissions generated in the Group's own operations. The time horizon of the action plan spans from short to long term.

Decarbonisation lever: energy efficiency and investments into electrification

Stora Enso focuses on continuously improving energy efficiency at its production sites through targeted measures. The central energy and water efficiency investment fund is an important tool for implementing energy savings across the production units.

To reduce greenhouse gas emissions in their energy-intensive production processes, Stora Enso invests in e-boilers as alternatives to traditional fossil fuel-based heating systems. For instance, a new 60 MW electric boiler was commissioned in Anjalankoski, Finland. in 2024 to decrease the usage of fossil fuels for heat production. In Lahti, Finland, two new electric boilers are currently being installed and are expected to be fully operational by early 2025. These will replace fossil-based energy to further reduce the site's carbon emissions and enhance efficiency. Furthermore, Stora Enso is investing in the electrification of vehicles.

By the end of 2024, the emission reduction achieved for this decarbonisation lever was 0.08 million tonnes from the 2019 base year. The expected emission reduction by 2030 is 0.08 million tonnes.

Decarbonisation lever: fuel switches and use of renewable and nuclear energy

To reduce the carbon intensity of its industrial operations Stora Enso promotes the use of various forms of low carbon electricity and heat, including energy sources such as nuclear, wind, solar, and bioenergy. The Group's operations largely utilise renewable biomass fuels from forest and process side streams. Fuel switches are implemented in both production processes and transportation. To support its decarbonisation targets, Stora Enso purchases Guarantees of Origin to ensure that electricity has been generated from renewable or nuclear energy sources, with lower greenhouse gas emission factors. Examples of measures taken at the mills during the reporting year:

- An investment was completed to upgrade the chemical recovery line at the Imatra pulp mill in Finland. This enhancement involved improving the black liquor evaporation technology to increase the capacity of the recovery line. The higher dry matter content of black liquor improves energy efficiency and increases the share of biofuel.
- Renewal of the energy set-up and process equipment at the Heinola fluting site, Finland, to replace the remaining fossil-based fuels with renewable bioenergy. The expected GHG reduction is over 90%. Construction work is expected to be completed in the latter half of 2025.
- At the end of 2023, an investment project was completed at the Enocell pulp mill to replace fossil-based heavy fuel oil with renewable bioenergy, such as pitch oil. The use of bioenergy has continued through 2024, and the mill's goal is to fully replace heavy fuel oil with bioenergy.
- The Ala mill in Sweden achieved fossil-free operations in 2024 through efforts that include utilising bio and electric boilers for heat production, sourcing fossil-free electricity, and implementing a fuel change in the fleet, which now runs on renewable diesel and electricity.

In 2024, the emission reduction achieved for this decarbonisation lever was 0.86 million tonnes. The expected emission reduction by 2030 is 0.28 million tonnes.

In addition to the decarbonisation levers described above, site and production line closures, aligned with Stora Enso's business model and strategy, also impact the reduction of GHG emissions.

Climate change mitigation in the value chain

Stora Enso aims to reduce Scope 3 emissions in alignment with the objectives of the Policy for Energy and Climate Change, the Environmental Guidelines, and the Supplier Code of Conduct to mitigate negative impacts on climate change resulting from GHG emissions in the Group's upstream and downstream value chain. While Stora Enso has identified potential reduction areas, it has not defined decarbonisation levers for its value chain (Scope 3). Scope 3 accounting differs inherently from Scope 1 and 2, as it involves activities beyond a company's direct control and is still a developing field partly due to limited primary data availability.

The two key mid- to long-term actions to address value chain emission reduction are described below. These actions contribute to the Group's target to reduce GHG emissions by 50% by 2030 from the 2019 baseline.

1) Stora Enso aims to continuously improve its Scope 3 data collection and reporting processes, focusing on improving the granularity of data down to the production unit level. This will allow for a better-informed baseline and support data-driven development actions. The scope of the activities covered by the automation project spans the Group's entire value chain.

2) Stora Enso collaborates with its raw material suppliers, logistics partners, and customers to enhance efficiency and lower carbon intensity within the value chain. This is a continuous, long-term action across the Group's upstream and downstream value chain.

By the end of 2024, the achieved emission reduction for Scope 3 was 2.93 million tonnes from the 2019 base year. The expected emission reduction by 2030 is 0.8 million tonnes.

Climate change adaptation types

Stora Enso's objective and approach to climate change adaption are included as part of the Environmental Guidelines. To address the policy objective and to mitigate the increasing risks posed by climate-related hazards, Stora Enso implements nature-based adaptation solutions. The scope of the action covers the Group's own operations and upstream value chain, with a long-term time horizon. Examples of this action include:

- Increasing mixed forests, and promoting sustainable forest management and harvesting practices, see ESRS E4.
- Enforcing diversification in wood sourcing.
- Enhancing materials efficiency, see ESRS E5.
- Monitoring water risk areas and taking relevant action, see ESRS E3.

Addressing opportunities and positive impacts

The two key actions to address the positive impact and opportunity on climate change mitigation, as well as the opportunity to increase forest resilience and growth, are described below. The third key action addresses the opportunity for energy self-sufficiency. These long-term actions contribute to the achievement of the objectives outlined in the Policy for Energy and Climate Change and the Environmental Guidelines.

1) Promotion of sustainable forest management practices in Stora Enso's own and managed forests to increase the resilience of forest ecosystems and improve forest sequestration. In 2024, the three-year average of annual carbon sequestration in the Group's owned or leased productive forest lands was 4.3 million tonnes of CO_2. See ESRS E1-7.

2) The Group's innovation and product development focuses on wood-based, renewable products that substitute fossil-based alternatives. In 2024, the substitution effect amounted to 13.5 million tonnes of CO_2. In addition, the Groups's wood-based products stored carbon amounting to 2.5 million tonnes of CO_2. See ESRS E1-7 for more details. Recent key investments include:

- EUR 1 billion investment at the Oulu site in Finland to convert the remaining idle paper machine into a high-volume consumer board line.
- In 2024, Stora Enso's total spend on innovation, research and development was EUR 78 million.

3) By securing and enhancing energy self-sufficiency, Stora Enso aims to mitigate exposure to external cost volatility and market disruptions in its own operations. The action consists of long-term contracts to manage energy supply, direct market access via energy exchanges, combined heat and power production at production units, and shareholding in the Finnish energy company Pohjolan Voima Oyj. The Group also places increased emphasis on harnessing its own electricity generation capabilities and electricity demand flexibility. In 2024, Stora Enso's total energy self-sufficiency was 72%.

Stora Enso's EU Taxonomy aligned Capex related to climate change mitigation was EUR 64 million and Opex EUR 66 million, see further details in the section EU Taxonomy. The difference between the ESRS 1 and EU Taxonomy disclosed Capex and Opex is due to Stora Enso's central business areas not being addressed by the current scope of the EU Taxonomy.

Stora Enso acknowledges that future investments and new technology are required to reach its target of net-zero by 2040. Therefore, the Group intends to continue investing in low-carbon and energy-efficient solutions.

Targets related to climate change mitigation and adaptation (E1-4)

Climate change mitigation

In 2017, Stora Enso established a science-based target to reduce its greenhouse gas (GHG) emissions and achieved this target nine years ahead of schedule. In 2021, Stora Enso raised its ambition to align with the 1.5-degree scenario. The updated target is to reduce absolute CO_2eq emissions in both its own production (Scope 1 and 2) and within the value chain (Scope 3) by 50% by 2030 from the 2019 baseline. The targets have been approved by the Science Based Targets initiative (SBTi) and are aligned with the Group's Energy and Climate Change Policy.

For setting the targets, Stora Enso uses a publicly available science-based target-setting method for Scope 1, 2 and 3 emissions called the Absolute Contraction Approach. Since the targets are set for absolute emission reductions, the possible future developments, such as changes in sales volumes or shifts in customer demand, will not alter the targets. GHG removals, carbon credits or avoided emissions are not considered as means to achieve the targets. See accounting principles for GHG emissions in ESRS E1-6.

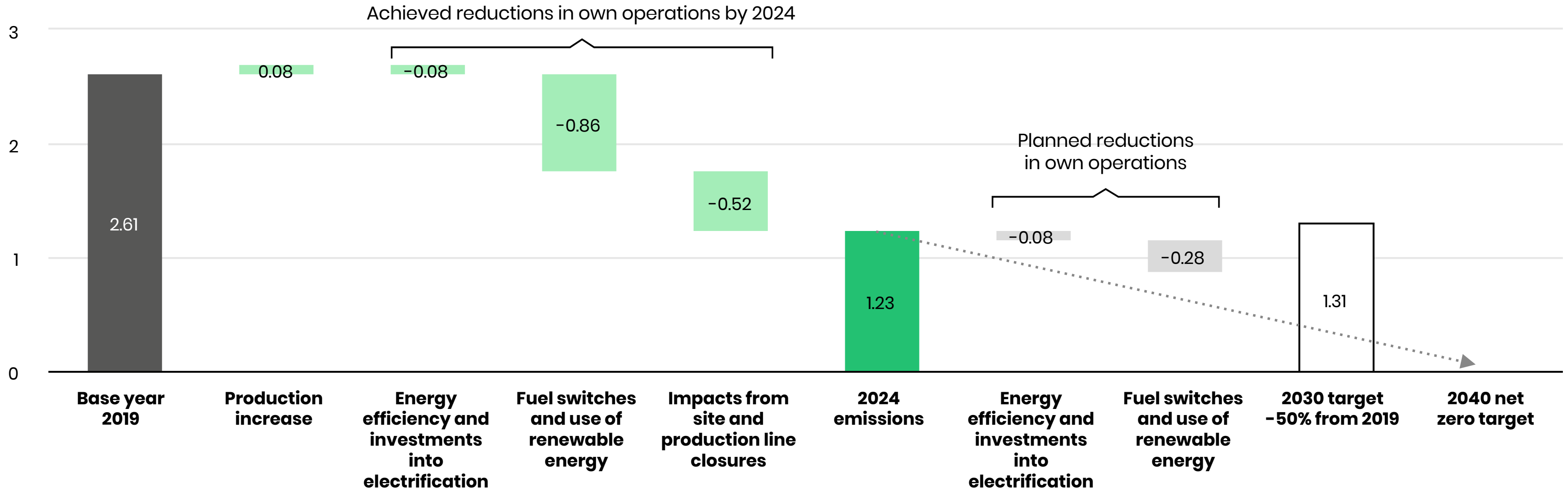
In 2023, Stora Enso reinforced its climate commitment by joining The Climate Pledge initiative, aiming for net zero carbon emissions by 2040, across all three Scope categories. The 2019 base year applies to both the 2023 and 2040 targets. As the target is set for absolute emission reductions, future developments, such as changes in sales volumes or shifts in customer demand, will not alter the target. See the accounting principles for GHG emissions in ESRS E1-6.

By the end of 2024, Stora Enso achieved a -53% reduction in Scope 1 and 2 emissions compared to base year 2019, surpassing the target set for 2030. The decarbonisation levers and related contribution in reductions are disclosed in the graph 'Achieved and planned reductions within the Group's own operations'. For Scope 3, Stora Enso achieved a -39% reduction by the end of 2024.

% of GHG emissions reduction	Unit	2024
Scope 1 and 2	%	-53%
Scope 3	%	-39%
Total	**%**	-43%

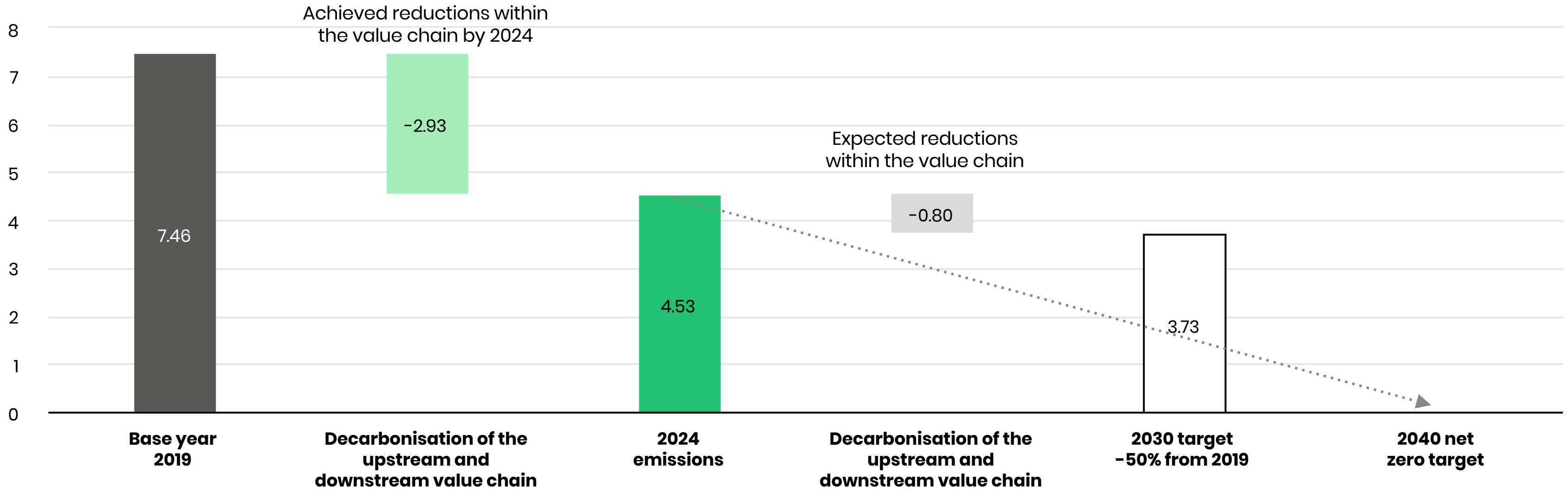
Achieved and planned GHG reductions within the Group's own operations

CO_2eq, million tonnes



Achieved and expected GHG reductions within the value chain

CO_2eq, million tonnes



Energy
Stora Enso has set an energy efficiency target as part of the Group's path towards climate neutrality and as a means to reduce negative impacts generated by energy use. The target is to achieve on annual energy saving of -1.1% until 2030. The target was established in 2021, and the target value is applied for each year. At the end of 2024, Stora Enso surpassed its target level with a projected annual energy saving of -1.6%.

The target was established with input from internal stakeholders on Stora Enso's Energy and Climate Userboard. The target covers the Group's Packaging Materials, Biomaterials, and Wood Products divisions. The target is in line with the Policy for Energy and Climate Change and supports the achievement of the Group's Scope 1 and 2 Science Based Targets.

✔ Accounting principles
In addition to operational changes, the projected energy savings include savings from the investments for which the reporting year marks the first year of impact. Energy savings are reported as a percentage reduction compared to total energy consumption for the year, without considering efficiency investments. Generally, the full-year impact of an energy saving investment is realised in the year following its implementation. The projected energy savings exclude packaging converting units and joint operations.

Target related to energy	**Unit**	**2024**
Projected energy savings, % (MWh saved/MWh total energy used, electricity, heat, and fuels)	%	-1.6%

Energy consumption and mix (E1-5)

✔ Accounting principles
The energy figures cover all Stora Enso production units. Aligned with the Financial Statements, the figures include the Group's joint operations according to the ownership share (50%). Energy consumption in offices is included in the figures based on estimates. Local factors are taken into account at the units when calculating the energy content of the fuels used.

Stora Enso applies a conservative approach according to ESRS in the split between renewable and non-renewable sources, and only classifies energy as renewable or nuclear-based if the origin of the purchased energy is clearly defined in the contractual arrangements with its suppliers. If the origin is not known, the source is classified as fossil. Some production units that purchase electricity from the grid have estimated their energy consumption, as invoices from the energy provider were not available at year-end. These estimates do not have a material impact on the Group's total energy consumption figure.

Stora Enso's business activities fall within high climate impact sectors: Agriculture (Sector: Forestry, code AFO) and Manufacturing (Sector: Pulp, Paper & Wood products, code MPW) or alternatively NACE 02 (Forestry and logging), NACE 16 (Manufacture of products of wood), and NACE 17 (Manufacture of pulp, paper and paperboard). Therefore, the Group's total sales as reported in the Financial Statements is used to determine energy intensity.

Energy consumption and mix	**Unit**	**2024**
Fuel consumption from coal and coal products	TWh	1.1
Fuel consumption from crude oil and petroleum products	TWh	1.2
Fuel consumption from natural gas	TWh	0.5
Fuel consumption from other fossil sources	TWh	1.3
Consumption of purchased or acquired electricity, heat, steam, and cooling from fossil sources	TWh	0.3
Total fossil energy consumption	**TWh**	**4.4**
Share of fossil sources in total energy consumption (%)	%	10.4%
Consumption from nuclear sources	TWh	3.9
Share of consumption from nuclear sources in total energy consumption	%	9.3%
Fuel consumption from renewable sources	TWh	33.3
Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources	TWh	0.6
The consumption of self-generated non-fuel renewable energy	TWh	0.0
Total renewable energy consumption	**TWh**	**33.8**
Share of renewable sources in total energy consumption	%	80.3%
Total energy consumption	**TWh**	**42.2**

Energy intensity ratio	**Unit**	**2024**
Total energy consumption from activities in high climate impact sectors	TWh	42.2
Energy intensity	MWh/EUR million	4,658

For energy balance, the figures encompass the Group's own energy production. Electricity received at cost-based principle from Pohjolan Voima Oyj - where Stora Enso is a minority shareholder with a 16.1% ownership stake - is reported as its own line and included in own electricity generation due to Mankala principle. This is further described in Financial Statements, note 4.4 Equity instruments.

Stora Enso's energy balance contains also external energy sales, which are partly EU taxonomy-eligible. For more information, see EU Taxonomy.

Energy production	**Unit**	**2024**
Renewable	TWh	29.5
Non-renewable	TWh	2.9
PVO shareholder	TWh	2.5
Renewable	TWh	0.4
Nuclear	TWh	2.1
Total energy production	TWh	34.8

Gross Scopes 1, 2, 3 and Total GHG emissions (E1-6)

Stora Enso's carbon footprint, following the financial consolidation scope (aligned with ESRS)

✔ Accounting principles
To align with the ESRS requirements, Stora Enso discloses an alternative carbon footprint in the table below. In these figures, joint operations are consolidated line by line into Scope 1, 2, and 3 emissions according to the ownership share (50%). This consolidation approach is aligned with the Financial Statements. For further accounting principles on greenhouse gas emissions, see next page.

Stora Enso's total sales as reported in the Financial Statements are used to determine the greenhouse gas emission intensity.

Stora Enso's carbon footprint 2024 (includes joint operations)	**Unit**	**2024**
Scope 1 GHG emissions	CO_2-eq, million tonnes	1.33
Scope 2 GHG emissions	CO_2-eq, million tonnes	0.06
Significant Scope 3 GHG emissions	CO_2-eq, million tonnes	4.36
Total GHG emissions	**CO_2-eq, million tonnes**	**5.75**

GHG intensity per net revenue	Unit	2024
Total GHG emissions (location-based) per net revenue	CO_2-eq tonnes/ EUR million	636
Total GHG emissions (market-based) per net revenue	CO_2-eq tonnes/ EUR million	676

Stora Enso's carbon footprint, following the GHG Protocol's principle of operational control

✔ Accounting principles

In its GHG accounting, Stora Enso follows the three standards provided by the Greenhouse Gas Protocol of the World Resources Institute and the World Business Council for Sustainable Development: the GHG Corporate Accounting and Reporting Standard, the GHG Protocol Scope 2 Guidance, and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Stora Enso uses the operational control approach to consolidate these standards. The science-based targets for reducing GHG emissions are reported as a percentage change from the baseline, which is updated annually to reflect the current Company structure.

Scope 1 and 2 emissions include direct and indirect GHG emissions, calculated as fossil CO_2 equivalents (CO_2eq), from all production units, excluding joint operations. In addition to CO_2, other relevant GHG emissions for Stora Enso are methane (CH_4) and nitrous oxide (N_2O), which are generated when using fossil and biomass fuels in the units' power boilers. These gases are converted to CO_2eq using their respective global warming potential based on the fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC), or fuel-specific CO_2 emission factors based on site analysis. The sources of Stora Enso's Scope 1 factors are 2006 IPCC Guidelines for National Greenhouse Gas inventories, Chapter 2: Stationary Combustion, and for biogenic emissions Fuel classification 2018 from Statistics Finland. HFCs are estimated to present 500 to 1,000 tonnes, while SF6 is not applicable.

In 2024, 60% of Stora Enso's Scope 1 emissions were from regulated emission trading schemes. For more information on emissions covered by trading schemes, see Financial Statements, note 4.5 Emission rights and other non-current assets. In 2024, the biogenic emissions related to Scope 1 amounted to 9.14 (million tCO_2eq). When including joint operations, the biogenic emissions related to Scope 1 were 11.86 (million tCO_2eq).

Scope 2 GHG emissions are calculated based on purchased electricity and heat. The CO_2 emission factors used for purchased energy largely follow the market-based methodology, meaning that almost all units apply CO_2 factors provided by their energy suppliers. When these are not available, the Group applies the country-specific residual mix factor. In the absence of residual mix factors, the most recent location-based factors provided by the International Energy Agency (IEA) are used. The applied factors do not separate the percentage of biogenic CO_2. Scope 2 includes market instruments, such as the trading of Guarantees of Origin for electricity.

Scope 3 emissions include fossil CO_2eq emissions from other sources in the upstream and downstream value chain of all production units. Stora Enso follows the WBCSD guidance for Scope 3, which includes 15 potential categories of emissions and applies an activity-based methodology for Scope 3 accounting. This means that emissions are estimated by multiplying the activity data with the relevant carbon emission factors.

Due to estimation based on volume materiality, some categories may be excluded from the reporting if they are deemed insignificant to total emissions, or not applicable to the Group's business operations. Material emission categories included in Scope 3 emissions are reviewed whenever new information on data level or accounting methodology becomes available. When primary data is not available for the carbon emission factors of Stora Enso's activity data, the Group utilises secondary sources, such as EcoInvent, the Network for Transport Measures, Metsäteho, The Alliance for Beverage Cartons and the Environment (ACE) and the European Federation of Corrugated Board Manufacturers (FEFCO). Occasionally proxy factors are also used.

In the 2024 reporting, the Scope 3 categories, as defined by ESRS, included: Purchased goods and services, Fuel and energy related activities, Upstream transportation and distribution, and Processing of sold products. The share of primary data used based on the volume of emissions is 10%. In GHG accounting, joint operations are included as part of Scope 3 emissions due to the lack of operational control, which is further explained in ESRS 2 BP-1. To ensure ESRS-alignment, an alternative carbon footprint, following the consolidation principles of the Group's Financial Statements, has been disclosed at the start of this section.

The excluded Scope 3 categories are: Capital goods, Waste generated in operations, Business travelling, Employee commuting, Upstream leased assets, Downstream transportation, Use of sold products, End-of-life treatment of sold products, Downstream leased assets, Franchises, and Investments.

	Retrospective				Milestones and target years			
Total GHG emissions disaggregated	**Base year 2019**	**2023**	**2024**	**Change, %**	**2025**	**2030**	**(2050)**	**Annual % Target / base year**
Scope 1 GHG Emissions								
Gross Scope 1 GHG emissions (CO_2-eq, million tonnes)	2.27		1.17	n/a		1.13		-4.5%
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)	72%		60%	n/a				
Scope 2 GHG Emissions								
Gross location-based Scope 2 GHG emissions (CO_2-eq, million tonnes)	n/a		0.42	n/a				
Gross market-based Scope 2 GHG emissions (CO_2-eq, million tonnes)	0.34		0.05	n/a		0.17		-4.5%
Significant scope 3 GHG emissions								
Total Gross indirect (Scope 3) GHG emissions (CO_2-eq, million tonnes)	7.33		4.53	n/a		3.73		-4.5%
Purchased goods and services	2.34		1.60	n/a				
Fuel and energy related activities	0.54		0.21	n/a				
Upstream transportation and distribution	1.24		0.96	n/a				
Processing of sold products	3.21		1.75	n/a				
Total GHG emissions								
Total GHG emissions (location-based) (CO_2-eq, million tonnes)	n/a		6.12	n/a				
Total GHG emissions (market-based) (CO_2-eq, million tonnes)	10.00		5.75	n/a		5.04		-4.5%

Stora Enso's carbon footprint 2019–2024 according to GHG Protocol

(Following the GHG Protocol's principle of operational control, Scope 1 and 2 emissions covered by reasonable assurance)[1, 2]

	Fossil CO_2 equivalent (million tonnes)						Trend
	2019	2020	2021	2022	2023	2024	2019–2024
Scope 1	2.27	2.08	2.13	1.78	1.45	1.17	-48%
Scope 2[3]	0.34	0.19	0.10	0.09	0.05	0.05	-84%
Scope 3	7.46	7.21	7.67	5.65	4.88	4.53	-39%
Total	**10.07**	**9.47**	**9.90**	**7.52**	**6.38**	**5.76**	**-43%**

1 Scope 1+2 emissions covers Stora Enso's production units. Includes the trading of Guarantees of Origin for electricity. Joint operations are included in Scope 3 emissions.
2 All comparative figures are restated due to structural changes or additional data after the previous report.
3 The CO_2 factors used for purchased energy (Scope 2) largely follow the market-based methodology, which means that almost all production sites apply CO_2 factors provided by their energy suppliers. When applying available residual factors, location-based Scope 2 emissions for 2024 are 0.42 million tonnes of CO_2 equivalents.

GHG removals and storage (E1-7)

Stora Enso's business activities are connected with GHG removals and carbon storage, as the Group's forests sequester carbon and its wood-based products store carbon. While the Group does not use these removals or storage in its greenhouse gas reporting of Scope 1, 2 and 3, the amounts are disclosed in accordance with ESRS requirements to provide a coherent picture of the positive impacts identified as part of the double materiality assessment.

Stora Enso's primary means of reducing fossil carbon emissions is through direct action within its own operations and value chain as described in ESRS E1-3. The Group's carbon performance is reported without offsets as advised by the Science Based Targets initiative. Although direct action is the primary means of emissions reduction, some emissions currently remain unavoidable. Therefore, carbon offsetting is used for certain Group products to offer materials that help customers reduce their climate impact. Offsetting for products is only done through projects that are measurable and third-party verified, such as those in accordance with the Gold Standard.

✔ Accounting principles

Carbon stored by Stora Enso's products is calculated as the average carbon storage over 100 years from the harvest year, using the IPCC half-life methodology. The figure has been calculated by the Swedish University of Agricultural Sciences (SLU) based on Stora Enso's forest and production figures (Climate effects of a forestry company – including biogenic carbon fluxes and substitution effects).

The forest carbon sink is calculated as the three-year average of annual CO_2 sequestration in Stora Enso's owned or leased productive forest lands. The carbon stored in Stora Enso's productive forests is calculated as of end of the reporting year. In line with the Financial Statements, the figure contains the biological assets of the Group's joint operations proportional to the ownership share (50%). For further details, see Financial Statements, note 4.2 Forest assets.

Accounting methods for forest carbon sinks and storage are not standardised, and the chosen method and reporting period can influence the results. In sustainably managed forests, carbon sink and storage levels are maintained or increased throughout the forests' management cycle. During this cycle, factors such as harvesting and natural disturbances, growth rates related to forest ages and types, and other possible events can cause short-term variations in the carbon sinks and storage.

Metrics related to GHG removals and storage	Unit	2024
Total GHG removals		
Annual CO_2 sequestration in owned or leased productive forest lands, three-year annual average	million tonnes	4.3
Total GHG storage		
Total CO_2 stored in Stora Enso's productive forest as of 31 Dec 2024	million tonnes	295
Carbon stored in Stora Enso's products	million tonnes	2.5

ESRS E2 Pollution

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Emissions to air are generated from industrial operations.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Pollution of air
Significant environmental incidents occur at industrial operations and forestry (wood supply) operations.	Actual negative impact	Short, medium, and long term	Own operations	Pollution of air/water
Stora Enso has an environmental provision related to purifying runoff water from Kopparberg mine in Sweden before releasing the water into the environment.	Actual negative impact	Short, medium, and long term	Own operations	Pollution of water/soil
Effluents to water are generated from industrial operations.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Pollution of water
Risk of pollution-related environmental non-compliance, such as exceeding permit limits. Incidents may damage Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues. Incidents may also lead to fines and other financial liabilities.	Risk	Short, medium, and long term	Own operations	Pollution of air/water

Pollution-related impacts and risks are connected to Stora Enso's business model, as the Group's production processes generate emissions to both air and water. This poses a risk of local significant or even critical negative impacts for both the environment and people. During the past years, some of the risks have materialised into local environmental incidents. The actual negative impacts can be caused, for example, by atmospheric emissions and aerosol loading from fuel combustion for energy generation. Negative impacts related to water contamination are mainly caused by water effluents and pollutants containing suspended solids, chemical oxygen demand, total organic carbon, phosphorous, nitrogen, and absorbable organic halogen compounds.

Policies related to pollution (E2-1)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

The Environmental Guidelines outline the commitment to comply with all applicable legal and regulatory obligations and protecting the environment. This means applying precautionary management actions to mitigate and remedy potential adverse impacts on the environment and people. The mitigation and prevention measures focus on ensuring compliance with regulations, controlling pollution to air, water, and soil, and implementing and maintaining environmental management systems. The guidelines specifically address phosphorus, nitrogen, chemical oxygen demand (COD), and absorbable organic halogen compounds (AOX), but do not cover all pollutants. Additionally, the guidelines do not explicitly address the avoidance of incidents and emergencies, as these are expected to be documented in local environmental management systems. The guidelines do not detail remediation of actual negative impacts, as corrective actions are typically defined specifically for each case through dialogue between authorities and the relevant production unit. For further details on the guidelines, see ESRS E1-2.

Actions and resources related to pollution (E2-2)

The following two key actions carried out in the Group's own operations contribute to the achievement of the objectives outlined in the Environmental Guidelines for preventing, mitigating, and remedying impacts to air, water, and soil. Both long-term actions are aligned with the target of achieving zero environmental non-compliances.

1) Managing emissions to air and water

Stora Enso's long-term action involves implementing and maintaining processes and systems to monitor and control emissions to air and water, thereby effectively managing its pollution-related impacts and associated risks. Environmental management systems are regarded as the primary tool for driving continual improvements in processes and environmental performance. All production sites are required to implement and uphold third-party certified environmental management systems. At the end of 2024, 47 out of the Group's 57 production sites had an ISO 14001 certificate.

To ensure water quality and compliance with local permit limits, Stora Enso's board, pulp, and paper mills continuously monitor effluent discharges, including temperature and pH levels, into local water bodies. Compliance with local environmental permit limits is regulated and controlled by relevant authorities, with any deviations promptly reported to them. Regarding atmospheric emissions, Stora Enso employs advanced technologies such as scrubbers and boiler process control systems to reduce air emissions and mitigate odours from point sources at its industrial units. These emissions primarily stem from fuel combustion for energy generation and from production processes.

- As an example, a new electric boiler was commissioned at the Anjala site in Finland in 2024, not only reducing the use of fossil fuels but also minimising emissions to air.

2) Addressing environmental incidents and liabilities

Stora Enso addresses the management of environmental incidents by maintaining a group-wide reporting and management process. The approach aims to ensure regulatory compliance, adherence to permits, and continuous improvement. It involves the following steps:

- Significant events are reported to the Board's Sustainability and Ethics Committee within 24 hours, and are also included in the externally published Annual Report each year. This process aligns with the Environmental Guidelines, which prioritise regulatory compliance, adherence to permits, and the target of zero environmental incidents.
- Root cause analysis is carried out for each incident, and corrective and preventive measures are decided accordingly. The analysis findings are shared internally for ongoing improvement and prevention efforts.

- Internal investigations are conducted with the involvement of relevant internal and external stakeholders for each incident. The time frame for completion varies depending on the nature of the case. Collaboration and dialogue with the relevant authorities are managed individually for each case.
- Corrective and preventive measures may include, for example, training of the Group's own employees and suppliers, and installation of new equipment. In some instances, Stora Enso is also subject to potential fines from local authorities. The cases that occurred, along with the corrective short-term actions and remediation taken in 2024, are described in ESRS E2-3.
- Accountability for long-term consequences: Stora Enso has environmental provisions related to remediation of an existing condition caused by past operations. The most material provision being the agreement between Stora Enso and the City of Falun that obligates the Group to purify runoff water from the Kopparberg mine before releasing the water into the environment. The provision at year-end amounted to EUR 27 million. For all environmental provisions, see Financial Statements, note 4.9 Provisions.

Resources related to pollution

Current and future resources to prevent and manage local pollution-related impacts consist of operational costs, such as personnel costs, permit-related costs, repair and maintenance costs, and wastewater treatment chemicals.

In 2024, Stora Enso's total environmental investments amounted to EUR 120 million. These investments were mainly targeted at improving the quality of air and water, to enhance resource and energy efficiency, and to minimise the risk of accidental spills. In 2024, the Group's environmental investments related to emissions to air and water amounted to EUR 93 million. Investments in new technology and the upgrading of existing equipment are necessary to control and reduce environmental pollution and its impacts. These improvements are targeted at enhancing quality of air and water, maintaining compliance, and minimising the risk of accidental spills into the environment. Future investments will be decided by prioritising required improvements at industrial units.

Stora Enso's environmental costs in 2024, excluding interest and including depreciation, totalled EUR 208 million. These costs include taxes, fees, refunds, permit-related costs, and repair and maintenance costs, as well as wastewater treatment chemicals and certain other materials. In 2024, the Group's environmental costs related to emissions to air and water totalled EUR 75 million.

Targets related to pollution (E2-3)

Stora Enso has a continuous target of zero significant non-compliance events to support and promote its environmental policies and prevent negative impacts. The target for significant environmental non-compliance events was set in 2017, aiming for zero cases by the end of the year. In 2017, there were a total of 10 significant non-compliance events. In 2024, there were a total of 24 significant non-compliance events, 12 of which were related to pollution of air or water.

The target focuses on controlling air pollutants and their specific loads, as well as emissions to water and their specific loads, since crossing of monthly, quarterly, or annual local permit is considered as a significant non-compliance event. The target is not based on conclusive scientific evidence, but rather on legal compliance. The target is monitored based on the group-wide reporting process described in ESRS E2-2. Stakeholders were not included in the target setting.

In alignment with the Corporate Sustainability Reporting Directive, the target is disclosed also in ESRS E4-4, covering cases related to biodiversity and ecosystems. The cases related to pollution of air and water are presented in the below table.

✔ Accounting principles

The target is measured as the number of significant non-compliance events occurred during the reporting year. The target includes Stora Enso's own business operations: industrial units and harvesting sites.

A non-compliance in pollution typically means crossing a specific local monthly, quarterly, or annual permit limit of air, or emission to water. The incidents related to pollution of air and water are reported per production site, based on their specific environmental permissions.

Number of significant non-compliance events	2024
Related to pollution of air	4
Related to pollution of water	8

Location	Description of the event	Corrective and preventive measures
Alytus sawmill, Lithuania	Two events: Recurring problems with water discharges in 2024 led to exceeded permit limits for suspended solids and biochemical oxygen demand (BOD) in the water.	Implementation of additional cleaning of water drainages and improved regular sampling. Preparation of a new technical solution for rainwater treatment.
Enocell mill, Finland	Suspended solids water permit limit exceeded	Adjusted water flows, bark press repaired, primary sludge removal revised, and improved measurement procedures implemented.
Enocell mill, Finland	Phosphorus water permit limit exceeded	Improvements in measurement and control procedures, including improved model for phosphorous balance. Using back-up water basin to improve cooling effects and to handle high phosphorus loads in conjunction with shutdown and start-up.
Forest, Finland	A small vessel transporting floating logs sank at the Vuoksi harbour close to Imatra mill and leaked light fuel oil into water.	Vessel lifted and leaked oil contained according to standard procedures.
Heinola mill, Finland	Odorous sulphur gases spread to the city of Heinola	Preparations to invest in a new sulphur oven and a new absorption tower to replace the old equipment.
Heinola mill, Finland	Odorous sulphur gases spread to the city of Heinola	Absorption towers' nozzles cleaned. Preparations to invest in a new sulphur oven and a new absorption tower to replace the old equipment.
Heinola mill, Finland	Odorous sulphur gases spread to the city of Heinola	Improved shutdown instructions and training concerning chemicals handling. Repairing pH measurement and improved automation. Preparations to invest in a new sulphur oven and a new absorption tower to replace the old equipment.
Plana mill, Czechia	Two events: Water permit limits for chemical oxygen demand (COD) and hydrocarbon content exceeded	Cleaning of wastewater treatment pond and other operational corrective activities performed. Additional treatment technologies to improve readiness for sudden heavy rains and winter season under investigation.
Plana mill, Czechia	Volatile organic compounds (VOC) air permit limit exceeded	New environmental permit received with higher production volumes and glue usage. Updated chemical training for the production staff.
Varkaus board mill, Finland	Phosphorus permit limit to water exceeded	Enhanced shutdown procedures and improved timing for sampling the monthly water samples.

Pollution of air, water and soil (E2-4)

✔ Accounting principles

According to the European Sustainability Reporting Standard on Pollution, the consolidation of each pollutant includes only the emissions from facilities for which the applicable threshold value specified in Annex II of Regulation (EC) No 166/2006 is exceeded.

The reporting of pollutants is a combination of unit-specific direct measurement, estimates, and calculations of emissions. Aligned with Stora Enso's Financial Statements, the figures contain emissions to air and water generated by the Group's joint operations according to the ownership share (50%).

Water effluents are monitored using both online and offline measurements, such as standard methods for the forest products industry. Board, pulp, and paper production sites monitor process water discharges, and water pollutants such as suspended solids, chemical oxygen demand, total organic carbon, phosphorous, nitrogen, and absorbable organic halogen compounds. Monitoring and reporting are conducted daily, monthly, or annually depending on the sites' operations, pollutants, and environmental permits. The share of the measure obtained from direct measurement is estimated to be almost 100%.

Third party assessments are used as a basis for estimates, in particular for heavy metal related emissions when direct measuring equipment is not available. In these cases, the average of third-party measured values is applied for the full year. The data is reported by each mill to Group's environmental reporting system based on direct measurements or estimates based on third party calculations..

Non-compliance incidents related to pollution during 2024 are disclosed as part of ESRS E2-3, including short-term actions regarding corrective and preventive measures.

The pollution of soil is a material topic for Stora Enso due to the environmental provision related to remediation of an existing condition caused by past operations in Falun, Sweden. Within Stora Enso's own organisation, thresholds for pollution of soil are not exceeded, and therefore not disclosed as part of ESRS E2-4.

Emissions to air by pollutant	Unit	2024
Carbon monoxide (CO)	tonnes	5,202
Ammonia (NH_3)	tonnes	189
Non-methane volatile organic compounds (NMVOC)	tonnes	1,352
Nitrogen oxides (NO_x/NO_2)	tonnes	7,435
Sulphur oxides (SO_x/SO_2)	tonnes	335
Copper and compounds (as Cu)	kg	130
PCDD + PCDF (dioxins + furans) (as Teq)	kg	30
Chlorine and inorganic compounds (as HCl)	tonnes	41
Particulate matter (PM_{10})	tonnes	1,178
Hydro-fluorocarbons (HFCs)	kg	649

Emissions to water by pollutant	Unit	2024
Total nitrogen	tonnes	517
Total phosphorus	tonnes	63
Cadmium and compounds (as Cd)	kg	312
Copper and compounds (as Cu)	kg	1,370
Mercury and compounds (as Hg)	kg	15
Nickel and compounds (as Ni)	kg	570
Zinc and compounds (as Zn)	tonnes	9
Halogenated organic compounds (as AOX)	tonnes	195
Total organic carbon (TOC) (as total C or COD/3)	tonnes	4,593

ESRS E3 Water and marine resources

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Stora Enso's industrial operations withdraw significant amounts of water. Production of board, pulp, and paper requires substantial amounts of water, accounting for over 99% of the Group's total water withdrawal.	Actual negative impact	Short, medium, and long term	Own operations	Water withdrawals
Water withdrawal and consumption occur in areas of water scarcity.	Potential negative impact	Short, medium, and long term	Own operations	Water withdrawals; Water consumption
Water-intensive production processes.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Water consumption
Industrial operations impact freshwater ecosystems through water discharges.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Water discharges
Risk of an environmental incident or exceeding permit limits related to water effluents, leading to negative impact on environment and/or people. Incidents may also damage Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues. Incidents may also lead to fines and other financial liabilities.	Risk	Short, medium, and long term	Own operations	Water discharges
Majority of the production sites are located in areas with low water stress which contributes to consistent and sufficient water supply and ensures operational stability and efficiency. Moreover, it supports the Group's long-term resilience against climate change as areas with a low risk of water inadequacy are less likely to experience the adverse impacts of climate change, such as prolonged droughts or water scarcity.	Opportunity	Medium and long term	Own operations	Water withdrawal; Water consumption

Policies related to water and marine resources (E3-1)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

The Environmental Guidelines are described in ESRS E1-2. For managing water-related negative impacts and risks as defined in the above table in SMB-3, the guidelines set the founding principles for efficient, low, and optimised water use. This encompasses water withdrawal, water treatment, and process water discharges. More specifically, the guidelines outline the commitment to reducing the impacts of water use, enhancing efficiency and recycling, improving water quality, minimising water pollution, and mitigating and remediation of any potential adverse impacts on environment and people.

ISO 14001 environmental management system comprises on-site management procedures for identifying and assessing material water-related impacts, risks, and opportunities focusing on the local material water issues with the highest priority. Process water is minimised with tailored activities to achieve continuous improvements. The wastewater treatment facilities that treat the process water from production processes aim to prevent ecological harm cased by discharged water. The impacts on local communities are addressed as part of the Environmental and Social Impact Assessments for new industrial projects, as well as through due diligence processes for mergers, acquisitions, and divestments.

Most of the production units are located in areas where water is generally abundant, and water scarcity is closely monitored. Water risks are identified for ground and surface water scarcity, failures of water related equipment, flooding, runoff and rising water levels, and for raw water temperature implications.

Actions and resources related to water and marine resources (E3-2)

Stora Enso's four key long-term actions to improve water use efficiency and to mitigate potential negative impact in areas of water scarcity are described below. The actions contribute to the objectives of the Environmental Guidelines on protecting the environment.

1) Site-specific investments in technology and equipment are done on an annual basis to enhance water efficiency. The amount varies between the years. In 2024, the Group's energy and water efficiency fund supported water-related investments of approximately EUR 2 million at four production sites. These investments are estimated to reduce the Group's water discharges by 2 million cubic meters and total costs by approximately EUR 2 million annually. In the Financial Statements, these investments are included in the note 4.1 Intangible assets, property, plant and equipment and right-of-use assets. This action supports the targets of reducing specific process water discharges and decreasing the trend for total water withdrawal as described in ESRS E3-3.

2) Action is taken locally to manage the potential impact related to productions units that are located in areas with water stress. WRI Aqueduct Water Risk Atlas is used to assess water-related risks at production sites, providing information on water scarcity, stress, flooding, and water quality. Examples of initiatives from year 2024 to address water stress include:

- Beihai mill in China implemented several initiatives to enhance water efficiency. For example, the mill began reusing power plant drainage waters in other parts of the production. As a result of these measures, both specific total water withdrawal and specific process water discharges have decreased compared to the previous year.
- At the Langerbrugge mill in Belgium, water discharges were reduced by approximately 5% compared to the previous three years mainly by recovering full blow down of scrubbers.

3) Continuous efforts are taken at the production sites to optimise water use by utilising only freshwater from surface, ground, and municipal sources. After use, the process water is cleaned at treatment plants before being returned to the local ecosystem. As an outcome, almost 95% of water is recycled back into the environment, while only around 5% of water is consumed in production processes. This action helps to mitigate the impact generated by both water consumption and withdrawal.

4) To mitigate the risk of environmental incidents or exceeding permit limits related to water effluents, Stora Enso monitors water usage and discharges into water bodies in accordance with the limits established by environmental permit processes. For detailed actions, see section ESRS E2-2.

During 2024, EUR 16 million of grants have been repaid back to authorities in Belgium. This repayment stemmed from a 2019 legionella-related incident, classified as an environmental infringement. The case was resolved in court in 2024. For further details, see Financial Statements, note 4.8

Operative liabilities. In 2024, Stora Enso's water-related costs were EUR 20 million. For further details on the Group's environmental costs and investments, see ESRS E2-2.

Targets related to water and marine resources (E3-3)

To reduce its actual negative impacts related to water use, Stora Enso has established a target on reducing specific process water discharges per saleable tonne (m^3 /tonne) by 17% by 2030 from the 2019 baseline (36 m^3). On water withdrawal, Stora Enso has a continuous target on decreasing the trend for total water withdrawal per saleable tonne (m^3/tonne) from the 2016 baseline (60 m^3). The targets were not achieved for 2024. Water performance per saleable tonne, measured over rolling four quarters, has been impacted by lower production volumes as a steady water flow needs to be maintained at the water treatment plants.

The targets are in line with the Environmental Guidelines, defining the founding principles for water management Setting a target on water is not mandated by legislation. External stakeholders were not involved in the target setting. The target is not based on conclusive scientific evidence.

✔ Accounting principles

The targets have been established for operations with most significant impact on water use, and include process water and cooling and non-contact water intake. Process water discharges include the discharges by selected board, pulp, and paper production sites as cubic metres (m^3) The target for total water withdrawal contains all board, pulp, and paper production sites. The water withdrawal and discharges are normalised by dividing water m^3 with the total production of board, pulp, and paper as saleable tonnes (t) during the same period. Detailed accounting principles are available in ESRS E3-4.

Targets related to water	Unit	2024
Process water discharges per saleable tonne of board, pulp, and paper	m^3 /tonne	34
Total water withdrawal per saleable tonne of board, pulp, and paper	m^3 /tonne	60

Water consumption (E3-4)

Production of board, pulp, and paper requires substantial amounts of water, accounting for over 99% of the Group's total water withdrawal. These units predominantly draw process and cooling water from surface water sources, with 98% of the total water withdrawal derived from surface water in 2024. Approximately 2% is sourced from municipal or groundwater supplies. According to the WRI Aqueduct Water Risk Atlas tool, five of the Group's production units operate in regions with High Baseline Water Stress: Beihai in China, Langerbrugge in Belgium, Wujin and Qianan corrugated units in China, and Łódź in Poland. During 2024, these units withdrew 15.7 million m^3 of water, which is 4% of the Group's total water withdrawal. The process water discharges of these units were 12.7 million m^3, which is 6% of the Group's total process water discharges. Stora Enso does not store water within is production sites.

✔ Accounting principles

Aligned with the Financial Statements, the water related metrics include the Group's joint operations according to the ownership share (50%). The Group continuously improves the accuracy of water reporting and consolidation of data. The data is reported by each mill to the Group's environmental reporting system.

Total water withdrawal includes process water and cooling and non-contact water intakes by all industrial units as cubic metres (m^3). Total water discharges include the discharges of all industrial units as cubic metres (m^3). In 2022, the Group implemented a standardised procedure to report water at board, pulp, and paper units, where cooling and process water flows are measured in different positions at the units. Due to this, the calculated figures do not always correspond to the measured figures of total water withdrawal. The share of the measure obtained from direct measurement is estimated to be approximately 58%.

The reported water consumption includes estimated water in products, residuals, and waste, as well as volumes of evaporated water to air from process water cooling towers, from wastewater treatment plants, and from cooling towers for non-contact water at the Group's mills. Sawmills, corrugated production units, and offices are included in the consumption figures based on estimates. The calculation of water consumption builds on the Confederation of European Paper Industries' (CEPI) method of describing water use and consumption, and the Swedish Environmental Research Institute's (IVL) report on Water Profile for the Swedish forest industry. It is estimated that approximately 25% of the total volume of water consumption is obtained through direct measurement.

The total water recycled and reused is reported based on the amounts of reused cooling and non-contact water.

Water intensity ratio is calculated as the Group's total water consumption in m^3 per million EUR of the Group's total sales as reported in the Financial Statements.

Metrics related to water	Unit	2024
Total water withdrawals	million m^3	401
Total water discharges	million m^3	379
Total water consumption	million m^3	19.6
Total water consumption in areas at water risk, including areas of high-water stress	million m^3	1.6
Total water recycled and reused	million m^3	18.6
Water intensity ratio	m^3/million EUR	2,169

ESRS E4 Biodiversity and ecosystems

Transition plan and consideration of biodiversity and ecosystems in strategy and business model (E4-1)

In 2021, Stora Enso introduced a new sustainability agenda centred around three focus areas: climate, biodiversity, and circularity. This was preceded by an assessment of Stora Enso's business model and strategic resilience in relation to future key sustainability risks and opportunities. The assessment process engaged internal stakeholders from all divisions, while also seeking input from external experts. The assessment did not include consultations with affected communities. The assessment's time horizons were set to 2030 and 2050.

The assessment's focus was on transition events, such as increasing legislation and external stakeholder pressure. These key risks are further described in SBM-3. The resilience assessment covered Stora Enso's own operations and incorporated a number of scientific studies and analysis, one of the most important being the Planetary Boundary concept by Stockholm Resilience Center. The concept identifies nine planetary boundaries, and crossing them leads to physical, systemic risks that are a threat to society. In 2021, two of the planetary boundaries - climate change and biodiversity loss - were crossed, both relevant for Stora Enso. Since then, four more boundaries have been crossed. The analysis did not cover the upstream and downstream value chain.

The results of the analysis indicated that biodiversity loss is proceeding at an accelerated speed, and stakeholders expect companies to address systematic climate and biodiversity related risks beyond their own industries. The conducted analysis indicates that in order to future-proof Stora Enso's business and strategy, it is imperative for its operations and products to actively remove carbon from the atmosphere and contribute to halting biodiversity loss. Additionally, responsible business practices should be implemented to ensure that the Group operates within the defined planetary boundaries for other Earth systems, such as freshwater use.

As an outcome, Stora Enso established a transition plan designed for driving new opportunities and future-proofing the Group's business in an environment that is constantly changing on an accelerated pace. For biodiversity, a target was established on achieving a net-positive impact on biodiversity in the Group's own forests and plantations by 2050. The long-term goal is supported by a set of biodiversity indicators, with defined intermediate targets. The transition plan for climate is presented under ESRS E1-1.

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Sustainable forest management maintains forest health and vitality. Active biodiversity management and conservation in forest operations, such as spatially optimising the volume of deadwood and protection of key habitats, contribute to positive biodiversity impact.	Actual positive impact	Short, medium, and long term	Upstream value chain, Own operations, joint operations	Direct exploitation
Negative impacts to biodiversity, such as damage to key habitats or species, can result from unsustainable forest management and harvesting practices or levels.	Actual and potential negative impact	Short, medium, and long term	Upstream value chain, Own operations	Direct exploitation
Environmental non-compliance cases in forestry (wood supply) operations occurred during the year.	Actual negative impact	Short	Upstream value chain, Own operations	Direct exploitation; Endangered species and their habitat
Dependency on wood as raw material, which makes Stora Enso vulnerable to wood price fluctuations. The rising market demand for wood has led to increased prices in recent years. There is also a potential risk of new policies and regulations related to forestry and biodiversity that could limit harvesting levels in EU forests. This could result in wood price increases and potential supply limitations, which may adversely affect the competitiveness of products.	Risk	Short, medium, and long term	Upstream value chain, Own operations	Impacts and dependencies on ecosystem services
Biodiversity loss can reduce the value of Stora Enso's forest assets and decrease forests' resiliency to external calamities. Biodiversity loss can impact the acceptability of wood as raw material.	Risk	Medium and long term	Own operations, joint operations	Impacts and dependencies on ecosystem services
Risk of non-compliance related to harvesting, such as damage to ecologically sensitive areas or non-compliance with regulations. Incidents may damage Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues. Incidents may also lead to fines and other financial liabilities.	Risk	Short, medium, and long term	Upstream value chain, Own operations	Direct exploitation
Owning forests provides Stora Enso with strategic advantages, including securing a reliable and consistent wood supply, reducing reliance on external suppliers, promoting environmental stewardship through sustainable forestry practices, preserving and actively managing biodiversity, and contributing to carbon sequestration efforts.	Opportunity	Short, medium, and long term	Own operations, joint operations	Impacts and dependencies on ecosystem services
New technology enables effective collection and processing of biodiversity data. Stora Enso combines science, technology and data to develop models to optimise biodiversity management and conservation in the Group's forests and wood supply.	Opportunity	Short, medium, and long term	Upstream value chain, Own operations, joint operations	Impacts and dependencies on ecosystem services; Endangered species and their habitat

Climate change related physical risks on biodiversity and the Group's forest assets are described in ESRS E1.

E4 disclosure requirement related to ESRS 2 SBM-3

Stora Enso had a total of 2.1 million hectares of owned or leased lands in 2024. Additionally, the Group purchased wood from approximately 21,000 private forest owners. The Group does not have direct impact on land-use change as existing forests are not converted to agriculture, plantations, or other purposes. In the double-materiality assessment, no material negative impact with regards to land degradation, desertification, or soil sealing was identified.

In addition to its own forestry sites, Stora Enso sources most of its wood from private and other forest owners in Finland, Sweden, Norway, the Baltics, and Central Europe. These harvesting sites are considered to be part of Stora Enso's upstream value chain. The Group's own forests and harvesting sites of the local forest owners may be located near biodiversity-sensitive areas, but significant negative impact is not typically caused to these habitats due to strict policies and harvesting practices. However, in 2024 significant local negative impact was caused to an endangered species and its habitat near one of the harvesting sites in Finland. See further details in ESRS E4-4.

As per the Corporate Sustainability Reporting Directive, Stora Enso's material forestry sites fall into two categories: sites under operational control and sites within the value chain, where the Company holds 50% ownership, or less. In all operations, actual negative impacts on biodiversity may occur through harvesting and other activities, and some of the sites may be located near biodiversity-sensitive areas.

Forestry site	Direct operational control	Ecological status	Activities impacting ecological status	Biodiversity-sensitive areas impacted
Sweden (own forest)[1]	Yes	Moderately modified	Forestry operations	Yes
China[1]	Yes	Largely modified	Forestry operations (plantations)	No
Brazil[1]	No	Largely modified	Forestry operations (plantations)	No
Uruguay[1]	No	Largely modified	Forestry operations (plantations)	No
Tornator - Finland, Estonia, Romania[2]	No	Moderately modified	Forestry operations	No
Private forest owners: Finland, Sweden, Norway, Baltics	No	-	Forestry operations	Yes

1 Stora Enso has identified a financial dependency on the biodiversity and ecosystems related to the sites it owns directly or jointly, as the biodiversity and ecosystem condition may impact the value of the assets in the long-term.
2 Tornator Oyj is a 41%-owned Finnish associate company.

Policies related to biodiversity and ecosystems (E4-2)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

Wood and Fibre Sourcing, and Land Management Policy

Stora Enso's Wood and Fibre Sourcing, and Land Management Policy outlines the approach to responsible sourcing of wood and fiber from sustainably managed forests and tree plantations. The policy addresses sustainable forest and land management practices, which safeguard the health and ecological functions of ecosystems and help conserve biodiversity, soil, and water resources. The policy also addresses the prevention of negative impacts and potential risks to biodiversity that may arise from unsustainable forest management and harvesting practices or levels. The Environmental Guidelines introduced in ESRS E1-2 further elaborate on the policy objectives. The key contents of the policy include:

- utilising wood in an efficient way to ensure high added value from the resources;
- promoting sustainable forest and land management practices with forest owners;
- monitoring the condition of forests and results of management activities, and using, for example, forest certifications to promote and verify sustainable forest management;
- utilising traceability systems to ensure that all the wood and fiber used in own operations originates from legal sources;
- designing and managing tree plantations as part of local land use and contributing to sustainable livelihoods;
- recognising the unique economic and cultural rights of indigenous peoples.

In addition, the policy forbids procurement of wood and fiber which:

- has been illegally harvested;
- logged in protected areas or areas currently undergoing official processes of designation for protection, unless the logging is clearly in line with national conservation regulations;
- harvested in forests where High Conservation Values are threatened by logging;
- sourced from areas undergoing conversion from forest or other wooded ecosystems to plantations or non-forest uses, unless such conversion is justified on grounds of net social and environmental gain; or
- harvested in violation of traditional rights or civil rights.

The scope of the policy cover the Group's own operations and upstream value chain, and EVP, Forest division, is accountable for implementation of the policy. The policy does not specifically relate to material dependencies, or physical and transition risks or opportunities.

Supplier Code of Conduct

The Supplier Code of Conduct sets the minimum requirements on suppliers with the obligation to protect the environment, among other topics. It specifically obliges the supplier to understand the connections that its business may have on impacts on biodiversity and, as relevant, act to safeguard biodiversity. The policy addresses the negative impacts and risks, which may result from unsustainable forest management practices. The Supplier Code of Conduct is required to be signed as part of the pre-qualification process. See ESRS E1 for further details on the policy.

Biodiversity and ecosystem protection is included in Stora Enso Wood and Fibre Sourcing, and Land Management Policy. Stora Enso has not adopted policies specifically to sustainable sea practices.

Actions and resources related to biodiversity and ecosystems (E4-3)

Science and technology to model current and future impacts

The following two actions contribute towards the objectives of the Wood and Fibre Sourcing, and Land Management Policy. The actions relate to the opportunities enabled by new technology for optimised biodiversity management and conservation, and enhancing positive biodiversity impact. The actions support the achievement of the net positive target on biodiversity as described in ESRS E4-4.

1) Creation of a science-based framework to validate the net positive impact on biodiversity in the Nordic forests. Leveraging science, technology and data, the framework will enable forecasting of biodiversity impacts and thus allows operations to be adapted towards the net positive target. The backbone of the science-based framework is built on digital forest data. In early 2024, Stora Enso signed a partnership with the International Union for Conservation of Nature (IUCN) to gain external expert insights for further development of the framework. Scope of the framework encompasses the Group's own operations and managed forests in the Nordics (upstream value chain). The framework is being developed through the collaboration and expected to be finalised within the coming years.

2) The development of advanced technologies supports the goal of enabling a more integrated approach to managing biodiversity and wood production in forest landscapes. Precision forestry programme utilises Artificial Intelligence to create a highly accurate digital twin of the forest, integrating multiple data layers into a digital platform. This data can be used to model forest management actions in a certain area and predict their potential impact on rare species. The scope of the action covers the Group's own and managed forests, and is expected to continue medium to long term.

Biodiversity and sustainable forestry

Stora Enso strives to actively enhance biodiversity as an integral part of sustainable forest management. The following three actions contribute to the Group's net positive target on biodiversity, and the objectives of the Wood and Fibre Sourcing, and Land Management Policy.

1) Biodiversity action programme, implemented in 2022 for the Group's own forest in Sweden, aims to employ management measures to enhance biodiversity throughout the forest's life cycle. Some aspects of this programme have also been extended to private suppliers' forests in the Nordics. The monitoring of these activities is currently under development, and so far, primarily demonstrated through a set of science-based biodiversity indicators to holistically monitor different aspects of biodiversity (see ESRS E4-5). Additionally, Stora Enso collaborates with private forest owners in Finland, Sweden, and the Baltics to support them in biodiversity and forest management, utilising insights also from the forest owners.

2) In the Northern forests, Stora Enso is dedicated to long-term forest management that adheres to the principles of sustainable forest management. In retention forestry (even-aged forestry), the most common method in the North, thinning occurs in middle-aged forests to promote growth of vital trees for a healthy forest. Final harvesting involves clear-felling while retaining biodiversity features such as living trees in groups and buffer zones, and conserving and producing deadwood. The forest is regenerated by planting seedlings adapted to the site. The species and structural diversity of the forests are enhanced through natural regeneration during the rotation cycle. Some examples of the action carried out in the Northern forests during 2024 included:

- Restoring wetlands in the Group's own forest in Sweden, and in Finland in collaboration with Tornator to improve the conditions for various species. In the long run, wetlands will turn into carbon sinks. In the Group's own forest in Sweden, approximately 20 hectares of wetland was restored during 2024.
- Restoring sunny slope environments in Finland, an area that is more exposed to sunlight and consequently creates a unique habitat, in collaboration with Tornator, to enhance the conditions for species that thrive in these areas.
- Approximately 39 million tree seedlings planted or delivered for planting in the Nordics.

3) In 2023, new biodiversity indicators were introduced for Stora Enso's joint operations in South America's plantation areas to demonstrate the link between biodiversity management actions and their outcomes, ensuring that purposeful biodiversity measures are implemented with monitorable results. The implementation is expected to continue in the coming years.

Forest certification and deforestation-free practices

Stora Enso takes continuous actions to respond to the objectives of the Wood and Fibre Sourcing and Land Management Policy and the Supplier Code of Conduct on sustainable sourcing of wood and sustainable forest management practices. Continuous forest regeneration measures are complemented by the following three actions to address the risk related to non-compliance in harvesting operations.

1) Stora Enso has implemented forest certifications and third-party traceability systems to know the origin of the wood and to ensure that it comes from sustainable sources. These include the Forest Stewardship Council's (FSC) Chain of Custody/Controlled Wood scheme, the Chain of Custody/Due Diligence System of the Programme for the Endorsement of Forest Certification (PEFC), and the ISO 14001 environmental management system. The action continues on long-term and encompasses all wood sourcing operations (own operations and upstream value chain).
It contributes to the target on forest certification coverage described in ESRS E4-4.

2) Stora Enso does not establish tree plantations in natural forests, protected areas, or water-sensitive locations, and only uses land with low biodiversity values, such as former pastureland. The action continues on long-term and encompasses plantations in South America.

3) In 2024, the Group's 50% owned joint operation, Montes del Plata in Uruguay, received the FSC Ecosystem Services recognition (FSC-C016979) acknowledging the performance of companies that take action on the restoration and conservation of forest ecosystem services. Veracel, the 50% owned joint operation in Brazil, was the first company in Brazil with planted forest to receive this recognition in 2020 (FSC-C017612).

For engagement with affected communities, see ESRS S3.

Resources to manage biodiversity and forest management

Forests are a locally available strategic resource. At the end of 2024, Stora Enso's forest assets, including leased land, were valued at EUR 8.9 billion, spanning 2.1 million hectares globally. Stora Enso meets 36% of its wood raw material needs from its own sources and long-term agreements. The Group's forests assets contribute to carbon sequestration (described in ESRS E1-7), biodiversity conservation, and the mitigation of financial risks related to wood dependency and availability. For more information on Stora Enso's forest assets and related valuation, see Financial Statements, note 4.2 Forest Assets.

In addition to owning forests, Stora Enso's current resources (and those anticipated for the future) to manage biodiversity and forest management include operative costs related to personnel in the biodiversity programmes and forest management, operating tree nurseries, forest certification fees, and the development of precision forestry.

During the year, Stora Enso supported restoration activities related to an environmental incident in Hukkajoki, Finland, by approximately 150,000 euros. The incident is being investigated as a serious nature conservation crime and further described in ESRS E4-4. Additionally, following the incident, Stora Enso has entered into negotiations with Metsähallitus Parks & Wildlife Finland concerning long-term cooperation aimed at protecting and restoring the habitat of freshwater mussels in river water systems in Finland.

In 2024, the Group's Forest management and Conservation forestry - related EU taxonomy-eligible opex was EUR 25 million and capex EUR 9 million. Description of taxonomy-eligible activities is provided in the section on EU Taxonomy.

Stora Enso has not used biodiversity offsets in its action plans.

Targets related to biodiversity and ecosystems (E4-4)

Biodiversity

Stora Enso is committed to achieving a net-positive impact on biodiversity in its own forests and plantations by 2050 through active biodiversity management. Biodiversity impact indicators measure how well biodiversity is preserved in harvesting, according to internal standards and requirements. Stora Enso's current target is to reach 90% performance for each indicator, meaning that at least 90% of surveyed sites meet the best practices for biodiversity as defined in the Group's biodiversity requirements. The target was set in 2022, with a baseline value 84%. The target is to reach 100% performance for each indicator by 2030. At the end of 2024, the total compliance rate was 89%, progressing towards the target set for 2030.

The target relates to identified impacts in relation to the Group's own operations and upstream value chain, and is aligned with Stora Enso's Wood and Fibre Sourcing, and Land Management Policy. When considering the mitigation hierarchy, the target can be allocated to all layers: avoidance, minimisation and restoration of impacts. The target was set before the Kunming-Montreal Global Biodiversity Framework and EU biodiversity strategy for 2030 were established, but is aligned with their targets.

Ecological thresholds and allocations were not considered when setting the target. Whilst the target is set in line with scientific research, it is not based on conclusive scientific evidence. External stakeholders were not included in the target setting. Biodiversity offsets were not used in the target setting.

✔ Accounting principles

Biodiversity indicators measure the compliance ratios of inspected harvesting sites against Stora Enso's specific biodiversity indicators for Sweden, Finland, and the Baltics. The consolidated ratios across the three regions are weighted averages using the harvested volumes in each region as a weight.

Compliance rate of biodiversity impact indicators	Unit	2024
High stumps creation	%	82%
Ground deadwoods preservation	%	83%
Soil and water protection	%	94%
Prioritised habitat preservation	%	96%
Tree retention	%	85%
Buffer zone preservation	%	93%
Total	%	**89%**

Forest certification

Biodiversity is an integral part of forest certifications, including protection of valuable ecosystems. To promote sustainable forest management practices and related positive impacts, Stora Enso has set a continuous target to maintain a forest certification coverage level of at least 96% for the Group's own and leased forest lands. The target was set in 2013, with a baseline value 93%. The forest certification coverage has remained stable and amounted to 99% in 2024.

The geographical scope of the target includes Stora Enso's owned lands in Sweden, owned and leased lands in China, and owned and leased lands of its joint operations in Uruguay and Brazil. The target relates to identified impacts in relation to its own and upstream value chain, and is aligned with Stora Enso's Wood and Fibre Sourcing, and Land Management Policy.

When considering mitigation hierarchy, the target can be allocated to minimisation and restoration of impacts. Ecological thresholds and allocations were not considered when setting the target, and it is not based on conclusive scientific evidence. The basis for reporting (FSC certificates) is verified by FSC, but the consolidated metric is not validated by an external body other than the assurance provider. External stakeholders were not included in the target setting. Biodiversity offsets were not used in the target setting.

✔ Accounting principles

The forest certification scheme coverage is calculated based on the proportion of land in wood production and harvesting owned or leased by Stora Enso that is covered by forest certification schemes. Reporting on total land area and its forest certification coverage is aligned with financial reporting on forests assets.

Target related to biodiversity and ecosystems	Unit	2024
Forest certification scheme coverage	%	99%

Sustainable forestry

Stora Enso has a target on zero environmental non-compliances, as described in ESRS E2-3. Stora Enso defines a significant non-compliance related to forestry operations as a legal environmental non-compliance or permit violation, or a breach that has irreversible environmental or social impact. Target was not met for 2024, as there were 12 non-compliance events related to sustainable forestry or biodiversity.

Ecological thresholds and allocations were not considered when setting the target, and it is not based on conclusive scientific evidence. External stakeholders were not included in the target setting. Biodiversity offsets were not used in the target setting.

Biodiversity or forestry related significant non-compliance events

Non-compliance events	2024
Number of significant non-compliance events related to sustainable forestry or biodiversity	12

Location	Description of the event	Corrective and preventive measures
Forest, Finland	River crossing without correct water protective measures caused significant damage to local population of freshwater pearl mussels.	Immediate restoration of the river crossing site was initiated. This incident led to the development of a comprehensive programme to enhance training for staff, contractors, and subcontractors, as well as improving the planning and implementation of forestry and water conservation measures near sensitive habitats. The costs related to the incident are described in ESRS E4-3.
Forest, Finland	Crossing of a small creek without correct water protective measures linked to small-scale disturbance to freshwater pearl mussels.	Instructions and procedures related to water crossings updated and training provided.
Forest, Finland	Harvesting too close to a water spring.	Updated procedures for communication between planner and harvesting operator to verify work instructions.
Forest, Finland	Wood stored on site of hybrid pasque flower, a rare spring flower.	An IT system limitation identified and removed.
Forest, Finland	An area of 0.06 ha of private conservation area was logged.	Updated procedures to ensure that the most recent map information will be included in harvesting instruction.
Forest, Finland	Harvesting without forest use declaration.	IT system error identified and corrected.
Forest, Sweden	Road pipe connected to a stream in the Natura2000 area changed without necessary consultation with County Administration Board.	New routines for Natura2000 areas and connected streams.
Forest, Sweden	Harvesting too close to individual findings of the orchid Goodyera repens.	Review of instructions to ensure that planning of sites in areas with known findings is conducted only during the flowering period to facilitate sightings.
Forest, Sweden	Groundwork preparing for a quarry was done outside the permitted time-period, risking disturbance to a nesting golden eagle.	New routines for establishing quarries were created.
Forest, Sweden	Quarry enlarged 24 m^2 outside permitted area.	Mark all quarries with legal permits in the field.
Forest, Sweden	Harvesting 1.7 ha without harvesting notification.	New routines established for harvesting sites with multiple measures.
Forest, Sweden	Harvesting 1.3 ha without harvesting notification.	New routines established for harvesting sites with multiple measures.

Impact metrics related to biodiversity and ecosystems change (E4-5)

Stora Enso has selected three types of indicators to measure biodiversity based on their value for forest biodiversity according to science:

- Biodiversity impact indicators monitor harvesting operations in the Northern forests as reported in ESRS E4-4.
- Long-term biodiversity indicators follow developments in response to the biodiversity action programme in the Group's own forest in Sweden.
- Biodiversity indicators for tree plantations monitor developments in South American plantations, where biodiversity is protected and restored in dedicated set-aside areas. These metrics are not disclosed as part of Stora Enso's Sustainability Statement due to the lack of direct operational control. Stora Enso exercises its ownership share to negotiate on the required actions to advance positive impacts.

All these indicators have been used internally for years, but recently Stora Enso has started to report them externally on its website to enhance transparency.

In 2024, some of Stora Enso's sites negatively impacted biodiversity-sensitive areas. The descriptions and impacted hectares for incidents are disclosed in ESRS E4-4.

Key forest-related figures

✔ Accounting principles

As wood is Stora Enso's most important raw material, information on company-owned forest resources (type, standing stock, growth, harvesting, and certification) is essential for contextualising the biodiversity impacts of the operations. Aligned with the Financial Statements, the figures include the wood procurement of the joint operations according to the ownership share (50%).

Wood procurement includes total amounts of wood (roundwood and chips) procured for delivery to Stora Enso's units (million m^3, solid under bark). The reporting on third-party certified wood as a percentage of total supply is based on actual deliveries to the mills. Internal deliveries between the mills have been eliminated.

Metrics related to forest	Unit	2024
Total amount of wood delivered to Stora Enso's sites	million m^3	29.0
% of third-party certified wood of total wood supply	%	85%
% of wood from own sources or long-term supply agreements	%	36%
% of wood from managed semi-natural forests in Europe	%	83%
% of wood from tree plantations	%	17%

The estimated annual forest growth and total standing stock are counted for productive forest areas. Million m^3 fo refers to million forest cubic meters. The annual forest growth figures are based on estimates, whereas the annual harvesting is based on actual data. Total standing stock and the related accounting principles are disclosed in the Financial Statements, note 4.2 Forest assets, section 'Valuation and standing stock of forest assets'.

Annual forest growth and harvesting and total standing stock	Unit	2024
Estimated annual forest growth	**million m^3 fo**	**13.9**
Stora Enso's own forests, Sweden		5.9
Tornator (41%)		1.5
Guangxi		1.2
Montes del Plata (50%)		2.9
Veracel (50%)		2.3
Annual harvesting	**million m^3 fo**	**10.5**
Stora Enso's own forests, Sweden		4.1
Tornator (41%)		1.4
Guangxi		1.1
Montes del Plata (50%)		2.4
Veracel (50%)		1.6
Total standing stock	**million m^3 fo**	**214.6**
Stora Enso's own forests, Sweden		153.7
Tornator (41%)		33.8
Guangxi		4.2
Montes del Plata (50%)		16.0
Veracel (50%)		6.8

Forests, plantations and lands as of 31 December 2024

✔ Accounting principles

To provide information on the extent of ecosystems, Stora Enso has prepared an entity-specific disclosure on the hectares of the material forest lands. Figures for land areas, and their forest certification coverage, include Stora Enso's own and leased forest assets. The figures measure area coverage, rather than condition of ecosystems. For more information, see Financial Statements, note 4.2 Forest assets.

Aligned with the Financial Statements, the joint operations and the equity-accounted investment in Tornator, Finland, are consolidated based on Stora Enso's ownership stakes in these companies.

Unit	Area[1]	Certification coverage	Details of local landscapes and protected areas
Owned lands			
Swedish forest holdings	1,410,000 ha, of which 1,150,000 productive forest land	PEFC and FSC for 1,410,000 ha	Protected areas total to 451,000 ha and consist of productive or non-productive land, which has been set-aside from wood production and infrastructure development either voluntarily or by legal requirements.
Montes del Plata plantations and lands, Uruguay (50% owned joint operation with Arauco)	223,000 ha, of which 130,000 ha planted for pulp production	PEFC and FSC for 190,000 ha; FSC 32,000 ha	Protected areas total to 90,000 ha and consist of remnants of native ecosystems, such as grasslands and riparian forests, within the company's lands. Local landscape consists mainly of pasturelands and agricultural fields.
Veracel plantations and lands, Bahia, Brazil (50% owned joint operation with Suzano)	207,000 ha, of which 82,000 ha planted for pulp production	CERFLOR (PEFC) for 188,000 ha; FSC for 188,000 ha	Protected areas total to 99,000 ha, including 6,000 ha Private Natural Heritage Reserve, and mostly consist of native forest remnants at different stages of regeneration. Local landscape consists of pasturelands and agricultural fields cleared from Atlantic rainforest between the 1950s and 1980s.
Tornator (41%-owned associated company)			
Finland	700,000 ha, of which 626,000 productive forest land	PEFC for 700,000 ha and FSC for 700,000 ha	Protected areas total to 66,000 ha and consist of productive and non-productive land, which has been set-aside from harvesting either voluntarily or by legal requirements.
Estonia	65,000 ha, of which 59,000 productive forest land	PEFC for 65,000 ha and FSC for 65,000 ha	Protected areas total to 2,400 ha.
Romania	12,000 ha, of which 12,000 productive forest land	PEFC for 12,000 ha and FSC for 12,000 ha	Protected areas total to 160 ha.
Leased lands			
Plantations and lands, Guangxi, China	62,000 ha, of which 54,000 ha planted	Chinese Forest Certification Council certificate (PEFC) for 62,000 ha; FSC for 62,000 ha	Protected areas total to 7,600 ha and consist of buffer zones and other important areas for protection of watersheds and native flora and fauna. No pristine ecosystems are found in the leased lands. Local mosaic landscape includes agricultural crop fields, forest plantations, and settlements.
Montes del Plata	85,000 ha, of which 74,000 ha planted	PEFC for 83,000 ha and FSC for 83,000 ha	Protected areas total 11,000 ha and consist of remnants of native ecosystems, such as grasslands and riparian forests. Local landscape consists mainly of pasturelands and agricultural fields. In most of the leased areas, protected areas are excluded from lease agreements.
Veracel	27,000 ha, of which 12,000 ha planted	CERFLOR (PEFC) for 14,000 ha; FSC for 14,000 ha	Protected areas total to 12,000 ha and consist of native forest remnants at different stages of regeneration.

1 Reported as total areas of the companies. Stora Enso's share corresponds to the ownership share. Includes operations where Stora Enso's shareholding is significant and the size of the area exceeds 1,000 hectares.

ESRS E5 Resource use and circular economy

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Contribution to circular economy through products and solutions that enable customers to respond to the growing consumer demand for sustainable products.	Actual positive impact	Short, medium, and long term	Own operations, upstream and downstream value chain	Resource outflows related to products and services
Significant amounts of resource outflows generated through products. Most of Stora Enso's products are technically recyclable, but actual recyclability and circular economy depend on system level changes.	Actual negative impact	Short, medium, and long term	Downstream value chain	Resource outflows related to products and services
While most of the residuals from industrial operations are utilised in other production processes, waste is still generated and landfilled.	Actual negative impact	Short, medium and long term	Own operations, joint operations	Waste
Industrial operations require significant volumes of raw materials. While most of the total process material usage is based on renewable materials, sourcing these raw materials has an impact on people and the environment (for example, a negative impact on biodiversity; see ESRS E4).	Actual negative impact	Short, medium, and long term	Own operations, joint operations, upstream value chain	Resources inflows, including resource use
Dependency on upstream value chain for raw materials. The ongoing nature crisis may cause supply chain disruptions. Increasing regulation may impact the raw material costs. Increasing input costs or availability of materials, goods and services may adversely affect Stora Enso's profitability. Climate change related impacts are described in ESRS E1.	Risk	Medium and long term	Own operations, joint operations, upstream value chain	Resources inflows, including resource use
Stora Enso's strategy is strongly aligned with circular economy principles, focusing on generating revenue through renewable products. The Group's wood-based products serve as carbon capture and can be reused, recycled, or converted into energy at the end of their lifecycle. Furthermore, Stora Enso has made a significant investment in expanding its board production capacity in Oulu, Finland, and actively supports recycling through strategic partnerships and investments in recycling infrastructure. The Group also sees substantial opportunities in transforming process residuals into new products through innovation and research, thereby generating new revenue streams and reducing waste.	Opportunity	Short, medium, and long term	Own operations, upstream and downstream value chain	Waste; Resource outflows
Regulatory changes can also present significant opportunities by driving market growth for sustainable products and creating competitive advantage through resource efficiency and renewability.	Opportunity	Short, medium, and long term	Own operations, upstream and downstream value chain	Waste; Resource outflows

Policies related to resource use and circular economy (E5-1)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

Circularity Guidelines

The Circularity Guidelines outline the Group's commitment to contributing to a circular economy and addressing the opportunities and positive impacts outlined in the table 'Material impacts, risks and opportunities'. The core principles of the guidelines encompass design for renewable and recycled materials, reducing the use of virgin material, a commitment to using fewer resources to produce a product, and designing out waste. The design for circular business models encompasses circular sourcing, which involves procuring products and services that align with circular economy principles. The guidelines cover the Group's full materials value chain and all geographies. The accountability for the implementation of the guidelines lies with the EVP, Head of each division.

Environmental Guidelines

The Environmental Guidelines describe the approach to environmental management (see ESRS E1-2). Related to circularity and resource use, the guidelines outline the commitment to use renewable forest-based resources – both virgin and recycled fiber – to promote circularity. This entails using of raw materials efficiently, reducing process residuals, reusing fiber, creating business opportunities from process residuals and by-products, and reducing waste to landfills to close to zero. Additionally, the guidelines emphasise seeking partnerships with stakeholders and customers to introduce new renewable products to the market. Stora Enso is committed to responsible sourcing to protect ecosystems, preserve biodiversity, and safeguard soil and water resources. The Group supports sustainable forest management and requires its external pulp suppliers to adhere to similar principles in wood and fiber procurement.

The guidelines address the management of all the material impacts, risks, and opportunities listed in the table 'Material impacts, risks and opportunities'.

Actions and resources related to resource use and circular economy (E5-2)

The actions described below support the objectives of both the Environmental Guidelines and Circularity Guidelines.

Circular products and solutions

Stora Enso creates positive impacts and identifies opportunities in the circular economy through its wood-based products. Negative impacts are associated with the amount of outflows which are managed through the actions described below to ensure recyclability.

1) Designing for recyclability is integrated in product development to ensure that the Group's materials are widely accepted in recycling streams and capable of being transformed into new products. This is a continuous action to meet the Group's target of 100% technically recyclable products by 2030.

2) Expansion of capacity within consumer packaging with a EUR 1 billion investment in Oulu, Finland, to convert the idle paper machine into a high-volume consumer board production line. The new line, set to start operations in the first half of 2025, utilises new technologies that enable lighter packaging materials and greater resource efficiency. The mill will leverage by-products from forest management and wood processing for the manufacturing of products.

3) Further development of Stora Enso's building concepts using mass timber products, which enable the design of mixed-use, flexible, and adaptable buildings. An example of this is the new Stora Enso head office in Helsinki, Finland, completed in 2024. The building features lightweight, prefabricated mass timber elements, designed for adaptability to future needs.

The risk associated with the Group's products are linked to climate-related supply chain disruptions and changes in regulatory requirements. Regulatory changes can also bring opportunities by driving market growth for sustainable products and create competitive advantages through resource efficiency and renewability. To address these risks and opportunities, Stora Enso actively monitors regulatory developments and participates in trade and industry associations dedicated to advancing recycling practices in society.

Value chain cooperation

Stora Enso has identified opportunities to enhance the collection, sorting, and recycling infrastructure for recyclable products through partnerships and collective initiatives. The long-term action consists of various collaborations and initiatives, such as:

- Improvement of collection, sorting, and recycling of post-consumer paper and packaging materials in Europe. The production site in Ostrołęka, Poland, features a beverage carton recycling facility that detaches fibers from polymers and aluminium. These fibers are then recycled into cartonboard materials, contributing to material circularity by transforming used paper-based packaging into new paper-based materials. The non-fiber fraction of the cartons, polyAl, is recovered and recycled in a dedicated facility by a Swedish packaging company Tetra Pak.
- Continuous active participation in the cross-industry alliance 4Evergreen, which develops tools and guidelines for the packaging industry to improve the recyclability of fiber-based packaging.
- Involvement in the four-year European innovation project, Woodcircles, which aims to enhance the circular utilisation of wood in construction. The collaboration focuses on reducing waste and resource consumption, with Stora Enso responsible for developing a construction product made from recycled wood material.

Resource use

To prevent and minimise actual negative impacts on environment caused by resource-intensive production processes, Stora Enso continuously focuses on enhancing resource efficiency and reducing waste. The actions to minimise waste are closely connected with the opportunities to transform side streams into new products, aligned with the target for the utilisation of process residuals (see ESRS E5-3). Key actions during the reporting year:

1) Utilisation of secondary raw material: in Poland, Stora Enso owns and manages a network of fourteen depots, where Paper for Recycling (PfR) is collected and baled for transportation to Stora Enso's Ostrołeka site in Poland and to external PfR customers.

2) Continuous development to reduce polymer content in barrier coatings to minimise environmental impacts, with most recent new product launched in 2023. In 2024, Stora Enso also continued its engagement in the Recycled Materials Challenge (ReMatCh) programme, collaborating with value chain partners on how to better apply the cascading principle to polymers, particularly those found in barrier layers.

3) Collaboration in a new five-year research programme, 'Emission Free Pulping', led by VTT Technical Research Centre of Finland and the Swedish research institute RISE. The programme aims to significantly reduce biomass burning and increase the product yield from wood, from approximately 50% to around 70%.

4) Partnership with Altris, a Swedish developer of sodium-ion batteries, to drive the adaptation of Stora Enso's lignin-based product in Altris' sodium-ion battery cells, supporting the establishment of a European battery value chain.

5) Long-term agreement with Södra, Sweden's largest forest owner association, under which Södra will supply Stora Enso with kraft lignin from Södra's Mönsterås site in Sweden. The facility is set to begin operations in 2027.

6) Collaboration with Stora Enso's Forest division in Finland and the mills in Imatra, Heinola, Enocell, and Oulu with the overall aim of creating a new forest ash fertiliser product using ash from the mills. The first steps were taken in 2024, and the work towards achieving this goal continues in 2025.

Efforts to enhance energy efficiency are described in ESRS E1, and water efficiency actions in ESRS E3.

To address the risk related to dependency on upstream value chain for raw materials, Stora Enso entered into an agreement to acquire 100% of the Finnish sawmill company Junnikkala Oy. The acquisition aims to secure a cost-efficient wood supply for Stora Enso's packaging board site in Oulu, Finland, and to support Stora Enso's wood products business with new production assets. The transaction is subject to customary closing conditions including regulatory approvals.

Resources related to resource use and circular economy

Stora Enso's current and future resources to manage opportunities under circular economy consist of capital expenditures related to product portfolio optimisation, such as the Oulu site conversion project in Finland (Action 2. described under 'Circular products and solutions'). Further details on investments can be found in the Financial Statements, note 4.1 Intangible assets, property, plant an equipment and right-of-use assets.

In 2024, Stora Enso signed a EUR 435 million bilateral loan with the European Investment Bank to support the financing of the Oulu investment. In addition, Stora Enso has two outstanding green bonds issued in 2023, with part of the proceeds being used to support the investment in Oulu. Further details on interest-bearing assets and liabilities can be found in the Financial Statements, note 5.3 Interest bearing assets and liabilities.

Targets related to resource use and circular economy (E5-3)

Circular economy

To address the opportunity related to the Group's resource outflows associated with its products and services, Stora Enso has set a target to increase circular product design, aiming for 100% technical recyclability of its products by 2030. The target was established in 2021, with a baseline value 93%. By the end of 2024, 94% of the Group's products were technically recyclable.

The target aligns with one of the core principles of the Group's Circularity Guidelines, 'Design for recyclability', and relates to the EU's waste hierarchy category 'Recycling'. This target is not mandated by regulation and is not based on conclusive scientific evidence. External stakeholders were not involved in setting the target.

✔ Accounting principles

Product circularity is calculated based on the technical recyclability of products and their production volumes consolidated as tonnes. The figures are based on actual weight or estimates based on weight conversion. Technical recyclability is defined by international standards and tests when available, such as those by CEPI (Confederation of European Paper Industries) and PTS (Papiertechnische Stiftung). In the absence of these, Stora Enso's own tests or estimates that prove recyclability are used.

The reporting scope includes Stora Enso's packaging, pulp, paper, and solid wood products, as well as biochemical by-products.

Target related to circular economy	Unit	2024
Technically recyclable products	%	94%

Resource efficiency

To address the negative impact related to residuals and waste generated in Stora Enso's production processes, the Group has set a waste management target related to waste diverted from disposal, specifically the process residuals utilisation rate. The continuous target is to maintain the utilisation rate above 98%. The target was set in 2017, with a baseline value 98%. By the end of 2024, the utilisation rate was 99%, and above the target level.

The target aligns with the Environmental Guidelines and aims to minimise waste, relating to the EU's waste hierarchy category 'Other recovery' (for example, energy recovery). This target is not mandated by regulation and is not based on conclusive scientific evidence. External stakeholders were not involved in setting the target.

✔ Accounting principles

The figures cover process-related residuals and waste from all production units, excluding joint operations. Residuals and waste not related to production processes are reported separately. The figures are consolidated as dry tonnes. The figures are based on actual weight or estimates.

The target covers process waste and residuals, such as ash, sludge, chips, and wood waste from production units. Utilisation includes energy generation, landscaping, landfill construction, road construction, pulp manufacturing, brick and cement manufacturing, and agricultural use, as well as new approaches and products. The scope excludes sawdust and wood cutting savings for internal pellets production. Tall oil, turpentine, lignin, sodium biosulphite, biocomposite, and soap are considered products and therefore excluded.

Target related to resource use	Unit	2024
Process residuals utilisation rate	%	99%

Resource inflows (E5-4)

Stora Enso's operations require significant volumes of raw materials, creating a dependency on the upstream value chain. While most of the total process material use is based on renewable materials, sourcing these raw materials has impacts the environment and people. The ongoing nature crisis may cause supply chain disruptions, and increasing regulation may affect raw material costs. Climate change-related impacts are described in ESRS E1.

Stora Enso's critical raw material is wood. The Group's fiber-based products are derived from renewable resources, primarily wood fibers from sustainably managed forests. In 2024, 93% of the total resource inflows were based on biological materials, including wood, purchased pulp, paper and board, and starch. Many of the products are FSC or PEFC certified, or receive other verification for responsible chain-of-custody and due diligence. The proportion of third-party certified wood in Stora Enso's total wood supply was 85%, resulting in a total of 77% sustainably sourced biological materials used in 2024. The Group applies the principle of cascading use of wood, ensuring that all parts of harvested trees, forestry residuals, and industrial side streams are used in the most economically and environmentally efficient way before being used as energy.

In 2024, Stora Enso utilised 1.3 million tonnes of Paper for Recycling (PfR) in its products, such as recycled newsprint and containerboard. By actively collecting, sorting, and recycling materials, Stora Enso helps to ensure that the value of renewable materials is prioritised, with recycled content directed toward the highest-value applications.

Chemicals, pigments, and fillers comprise approximately 4% of the Group's total material use. Chemicals are assessed before purchase and use, ensuring requirements are adequately addressed for legal compliance, health and safety, environmental protection, product safety, eco-labels, and circularity. Stora Enso works to substitute dangerous chemicals and engages with suppliers to find alternative products.

Plastics used for products and their packaging include fossil-based virgin plastics 47,900 tonnes, bio-based virgin plastics 4,600 tonnes, and recycled plastics 1,200 tonnes.

The majority of Stora Enso's product portfolio comprises raw materials and packaging solutions designed for customers' products. Therefore, Stora Enso's own packaging for its products mainly consists of wraps and pellets. The share of packaging out of the total material inflow is estimated to be 2%.

Stora Enso is dependent on water for its production processes, as disclosed in ESRS E3.

✔ Accounting principles

Metrics related to resource inflows cover biological and technical process raw materials used for products and their packaging as delivered to Stora Enso's production units. Aligned with the Financial Statements, the figures include the joint operations according to ownership share (50%).

The figures are based on actual weight measurement or delivered values. Wood is converted from delivered cubic meters to fresh tonnes (including water content) by using an average conversion factor for tree species processed by Stora Enso. The data is reported by each mill to the Group's environmental reporting system.

Metrics related to resource inflows	Unit	2024
Wood	thousand tonnes	31,743
Purchased pulp, paper and board	thousand tonnes	620
Starch	thousand tonnes	114
Total weight of biological materials	**thousand tonnes**	**32,477**
Chemicals	thousand tonnes	819
Pigments and fillers	thousand tonnes	417
Plastics	thousand tonnes	54
Recycled board and paper	thousand tonnes	1,329
Total weight of technical materials	**thousand tonnes**	**2,618**
Total weight of materials	**thousand tonnes**	**35,095**
Sustainably sourced biological materials used to manufacture the products	%	77%
Secondary reused or recycled materials	%	4%
Secondary reused or recycled materials	thousand tonnes	1,330

Resource outflows (E5-5)

Products and materials

Stora Enso contributes to the circular economy through its products and solutions that enable customers to respond to the growing consumer demand on sustainable products. Through an in-depth customer understanding and close relationships with its customers, Stora Enso designs products to be functional and valuable throughout their lifecycle. The Group's circular guidelines are disclosed in ESRS E5-1 and actions regarding circular products and solutions are detailed in ESRS E5-2. The technical recyclability of Stora Enso's products is disclosed in E5-3. Since Stora Enso is mainly a producer of materials rather than products, the expected product durability and repairability are not relevant to report for the Group.

Stora Enso has an opportunity to contribute to society with renewable raw materials and solutions: wood-based products serve as alternatives to fossil-based materials, and can be reused, recycled, or used for energy at the end of their lifecycle. The Group also provides recycling solutions and services through its use of recycled materials (packaging and paper), and in its partnerships and investments in recycling infrastructure.

The key products and materials from production sites consist of packaging, pulp, paper, and solid wood products as well as biochemical by-products. In 2024, approximately 92% of the materials used in products and their packaging were renewable, including wood, recycled board and paper, and starch. The majority of Stora Enso's products are either raw materials or packaging designed for customers' products. Therefore, Stora Enso's own packaging for its products mainly consist of wrappings and pellets. The share of packaging in the total materials and products put on the market is estimated to be 2%.

✔ Accounting principles
The rate of recyclable content in products are calculated according to principles disclosed in ESRS E5-3, based on the technical recyclability of products and their production volumes consolidated as tonnes. The figures are based on actual weight or estimates based on weight conversion. In addition, an estimate of the weight of the packaging and its recyclable content is included. When calculating the rate, the numerator used is the weight of the recyclable content in the products and their packaging, while the denominator is the total weight of the products and their packaging. In order to avoid double-counting, internal deliveries are eliminated from the figures.

Metrics related to resource outflows	Unit	2024
Rate of recyclable content in products and products packaging	%	92%

Waste

In 2024, Stora Enso's total amount of waste generated was 1,365 thousand tonnes, out of which 93% was diverted from disposal. The majority of the generated waste constituted of bark and mixed sludge. Stora Enso's sites generate and distribute energy to local district heating systems and industrial partners, largely based on the incineration of harvesting and production process residuals. For more information, see ESRS E1-5.

✔ Accounting principles
Stora Enso's waste reporting builds upon relevant EU legislative frameworks and policies including the EU Circular Economy Action Plan, Directive 2008/98/EC of the European Parliament and of the Council (Waste Framework Directive) and the EU industrial strategy. For forest industry, the relevant waste streams include ash, sludge, chips, and wood waste from production units.

The figures include waste from all production units. In addition, aligned with the Financial Statements, the figures include the Group's joint operations according to ownership share (50%). The waste generated at offices are included based on estimates.

Diversion from disposal includes energy generation, landscaping, landfill construction, road construction, pulp manufacturing, brick and cement manufacturing, and agricultural use.

To avoid double-counting, the scope excludes sawdust and wood cutting savings for internal pellets production. Materials with official by-product status are excluded from the reported waste, and include methanol, bark, ash, tall oil, turpentine, sodium biosulphite, and soap.

The waste figures are consolidated as dry tonnes, and the figures are based on actual weight measurement. The data is reported by each mill to the Group's environmental reporting system.

Metrics related to resource outflows	Unit	2024
Total amount of waste generated	**thousand tonnes**	1,365
Total amount of waste diverted from disposal	**thousand tonnes**	1,273
Non-hazardous waste	thousand tonnes	1,249
Preparation for reuse	thousand tonnes	42
Recycling	thousand tonnes	219
Other recovery operations	thousand tonnes	988
Hazardous waste (incl. radioactive)	thousand tonnes	24
Preparation for reuse	thousand tonnes	22
Recycling	thousand tonnes	0
Other recovery operations	thousand tonnes	1
Total amount of waste directed to disposal	**thousand tonnes**	92
Non-hazardous waste	thousand tonnes	47
Incineration	thousand tonnes	1
Landfill	thousand tonnes	40
Other disposal operations	thousand tonnes	6
Hazardous waste (incl. radioactive)	thousand tonnes	45
Incineration	thousand tonnes	2
Landfill	thousand tonnes	41
Other disposal operations	thousand tonnes	1
Total amount of non-recycled waste	thousand tonnes	1,145
Percentage of non-recycled waste	%	84%
Total amount of hazardous waste	thousand tonnes	69
Total amount of radioactive waste	thousand tonnes	0

Social information

In this section

ESRS S1 Own workforce

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Stora Enso offers employment opportunities for approximately 19,000 employees.	Actual positive impact	Short, medium, and long term	Own operations, joint operations	Secure employment
Active promotion of work-related rights, such as freedom of association, collective bargaining agreements, work councils, and trade unions.	Actual positive impact	Short, medium, and long term	Own operations	Social dialogue; Freedom of association
Promotion of gender diversity and equal wage in a male dominant industry.	Actual positive impact	Short term	Own operations	Diversity; Gender equality and equal pay for work of equal value
Training and development opportunities for employees.	Actual positive impact	Short, medium, and long term	Own operations	Training and skills development
Stora Enso pays adequate wages to its employees. The Group adheres to minimum wage regulations and pays at par or above the legal requirements.	Actual positive impact	Short, medium and long term	Own operations	Adequate wages
Despite preventive safety measures, safety incidents still occur, particularly at the production sites. Some sites have a higher risk level due to specific equipment and labour-intensive processes.	Actual negative impact	Short, medium, and long term	Own operations, joint operations	Health and safety
Profit improvement programme launched in February 2024, resulting in redundancies across operations.	Actual negative impact	Short term	Own operations	Secure employment
Discrimination, bullying, or harassment might occur despite zero tolerance.	Potential negative impact	Short, medium, and long term	Own operations	Measures against violence and harassment in the workplace
Stora Enso relies on talented individuals to implement its strategy and achieve commercial success. Attracting and retaining qualified personnel may be challenging due to intense competition for top-tier talent. The loss of key employees, the inability to attract new or adequately trained employees, or a delay in hiring key personnel could seriously harm Stora Enso's business and impede reaching the Group's strategic objectives.	Risk	Short, medium, and long term	Own operations	Secure employment
Serious or fatal injuries to employees, contractors, or third parties might occur despite active efforts to identify, mitigate, and manage safety-related risks. Impacts, in addition to physical injury, health effects and environmental damage, could include liability to employees or third parties, damage to reputation, or an inability to attract and retain skilled employees. Government authorities could additionally enforce the closure of Stora Enso's operations on a temporary basis.	Risk	Short, medium, and long term	Own operations, joint operations	Health and safety

S1 disclosure requirement related to ESRS 2 SBM-3

Stora Enso's actual and potential impacts, risks, and opportunities originate from the Group's business model and strategy. The identified positive impacts are a result of a proactive approach to people development, which helps in retaining skilled employees. The Group recognises the importance of having a talented workforce, and through active actions, it aims to retain skilled employees and top-tier talents who are crucial for implementing the Group's business model and strategy, and achieving commercial success. The negative impacts related to restructuring are a direct result of the Group's 2024 profit improvement programme, impacting nearly all of Stora Enso's operations.

The disclosure on ESRS S1 covers all individuals in Stora Enso's own workforce who could be materially impacted by the Group. This includes those employed directly by the Stora Enso, as well as safety of contractors working at the Group's premises. Through its operations, Stora Enso directly impacts approximately 19,000 employees. In addition to its own employees, the Group also works with workers classified as non-employees by ESRS, as there are often contractor employees working at the production sites. The annual maintenance of mills leads to a temporary increase in the number of contractor workers. Furthermore, Stora Enso relies on contractors for the De Jong units in the Netherlands (Business Unit Western Europe), as well as its forestry operations and packaging units in China.

Stora Enso acknowledges that employees at its production sites have a higher likelihood of experiencing safety incidents. Certain sites have been identified as having a higher risk level due to the nature of their operations, which involve specific equipment and labour-intensive processes.

Stora Enso's positive impacts are directed towards its own employees, though these impacts may vary between different locations and countries.

Stora Enso's material impacts do not arise from transition plans for reducing negative impacts on the environment, or achieving greener and climate-neutral operations. The Group has not identified countries, or geographic areas within in its own operations with a heightened risk of compulsory, forced, or child labour.

Policies related to own workforce (S1-1)

The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

Occupational Health and Safety Policy

The policy addresses managing safety risks and potential negative impacts from safety incidents. It outlines safety objectives and governance for health and safety management, integrating them into annual planning and reporting. The scope of the policy covers the Group's own employees and those working on behalf of Stora Enso. The Safety Network, comprising the safety representatives from the divisions and functions, is accountable for the implementation of the policy.

Stora Enso has a safety management system for managing occupational health and safety risks, certified according to ISO 45001:2018. In 2024, 42 out of 57 operational units were externally certified according to the ISO standard.

Stora Enso Code

The Code sets a single set of values for all employees and provides them with the tools to make the right decisions in their work, while promoting transparency and ethics. In relation to topics concerning its own workforce (ESRS S1), the policy addresses risks associated with retaining skilled personnel and preventing potential negative impacts related to discrimination, bullying, or harassment. It also helps to maintain positive impacts related to equal opportunities and treatment. All Stora Enso employees are required to complete the Code training. The scope of the policy covers the Group's own employees, and EVP Legal, General Counsel, is accountable for the implementation of the policy.

Diversity Policy

The Diversity Policy outlines the commitment to an inclusive workplace where individual differences are respected and people have equal opportunities. Similar to the Code, the policy addresses managing actual positive impacts related a diverse and inclusive workplace and the potential negative impacts if failing to take adequate actions. According to the policy, no employee shall face discrimination in hiring, compensation, working hours, advancement, discipline, termination, or retirement based on ethnicity, national or social origin, caste, birth, religion, disability, gender, gender identity, sexual orientation, marital status, family responsibilities, union membership, political affiliation, age, or any other characteristic that could lead to discrimination. The scope of the policy covers the Group's own employees, EVP, People and Communication, is accountable for the implementation of the policy.

To prevent, mitigate, and address discrimination once detected, all employees are required to complete Code training. Additionally, appropriate reporting channels for raising concerns and addressing non-compliance are established. Promotion of actions to advance diversity and inclusion are described in ESRS S1-4.

Human Rights Policy and Guidelines

In relation to its own workforce, the Human Rights Policy and Human Rights Guidelines address positive impacts related to fair employment practices and secure employment.

Stora Enso adheres to The United Nation's Guiding Principles on Business and Human Rights. Stora Enso is also committed to those rights set out in the International Bill of Rights and the ILO Declaration on Fundamental Principles and Rights at Work, as outlined in the Human Rights Guidelines. Alignment with these principles is reflected in the Group's commitment to respecting human rights across its operations and business relationships, and conducting human rights due diligence to identify, assess, and remedy any adverse human rights impacts. The guidelines outline the approach and commitment towards salient human rights issues, of which the relevant for the Group's own workforce are: right to a safe workplace, fair employment conditions, and access to grievance mechanisms. The processes to monitor compliance with aforementioned international standards consists of:

- Ensuring grievance mechanisms are in place and accessible for everyone.
- Reported non-compliance cases.
- Sedex Member Ethical Data Audits (SMETA) conducted regularly, assessing performance against applicable labour standards, as well as health and safety, environmental, and business ethics criteria.
- Annually published Modern Slavery and Human Trafficking Statement describes the Group's actions to prevent modern slavery in its operations and supply chains, in accordance with the United Kingdom's Modern Slavery Act 2015 and the Australian Modern Slavery Act 2018.

The policy outlines the Group's objectives for engaging with affected and potentially affected stakeholders to ensure that its approach and focus on human rights are valid. Engagement with own workforce is described in S1-2. Stora Enso collaborates with stakeholders, affected individuals, and their representatives to find appropriate remedies, including situations where violations are committed by third parties connected to the Group's operations, products, or services. Stora Enso does not obstruct the access of affected stakeholders to other remedy initiatives.

The scope of the policy and guidelines covers the Group's own operations and all business relationships in the upstream and downstream value chain. EVP, Strategy and Sustainability, is accountable for the implementation of the policy and guidelines.

Stora Enso is aligned with the OECD's Guidelines for Multinational Enterprises, the human rights-related principles of the UN Global Compact, and relevant Children's Rights and Business Principles. The Human Rights

Guidelines also address trafficking in human beings, and forced, compulsory, and child labour.

Minimum Human Resources Requirements for Labour Conditions

The Minimum Human Resources Requirements for Labour Conditions establish a set of minimum requirements for all employees to ensure they are treated with respect and fairness. This is linked to a positive impact achieved through a working environment where employees are motivated and able to perform effectively in their positions. The requirements also address the risk related to dependency on skilled workforce. The scope of the policy covers the Group's own employees, and EVP, People and Communication, is accountable for the implementation of these requirements.

The afore listed policies focus on inclusion of all employee groups without specific commitment to individuals from groups at particular risk of vulnerability within the Group's own workforce.

Processes for engaging with own workforce and workers' representatives about impacts (S1-2)

Stora Enso actively engages with its workforce and workers' representatives about actual and potential impacts through a variety of channels and methods at different stages of the employee life cycle. The annual all-employee survey, Engage, is a vital tool for collecting perspectives and providing necessary insight to help teams and the Group to improve. The results of the survey are reviewed by the Group Leadership Team and the Board of Directors, ensuring that employee perspectives are considered in decision-making. The Engage survey also servers as the primary means for tracking effectiveness of engagement.

In 2024, Stora Enso implemented a series of new questions in the Engage survey to gain deeper insights into employees' perceptions of their sense of belonging, being valued, and fair opportunities. Employees also have the chance to submit open feedback and suggestions.

Additionally, 'All Employee' calls provide an opportunity for employees to anonymously submit questions and feedback to management. These calls are arranged bi-monthly, or more frequently if needed. They also serve to inform employees about relevant impacts that affect all employees, including topics such as safety. The group-level initiatives are complemented by various other channels, such as town halls, and personal development discussions. The overall responsibility for the engagement lies with the EVP, People and Communication, whereas the divisions have the operational responsibility on implementation and monitoring.

Stora Enso's occupational health and safety accountability lies within divisions with clearly defined governance practices to promote collaboration and knowledge sharing across the Group. Safety Sponsor is a Group Leadership Team member elected by the CEO for a two-year term to support the safety management and secure reporting of safety matters to the CEO and designated other forums. When necessary, relevant stakeholders such as workers' representatives, contractors, and suppliers are consulted to ensure their input and perspectives are considered in safety-related decisions and initiatives. Majority of engagement takes place at the mills through ongoing, regular activities such as discussions, trainings, and safety walks. The annual Safety Week is organised to share good safety practices among employees and contractors and to support the development of a safer working environment.

Stora Enso has a Global Framework Agreement with the labour unions IndustriAll, UniGlobal, and BWI, which serves to protect the interests of workers with consistent standards across the Group's operations. Stora Enso also works closely with the European Works Council to provide an open and confidential information and consultation procedure between the Company and its employees on the EU/EEA level. The engagement involves yearly meetings with a wider group of union representatives, as well as regular meetings following each Board meeting where the CEO updates the subgroup of key union representatives on the topics discussed during the Board meeting.

Processes to remediate negative impacts and channels for own workforce to raise concerns (S1-3)

Stora Enso provides remedy in situations where its activities have caused or contributed to an adverse impact on employees and engages with affected stakeholders to agree on the best solution for remediation. The effectiveness is assessed case by case and according to the local legislation. Employees are encouraged to feel safe and comfortable speaking up, and as outlined in the Code, Stora Enso does not tolerate any retaliation against a person who in good faith reports misconduct. In restructuring situations, Stora Enso is committed to working closely together with the Group's other locations, the local community, and other relevant stakeholders to support the re-employment and training of the affected employees. The majority of Stora Enso employees are covered by collective bargaining agreements, and in situations involving organisational restructuring, consultation processes with trade unions are carried out according to local legislation and relevant collective bargaining agreements.

Reporting of suspected non-compliances is facilitated via any of the Group's grievance channels, be it personal contact with manager or human resources, e-mail, letter, phone, or anonymously via the third-party 'Speak Up' reporting channel The process for tracking and monitoring issues raised is described in ESRS G1-1 'Non-compliances and protection of whistleblowers'. The Code e-learning is mandatory for all employees and is available also in a mobile-friendly version tailored specifically for production workers. The Code is available in thirteen languages. In addition to the mandatory training, the effectiveness of the channels is supported through communication activities and awareness raising described in ESRS G1-1 'Ethical corporate culture'. As part of the Engage survey, the Group tracks how safe employees feel to speak up or report their concern in case they suspect or experience any form of misconduct.

In case of fatalities, remediation is defined by statutory workers' compensation insurance. The safety reporting tool is used to report safety observations, aiding in the identification and resolution of unsafe situations. Safety incidents are thoroughly investigated, findings are shared with the Safety Network, and appropriate preventive measures are implemented to prevent the recurrence of similar negative impacts in the future.

The European Works Council is a vital part of cooperation between employees and management. The Council meets once a year with representatives selected from each country that has production units employing at least 150 employees. Through their representatives, every Stora Enso employee has the opportunity to raise topics and ask questions to the Group Leadership Team.

Taking action on material impacts on own workforce, and approaches to managing material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions (S1-4)

In line with the decentralised operating model, the main responsibility for the planning and implementation of actions related to the Group's own workforce was transferred to divisions in late 2023. The process for determining group-wide actions is primarily guided by the People Promise and Expectations framework, the results of the employee engagement survey, proactive safety management findings, and external benchmarks and industry trends. The actions take place in the Group's own operations and the safety actions include contractors working at the Group's premises.

Occupational safety

The following actions are undertaken to prevent risks related to safety incidents that may potentially result in actual negative impacts. They contribute to the achievement of the Occupational Health and Safety Policy objectives and Group safety target (TRI rate).

1) The leading indicator, Safety Engagement Rate, introduced in 2023, focuses on proactive safety reporting to identify safety risks. In each division, safety engagement is measured as a leading indicator, with specific targets related to, for example, safety observations, notifications or improvement ideas, reporting of near misses, and safety walks.

2) To further emphasise the Group's commitment to safety within the value chain, a new key performance indicator will be introduced in 2025. The indicator will assess the total number of recordable injuries among both its own employees and contractors (full TRI rate).

The effectiveness of the above actions is measured through safety observations and near misses reported, and performance against divisional targets on the leading safety indicator and the Group TRI rate.

Diversity, equity, and inclusion

Stora Enso has positive impacts on enhancing diversity, equity, and inclusion within its own workforce. Diversity, equity, and inclusion (DE&I) contribute to enhanced satisfaction and well-being at work and are strong enablers of improved performance, collaboration, and innovation. Key actions to promote equal treatment and opportunities for all, in accordance with the objectives of the Diversity Policy are outlined below.

1) In 2024, new inclusion-related questions were added to the annual employee engagement survey. The results indicate that Stora Enso ranks within the average range of the industry benchmark.

2) Several initiatives are undertaken as part of continuous, medium to long-term action to cultivate a more inclusive and supportive workplace while raising awareness. Firstly, the voluntary Employee Resource Groups (ERGs) provide support in personal or career development and foster a safe space where employees can be their authentic selves. Secondly, the DE&I network, established in 2023 and consisting of representatives from both the Group and divisions, facilitates knowledge-sharing and identifies key areas for development. Thirdly, Stora Enso participates in the Female Leader Engineer talent programme in Sweden for students with an interest in leadership, specifically connecting women and non-binary students in engineering with the Swedish industry.

3) In alignment with the decentralised operating model, the implementation of diversity initiatives is managed in divisions. The initiatives contribute to the achievement of the target on reaching 25% representation of female managers among all managers. Some examples carried out in 2024 included:

- Wood Products, Austria: quarterly female power talks to connect and empower female employees, encourage their participation in management positions, and promote equal development opportunities within the company. The initiative will continue in 2025.
- Packaging Materials, Sweden: workshops for all managers at the Skoghall mill to promote psychological safety and enhance inclusion.
- Packaging Solutions: establishing a process to ensure a diverse succession pipeline for critical business roles by utilising HR system as a digital tool. Complemented by particular emphasis on ensuring gender diversity in recruitment principles, processes, and practices.
- In addition to gender diversity, age diversity is one of the recognised focus areas. The Young Advisory Board provides a development platform for early-career talents, while the 'Experienced and Still Sparkling' programme was launched in 2024 to recognise more experienced employees and provide them with additional opportunities to contribute.

Effectiveness of the measures is tracked through employee engagement survey, performance and career development reviews, gender pay gap analysis, and progress against the Group target on gender balance.

Training and talent attraction and retention

The key actions to manage positive impacts on workforce retention and attraction, as well as to mitigate any risks associated with failure to do so, are described below. These actions are aligned with the Diversity Policy's ambition to ensure that the people in the organisation possess the capabilities and engagement required to deliver on the Group's strategy.

1) A two-day meeting was held in 2024 for 140 Stora Enso key business leaders. The purpose was to align around the Group's ambition to build a more resilient organisation, and one which is committed to driving business transformation through the implementation of a positive performance culture. These new ways of working are being cascaded throughout the organisation via team specific action plans.

2) Ongoing Leadership programmes designed to cater to the various stages and needs of leadership development within the organisation.

3) Talent development and upskilling plans are part of performance and development reviews to support individual career planning. The aim is that all employees are involved in at least one formal performance and development review with their manager each year.

Additionally, efforts to enhance inclusion also contribute to talent retention, see actions in 'Diversity, equity, and inclusion'.

For the effectiveness of the actions, Stora Enso tracks the outcomes of the annual Engage survey.

Support in restructuring situations

To address the risk posed by the continued weak and uncertain market environment, Stora Enso launched a profit improvement programme in the first quarter of 2024, targeting to reduce fixed costs and enhance annualised adjusted EBIT by EUR 120 million. It includes a reduction of approximately 1,000 employees across the organisation, with no production site closures. Change negotiations were carried out in line with the local legislation. Together with employee representatives, Stora Enso implemented active measures to support the re-employment opportunities for affected employees. The actions, appropriate responses, and evaluation of their effectiveness are assessed in accordance with local legislation.

Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities (S1-5)

Diversity

Stora Enso has established a target related to the ESRS S1 sub-topic 'Equal treatment and opportunities for all', aimed at advancing actual positive impacts of diversity within its own workforce. The target is in line with the Diversity Policy.

In 2022, a target was set for reaching 25% representation of female managers among all managers by 2024, with a baseline of 23%. At the end of 2024, the share of female managers was 24%, which remains below the 2024 target.

Advancing gender balance continues as a key focus area and is incorporated into the variable remuneration scheme. The People and Culture organisation, representing own employees, was closely involved in target setting. The People and Culture organisation is also responsible for tracking performance against the target and identifying improvement areas.

✔ Accounting principles

The share of female managers is calculated as the headcount of all permanent managers with at least one direct report. The manager must be permanent, but the subordinates can be temporary or permanent. Most of the data comes directly from the HR management system, with the exception of Business Unit Western Europe and few small units that are yet to be included in the system roll-out, representing 7% of the data. External stakeholders were not included in the target setting. Target excludes joint operations.

Targets related to own workforce	2024
Female managers among all managers	24%

Occupational health and safety
Stora Enso has set a target related to the ESRS S1 sub-topic 'Health and safety', on the management of risks and actual negative impacts related to safety incidents within its own workforce. The target is in line with the Group's Occupational Health and Safety Policy. The target was set in 2013 with a baseline of 14.0. At the end of 2024, the Group's TRI rate was 5.2, which is above the target level for 2024.

Stora Enso uses the Total Recordable Incident (TRI) rate as its main key lagging performance indicator (KPI), as this provides a comprehensive overview of safety performance, including less severe accidents.

The target is set for one year at a time, based on the outcome of the previous year's safety performance. The focus is on continuous improvement. Safety Network, representing Group's own employees, is closely involved in the target setting.

✔ Accounting principles
The KPI relies on incidents reported in Stora Enso's safety management system. The reported TRI rate shows the number of recordable incidents as per one million hours worked, and covers Group's own and joint operations' employees.

In 2025, the KPI will be extended to cover also non-employees working at Group's sites. External stakeholders were not included in the target setting.

Targets related to own workforce	2024
Total recordable incident rate (own employees)	5.2

Stora Enso has not established targets related to policy implementation.

Characteristics of the undertaking's employees (S1-6)

✔ Accounting principles
Stora Enso's reporting on headcount covers its own employees. Aligned with the Financial Statements, the total number of employees include the Group's joint operations according to the ownership share (50%). The other figures reported under S1-6 are reported without joint operations due to the lack of full authority over contractual arrangements between the workers and the Group. Stora Enso's employee figures reflect the end-of-year situation and are rounded to the nearest fifty. For the average number of employees in each business segment, see Financial Statements, note 2.1 Segment information.

The headcount per country includes countries where the Group has at least 1,860 employees, which represents at least 10% of its total number of employees. Since persons cannot legally register as having a third, often neutral, gender in Stora Enso's major operating countries, the 'Other' category is not included in the gender split reporting due to sensitivity of the data although presented in the table. Same applies to category 'Not reported'.

The data for turnover is collected through HR system (Workday) and local payroll, and covers permanent employees. The turnover is calculated as leavers that include all who left the Company during 2024, excluding divestments, and divided by average headcount. There are minor deviations due to different data sources.

Number of employees by gender	2024
Male	13,950
Female	4,650
Other	n/a
Not reported	n/a
Total employees	18,600

Number of employees by countries	2024
Finland	4,950
Sweden	3,400
China	2,300
Poland	1,900

Employees by contract type, broken down by gender	Female	Male	Other	Not disclosed	Total
Number of employees	4,650	13,950	n/a	n/a	18,600
Number of permanent employees	3,800	12,200	n/a	n/a	16,000
Number of temporary employees	600	1,150	n/a	n/a	1,750
Number of non-guaranteed hours employees	0	50	n/a	n/a	50

Metrics related to employees	2024
Employee turnover %	13%
Number of employee who have left the undertaking	2,200

Collective bargaining coverage and social dialogue (S1-8)

✔ Accounting principles
Stora Enso's reporting on collective bargaining covers the employees within the European Economic Area. The percentage is presented only for countries with significant employment, defined as 1,860 number of employees representing at least 10% of its total number of employees.

At the end of 2024, approximately 88% of Stora Enso's employees were covered by collective bargaining agreements. The number is an estimate due to differences in national legislation.

The global percentage of employees covered by workers' representatives is reported for each country within the European Economic Area that meets the requirement on significant employment, defined as 1,860 number of employees, which represents at least 10% of its total number of employees.

Stora Enso Oyj has had an agreement on European Corporate Cooperation in place since 1999. In 2015, the European Works Council (EWC) agreement was updated according to the EWC's proposal. The purpose of the collaboration is to establish and develop an open, confidential information and consultation procedure between the company and its employees on EEA level. The agreement establishes that a cooperation meeting shall take place each year to discuss strategy and business topics.

	Collective bargaining coverage	Social dialogue
Collective bargaining coverage rate	Employees – EEA	Workplace representation (EEA only)
0–19%		
20–39%		
40–59%		
60–79%		
80–100%	Finland, Sweden, Poland	Finland, Sweden, Poland

Diversity metrics (S1-9)

✔ Accounting principles
Stora Enso defines its top management as the CEO and Group Leadership Team which means one and two levels below the highest operational administrative and supervisory body (Board of Directors). The data is collected through its HR management system and covers 100% of the Group Leadership Team.

The data for age distribution in workforce is collected through the Group's HR management system, which covers 93% of the Group's employees. The figures are reported without joint operations due to the lack of full authority over contractual arrangements between the workers and the Group.

Metrics related to top management	2024
Number of employees at top management level	
Male	7
Female	4
% of employees at top management level	
Male	64%
Female	36%

Age distribution in workforce (in %)	2024
Under 30 years old	12%
30–50 years old	55%
Over 50 years old	33%

Adequate wages (S1-10)

All Stora Enso's own employees are paid an adequate wage, when reviewed in accordance with the ESRS disclosure requirement and using Wageindicator benchmark. The figures exclude joint operations due to the lack of full authority over contractual arrangements between the workers and the Group.

Health and safety metrics (S1-14)

✔ Accounting principles
Stora Enso reports incidents and accidents using international Occupational Health and Safety (OHSA) definitions when reporting Total Recordable Incident (TRI). Due to the inherent nature of occupational safety, the joint operations are consolidated at 100%. For 2024, the data does not cover non-employees except for fatalities. Stora Enso also monitors contractor accidents in separate categories for on-site accidents and logistics incidents.

The percentage of people in Stora Enso's own workforce who are covered by health and safety management systems refers to the proportion of total employees covered by externally certified safety management systems, such as ISO 45001. Certain administrative functions and sales offices are currently excluded from the Group's safety figures due to limited data availability, which is related to a relatively small headcount and lower occupational safety risk compared to production units. These units represent 7% of the total workforce.

Stora Enso uses the Total Recordable Incident (TRI) rate as its main key lagging performance indicator (KPI), as this provides a comprehensive overview of safety performance by also including less severe accidents. The rate of recordable work-related accidents for own workforce represents the number of work-related injuries per one million hours worked. The figure is calculated by dividing the number of work-related injuries by the number of total hours worked by people in its own workforce and multiplied by one million.

The number of recordable work-related accidents for own workforce is reported based on the international Occupational Health and Safety (OHSA) definitions. The data is collected in the Group's Health and Safety reporting system. Stora Enso recognises a marginal error due to the partial system coverage.

Fatalities are reported for cases occurring at Stora Enso's sites and premises.

Metrics related to health and safety	2024
% of people in its own workforce who are covered by health and safety management system	87%
Rate of recordable work-related accidents for own workforce	5.2
Number of recordable work-related accidents for own workforce	177
Fatalities in own workforce as result of work-related injuries	
Employees	0
Non-employees	0
Fatalities as result of work-related injuries of other workers working on undertaking's sites	0

Remuneration metrics (pay gap and total remuneration) (S1-16)

✔ Accounting principles
The gender pay gap has been calculated by counting the difference between the male's and female's salaries and dividing that by the male's salary. Salary data has been retrieved from the HR system or local payroll. The figure is reported without joint operations due to the lack of full authority over contractual arrangements between the workers and the Group.

The annual total remuneration ratio excludes the salary of the highest paid individual. The median remuneration data is retrieved from the HR system and local payroll, and includes only base and holiday salary, bonuses, and incentive schemes. Additional benefits are excluded as the data is not available in the system. The missing data is estimated to not impact the results. The figure excludes joint operations. For more information on remuneration, see Financial Statements, note 3. Employee remuneration.

Metrics related to remuneration	2024
Gender pay gap	7.0%
Annual Total Remuneration ratio	41.8

Incidents, complaints and severe human rights impacts (S1-17)

✔ Accounting principles
Stora Enso's potential non-compliance cases encompass all issues documented through its grievance and other reporting channels. The reporting on proven cases covers the items closed during the year, and therefore the recording of such incident may have occurred during the current or previous financial year. The metrics related to incidents and complaints cover work-related incidents of discrimination and other complaints related to the Group's own workforce. In 2024, there were no significant human rights issues or incidents, nor fines or penalties related to reported incidents. Therefore, reconciliation to Financial Statements is not presented. The figures exclude incidents investigated by the joint operations due to the lack of full authority over contractual arrangements between the workers and the Group.

Metrics related to incidents and complaints	2024
Number of incidents of discrimination	25
Number of complaints filed through channels for people in own workforce to raise concerns	15

ESRS S2 Workers in the value chain

Material impacts, risks and opportunities (SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub-topic
Despite preventive safety measures, safety incidents still occur. Stora Enso has control over its value chain workers when the activities occur on the Group's sites and premises. The impacts and safety incidents where the Group has direct control are reported under ESRS S1.	Actual negative impact	Short, medium, and long term	Upstream, own operations, joint operations	Health and safety
Non-compliance by suppliers or other business partners with Stora Enso's standards on human and labour rights, occupational health and safety, environmental standards, ethical recruitment, and reasonable employee compensation may result in adverse consequences for people, the environment, and Stora Enso's reputation.	Risk	Short, medium, and long term	Upstream, own operations	Forced labour; Child labour
Risk of safety incidents for the workers in its value chain. The Group has control over its value chain workers when the activities occur on the Group's sites and premises. The incidents where Group has direct control are reported under ESRS S1. Severe incidents in the value chain may damage Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues.	Risk	Short, medium, and long term	Upstream, own operations, joint operations	Health and safety

S2 disclosure requirement related to ESRS 2 SBM-3

Stora Enso's disclosure on ESRS S2 covers value chain workers who are likely to be materially impacted by the Group. This includes workers employed by entities in the Group's upstream value chain, who are governed by the Supplier Code of Conduct. Stora Enso's impacts and risks related to safety of the non-employees at its production sites are disclosed under ESRS S1. The impacts on value chain workers originate from the Group's business model and strategy, moreover, the risk of non-compliances and safety incidents connected to its dependency on raw materials and external personnel. While the impacts have not led to adaptations in the business model or strategy, the Group has expanded its safety target to include value chain workers who perform activities at the Group's sites, starting in 2025. Stora Enso continuously identifies and assesses potential and actual adverse impacts related to human rights and defines preventive and mitigating actions accordingly.

Stora Enso regards the risk of child and forced labour as a material issue because any actual violation would severely impact the affected individuals and result in significant financial repercussions for the Group. Stora Enso has not identified any specific geographies with a significant risk of child or forced labour, however, there are operations in areas where the risk is heightened.

When identifying the types of value chain workers who are or could potentially be negatively affected, Stora Enso concentrated its focus on countries and value chains where the Group employs large numbers of people, both directly or indirectly, and on the high-risk categories. Direct value chain workers at Stora Enso's sites may face higher risks due to industrial processes. The safety of these employees is covered under ESRS S1. None of the material risks or impacts were considered to relate to a specific group of value chain workers.

Policies related to value chain workers (S2-1)

The below policies relate to the risk resulting from the violation of Stora Enso's ethical business practices and values. The minimum requirement is that all policies and guidelines be reviewed at least once every two years. Each policy owner shall ensure that the documents under their responsibility are reviewed and updated within the defined time frame.

Human Rights Policy and Guidelines

Stora Enso works to ensure that human rights are respected throughout its operations and business relationships. It takes human rights into account across its operations from investment decisions onwards, paying special attention to vulnerable groups, and encourages its partners to do the same. The Human Rights Policy outlines Stora Enso' commitment to ensuring respect for human rights following the United Nations Guiding Principles on Business and Human Rights. The policy requires suppliers and other business partners to respect human and labour rights and comply with the Group's policies and guidelines. The Human Rights Guidelines address the salient human rights topics, such as fair labour, access to grievance mechanisms, and children's rights. Stora Enso strives to prevent and eliminate all forms of forced labour in its operations and supply chains, including modern slavery, child labour, and debt bondage. Both the policy and guidelines aim to mitigate the prevention of the risk of non-compliance with Stora Enso's standards in the Group's own operations and upstream value chain. See further details on the Human Rights Policy, Human Rights Guidelines, and adherence to internationally recognised human and labour rights and standards in ESRS S1-1.

Through the Human Rights Policy, Stora Enso commits to engaging with affected and potentially affected stakeholders, including value chain workers, to ensure that its approach and focus are valid. Stora Enso is committed to remedy situations where its activities have caused or contributed to adverse human rights impacts and engages with affected stakeholders in finding the most appropriate solution. These solutions are dependent on the needs of the affected people and the details of the case.

Supplier Code of Conduct (SCoC)

The SCoC is a legally binding document that imposes sustainability requirements on Stora Enso's suppliers and needs to be signed as part of the pre-qualification. In addition to environmental topics, the SCoC covers areas such as human and labour rights, involuntary labour, occupational health and safety, ethical recruitment, and fair remuneration. The SCoC helps manage material risk related to the breach of these requirements occurring in the Group's own operations or upstream value chain. The policy obliges suppliers to respect the ILO Convention 138 on abolition of child labour. It does not explicitly address precarious work. See ESRS E1-2 for more details on the SCoC.

The policy, which addresses the risk and actual negative impact related to the safety of workers in the value chain working at the Group's sites and premises is outlined in ESRS S1-1.

By the end of 2024, Stora Enso had not become aware of any severe cases of human rights incidents related to the UN Guiding Principles on Business and Human Rights, ILO Declaration on Fundamental Principles and Rights at Work or OECD Guidelines for Multinational Enterprises that involve value chain workers. The Group is informed of incidents of non-respect through internal audits, grievance mechanisms, and third-party supplier audits, which include aspects such as occupational safety and labour rights.

Processes for engaging with value chain workers about impacts (S2-2)

The perspectives of value chain workers support Stora Enso in taking appropriate actions to generate positive impacts and mitigate any potential negative impacts. This input can then be used to, for example, to define audit scopes or targeted initiatives that address those impacts.

Engagement takes place on a consistent basis and at specific project or business process stages. It starts with risk mitigation measures, such as supplier screening and pre-qualification, and extends to defining remedies. Engagement takes various forms, including participation, consultation, or information sharing. Engagement is carried out either directly with the workers in the value chain, contractors and other business partners, or suppliers' representatives. The operational responsibility for ensuring that the engagement happens and that its results inform the Group's approach, is with EVP, Head of each division.

Third-party audits are an important tool to engage with suppliers, track effectiveness of engagement, and focus on improvement measures where needed. See more details on third-party audits in ESRS S2-4. Other means of assessing the effectiveness of engagement include utilising feedback mechanisms through the Group's established grievance channels or through specific project-defined feedback processes.

The approach to gaining insight into the perspectives of particularly vulnerable groups is tailored to each specific case. An example of this process can be found in section ESRS S2-4, which discusses silviculture workers. Engagement related to the safety of workers in the value chain working at the Group's sites and premises is outlined in ESRS S1-2.

Processes to remediate negative impacts and channels for value chain workers to raise concerns (S2-3)

Stora Enso continuously identifies and assesses potential and actual adverse impacts related to human rights and defines preventive and mitigating actions accordingly. The Group is committed to remedying situations where its activities have caused or contributed to adverse human rights impacts. Remediation measures and assessment of their effectiveness are determined on a case-by-case basis and according to the local context. The Group's remediation process includes implementing corrective actions and ensuring knowledge-sharing to prevent similar cases from arising in the future.

All internal and external stakeholders can anonymously report potential non-compliance cases via the Speak up channel. Suspected non-compliances can also be reported externally to national competent authorities and to certain EU-institutions. Equal protection against retaliation and liability is ensured in all cases.

As outlined in the SCoC, suppliers are required to ensure that their employees, sub-suppliers, local communities, and other relevant stakeholders have access to grievance channels to anonymously voice their concerns about potential misconduct related to the requirements of this SCoC. The Supplier must also have processes in place to address these concerns and remedy any confirmed case.

All potential non-compliance cases involving a Stora Enso employee or a contracted third-party are duly investigated by an independent internal team. Whenever a suspected Supplier Code of Conduct non-conformity is identified during supplier visits or audits, or brought to the Group's attention through grievance channels, Stora Enso initiates a thorough investigation. In cases of non-conformity, Stora Enso takes a collaborative approach by working with the supplier to implement a corrective action plan. In cases where the level of criticality is deemed high, or if a supplier demonstrates an unwillingness to improve its performance, the business relationship is terminated.

The SCoC needs to be signed as part of the pre-qualification process and it contains information on the grievance channels to ensure suppliers are aware of these channels. Currently, Stora Enso lacks a systematic monitoring process to assess the effectiveness of the grievance channels through the involvement of value chain workers, and that workers in the trust them as a means to express their concerns or needs. As outlined in the Code and Business Practice Policy, Stora Enso does not tolerate any retaliation against a person who in good faith reports misconduct. For more information on the grievance mechanisms and protection against retaliation, see ESRS G1-1 'Non-compliances and protection of whistleblowers'.

Processes to remediate negative impacts and channels to raise concerns related to the safety of workers in the value chain working at the Group's sites and premises is outlined in ESRS S1-3.

Taking action on material impacts on value chain workers, and approaches to managing material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions (S2-4)

To address the material risk of non-compliance by suppliers and other business partners, as described in SBM-3 of this section, and to identify appropriate preventive actions, Stora Enso undertook the following actions during the reporting year. The Group plans to continue these actions in the short to mid-term future. The actions cover the Group's own operations and the upstream value chain, with specific geographic locations specified for relevant activities.

1) Following a 2023 pilot project on sustainability risk identification, Stora Enso has refined its approach to assessing sustainability risks from a country-specific perspective. This includes utilising data support from a third-party provider. Internally, efforts are underway to effectively leverage this data to enhance the screening of suppliers' sustainability risks by country. The action aims to improve decision-making regarding which countries and regions require heightened focus and to enhance the selection process for conducting additional assessments on suppliers.

2) During 2024, Stora Enso conducted a desktop assessment to evaluate the social and environmental impact and potential risks of a tier 1 supplier in Brazil involved in kaolin processing and mining. Kaolin is a soft white clay used in some of the Group's packaging products. The assessment focused on reviewing the supplier's operations and their impact on local communities, land rights, and environmental incidents in the past. The assessment took a collaborative approach and involved online dialogue with the supplier. The key concerns identified in the assessment mainly relate to the accuracy and availability of public information, particularly regarding the review of the supplier's operations and their impact on local communities, land rights, and past environmental incidents. As a result, Stora Enso has developed a follow-up plan accordingly.

3) In 2024, Stora Enso launched a project to establish a risk-based and data-driven management system to ensure compliance with the forthcoming Corporate Sustainability Due Diligence Directive (CSDDD). The project will provide updates to Company policies, develop tools for due diligence in supply chain and other high-risk areas, provide training and advice to stakeholders, establish a related governance model, and set impact targets and KPIs for performance measurement.

4) In Stora Enso's forest operations in Sweden, activities such as the clearing and planting of trees are carried out by silviculture contractors, who predominantly employ migrant workers. A human rights impact assessment conducted in 2022 revealed negative impacts on working conditions and human rights risks among silviculture contractors. These included limited workers' rights, overtime issues, unclear payment practices, safety concerns, and lack of transparency in housing and recruitment fees. To mitigate similar potential impacts and related risks, Stora Enso is dedicated to continuously addressing these issues and further improving its processes. This includes implementing capacity building initiatives, engaging in frequent dialogues with contractors, and enhancing on-site assessments to focus on labour and human rights. Additionally, translators are involved in the assessments to address the needs and feedback of migrant workers.

As of the end of 2024, Stora Enso had not been made aware of any reported instances of severe human rights issues or incidents connected to its upstream and downstream value chain.

To track effectiveness of the actions, Stora Enso has set a target on maintaining the proportion of total supplier spend covered by Supplier Code of Conduct, including all categories and regions, at a minimum of 95%. Third-party audits assist in tracking the effectiveness of risk mitigation by providing an independent assessment of the measures implemented.

- Stora Enso focuses its audit efforts on suppliers in high-risk categories. During 2024, 21 Supplier Code of Conduct audits were conducted, primarily in China, with the majority relating to contracted manufacturing and labour agencies. The audits revealed non-conformities, related in particular to working hours, basic worker's rights, and emergency preparedness. Stora Enso formulated corrective action plans for all cases with necessary follow-up.

- In 2024, 33 sites had received a renewed Forest Stewardship Council (FSC) chain-of-custody certifications, with audits covering requirements on core labour rights.
- 43 Health, Safety, Environment, and Quality (HSEQ) audits were conducted mainly in Finland connected to contractors working on-site at Stora Enso's production sites. The actions to address risks and negative impacts related to occupational safety at Stora Enso's premises are disclosed in ESRS S1-4.

In case of material negative impacts, Stora Enso follows the processes described in ESRS S2-3 to provide and ensure remedy. Actions to prevent negative impacts related to the safety of workers in the value chain working at the Group's sites and premises is outlined in ESRS S1-4.

Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities (S2-5)

To manage material risks related to value chain workers, Stora Enso has set a continuous target on maintaining the proportion of total supplier spend covered by Supplier Code of Conduct, including all categories and regions, at a minimum of 95% each year. The target was established in 2014 with a baseline value of 78%, and it is in line with Stora Enso's Supplier Code of Conduct. At the end of 2024, the coverage rate was 95%, which met the targeted level. Workers in the value chain, their legitimate representatives, or credible proxies were not involved in the target setting, tracking of the performance or identifying any lessons or improvements.

✔ Accounting principles

Stora Enso measures the proportion of total supplier spend covered by its Supplier Code of Conduct for all categories and divisions. The Supplier Code of Conduct applies to all Stora Enso's sourcing categories globally. Joint operations, intellectual property rights (IPR), leasing fees, financial trading, government fees such as customs, and wood purchases from private individual forest owners are not obliged to accept the Supplier Code of Conduct. The total supplier spend excludes the aforementioned items.

Target related to sustainable sourcing	2024
% of supplier spend covered by the Supplier Code of Conduct (SCoC)	95%

ESRS S3 Affected communities

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk, or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub topic
Stora Enso's joint operation in Veracel has ongoing land rights conflicts in Brazil.	Actual negative impact	Short, medium, and long term	Joint operations	Land-related impacts
Risk of reputational harm related to conflicts with local communities and NGOs over forest management practices, biodiversity, land, and water-use. The conflicts may damage Stora Enso's reputation and brand, which may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues.	Risk	Short, medium, and long term	Joint operations	Water and sanitation; Land-related impacts

S3 disclosure requirement related to ESRS 2 SBM-3

Stora Enso's disclosure on ESRS S3 covers all the communities that could be materially impacted by the Group's own operations or upstream value chain. Stora Enso's impact on affected communities is connected to its strategy and business model, particularly through its business relationship with the 50% owned joint operations in Veracel, Brazil. The ongoing land-related conflicts in Brazil have resulted in negatives impact on a specific group of affected communities. Some of the affected individuals are representatives of indigenous people. The conflicts arise from illegal land invasions aimed at gaining access to land for subsistence farming. This has resulted in the occupation of company-owned land. According to legal requirements, the occupants are removed and farming activities are stopped. As an adaptation action, Veracel is committed to maintaining ongoing dialogue with landless movements and other affected individuals and actively supports land allocations through the Sustainable Settlement Initiative. These conflicts may also contribute to or lead to the identified reputational risk described in the table above.

The reputational risk is related to Stora Enso's resource-intense business model, which depends on forests as a source of its primary raw material, and can lead to potential conflicts over forest management practices, biodiversity, and land and water use. The most significant risks are observed in communities living around areas where Stora Enso or its joint operations have a physical presence, such as forests and production sites. The risk is considered in strategy execution through the implementation of Environmental and Social Impact Assessments (ESIAs), which are mandatory for new production facilities or significant changes to existing facilities and plantations. As part of its dependency on raw materials, the Group's industrial operations require significant amounts of water to maintain production processes. Although Stora Enso's joint operations are not situated in regions experiencing severe droughts, the Group closely monitors the situation, as these communities are considered to be at a greater risk of harm.

Policies related to affected communities (S3-1)

The key policies guiding Stora Enso's approach to affected communities are the Human Rights Policy and the Human Rights Guidelines. They outline the objectives for respecting human rights throughout the Group's operations and engaging with affected and potentially affected stakeholders to ensure that its approach and focus on human rights are valid. The policies cover proactive risk identification, mitigating adverse impacts, and implementing remediation measures. They address the reputational risks related to water and land impacts, as well as the negative impacts of land use conflicts in Brazil.

The Human Rights Policy outlines the Group's commitment to the UN Guiding Principles on Business and Human Rights. The approach and practices for achieving these objectives is described in the Human Rights Guidelines, with special attention given to vulnerable groups, including indigenous people. Stora Enso strives to ensure that the management of land and natural resource rights related to its operations and supply chain respects stakeholder rights. These rights must be acquired through due diligence processes, which include avoiding the involuntary displacement of indigenous peoples from their traditional lands and natural resources. The Group's management practices uphold the rights to health and an adequate standard of living for communities affected by its business activities. For further details on the policy and guidelines, see ESRS S1-1. Engagement is described in ESRS S3-2 and remediation in ESRS S3-3.

Protecting and respecting the rights of local communities and indigenous peoples is an essential part of sustainable forest management practices. The Wood and Fiber Sourcing, and Land Management Policy, described in ESRS E4-2, addresses managing tree plantations as part of local land use and contributing to sustainable livelihoods. It forbids harvesting in violation of traditional rights of indigenous people or civil rights. Human rights and local communities aspects are also embedded in all three chapters of the Environmental Guidelines described in ESRS E1-3. The guidelines specifically outline the right to water and sanitation, and to a safe, clean, healthy, and sustainable environment.

Stora Enso's policy alignment with internationally recognised is disclosed in ESRS S1-1. In addition, Stora Enso is committed to international agreements on the rights of vulnerable groups, including but not limited to the Indigenous and Tribal Peoples Convention (C169), Convention on the Elimination of Discrimination Against Women (CEDAW), Convention on the Rights of the Child (UNCRC), and the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (CRMW). Stora Enso carries out chain-of-custody audits, FSC and PEFC, which require compliance with the ILO Declaration on Fundamental Principles and Rights at Work. For further information on monitoring compliance with international standards, see ESRS S1-1.

Stora Enso is committed to remedying situations where its activities have caused or contributed to adverse human rights impacts. The established grievance mechanisms are accessible to all external stakeholders, including affected communities. The Group engages with potentially affected people and/or their representatives on a regular basis to identify any needs for updating its priorities, policies, and practices and consulting stakeholders when updating documents that affect them.

By the end of 2024, Stora Enso had not become aware of any severe cases of human rights incidents related to non-respect of the UN Guiding Principles on Business and Human Rights, ILO Declaration on Fundamental Principles and Rights at Work, or OECD Guidelines for Multinational Enterprises that involve affected communities.

Processes for engaging with affected communities about impacts (S3-2)

Stora Enso incorporates the perspectives of affected communities into its decision-making processes to gain insights into the local context, to identify potential impacts, and to collaboratively develop an appropriate approach. Before harvesting, Stora Enso consults communities near the harvesting operations to listen to their concerns and expectations, and to incorporate their feedback into the decision-making process. In Veracel, Brazil, and Montes del Plata, Uruguay, the community liaison teams collaborate with, consult, and inform all affected local communities before and after forestry operations. In Sweden, Stora Enso works in collaboration with the local Sami people prior to each felling season to review and adjust plans to accommodate the Sami community's specific needs, such as reindeer herding, and to address other expressed interests or concerns.

Human rights impacts are identified and addressed through Environmental and Social Impact Assessment (ESIA) requirements for new or significant changes to facilities and plantations. This involves consulting and informing affected and potentially affected stakeholders to avoid adverse impacts on stakeholder rights. Air, water, and soil emissions are governed through regulatory permitting and monitoring as well as considered in the local environmental management system related to the industrial or forestry operations.

Engagement takes place either directly with the communities or through community representatives, and occurs at different stages of the cooperation or project. It varies from consultation and participation to informing. Some of the engagement takes place regularly, while other interactions occur on an ongoing basis. The operational responsibility for the engagement and ensuring that the results inform the Group's approach is with the EVP, Head of each division and the CEOs of the joint operations in Brazil and Uruguay. Effectiveness of the engagement is primarily tracked by monitoring the cases reported through grievance channels.

Indigenous peoples

Community consultations, including Free, Prior and Informed Consent (FPIC), are a regular element in Stora Enso's human rights due diligence and forestry operations, especially concerning land leasing and indigenous peoples' rights. They are a central tool to mitigate conflicts related to land use. The engagement with the indigenous peoples is designed together with the representatives of the affected stakeholders. Local communities are consulted during the planning and decision-making stages of new investments. FPIC allows indigenous peoples to give or withhold consent to a project or development through a process where they participate as equals and making decisions about their lands and territories in accordance with their traditions and customs. The aim is to establish bottom-up participation and consultation prior to the beginning of a project or development that takes place on ancestral land or uses resources within the indigenous population's territory. This includes consent on issues that might impact indigenous peoples' rights, lands, territories, resources, traditional livelihoods, and cultural heritage. Stora Enso expects its joint operations to adhere to similar operational procedures.

The Pataxó and Tupinambá communities represent almost 25,000 indigenous people in on the Discovery Coast in Brazil. Engagement is carried out with communities impacted by forestry operations in the territory and is organised by a third-party consultancy. Engagement activities are conducted prior to the initiation of harvesting operations and upon their completion to evaluate the process. This active dialogue aims to establish an effective mechanism to minimise negative impact on these traditional communities during the development of operational activities. The engagement with traditional fishing communities in conducted mainly through local associations at least annually to address any changes in quality of life or livelihoods of the affected communities.

Some areas of Veracel's land have been illegally occupied since 2008. Veracel strives to maintain continuous dialogue with landless movements and supports land allocations through the Sustainable Settlement Initiative launched in 2012. The Sustainable Settlement Initiative is facilitated by the Government of the State of Bahía and is conducted in cooperation with the National Institute of Colonisation and Agrarian Reform (INCRA) and the representatives of six officially recognised landless people's social movements. In 2018, Veracel signed a new agreement with the social landless movements to complement the earlier agreed Sustainable Settlement Initiative.

Stora Enso acknowledges its responsibilities towards the indigenous Sámi people residing in or near its land or where it procures wood. Systematic, ongoing dialogue helps to manage the risk of conflicts over forest management practices and biodiversity, as well as associated reputational risks. Before any forestry operations, Stora Enso consults with the Sámi communities. Annual evaluation meetings review the year's activities and consultations to ensure ongoing communication and collaboration. As an example, in Sweden, the collaboration has led to solutions such as avoiding damage to lichen when preparing the soil for replanting, which is crucial for reindeer feeding during winter.

Processes to remediate negative impacts and channels for affected communities to raise concerns (S3-3)

Remediation measures are determined on a case-by-case basis, taking into account the specific local context. The Group's approach to remediation involves implementing corrective actions and promoting knowledge-sharing to proactively prevent the recurrence of similar cases in the future. Processes to identify the action needed to address an actual or potential negative impact are guided by the human rights due diligence process and tools. These include monitoring compliance with the Company's policies, requirements, and guidelines; ensuring that grievance mechanisms are operating effectively and are accessible to all relevant stakeholders; engaging and consulting with affected people or their representatives; and conducting project-specific impact assessments.

The nature of the negative impact determines the range of possible remediation approaches, which can range from one-time settlements to long-term programmes with rigorous monitoring to ensure their effectiveness. To evaluate the most suitable course of action and response to an existing or potential impact, Stora Enso engages in consultations with the affected local community, and if necessary, seeks the assistance of a third-party remediator. In instances of actual negative impacts involving legal violations, the court determines the appropriate actions and remediation measures. In relation to indigenous peoples, the process of providing remedy involves taking into account their customs, traditions, rules, and local legislation.

All external stakeholders can anonymously report potential non-compliance cases via the Speak up channel. The joint operations in Brazil and Uruguay have their own grievance mechanisms available in local language. Operations in China has also established an internal grievance channel in local languages for stakeholders with inadequate knowledge of the main language. Stora Enso does not have a specific process to assess that affected communities are aware of and trust these structures or processes as a way to raise their concerns or needs and have them addressed. For more information on the grievance mechanisms and protection against retaliation, see ESRS G1-1.

Stora Enso does not have a specific process to assess the effectiveness of the remedy. It is assessed case-by-case, consisting of, for example, constructive dialogue with the community.

Taking action on material impacts on affected communities, and approaches to managing material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions (S3 -4)

Stora Enso has implemented a set of actions in its own operations and joint operations to address the risk and identified negative impact related to affected communities. None of the listed actions entail plans that necessitate significant capital expenditure or operational expenditure. Whilst Stora Enso is active on community investments to advance positive impacts in local communities, the impacts were not considered to cross the materiality threshold. As of the end of 2024, Stora Enso had not become aware of any reported instances of severe human rights issues or incidents involving affected communities.

In 2019, an outbreak of legionnaire's disease affected a municipality close to Ghent, Belgium, causing health impacts on the local communities. The case was concluded in 2024, and is described in more detail in ESRS E3.

Addressing reputational risk

To address the reputational risks associated with raw material dependency and potential conflicts related to use of natural resources and management of environmental impacts, such as deforestation, biodiversity loss, and land and water use, Stora Enso has implemented an ongoing, long-term action plan that encompass its own operations and joint operations. The action plan comprises the following aspects:

- Environmental and Social Impact Assessments (ESIAs) conducted for all new projects that could cause significant adverse impacts on local communities. Post-completion audits are carried out for all significant investments. The assessments inform on actions that may be required in project planning, construction, and operations to avoid possible negative impacts.
- The Group's tree plantations and land holdings are an integral part of local land use, and therefore sustainable land use practices are defined specifically for each location. The actions to monitor water-related impacts are described in sections ESRS E2 and ESRS E3. While water is generally abundant at Stora Enso's production locations, water stress may still impact operations locally and through the Group's wider supply chains. Identifying areas where water usage might create a negative impact on local communities, is done by applying the WRI Aqueduct Water Risk Atlas to assess water-related risks at its production sites.
- Community consultations, including Free, Prior, and Informed Consent (FPIC) are an important tool for mitigating potential negative impacts, such as conflicts on land-related use (see ESRS S3-2).
- Deforestation-free practices and biodiversity management are described in ESRS E4. This includes the FSC and PEFC certifications on sustainable forest management practices.
- Engagement and collaboration is one of the key actions to ensure proactive and transparent communication, address the concerns of local communities and other stakeholders, such as NGOs, and to define the most appropriate actions.
- For details on the actions taken during 2024 regarding the evaluation of social and environmental impacts of a tier 1 supplier involved in kaolin processing and mining in Brazil, see ESRS S2-4.

To monitor the effectiveness of these actions, Stora Enso utilises certifications like FSC and PEFC, conducts post-completion audits as part of the ESIAs, tracks cases of non-compliance, and gathers stakeholder feedback.

Managing land-related conflicts in upstream value chain

In Brazil, Stora Enso has 50% ownership of the joint operation Veracel. Since the Group does not have direct operational control of the unit, it is leveraging its financial ownership to address the negative impacts related to land acquisition as described in ESRS S3 SBM-3. The identification of appropriate actions is decided in collaboration with the local community. As a long-term action, Veracel continues to support the transition of families from the settlements to more permanent residencies on the same land, as the legal processes regarding their claim to the land are resolved over time.

In total, since 2012, Veracel has voluntarily approved the transfer of approximately 20,000 hectares of land to benefit landless people as part of the sustainable resettlement. At the end of 2024, 139 hectares, or 0.1%, of productive land owned by Veracel remained occupied by movements not involved in the agreements. Veracel continues to recover occupied areas through legal processes.

In case of material negative impacts, Stora Enso follows the processes described in ESRS S3-3 to provide and ensure remedy.

In addition to the actions outlined above, Stora Enso supports the resilience and livelihood of local communities through development programmes and initiatives, with monetary and in-kind donations, and employee volunteering. For example, Veracel's community liaison team, in collaboration with indigenous communities, arranges activities from awareness building on environmental topics to supporting educational programmes and cultural incentives. In Montes del Plata, Uruguay, the community engagement programme encompasses a variety of initiatives, such as providing training for beekeepers and herders, promoting English language learning, and supporting educational continuity.

Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities (S3-5)

Although Stora Enso is actively monitoring its impacts on affected communities, it currently lacks a specific target for this topic with defined timelines and desired outcomes. The Group does not track the effectiveness of its policies and actions with defined level of ambition or indicators. However, the Group is exploring the implementation of a suitable target In the meantime, Stora Enso advances the progress in achieving its policy objectives through actions described in ESRS S3-4.

Governance information

In this section

ESRS G1 Business conduct

Material impacts, risks and opportunities (ESRS 2 SBM-3)

Description	Impact, risk or opportunity	Time horizon	Location in the value chain	Related sub-topic or sub-sub topic
Stora Enso operates globally, including in high-risk markets that present both business opportunities and potential ethical and compliance risks. The Group maintains stringent business standards, fosters an ethical corporate culture, and implements a strong compliance programme. These efforts have a positive impact on both employees and business partners.	Actual positive impact	Short, medium, and long term	Own operations, upstream and downstream value chain	Corporate culture
Stora Enso is guided by its values of 'Lead' and 'Do what's right'. The Group empowers all employees to act with integrity and encourages them to speak up against any misconduct or unethical behaviour they may witness. Part of fostering an open corporate culture includes protecting whistle-blowers, ensuring that individuals feel safe to report any suspicions of misconduct without the risk of personal negative impacts.	Actual positive impact	Short, medium, and long term	Own operations, upstream and downstream value chain	Corporate culture; Protection of whistleblowers
The risks related to business conduct encompass fraud, anti-trust violations, corruption, conflict of interest, and other forms of misconduct, all of which are areas covered by the Stora Enso Code and Business Practice Policy. In the event of breaches of these laws, regulations, or policies, Stora Enso may incur significant compliance and remediation costs. These costs may encompass regulatory fines and penalties, legal expense, and potential damages to business relations, finances, or reputation.	Risk	Short, medium, and long term	Own operations, upstream and downstream value chain	Prevention and detection including training; Corporate culture
Despite strict rules, processes, and policies, suspicions and incidents of non-compliance still occur. The risks may lead to negative impacts on people and the environment, or financial consequences for the Group.	Risk	Short, medium, and long term	Own operations, upstream and downstream value chain	Incidents; Corporate culture

Business conduct policies and corporate culture (G1-1)

Policies

The Stora Enso Code, the Group's code of conduct, outlines the approach to ethical business practices and process for identifying, reporting, and investigating concerns about behaviour in contradiction with the Code. The policy addresses the management of identified positive impacts related to business conduct, grounded in the Company's purpose and values. It is designed to foster stakeholder trust and create a safe, inclusive environment for employees. Additionally, the policy outlines measures to mitigate risks associated with misconduct or non-compliance by implementing clear principles and processes, and by encouraging employees to report concerns. Stora Enso does not tolerate any retaliation against a person who in good faith reports misconduct. Any person found engaging in retaliation is subject to disciplinary action by Stora Enso, including termination of employment. The policy is described in more detail in ESRS S1-1.

The Business Practice Policy, consistent with the United Nations Convention against Corruption, complements the Code and details Stora Enso's approach to ethical business practices. It provides additional guidance to prevent risks in the areas such as anti-corruption and competition law, and outlines the procedures for reporting any violations of these practices. The policy shall be followed by all Stora Enso employees and the Group's business partners. The EVP Legal, General Counsel, is accountable for the implementation of the policy. Process for monitoring entails the tailored training described in ESRS G1-3.

The Supplier Code of Conduct (SCoC) extends the principles of the Stora Enso Code to its suppliers, setting forth specific requirements they must follow. Through the SCoC, Stora Enso manages the risk and potential negative impact associated with corruption and bribery. This includes mandating responsible business practices and ensuring full compliance with all applicable permits, laws, and regulations. Furthermore, the SCoC requires that suppliers ensure their own suppliers and sub-suppliers adhere to the stipulations of this SCoC or their own equivalent codes of conduct. For further details on the SCoC, see ESRS E1-2.

Non-compliances and protection of whistleblowers

All employees and stakeholders are actively encouraged to report any instances of suspected misconduct they identify. Stora Enso is subject to legal requirements under the national law transpose the EU Whistleblowing Directive. The measures to protect whistleblowers, their rights, privacy, and confidentiality include secure and anonymous reporting channels and policies against non-retaliation. Reporting is facilitated via any of the Group's grievance channels, be it personal contact, e-mail, phone, or anonymously via the 'Speak Up' reporting channel. This service, which covers all of Stora Enso's units, is available 24/7 and allows reports to be submitted anonymously. Additionally, the service is available to external stakeholders, including suppliers, customers, and investors. Employees can also raise concerns also with their manager, People & Culture organisation, or the Ethics and Compliance Team. Managers and HR representatives have the responsibility to forward serious complaints to the Ethics and Compliance team for further investigation and actions.

All potential non-compliance cases involving a Stora Enso employee or a contracted third-party are duly, promptly, and objectively investigated by a dedicated team that is independent from the chain of management involved in the matter. The investigation shall, if possible, be completed In a high-risk case within thirty calendar days from the initial report, and in other cases, within sixty calendar days. All cases, upon completion, are reported to both the Disciplinary Committee and the Board of Directors' Sustainability and Ethics Committee. In cases where a remediation plan is required, it is implemented together with the relevant management representatives.

To support all parties involved in evaluating a misconduct investigation and determining the appropriate disciplinary action, the Ethics and Compliance team maintains a Disciplinary Action Standard and cascades it to the relevant internal organisations. This standard establishes the ethical foundations for any disciplinary action taken in response to misconduct investigated within Stora Enso. It serves as a guide for the Ethics and Compliance team, as well as other decision-makers such as those in People & Culture organisation, business organisations, and union representatives, when evaluating a misconduct investigation and determining the appropriate disciplinary action.

The functions identified as being most at risk in terms of corruption and bribery include senior leadership, sales, sourcing, and corporate affairs. For training provided to these functions, see ESRS G1-3.

Ethical corporate culture

Stora Enso's corporate culture is built on a foundation of openness and honesty, fostering a value-driven organisation that upholds the Company's core values of 'Lead' and 'Do What's Right'. To further develop and promote an ethical corporate culture, Stora Enso conducts training sessions and engages in communication and awareness raising activities.

Training
Stora Enso does not have a specific policy on training related to business conduct. However, all employees are required to complete the mandatory onboarding training on the Stora Enso Code. In addition, e-learning courses and customised training sessions cover various topics like onboarding business partners, gifts and hospitality, and joint purchasing agreements. See more on specific trainings in ESRS G1-3.

Ethics and Compliance index
Stora Enso tracks the advancement of positive impacts on its corporate culture using an Ethics and Compliance index. The index is calculated as an average of five ethics and compliance-related questions in Engage, the annual employee survey. The questions assess whether employees feel safe to speak up, are inspired by Stora Enso's purpose and values, adhere to the Stora Enso Code and other policies in their daily work, believe their manager sets a good example, and see their team operating in accordance with general legislation and Stora Enso's practices. In 2024, the result was 8.8, with the maximum rating being 10.

Awareness raising and Ethics Ambassador Network
Stora Enso employs diverse communication channels to foster an ethical corporate culture. The Ethics Ambassador Network consists of around 250 voluntary employees from across the organisation. Ambassadors receive training on internal policies, rules, and ethical culture. They actively promote ethics, and company purpose and values in their workplaces. Ambassadors play a critical role in fostering ethical dialogue, cascading ethics information, and aiding the Group ethics and compliance team in understanding the local corporate culture for continuous improvement of communication efforts.

Prevention and detection of corruption and bribery (G1-3)

Both the Stora Enso Code and Business Practice Policy require zero-tolerance towards any form of corruption. To help prevent incidents of corruption or bribery, sales and sourcing teams are offered tailored training on competition law and anti-corruption, including training on trade associations, joint purchasing agreements, gifts and hospitality, and the onboarding of critical business partners. Details on specific trainings are outlined in the table below .Controls are in place for day-to-day operations, mandating that employees, for example, seek approval from Legal and their line managers prior to offering any hospitalities involving public officials.

High-risk roles, such as senior leadership, sales, sourcing, and corporate affairs, undergo in-depth compliance training. They also complete an annual refresher training on business ethics and confirm compliance with company policies. Top management employees, including the Group Leadership Team, have specific Ethics and Compliance onboarding training to enhance ethical leadership. New Board members regularly receive onboarding introductions, which cover topics related to the Stora Enso Code, Business Practice Policy, and the Group's ethics and compliance programme, including anti-corruption and various other business ethics topics.

In addition to the trainings provided for at-risk functions, Stora Enso's all employees must complete the Stora Enso Code training, as described in ESRS G1-1. The Code training is designed to build understanding of business conduct, including the detection of corruption and bribery.

The policies are implemented through the aforementioned trainings and are also made accessible on the Company website and intranet. The divisions employ an Ethics and Compliance Self-Assessment Tool (T.E.S.T) to gain a clearer overview of the progress their units are achieving in policy implementation, the compliance measures implemented, and any potential gaps and risks in compliance. The Supplier Code of Conduct is a legally binding document for all suppliers, outlining the common set of minimum standards, including matters related to corruption and bribery. All suppliers are required to commit to the SCoC as part of the pre-qualification process.

Third parties who act on Stora Enso's behalf are subject to additional Know Your Counterparty (KYC) screening before onboarding. Corruption risks are evaluated via internal and external questionnaires, watchlist and adverse media screening as well as interviews and more in-depth due diligence when necessary. Mitigation actions are always put in place when such a party is engaged. In 2024, the screening was conducted for 83 critical business partners. The reporting channels described in 'Non-compliances and protection of whistleblowers' also serve to detect allegations or incidents of corruption or bribery.

The process and responsibilities for investigating, addressing, and reporting incidents follow the same principles as outlined in chapter 'Non-compliances and protection of whistleblowers'.

✔ Accounting principles
The data regarding training coverage is gathered via a training platform and reflects the status as of December 31, 2024, for Stora Enso's active employees. The figures are reported without joint operations due to the lack of full authority over contractual arrangements between the workers and Stora Enso.

	At-risk functions		All employees at own workforce	
	Critical employees	Critical employees	Office workers	Production workers
	In-depth compliance training (COMPLY)	Annual sign-off	Stora Enso Code	Stora Enso Code intro
Training coverage				
Total	3,550	3,000	7,600	10,150
Total receiving training	3,450	3,000	7,350	9,250
Total receiving training, %	97%	100%	97%	91%
Delivery method and duration				
Computer-based training	2 hours	20 minutes	40 minutes	15 minutes
Frequency				
How often training is required	Once	Annually	Once	Once
Topics covered				
Definition of corruption	x	x	x	x
Business conduct and corporate culture policies	x	x	x	x
Procedures on suspicion/ detection	x	x	x	x
Stora Enso values	x	x	x	x
Practical examples	x	x	x	x
Applicable to Group Leadership Team	x	x	x	

Incidents of corruption or bribery (G1-4)

As described in ESRS G1-3, both the Stora Enso Code and Business Practice Policy require zero-tolerance towards any form of corruption. Despite strict policies, incidents still occur. All employees and stakeholders are encouraged to report any instances of suspected misconduct they identify. All potential non-compliance cases involving a Stora Enso employee or a contracted third-party are duly, promptly, and objectively investigated by a dedicated team independent from the chain of management involved in the matter. The actions to address proven cases of corruption or bribery can include own worker dismissal or discipline. Further actions to address breaches in procedures and standards of anti-corruption and anti-bribery are described in ESRS G1-1 and ESRS G1-3.

✔ Accounting principles
The reporting on proven corruption, bribery, and non-compliance cases covers the cases closed during the year, and therefore the recording of such an incident may have occurred during the current or previous financial years. In 2024, Stora Enso had no convictions of anti-corruption and anti-bribery laws, and paid no fines related to such incidents.

Metrics related to confirmed incidents	2024
Number of confirmed incidents of corruption or bribery	6
Number of confirmed incidents in which own workers were dismissed or disciplined for corruption or bribery-related incidents	5

Shares and governance

Share capital

Stora Enso Oyj's shares are divided into A and R shares. The A and R shares entitle holders to the same dividend but different number of votes. Each A share and every ten R shares carry one vote at a shareholders' meeting. However, each shareholder has at least one vote. During 2024, a total of 566,837 A shares converted into R shares were recorded in the Finnish Trade Register.

Number of shares as at 31 December 2024

	A shares	R shares	Total
Number of shares	175,664,079	612,955,908	788,619,987
Number of votes (at least)	175,664,079	61,295,590	236,959,669

Board of Directors is authorised to decide on the repurchase and on the issuance of Stora Enso R shares. The amount of shares to be issued or repurchased shall not exceed a total of 2,000,000 R shares, corresponding to approximately 0.25% of all shares and 0.33% of all R shares.

Major shareholders as of 31 December 2024

By voting power	A shares	R shares	% of shares	% of votes
1 Solidium Oy[1]	62,655,036	21,792,540	10.7%	27.4%
2 FAM AB[2]	63,123,386	17,000,000	10.2%	27.4%
3 Social Insurance Institution of Finland (KELA)	23,825,086	-	3.0%	10.1%
4 Ilmarinen Mutual Pension Insurance Company	4,159,992	18,670,446	2.9%	2.5%
5 Varma Mutual Pension Insurance Company	5,163,018	1,140,874	0.8%	2.2%
6 MP-Bolagen i Vetlanda AB[2]	4,885,000	1,000,000	0.7%	2.1%
7 Elo Mutual Pension Insurance Company	2,010,000	10,087,000	1.5%	1.3%
8 E.J. Ljungberg's Foundation	1,780,540	2,336,224	0.5%	0.9%
9 Bergslaget's Healthcare Foundation	626,269	1,609,483	0.3%	0.3%
10 The State Pension (Finland)	-	5,600,000	0.7%	0.2%
11 Lannebo fonder	-	4,904,100	0.6%	0.2%
12 Unionen (Swedish trade union)	-	4,800,000	0.4%	0.2%
13 OP Finland Fund	-	3,041,759	0.4%	0.1%
14 Nordea Finnish Stars Fund	-	3,017,418	0.4%	0.1%
15 The Society of Swedish Literature in Finland	-	3,000,000	0.4%	0.1%
Total	**168,228,327**	**97,999,844**	**33.8%**	**75.1%**
Nominee-registered shares[3]	75,519,278	478,429,538	70.3%	51.6%

1 Entirely owned by the Finnish State
2 As confirmed to Stora Enso
3 According to Euroclear Finland. As some of the shareholdings on the list are nominee registered, the percentage figures do not add up to 100%.
The list has been compiled by the Company on the basis of shareholder information obtained directly from the large shareholders, and from Euroclear Finland, Euroclear Sweden and a database managed by Citibank, N.A. This information includes directly registered holdings, thus certain holdings (which may be substantial) of shares held in nominee or brokerage accounts cannot be included. The list is therefore incomplete.

Share distribution as at 31 December 2024

By size of holding, A share	Shareholders	% of shareholders	Shares	% of shares
1–100	6,924	59.6%	264,242	0.2%
101–1,000	4,135	35.6%	1,438,963	0.8%
1,001–10,000	535	4.6%	1,231,685	0.7%
10,001–100,000	21	0.2%	421,191	0.2%
100,001–1,000,000	3	0.0%	381,594	0.2%
1,000,001–	8	0.1%	171,926,404	97.9%
Total	**11,626**	**100.0%**	**175,664,079**	**100.0%**

By size of holding, R share	Shareholders	% of shareholders	Shares	% of shares
1–100	16,579	37.4%	785,395	0.1%
101–1,000	21,760	49.0%	8,705,318	1.4%
1,001–10,000	5,587	12.6%	14,725,775	2.4%
10,001–100,000	394	0.9%	10,424,483	1.7%
100,001–1,000,000	51	0.1%	18,992,857	3.1%
1,000,001–	23	0.1%	559,322,080	91.2%
Total	**44,394**	**100.0%**	**612,955,908**	**100.0%**

According to Euroclear Finland. This table includes only shares registered in Euroclear Finland. E.g. Stora Enso's Swedish shareholders are listed under their nominee bank in this list. Therefore, this table is not comparable with the table Major shareholders as of 31 December 2024

Ownership distribution as at 31 December 2024

	% of shares	% of votes
Solidium Oy[1]	10.7%	27.4%
FAM AB[2]	10.2%	27.4%
Social Insurance Institution of Finland (KELA)	3.0%	10.1%
Finnish institutions (excl. Solidium and KELA)	12.2%	8.6%
Swedish institutions (excl. FAM)	1.6%	1.0%
Finnish private shareholders	3.7%	2.3%
Swedish private shareholders	3.2%	2.1%
ADR holders	1.6%	0.5%
Under nominee names	53.7%	20.7%

1 Entirely owned by the Finnish State
2 As confirmed to Stora Enso

The shareholding in Stora Enso Oyj's shares by the members of the Board of Directors 31 December 2024 is presented in note 3.2. Their holding in total represents 0.00% of the Company's A-shares and 0.02% of the R-shares.

Stora Enso Oyj shares held by the members of the Group Leadership Team 31 December 2024

		Shares held (direct and indirect ownership)	
		A	R
Hans Sohlström[1]	President and CEO	0	100,799
Tobias Bäärnman	EVP Strategy and Sustainability	0	8,449
Johanna Hagelberg	EVP Biomaterials	0	40,825
Tuomas Hallenberg	EVP Forest	0	0
Hannu Kasurinen	EVP Packaging Materials	0	62,415
Katariina Kravi	EVP HR and Communications	0	16,175
Per Lyrvall[2]	Country manager Sweden	0	90,625
Micaela Thorström	EVP Legal and Counsel	0	813
Lars Völkel	EVP Wood Products	0	25,801
Carolyn Wagner	EVP Packaging Solutions	0	0
Total		**0**	**345,902**
Share of outstanding shares		**0.00%**	**0.06%**

1 Includes 179 R shares held through related persons (spouse)
2 Includes 1,257 R shares held through related persons (spouse)

The total shareholding of the members of the Board of Directors and the Group Leadership Team on 31 December 2024 represented 0.02% of the total voting rights in the Company.

Governance

Stora Enso complies with the Finnish Corporate Governance Code 2025 issued by the Securities Market Association (the "Code"). The Code is available at cgfinland.fi. Stora Enso also complies with the Swedish Corporate Governance Code ("Swedish Code"), with the exception of the deviations listed in Appendix 1 of the Corporate Governance report. The deviations are due to differences between Swedish and Finnish legislation, governance code rules and practices, and in these cases Stora Enso follows the practice in its domicile. The Swedish Code is issued by the Swedish Corporate Governance Board and is available at corporategovernanceboard.se.

Related party transactions

Stora Enso's Guideline for Related Party transactions addresses the principles and processes for related party transactions in Stora Enso Group, including decision-making, identifying related party transactions, reporting and monitoring of related party transactions. Any transaction undertaken with a related party, which is not undertaken on market terms or which does not form part of the Company's ordinary course of business shall be reported to the Financial and Audit Committee and approved by the Board of Directors. Furthermore, Board members and members of the Group Leadership Team are subject to additional transparency requirements to ensure proper review of transactions involving them, their close family or a related entity. For more details on related party transactions, see the Financial Statement, note 6.3 and the Parent company financial statements note 26.

Legal proceedings

Contingent liabilities

Stora Enso has undertaken significant restructuring actions in recent years which have included the divestment of companies, sale of assets and mill closures. These transactions include a risk of possible environmental or other obligations the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related amount can be estimated reliably and for which the related future cost is considered to be at least probable.

Stora Enso is party to legal proceedings that arise in the ordinary course of business and which primarily involve claims arising out of commercial law. The management does not consider that liabilities related to such proceedings before insurance recoveries, if any, are likely to be material to the Group's financial condition or results of operations.

Veracel

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of, at the time of the decision, BRL 20 (EUR 4) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

Changes in the Group management

Tuomas Hallenberg started as Executive Vice President of the Forest division and Country Manager Finland, and a member of the Group Leadership Team in October. Previously, he worked in several leadership positions at Metsähallitus (the Finnish national forest managing company). He took over from the previous EVP Forest division Per Lyrvall who will remain Country Manager Sweden and member of the GLT until he retires during the spring 2025.

Stora Enso's Chief Financial Officer and Deputy CEO, Seppo Parvi, left his position at Stora Enso in the end of October. Niclas Rosenlew was appointed as new CFO and a member of the Group Leadership Team. He was previously Group CFO at SKF, and joined Stora Enso in January 2025. Pasi Kyckling, Stora Enso's Group Transformation Officer, was appointed acting CFO for the interim period.

Carolyn Wagner started as Executive Vice President of the Packaging Solutions division and a member of the Group Leadership Team in November. She was previously Divisional CEO of the Packaging Division at the German Klingele Paper & Packaging Group, and replaces Ad Smit who retired at the end of the year.

Changes in the Group structure

Stora Enso Paper Oy merged with the parent company Stora Enso Oyj as of 1 January 2024.

During 2024, Stora Enso divested several non-core assets, including the De Hoop containerboard site in The Netherlands, where production had ended in 2023; the Selfly Store smart vending machine solutions business; the Sunila site in Finland, where pulp production had ended in 2023; the E-Corrugated packaging site in the UK; and a paper for recycling trading in Denmark.

For more details, see the Parent company financial statements note 1 and the Consolidated Financial Statements, note 6.2 Group companies.

Resolutions by the Annual General Meeting

Stora Enso Oyj's Annual General Meeting was held on 20 March 2024 in Helsinki, Finland. The AGM adopted the accounts for 2023, adopted the remuneration report for 2023 through an advisory resolution and granted the Company's Board of Directors and Chief Executive Officer discharge from liability for the period.

The AGM resolved, in accordance with the proposal by the Board of Directors, that the Company shall distribute a dividend of EUR 0.10 per share for the year 2023. The dividend was paid on 4 April 2024. In addition, the AGM resolved that the Board of Directors is authorised to decide at its discretion on the payment of an additional dividend up to a maximum of EUR 0.20 per share. The second dividend instalment of EUR 0.10 per share was paid on 20 December 2024.

The AGM resolved, in accordance with the proposal by the Shareholders' Nomination Board, that the Board of Directors shall have eight (8) members.

The AGM further resolved to re-elect the current members of the Board of Directors – Håkan Buskhe, Elisabeth Fleuriot, Helena Hedblom, Astrid Hermann, Kari Jordan, Christiane Kuehne, and Richard Nilsson – as members of the Board of Directors until the end of the following AGM and to elect Reima Rytsölä as a new member of the Board of Directors for the same term of office. The AGM resolved to elect Kari Jordan as Chair of the Board of Directors and Håkan Buskhe as Vice Chair of the Board of Directors.

The AGM resolved, in accordance with the proposal by the Shareholders' Nomination Board, that the annual remuneration for the Board of Directors be paid as follows:

Chair	EUR 215,270 (2023: 209,000)
Vice Chair	EUR 121,540 (2023: 118,000)
Members	EUR 83,430 (2023: 81,000)

The AGM also resolved that the annual remuneration for the members of the Board of Directors be paid in Company shares and cash so that 40% is paid in Stora Enso R shares.

The AGM resolved the annual remuneration for the Board committees in accordance with the proposal by the Shareholders' Nomination Board.

The AGM resolved to elect PricewaterhouseCoopers Oy as auditor until the end of the Company's next AGM. PricewaterhouseCoopers Oy has notified the Company that Samuli Perälä, APA, will act as the principally responsible auditor. PricewaterhouseCoopers Oy will also act as the sustainability reporting assurance provider of the Company until the end of the Company's next AGM.

Resolutions by the organising meeting of the Board of Directors

Richard Nilsson (Chair), Elisabeth Fleuriot and Astrid Hermann were elected members of the Financial and Audit Committee. Kari Jordan (Chair), Håkan Buskhe and Reima Rytsölä were elected members of the People and Culture Committee. Christiane Kuehne (Chair), Helena Hedblom and Richard Nilsson were elected members of the Sustainability and Ethics Committee.

Outlook

As a change to prior practices, Stora Enso will continue to provide comments on its outlook but not a specific annual EBIT guidance. This aligns with international practice.

Stora Enso expects demand to remain subdued and volatile, affected by macroeconomic confidence and continued geopolitical uncertainty. Wood prices are expected to remain at high levels. Throughout 2025, the Group continues with its actions to reduce costs and strengthen operational and commercial excellence with the aim to improve operational performance and competitiveness.

During the full year 2025, the Group's adjusted EBIT is anticipated to be adversely impacted by approximately EUR 100 million, primarily in H1/2025, due to the ramp-up, in the coming months, of the new packaging board line in Oulu, Finland.

The Group's capital expenditure forecast for the full year 2025 is EUR 730–790 million.

Sensitivity analysis

Energy sensitivity analysis: the direct effect of a 10% change in electricity and fossil fuel market prices would have an impact of approximately EUR 6 million on adjusted EBIT for the next 12 months.

Wood sensitivity analysis: the direct effect of a 10% change in wood prices would have an impact of approximately EUR 227 million on adjusted EBIT for the next 12 months.

Pulp sensitivity analysis: the direct effect of a 10% change in pulp market prices would have an impact of approximately EUR 105 million on adjusted EBIT for the next 12 months.

Chemical and filler sensitivity analysis: the direct effect of a 10% change in chemical and filler prices would have an impact of approximately EUR 45 million on adjusted EBIT for the next 12 months.

Foreign exchange rates transaction risk sensitivity analysis for the next twelve months: the direct effect on adjusted EBIT of a 10% strengthening in the value of the US dollar, Swedish krona and British pound would be approximately positive EUR 84 million, negative EUR 11 million and positive EUR 12 million annual impact, respectively. Weakening of the currencies would have the opposite impact. These numbers are net of hedges and assuming no changes occur other than a single currency exchange rate movement in an exposure currency.

The Group's consolidated income statement on adjusted EBIT level is exposed to a foreign-currency translation risk worth approximately EUR 149 million expense exposure in Brazilian real (BRL) and approximately EUR 78 million income exposure in Chinese Renminbi (CNY). These exposures arise from the foreign subsidiaries and joint operations located in Brazil and China, respectively. For these exposures a 10% strengthening in the value of a foreign currency would have a negative EUR 15 million and a positive EUR 8 million impact on adjusted EBIT, respectively.

Short-term risks and uncertainties

The geopolitical unrest could have an adverse impact on the Group. Potential trade tariffs, retaliatory measures, conflict-related risks to people, operations, trade credit, cyber security, supply, and demand, could also affect the Group negatively.

The risk of a prolonged global economic downturn and recession, continued high inflation, as well as sudden interest rate changes, currency fluctuations, trade union and political strike actions, and logistical chain disruptions could all adversely affect the Group's profits, cash flow and financial position, as well as access to material, flow of goods and transport.

Macroeconomic and geopolitical disruption may increase costs, add complexity, and lower short-term visibility, which could further impact market demand, prices, profit margins, and volumes of the Group's products. New capacity and volume entering the market might distort demand, volumes, inventories and pricing. Moreover, forced capacity cuts might further impact on profitability.

There is a risk of continued price volatility for raw materials such as wood, chemicals, other components and energy in Europe. The continued tight wood market, especially in the Nordics, could cause increased costs, limit harvesting and cause disruptions such as delays and/or lack of wood supply to the Group's production sites. Regulatory or similar initiatives might challenge the Group's strategy, growth and operations.

Other risks and uncertainties include, but are not limited to; general industry conditions, unanticipated expenditures related to the cost of compliance with existing and new environmental and other governmental regulations, and related to actual or potential litigation; material process disruption at Stora Enso's manufacturing facilities with operational or environmental impacts; risks inherent in conducting business through joint ventures; and other factors.

Stora Enso has been granted various investment subsidies and compensations, and has made certain investment commitments in several countries such as Finland, China, and Sweden. If commitments to planning conditions are not met, local officials may pursue administrative measures to reclaim some of the previously granted investment subsidies or impose penalties on Stora Enso. The outcome of such a process could result in adverse financial impact on Stora Enso.

Proposal for the distribution of dividend

Stora Enso Oyj's Annual General Meeting (AGM) will be held on Thursday 20 March 2025 at 16:00 EET at the Marina Congress Center in Helsinki, Finland. More information is available at storaenso.com/agm.

The parent company distributable shareholders' equity on 31 December 2024 amounted to EUR 1,439,829,704.03 including the profit for the period of EUR 57,335,679.15.

The Board of Directors proposes to the AGM that a dividend of EUR 0.25 per share be distributed on the basis of the balance sheet adopted for the year 2024. This would correspond to EUR 197,154,996.75 in aggregate for all currently registered 788,619,987 shares, which would leave EUR 1,242,674,707.28 in distributable shareholders' equity. The Board of Directors proposes that the dividend be paid in two instalments.

The first dividend instalment, EUR 0.13 per share, is proposed to be paid to shareholders who on the record date of the first dividend instalment, 24 March 2025, are registered in the shareholders' register maintained by Euroclear Finland Oy or in the separate register of shareholders maintained by Euroclear Sweden AB for Euroclear Sweden registered shares. The Board of Directors proposes to the AGM that the first instalment of the dividend be paid on or about 2 April 2025.

The second dividend instalment, EUR 0.12 per share, is proposed to be paid to shareholders who on the record date of the second dividend instalment on 25 September 2025 are registered in the shareholders' register maintained by Euroclear Finland Oy or in the separate register of shareholders maintained by Euroclear Sweden AB for Euroclear Sweden registered shares. The Board of Directors proposes that the second dividend instalment would be paid on or about 2 October 2025.

Dividends payable to Euroclear Sweden registered shares will be forwarded by Euroclear Sweden AB and paid in Swedish crowns. Dividends payable to ADR holders will be forwarded by Citibank N.A. and paid in US dollars.

Stora Enso's policy is to distribute 50% of earnings per share (EPS) excluding fair valuation over the cycle. In 2024, EPS excluding fair valuation was EUR -0.56.

Events after the reporting period

The were no significant events after the reporting period end.

Alternative performance measures

According to the European Securities and Markets Authority (ESMA) Guidelines, an alternative performance measure is understood as a financial measure of historical or future financial performance, financial position, or cash flows, not defined under IFRS. Used together with the IFRS measures, alternative performance measures provide meaningful supplemental information to the management, investors, analysts and other parties with regards to the financial development of the business operations.

Alternative performance measure	Definition	Purpose
Operating result (IFRS)	Net result for the period excluding income tax and net financial items (finance costs).	Used in combination with below measures to determine the profitability of the Group.
Adjusted EBIT	Operating result (IFRS) excluding items affecting comparability (IAC) and fair valuations and non-operational items (FV) of the line-by-line consolidated entities and Stora Enso's share of operating result excluding IAC and FV of its associated companies.	The Group's key non-IFRS performance metric, which is used to evaluate the performance of operating segments and, in combination with below ratios, to steer allocation of resources to them.
Adjusted EBITDA	Operating result (IFRS) excluding silviculture costs and damage to forests, fixed asset depreciation and impairment, IACs and FV. The definition includes the respective items of subsidiaries, joint arrangements and associated companies.	Used by management to analyse the business and, from time-to-time, for short term and long-term target setting.
Adjusted return on capital employed (ROCE), LTM[3] (%)	$\frac{\text{Adjusted EBIT}^3}{\text{Capital employed}^1} \times 100$	Used for long-term Group financial targets setting.
Adjusted return on operating capital (ROOC), LTM[3] (%)	$\frac{\text{Adjusted EBIT}^3}{\text{Operating capital}^1} \times 100$	Used for long-term divisional financial targets setting.
Return on equity, ROE, LTM[3] (%)	$\frac{\text{Net result for the period}}{\text{Total equity}^1} \times 100$	A measure of the profitability in relation to equity.
Net debt	Interest-bearing liabilities – interest-bearing assets, marked with "I" in the statement of financial position.	Used for long-term Group financial targets setting.
Net debt/equity ratio	$\frac{\text{Net debt}}{\text{Equity}^2}$	Used for long-term Group financial targets setting.
Net debt/last 12 months' adjusted EBITDA ratio	$\frac{\text{Net debt}}{\text{LTM adjusted EBITDA}}$	Used for long-term Group financial targets setting.
Earnings per share (EPS) excluding FV	Net result for the period excluding fair valuations and non-operational items after tax divided by the weighted average number of shares	Stora Enso's dividend policy is to distribute 50% of earnings per share (EPS) excluding fair valuation over the cycle.
Operating capital and capital employed	Operating capital is comprised of items marked with "O" in the statement of financial position. Capital employed = Operating capital – Net tax liabilities. Net tax liabilities are marked with "T" in the statement of financial position.	Used for long-term Group financial targets setting.
Items affecting comparability (IAC)	The most common IAC are significant capital gains and losses, impairments or impairment reversals, disposal gains and losses relating to Group companies, provisions for planned restructurings, environmental provisions, changes in depreciation due to restructuring and penalties. In order for qualifying cases to be considered as items affecting comparability, a materiality threshold will be applied of at least EUR 4 million for Packaging Materials, EUR 2 million for Biomaterials, and EUR 1 million for the rest of the divisions including segment Other.	Represent certain significant items, identified by the management, considered not indicative of the operating business performance due to their nature and/or frequency.
Fair valuations and non-operational items (FV)	Fair valuations and non-operational items include non-cash income and expenses related to CO_2 emission rights and liabilities, non-operational fair valuation changes of biological assets, adjustments for differences between fair value and acquisition cost of forest assets upon disposal and the Group's share of income tax and net financial items of associated companies. Non-operational fair value changes of biological assets reflect changes made to valuation assumptions and parameters. The adjustments for differences between fair value and acquisition cost of forest assets upon disposal are a result of the fact that the cumulative non-operational fair valuation changes of disposed forest assets were included in previous periods in IFRS operating result (biological assets) and other comprehensive income (forest land) and are included in adjusted EBIT only at the disposal date (for non-strategic forest assets disposals).	Represent adjustments for certain items considered by the management less relevant for understanding operating business performance. These adjustments result in differences in the recognition and measurement principles applicable under IFRS.
Operational fair value change of biological assets	Operational fair value changes of biological assets contain all other fair value changes (see above about non-operational fair value changes of biological assets), mainly due to inflation and differences in actual harvesting levels compared to the harvesting plan.	The long-term value change of the growing forests is an important component of the forestry business profitability.
Cash flow from operations (non-IFRS) and cash flow after investing activities (non-IFRS)	Cash flow from operations (non-IFRS) is equal to net cash provided by operating activities (IFRS) before cash flows related to financial items and income taxes. Cash flow after investing activities (non-IFRS) is equal to cash flow from operations (non-IFRS) minus cash spent on intangible assets, property, plant and equipment, and biological assets and acquisitions of associated companies.	These are measures of cash generation, working capital efficiency and capital expenditure outflows.

Alternative performance measure	Definition	Purpose
Capital expenditure	Capital expenditure on fixed assets includes investments in and acquisitions of tangible and intangible assets as well as internally generated assets and capitalised borrowing costs, net of any related subsidies. Capital expenditure on leased assets includes new capitalised leasing contracts. Capital expenditure on biological assets consists of acquisitions of biological assets and capitalisation of costs directly linked to growing trees in plantation forests. The cash flow impact of capital expenditure is presented in cash flow from investing activities, excluding lease capex, where the cash flow impact is based on paid lease liabilities and presented in cash flow from financing and operating activities.	A measure of the operating business investments capitalised as tangible and intangibles assets.
Fixed costs	Maintenance, personnel and other administration type of costs, excluding IAC and FV.	A measure of the costs that are less variable in nature.

1 Average for the last five quarter ends 2 Attributable to the owners of the Parent 3 Last 12 months prior to the end of reporting period

Reconciliation of key figures

EUR million	2024	2023	2022
Adjusted EBIT	598	342	1,891
Capital employed, average	14,060	14,230	13,795
Adjusted ROCE	**4.3%**	**2.4 %**	**13.7 %**
Adjusted EBIT excl. Forest division	290	89	1,687
Capital employed excl. Forest division, average	8,071	8,490	8,276
Adjusted ROCE excl. Forest division	**3.6%**	**1.0%**	**20.4%**
Net result for the period	-183	-431	1,536
Total equity, average	10,576	11,413	11,532
Return on equity (ROE)	**-1.7%**	**-3.8%**	**13.3%**
Net debt	3,707	3,167	1,853
Adjusted EBITDA	1,223	989	2,529
Net debt to adjusted EBITDA ratio	**3.0**	**3.2**	**0.7**

Earnings per share (EPS) excl. fair valuation

EUR million	2024	2023	2022
Earnings per share (EPS) excl. FV EUR			
Net result for the period attributable to owners of the Parent	-136	-357	1550
FV on net result for the period attributable to owners of the Parent	307	218	324
Net result for the period attributable to owners of the parent excl. FV	**-442**	**-575**	**1,225**
Average number of shares	789	789	789
Earnings per share (EPS) excl. FV EUR	-0.56	-0.73	1.55

Reconciliation of operational profitability

EUR million	2024	2023	2022
Adjusted EBITDA	1,223	989	2,529
Depreciation and silviculture costs of associated companies	-13	-11	-11
Silviculture costs[1]	-111	-102	-100
Depreciation and impairment excl. IAC	-501	-534	-527
Adjusted EBIT	**598**	**342**	**1,891**
Fair valuations and non-operational items	364	231	363
Items affecting comparability (IAC)	-870	-895	-245
Operating result (IFRS)	93	-322	2,009

1 Including damages to forests

Segment share of adjusted EBIT, IAC, fair valuations and non-operational items and operating result

	Adjusted EBIT		IAC, fair valuations and non-operational items		Operating result	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Packaging Materials	172	-57	-341	-585	-169	-642
Packaging Solutions	-15	43	-379	-27	-394	17
Biomaterials	231	118	25	-199	256	-81
Wood Products	-16	-64	-57	-22	-73	-86
Forest	309	253	337	208	646	461
Other	-72	1	-90	-42	-162	-41
Inter-segment eliminations	**-11**	**49**	**0**	**0**	**-11**	**49**
Total	**598**	**342**	**-505**	**-664**	**93**	**-322**
Net financial items					-211	-173
Profit before Tax					**-118**	**-495**
Income tax expense					-65	64
Net Profit					**-183**	**-431**

Items affecting comparability in 2024

EUR million	2024
Impairments - Packaging Materials	-305
Impairments - Packaging Solutions	-371
Impairments - Wood Products	-56
Disposal & closure of De Hoop	-4
Disposal & closure of Sunila	-6
Disposal of Selfly Store	-8
Disposals - other	-8
Restructuring - Packaging Materials	-32
Restructuring - Packaging Solutions	-8
Restructuring - Biomaterials	-6
Restructuring - Forest	0
Restructuring - Group functions and segment Other	-7
Profit improvement programme - consulting costs	-45
Environmental provisions	-14
Other items	0
Total	**-870**

Items affecting comparability in 2023

EUR million	2023
Impairments - Packaging Materials	-468
Impairments - Biomaterials	-103
Impairments - Wood Products	-16
Impairments - Segment Other	-14
Impairment reversal - Forest	5
Disposal of Nymölla	-30
Disposal of Hylte	-45
Disposal of Maxau	52
Disposal of biocomposite business	-15
Disposal of Wood Products DIY unit	-4
Disposals related transaction costs	-6
Acquisition of De Jong Packaging Group	-16
Closure of Sunila pulp mill	-116
Closure of De Hoop	-79
Restructuring - Anjalankoski	-26
Restructuring - Packaging Materials	-21
Restructuring - Packaging Solutions	-10
Restructuring - Wood Products	-5
Restructuring - Biomaterials	-4
Restructuring - Group functions	-15
Restructuring (2021 announced) - Kvarnsveden	29
Restructuring (2021 announced) - Veitsiluoto	9
Updates in environmental provisions	5
Other items	-2
Total	**-895**

Fair valuations and non-operational items in 2024 and 2023

EUR million	2024	2023
Non-operational fair valuation changes of biological assets, Packaging Materials	2	12
Non-operational fair valuation changes of biological assets, Biomaterials	32	25
Non-operational fair valuation changes of biological assets, Forest	382	156
Non-cash income and expenses related to CO_2 emission rights and liabilities, Other	-11	-13
Non-operational items of associated companies, Forest	-34	56
Adjustments for differences between fair value and acquisition cost of forest assets upon disposal, Forest	-6	-5
Total	**364**	**231**

Calculation of net debt

EUR million	31 Dec 2024	31 Dec 2023
Listed securities	11	9
Non-current interest-bearing receivables	14	76
Interest-bearing receivables	47	64
Cash and cash equivalents	1,999	2,464
Interest-bearing assets	**2,072**	**2,613**
Non-current interest-bearing liabilities	3,894	4,775
Current portion of non-current debt	1,090	347
Interest-bearing liabilities	788	657
Bank overdrafts	7	0
Interest-bearing Liabilities	**5,779**	**5,780**
Net debt	**3,707**	**3,167**

Financial Statements

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The official audited financial statements in Finnish are available at storaenso.com/download-centre

The audit firm PricewaterhouseCoopers Oy has provided an independent auditor's reasonable assurance report only on Stora Enso's ESEF Financial Statements in Finnish in accordance with ISAE 3000 (Revised).

Consolidated financial statements

Consolidated income statement

EUR million	Note	Year ended 31 December 2024	2023
Sales	2.1	**9,049**	**9,396**
Other operating income	2.2	325	378
Changes in inventories of finished goods and work in progress		48	-209
Materials and services		-5,948	-6,133
Freight and sales commissions		-838	-883
Personnel expenses	3.1	-1,228	-1,275
Other operating expenses	2.2	-543	-638
Share of results of associated companies	4.3	52	136
Change in net value of biological assets	4.2	421	209
Depreciation, amortisation and impairment charges	2.3	-1,246	-1,303
Operating result	2.1	**93**	**-322**
Financial income	2.4	118	91
Financial expenses	2.4	-329	-264
Result before Tax		**-118**	**-495**
Income tax	2.5	-65	64
Net result for the year		**-183**	**-431**
Attributable to			
Owners of the Parent		-136	-357
Non-controlling Interests	5.7	-48	-74
Net result for the year		**-183**	**-431**
Earnings per share			
Basic earnings per share, EUR	2.6	-0.17	-0.45
Diluted earnings per share, EUR	2.6	-0.17	-0.45

Consolidated statement of comprehensive income

EUR million	Note	Year ended 31 December 2024	2023
Net result for the year		**-183**	**-431**
Other Comprehensive Income (OCI)			
Items that will not be reclassified to profit and loss			
Equity instruments at fair value through OCI	4.4	-202	-645
Actuarial gains and losses on defined benefit plans	3.3	22	-52
Revaluation of forest land	4.2	-281	-49
Share of OCI of associated companies	4.3	5	-23
Income tax relating to items that will not be reclassified	2.5	53	22
		-403	**-748**
Items that may be reclassified subsequently to profit and loss			
Cumulative translation adjustment (CTA)	5.6	-89	56
Net investment hedges and loans	5.6	4	-15
Cash flow hedges and cost of hedging	5.4	-81	-1
Share of OCI of non-controlling interests (NCI)	5.7	-5	5
Income tax relating to items that may be reclassified	2.5	19	-1
		-152	**44**
Total comprehensive income		**-738**	**-1,135**
Attributable to			
Owners of the Parent		-685	-1,066
Non-controlling interests	5.7	-53	-69
Total comprehensive income		**-738**	**-1,135**

The accompanying Notes are an integral part of these consolidated financial statements.

Consolidated statement of financial position

EUR million		Note	As at 31 December 2024	2023
Assets				
Goodwill	O	4.1	162	505
Other intangible assets	O	4.1	277	304
Property, plant and equipment	O	4.1	5,006	4,854
Right-of-use assets	O	4.1	499	521
			5,945	**6,183**
Forest assets	O	4.2	7,227	7,105
Biological assets	O	4.2	5,243	4,836
Forest land	O	4.2	1,983	2,269
Emission rights	O	4.5	73	108
Investments in associated companies	O	4.3	954	926
Listed securities	I	4.4	11	9
Unlisted securities	O	4.4	602	810
Non-current interest-bearing receivables	I	5.3	14	76
Deferred tax assets	T	2.5	205	134
Other non-current assets	O	4.5	53	59
Non-current assets			**15,082**	**15,411**
Inventories	O	4.6	1,672	1,545
Tax receivables	T		31	31
Operative receivables	O	4.7	969	1,239
Interest-bearing receivables	I	5.3	47	64
Cash and cash equivalents	I		1,999	2,464
Current assets			**4,719**	**5,343**
Assets held for sale		6.1	0	0
Total assets			**19,802**	**20,754**

EUR million		Note	As at 31 December 2024	2023
Equity and liabilities				
Share capital		5.5	1,342	1,342
Share premium			77	77
Invested non-restricted equity fund			633	633
Fair value reserve			1,808	2,293
Cumulative translation adjustment		5.6	-457	-375
Retained earnings			6,735	7,015
Equity attributable to owners of the Parent			**10,139**	**10,985**
Non-controlling Interests		5.7	-150	-97
Total equity			**9,989**	**10,889**
Post-employment benefit obligations	O	3.3	181	217
Provisions	O	4.9	81	83
Deferred tax liabilities	T	2.5	1,416	1,433
Non-current interest-bearing liabilities	I	5.3	3,894	4,775
Non-current operative liabilities	O	4.8	10	11
Non-current liabilities			**5,582**	**6,520**
Current portion of non-current debt	I	5.3	1,090	347
Interest-bearing liabilities	I	5.3	788	657
Bank overdrafts	I	5.3	7	0
Provisions	O	4.9	37	85
Operative liabilities	O	4.8	2,296	2,211
Tax liabilities	T	2.5	13	45
Current liabilities			**4,231**	**3,346**
Liabilities related to assets held for sale		6.1	0	0
Total liabilities			**9,813**	**9,865**
Total equity and liabilities			**19,802**	**20,754**

Items designated "O" comprise Operating Capital, items designated "I" comprise Interest-bearing Net Liabilities, items designated "T" comprise Net Tax Liabilities.
The accompanying Notes are an integral part of these consolidated financial statements.
2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Consolidated cash flow statement

EUR million	Note	Year ended 31 December 2024	2023
Cash flow from operating activities			
Net result for the year		-183	-431
Adjustments and reversal of non-cash items:			
Taxes	2.5	65	-64
Depreciation and impairment charges	2.3	1,246	1,303
Change in value of biological assets	4.2	-421	-209
Change in fair value of share awards		-2	-2
Share of results of associated companies	4.3	-52	-136
CTA and profits and losses on sale of fixed assets and investments[1]	2.2	-3	-20
Net financial items	2.4	211	173
Other adjustments		15	16
Dividends received from associated companies	4.3	29	25
Interest received		77	64
Interest paid		-197	-149
Other financial items, net		-43	-31
Income taxes paid		-73	-85
Change in net working capital, net of businesses acquired or sold		283	300
Net cash provided by operating activities		**952**	**752**
Cash flow from investing activities			
Acquisition of subsidiary shares and business operations, net of acquired cash	6.1	-75	-584
Acquisition of shares in associated companies	4.3	-1	-5
Acquisition of unlisted securities	4.4	0	-18
Cash flow on disposal of subsidiary shares and business operations, net of disposed cash	6.1	8	237
Cash flow on disposal of unlisted securities	4.4	3	0
Cash flow on disposal of intangible assets and property, plant and equipment	4.1	23	47
Capital expenditure	2.1, 4.1	-1,010	-897
Investment in biological assets	4.2	-103	-92
Proceeds from/payment of non-current receivables, net		22	-1
Net cash used in investing activities		**-1,133**	**-1,313**

EUR million	Note	Year ended 31 December 2024	2023
Cash flow from financing activities			
Proceeds from issue of new long-term debt	5.3	19	2,006
Repayment of long-term debt and lease liabilities	5.3	-225	-716
Change in short-term interest-bearing liabilities	5.3	54	272
Dividends paid		-146	-472
Purchase of own shares		-3	-6
Net cash used in financing activities		**-301**	**1,084**
Net change in cash and cash equivalents		-483	523
Translation adjustment		11	24
Net cash and cash equivalents at beginning of year		2,464	1,917
Net cash and cash equivalents at year end		**1,993**	**2,464**
Cash and cash equivalents at year end[2]		**1,999**	**2,464**
Bank overdrafts at year end		**-7**	**0**
Net cash and cash equivalents at year end		**1,993**	**2,464**

1 CTA = Cumulative Translation Adjustment
2 Cash and cash equivalents comprise cash-in-hand, deposits held at call with banks and other liquid investments with original maturity of less than three months. Bank overdrafts are included in current liabilities.
The accompanying Notes are an integral part of these consolidated financial statements.

Consolidated cash flow statement

Supplemental cash flow information

EUR million	Note	Year ended 31 December 2024	2023
Change in net working capital consists of:			
Change in inventories		-136	328
Change in interest-free receivables:			
Current		259	347
Non-current		2	-19
Change in interest-free liabilities:			
Current		168	-355
Non-current		-10	-2
Change in net working capital, net of businesses acquired or sold		**283**	**300**
Cash and cash equivalents consist of:			
Cash on hand and at banks		912	825
Cash equivalents		1,088	1,639
Cash and cash equivalents		**1,999**	**2,464**
Non-cash investing activities			
Total capital expenditure excluding right-of-use assets		933	946
Amounts paid		-1,010	-897
Non-cash part of additions to intangible assets and property, plant and equipment		**-77**	**49**
Cash flow on acquisitions of subsidiaries and business operations			
Purchase consideration on acquisitions, cash part	6.1	-77	-612
Cash and cash equivalents in acquired companies, net of bank overdraft	6.1	2	27
Net cash flow on acquisition		**-75**	**-584**
Cash flow on disposals of subsidiaries and business operations			
Cash part of the consideration	6.1	13	266
Cash and cash equivalents in divested companies	6.1	-5	-29
Net cash flow from disposal		**8**	**237**

The accompanying Notes are an integral part of these consolidated financial statements.

Statement of changes in equity

					Fair value reserve								
EUR million	**Share capital**	**Share premium and reserve fund**	**Invested non-restricted equity fund**	**Treasury shares**	**Equity instruments through OCI**	**Cash flow hedges**	**Revaluation reserve**	**OCI of associated companies**	**CTA and net investment hedges and loans**	**Retained earnings**	**Attributable to owners of the parent**	**Non-controlling interests**	**Total**
Balance at 1 January 2023	**1,342**	**77**	**633**	**–**	**1,298**	**39**	**1,579**	**87**	**-415**	**7,893**	**12,532**	**-30**	**12,502**
Net result for the year	–	–	–	–	–	–	–	–	–	-357	-357	-74	-431
OCI before tax	–	–	–	–	-645	-1	-49	-23	41	-52	-730	5	-726
Income tax relating to OCI	–	–	–	–	–	–	10	–	–	12	22	–	22
Total Comprehensive Income	**–**	**–**	**–**	**–**	**-645**	**-1**	**-39**	**-23**	**41**	**-397**	**-1,066**	**-69**	**-1,135**
Dividend	–	–	–	–	–	–	–	–	–	-473	-473	–	-473
Acquisitions and disposals	–	–	–	–	–	–	–	–	–	–	–	2	2
Purchase of treasury shares	–	–	–	-6	–	–	–	–	–	–	-6	–	-6
Share-based payments	–	–	–	6	–	–	–	–	–	-8	-2	–	-2
Balance at 31 December 2023	**1,342**	**77**	**633**	**–**	**653**	**38**	**1,540**	**63**	**-375**	**7,015**	**10,985**	**-97**	**10,889**
Net result for the year	–	–	–	–	–	–	–	–	–	-136	-136	-48	-183
OCI before tax	–	–	–	–	-202	-81	-281	5	-85	22	-621	-5	-626
Income tax relating to OCI	–	–	–	–	–	16	58	–	3	-4	72	–	72
Total Comprehensive Income	**–**	**–**	**–**	**–**	**-203**	**-65**	**-223**	**5**	**-82**	**-118**	**-685**	**-53**	**-738**
Dividend	–	–	–	–	–	–	–	–	–	-158	-158	–	-158
Acquisitions and disposals	–	–	–	–	–	–	–	–	–	–	–	–	–
Purchase of treasury shares	–	–	–	-3	–	–	–	–	–	–	-3	–	-3
Share-based payments	–	–	–	3	–	–	–	–	–	-4	-1	–	-1
Balance at 31 December 2024	**1,342**	**77**	**633**	**–**	**450**	**-27**	**1,317**	**68**	**-457**	**6,735**	**10,139**	**-150**	**9,989**

CTA = Cumulative Translation Adjustment, NCI = Non-controlling Interests, OCI = Other Comprehensive Income

Notes to the consolidated financial statements

1 Basis for reporting

✔ 1.1 Accounting principles

Principal activities

Stora Enso Oyj ("the Company") is a Finnish public limited liability company organised under the laws of the Republic of Finland and with its registered address at Katajanokanlaituri 4, 00160 Helsinki. Its shares are currently listed on Nasdaq Helsinki and Stockholm. The operations of Stora Enso Oyj and its subsidiaries (together "Stora Enso" or "the Group") are organised into the following reportable segments: Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest and segment Other. The Group's main market is Europe.

The Financial Statements were authorised for issue by the Board of Directors on 10 February 2025.

Basis of preparation

The consolidated financial statements of Stora Enso have been prepared in accordance with IFRS Accounting Standards as adopted by the European Union. The consolidated financial statements of Stora Enso have been prepared according to the historical cost convention, except as disclosed in the accounting policies. The detailed accounting principles are explained in the related notes with a few exceptions where the accounting principles are presented in this note. The consolidated financial statements are presented in euros, which is the parent company's functional currency.

All figures in these consolidated financial statements have been rounded to the nearest million, unless otherwise stated. Therefore, figures in this report may not add up precisely to the totals presented and may vary from previously published financial information.

New and amended standards and interpretations adopted in 2024

The Group has applied the following new and amended standards and interpretations which are effective from 1 January 2024:

- Amendments to IAS 1 Presentation of Financial Statements: Information about long-term debt with covenants. IAS 1 requires a company to classify debt as non-current only if the company can avoid settling the debt in the 12 months after the reporting date. However, a company's ability to do so is often subject to complying with covenants. The amendments specify that covenants to be complied with after the reporting date do not affect the classification of debt as current or non-current at the reporting date. Instead, the amendments require a company to disclose information about these covenants in the notes to the financial statements. The effective date was 1 January 2024. The amendment did not have a significant impact on the Group.
- Amendments to IAS 1 Presentation of Financial Statements: Classification of liabilities as current or non-current. The amendments clarify a criterion for classifying a liability as non-current. The amendments specify that an entity's right to defer settlement must exist at the end of the reporting period; clarify that classification is unaffected by management's intentions or expectations about whether the entity will exercise its right to defer settlement; clarify how lending conditions affect classification; and clarify requirements for classifying liabilities an entity will or may settle by issuing its own equity instruments. The effective date was 1 January 2024. The amendment did not have a significant impact on the Group.
- Amendments to IFRS 16 Leases: Lease Liability in Sale and Leaseback. Amendment requires a seller-lessee to subsequently measure lease liabilities arising from a leaseback in a way that it does not recognise any amount of the gain or loss that relates to the right of use it retains. The new requirements do not prevent a seller-lessee from recognising in profit or loss any gain or loss relating to the partial or full termination of a lease. The effective date was 1 January 2024. The amendment did not have a significant impact on the Group.
- Amendments to IAS 7 Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures: Supplier Finance Arrangements. The amendments require entities to add disclosure requirements, and 'signposts' within existing disclosure requirements that requires entities to provide qualitative and quantitative information about supplier finance arrangements. The effective date was 1 January 2024. The Group is engaged in supply chain financing and the amendment resulted in additional disclosures in the notes of the consolidated financial statements.
- Other standards, standard amendments and interpretations did not have any significant impact on the Group's consolidated financial statements or disclosures.

Restatement of comparative figures

As announced in December 2022, Stora Enso initiated a sales process for divesting its Beihai packaging board production site and forestry operations in Guangxi, China.

The Beihai operations were classified as held for sale from the end of 2023 and based on the evaluation during 2024, the divestment was not seen as highly probable anymore. Stora Enso's view is that the value in own use of the assets exceeds the achievable transaction value, and has therefore chosen to retain these operations within the Group. As a result, the held for sale classification was ceased in 2024.

Comparative figures for 2023 have been restated accordingly. Restatements are related to consolidated statement of financial position, where assets held for sale were presented separately. For 2023, there are no cash flow or income statement impacts as a result of the restatements.

Assets held for sale included mainly fixed assets, forest assets, inventories and operating receivables, whereas related liabilities consisted mainly of non-current and current interest bearing liabilities and operating liabilities.

Consolidation principles

The consolidated financial statements include the parent company, Stora Enso Oyj, and all companies controlled by the Group. Control is defined as when the Group:

- has power over the investee,
- is exposed, or has rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its returns.

If facts and circumstances indicate that there are changes to the three elements of control listed above the Group reassess whether or not it controls an investee. The subsidiaries and joint operations are listed in note 6.2 Group companies.

All intercompany transactions, receivables, liabilities and unrealised profits, as well as intragroup profit distributions, are eliminated. Accounting policies for subsidiaries, joint arrangements and associated companies are adjusted where necessary to ensure consistency with the policies adopted by Stora Enso.

Associated companies over which Stora Enso exercises significant influence are accounted for by using the equity method. These companies are investments in which the Group has significant influence, but which it does not control. Significant influence means the power to participate in the financial and operating policy decisions of the company without control or joint control over those policies. More detailed information is presented in note 4.3 Associates.

Joint control is the contractually agreed sharing of control of the joint arrangement, which exists only when decisions on relevant activities require the unanimous consent of the parties sharing control. Joint operations are joint arrangements, whereby the partners who have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint ventures are joint arrangements, whereby the partners who have joint control of the arrangement have rights to the net assets of the joint arrangement.

The Group has two joint operations, Veracel and Montes del Plata. In both companies, Stora Enso's ownership is 50%. The arrangements are based on shareholders' agreements, which give Stora Enso rights to a share of returns and make the Group indirectly liable for the liabilities, as its ability to pay for the pulp is used to finance debts. In relation to its interest in joint operations, the Group recognises its share of assets, liabilities, revenues, expenses and cash flows of the joint operation. The share is determined based on rights to the assets and obligations for the liabilities of each joint operator.

- Veracel is a jointly owned company of Stora Enso and Suzano located in Brazil. The pulp mill produces bleached eucalyptus hard wood pulp and both owners are entitled to half of the mill's output. The eucalyptus is sourced mostly from the company's own forest plantations. The mill commenced production in 2005.
- Montes del Plata is a jointly owned company of Stora Enso and Arauco located in Uruguay. The pulp mill produces bleached eucalyptus hard wood pulp and Stora Enso's part is sold entirely as market pulp. The eucalyptus is sourced mostly from the company's own forest plantations. The mill commenced production in 2014.

Revenue recognition

Sales comprise products, raw materials and services less indirect sales tax and discounts, and are adjusted for cash flow hedging result on sales in foreign currencies. Sales are recognised after Stora Enso has transferred the control of goods and services to a customer and the Group retains neither a continuing right to dispose of the goods, nor effective control of those goods; usually, this means that sales are recorded upon the delivery of goods to customers in accordance with the agreed terms of delivery.

Stora Enso's terms of delivery are based on Incoterms 2020, which are the official rules for the interpretation of trade terms as issued by the International Chamber of Commerce (ICC). The main categories of the terms covering Group sales are:

- "D" terms, under which the group is obliged to deliver the goods to the buyer at the agreed place in the manner specified in the chosen rule, in which case the point of sale is the moment of delivery to the buyer.
- "C" terms, whereby the Group arranges and pays for the external carriage and certain other costs, though the Group ceases to be responsible for the goods once they have been handed over to the carrier in accordance with the relevant term. The point of sale is thus the handing over of the goods to the carrier contracted by the seller for the carriage to the agreed destination.
- "F" terms, being where the buyer arranges and pays for the carriage, thus the point of sale is the handing over of the goods to the carrier contracted by the buyer at the agreed point.

Where local rules may result in invoices being raised in advance of the above, the effect of this revenue advancement is quantified, and an adjustment is made accordingly. Stora Enso's sales mainly comprise sales of products and the revenue is typically recognised at a point in time when Stora Enso transfers control of these products to a customer. Revenues from services are recognised over time once the service has been performed. More detailed information regarding Stora Enso's principal activities and disaggregation of revenue is presented in note 2.1 Segment information.

Foreign currency transactions

Transactions in foreign currencies are recorded at the rate of exchange prevailing at the transaction date, but at the end of the month foreign-currency-denominated receivables and liabilities are translated using the month-end exchange rate. Foreign exchange differences for operating items are presented in the appropriate income statement line in the operating profit, and, for financial assets and liabilities, they are presented in the financial items in the consolidated income statement, except when deferred in equity as qualifying cash flow hedges, net investment hedges or net investment loans. Translation differences on non-monetary financial assets, such as equities classified at fair value through other comprehensive income (FVTOCI), are included in equity.

Foreign currency translations

The income statements of Group companies with functional and presentational currencies other than the euro are translated into the Group reporting currency using the average exchange rates of the year, whereas the statements of the financial position of these companies are translated using the exchange rates at the reporting date. The Group is exposed to currency risks arising from exchange rate fluctuations on the value of its net investment in non-euro foreign entities. Exchange differences arising from the retranslation of net investments in foreign entities that are non-euro foreign subsidiaries, joint operations or associated companies and of financial instruments that are designated to hedge such investments, are recorded directly in equity as cumulative translation adjustment (CTA). See note 5.6 Cumulative translation adjustment and equity hedging for more details.

Future standard changes endorsed by the EU but not yet effective in 2024

- Amendments to IAS 21 The Effects of Changes in Foreign Exchange Rates: Lack of Exchangeability. The amendment contains guidance to specify when a currency is exchangeable and how to determine the exchange rate when it is not. The effective date is 1 January 2025. The Group expects that the amendment does not have a significant impact.
- No other published standards, standard amendments or interpretations which would be expected to have any significant impact on the Group's consolidated financial statements or disclosures.

Future standard changes not yet effective and not yet endorsed by the EU in 2024

- IFRS 18 Presentation and Disclosure in Financial Statements. The objective of the new IFRS 18 standard is to set out requirements for the presentation and disclosure of information in general purpose financial statements to help ensure they provide relevant information that faithfully represents an entity's assets, liabilities, equity, income and expenses. The new Standard will give investors more transparent and comparable information about companies' financial performance.

  IFRS 18 is effective for annual reporting periods beginning on or after 1 January 2027 (retrospective application is mandatory). IFRS 18 replaces current IAS 1 Presentation of Financial Statements. New standard carries forward many requirements from IAS 1 unchanged.

  IFRS 18 introduces three sets of new requirements to improve companies' reporting of financial performance.

Comparability in the income statement. IFRS 18 introduces three defined categories for income and expenses - operating, investing and financing - to improve the structure of the income statement, and requires all companies to provide new defined subtotals.

Transparency of management-defined performance measures (often referred to as alternative performance measures). IFRS 18 requires companies to disclose explanations of company specific measures that are related to the income statement, referred to as management-defined performance measures. The new requirements will improve the discipline and transparency of management-defined performance measures.

Grouping of information in the financial statements. IFRS 18 sets out guidance on how to organise information and whether to provide it in the primary financial statements or in the notes. The changes are expected to provide more detailed and useful information. IFRS 18 also requires companies to provide more transparency about operating expenses.

The Group is evaluating the impact of the new standard and expects that it has material impact on the Group's primary financial statements and certain notes of the consolidated financial statements.

- Amendments to IFRS 9 and IFRS 7 - the Classification and Measurement of Financial Instruments. The amendments will address diversity in accounting practice by making the requirements more understandable and consistent. These include clarifying the classification of financial assets with environmental, social and corporate governance (ESG) and similar features (ESG-linked features in loans could affect whether the loans are measured at amortised cost or fair value), and settlement of liabilities through electronic payment systems, where the amendments clarify the date on which a financial asset or financial liability is derecognised. With these amendments, the IASB has also introduced additional disclosure requirements to enhance transparency regarding investments in equity instruments designated at fair value through other comprehensive income and financial instruments with contingent features, for example features tied to ESG-linked targets. The amendments are not expected to have significant impact on the Group.
- Amendments to IFRS 9 and IFRS 7 - Contracts Referencing Nature-dependent Electricity. The own-use requirements in IFRS 9 are amended to include the factors an entity is required to consider for contracts to buy and take delivery of renewable electricity for which the source of production of the electricity is nature-dependent. Hedge accounting requirements are amended to permit an entity using a contract for nature-dependent renewable electricity with specified characteristics as a hedging instrument. Amendments also introduce disclosure requirements about contracts for nature-dependent electricity with specified characteristics. The Group is evaluating the impact of the standard amendments and amendment is not expected to have any significant impact on Stora Enso.
- Other published standards, standard amendments or interpretations are not expected to have any significant impact on the Group's consolidated financial statements or disclosures.

✔ 1.2 Critical accounting estimates and judgements

The preparation of consolidated financial statements in accordance with IFRS requires management to make estimates, judgements and assumptions that affect the reported assets and liabilities, as well as the disclosure of contingent assets and liabilities at the reporting date and the reported income and expenses during the period. These estimates, judgments and assumptions might have a significant impact on the amounts recognised in the consolidated financial statements. The estimates are based on historical experience and various other assumptions that are believed to be reasonable and reflect management's best estimates, though actual result and timing could differ from these. The estimates, judgements and assumptions are reviewed regularly and updated if there are changes in circumstances or as a result of new information. The accounting items presented below represent those matters which include the most estimation uncertainty and exercise of judgement. More details are included in the respective notes.

- Property, plant and equipment, intangible assets and right-of-use assets and Goodwill - note 2.3 Depreciation, amortisation and impairment charges
- Income taxes - note 2.5 Income taxes
- Post-employment benefits - note 3.3 Post-employment benefit obligations
- Leases - note 4.1 Intangible assets, property, plant and equipment and right-of-use assets
- Forest assets - note 4.2 Forest assets
- Fair value of financial instruments - note 4.4 Equity instruments and note 5.2 Fair values.
- Provisions - note 4.9 Provisions

2 Financial performance

2.1 Segment information

✔ Accounting principles

Stora Enso's reportable segments are Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest and the segment Other. Operating segments reflect the Group's management structure and the way financial information is regularly reviewed by Stora Enso's President and CEO who is responsible for allocating resources and assessing the performance of the operating segments. Costs, revenues, assets and liabilities are allocated to operating segments on a consistent basis. Transactions between operating segments are based on arm's length terms, and they are eliminated on consolidation. The activities of the reportable segments are:

Packaging Materials

The Packaging Materials division is a global leader and expert partner in circular packaging providing premium packaging boards, made from virgin and recycled fiber. Stora Enso helps customers reduce the use of fossil-based materials by offering renewable and recyclable products for their food, beverage, and transport packaging based on a wide selection of base boards and barrier coatings.

Packaging Solutions

The Packaging Solutions division is a packaging converter that produces premium fiber-based packaging products for leading brands across multiple market areas, including retail, e-commerce, and industrial applications. Additionally, the division provides design and sustainability services to help customers optimise material use, improve logistics, and reduce CO_2 emissions.

Biomaterials

The Biomaterials division's foundation is built on pulp, with the aim of becoming customers' first choice in selected grades. To unlock the full potential of a tree the division also leverages all fractions to create innovative biobased solutions, that replace fossil-based and other non-renewable materials.

Wood Products

The Wood Products division is Europe's largest sawn timber producer and a leading provider of sustainable wood-based solutions for the global building sector. The division provides the building sector with renewable and low-carbon wood-based solutions that help decarbonise the built environment. Additionally, the division offers window and door components, and co-products such as pellets made from wood residuals.

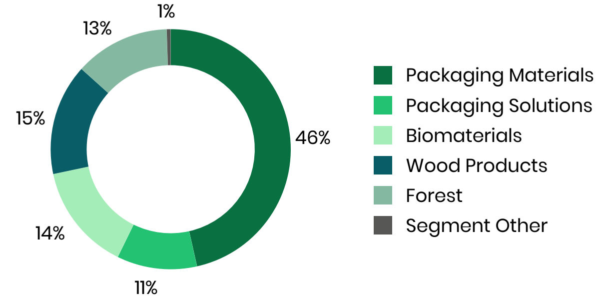
Forest

The Forest division is responsible for wood sourcing for Stora Enso's Nordic and Baltic operations as well as for B2B customers. It manages the Group's forest assets in Sweden and a 41% share in Tornator, whose forests are primarily located in Finland. The division's operations are based on sustainable forest management encompassing planning, logistics, harvesting, and forest regeneration.

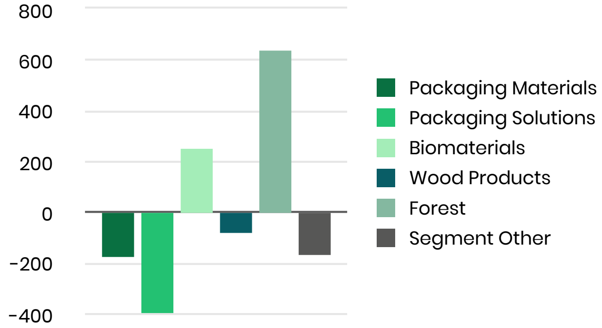
Segment Other

The segment Other includes the divested paper sites until the completion of the divestments, the reporting of the emerging businesses (including Formed Fiber) as well as Stora Enso's shareholding in the energy company Pohjolan Voima (PVO), and Group Head Office and Global Business Services.

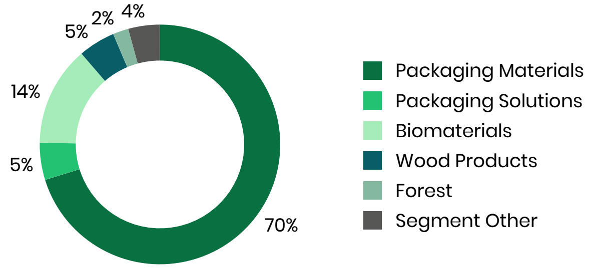
External sales



Operating result (IFRS), MEUR



Capital expenditure



Operating segments 2024

EUR million	Packaging Materials	Packaging Solutions	Biomaterials	Wood Products	Forest	Other	Eliminations	Group
External sales	4,207	977	1,303	1,357	1,157	49	0	9,049
Internal sales	295	10	284	165	1,670	128	-2,552	0
Sales total	**4,502**	**987**	**1,587**	**1,522**	**2,827**	**176**	**-2,552**	**9,049**
Product sales								8,986
Service sales								63
Sales total								**9,049**
Operating result	-169	-394	256	-73	646	-162	-11	93
Net financial expense								-211
Income taxes								-65
Result for the period								**-183**
Operative assets	4,594	807	2,835	803	8,036	743	-325	17,494
Tax receivables								236
Interest-bearing receivables								2,072
Total assets								**19,802**
Operative liabilities	1,138	202	318	250	703	298	-301	2,606
Tax liabilities								1,429
Interest-bearing liabilities								5,779
Total liabilities								**9,813**
Other items								
Depreciations/impairments/impairment reversals	-560	-452	-99	-100	-21	-13	0	-1,246
Capital expenditures (excluding investments in biological assets)	709	50	136	50	21	43	0	1,009
Operating capital	3,457	606	2,518	553	7,334	445	-24	14,888
Average personnel	7,074	4,229	1,989	3,736	1,480	725	0	19,233

Operating segments 2023

EUR million	Packaging Materials	Packaging Solutions	Biomaterials	Wood Products	Forest	Other	Eliminations	Group
External sales	4,362	1,066	1,363	1,453	989	162	0	9,396
Internal sales	195	11	223	127	1,501	801	-2,859	0
Sales total	**4,557**	**1,077**	**1,587**	**1,580**	**2,490**	**964**	**-2,859**	**9,396**
Product sales								9,317
Service sales								79
Sales total								**9,396**
Operating result	-642	17	-81	-86	461	-41	49	-322
Net financial expense								-173
Income taxes								64
Result for the period								**-431**
Operative assets[1]	4,402	1,223	2,772	855	7,906	1,189	-371	17,975
Tax receivables								166
Interest-bearing receivables								2,613
Total assets								**20,754**
Operative liabilities[1]	1,158	195	321	238	549	505	-358	2,607
Tax liabilities								1,478
Interest-bearing liabilities[1]								5,780
Total liabilities								**9,865**
Other items								
Depreciations/impairments/impairment reversals	-805	-74	-297	-67	-21	-38	0	-1,303
Capital expenditures (excluding investments in biological assets)	636	161	162	51	29	15	0	1,054
Operating capital	3,243	1,028	2,451	617	7,358	684	-13	15,368
Average personnel	7,269	4,389	2,196	4,079	1,434	1,455	0	20,822

1 2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Geographical information

	External sales by destination		Non-current assets by country[1,3]		Capital expenditure by country[2]	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Austria	294	347	132	134	6	15
Baltic States	267	271	56	66	9	9
Czechia	168	189	185	193	5	8
Finland	623	664	3,291	2,872	718	587
France	260	299	2	2	0	0
Germany	811	862	1	34	8	9
Italy	387	453	0	0	0	1
Netherlands	503	597	435	797	16	131
Poland	506	511	366	407	23	30
Sweden	1,255	1,111	7,077	7,127	131	174
UK	293	344	0	8	0	0
Other Europe	845	901	92	126	10	12
Total Europe	**6,213**	**6,548**	**11,636**	**11,767**	**926**	**975**
China (incl. Hong Kong)[3]	931	991	593	755	9	15
Japan	248	242	0	0	0	0
Uruguay	37	33	1,725	1,543	38	35
USA	259	302	0	0	0	0
Other countries	1,360	1,279	297	316	36	29
Total	**9,049**	**9,396**	**14,251**	**14,382**	**1,009**	**1,054**

1 Non-current assets excluding financial instruments and deferred tax assets.
2 Excluding biological asset capital expenditure
3 Non-current assets by country figure for 2023 has been restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

2.2 Other operating income and expenses

✔ Accounting principles

Research and development

Research costs are expensed as incurred in other operating expenses in the consolidated income statement. Development costs are also expensed as incurred unless they meet the criteria to be recognised as intangible assets in accordance with IAS 38, in which case they are capitalised as intangible assets and amortised over their expected useful lives.

Government grants

Government grants relating to the purchase of property, plant and equipment are deducted from the carrying value of the asset, while the net cost is capitalised. Other government grants are recognised as income on a systematic basis over the periods necessary to match them with the related costs they were intended to compensate.

Green certificates

Stora Enso is part of the local green energy production system which entitles selected mills in Europe to receive green certificates based on megawatt hours of green energy produced. Green certificates received are recognised at grant date market value only in the balance sheet. As such, subsequent changes in market prices do not impact the income statement, and the income is recognised only when certificates are sold.

Other operating income and expenses

EUR million	2024	2023
Other operating income		
Emission rights allocated and disposal gains	107	145
Sale of green certificates	4	12
Gains on disposal of fixed assets	8	44
Gains on disposal of Group companies and business operations	8	52
Dividend and gain on sale of unlisted shares	3	1
Insurance compensation	16	8
CTA release	1	0
Government grants	97	40
Other[1]	82	76
Total	**325**	**378**

1 Including rent income, fair value changes for non-hedge accounted derivatives and other items. Derivatives are discussed in more detail in note 5.4 Derivatives.

EUR million	2024	2023
Other operating expenses		
Lease expenses	44	43
Credit losses, net of reversals	3	9
Losses on disposal of fixed assets	7	4
Losses on disposal of Group companies and business operations	8	19
CTA release	0	56
Provision changes in income statement	54	94
Other[1]	427	414
Total	**543**	**638**

1 Includes expenses related to, among others, consultancy and other services, IT and telecommunications, properties and administration, audit, training, travelling, insurance, penalties, and currency translation differences on operative payables.

Materials and services include	2024	2023
Emissions rights to be delivered	55	82

The Group has recorded an other operating income of EUR 107 (145) million related to emission rights. The actual realised profits amounted to EUR 63 (75) million on the disposal of surplus rights. Under Materials and Services, an expense of EUR 55 (82) million has been booked related to the cost of CO_2 emissions from production. See note 4.5 Emission rights and other non-current assets for more details related to emission rights. The income from the sale of green certificates amounted to EUR 4 (12) million.

Lease expenses comprise expenses related to short-term leases of EUR 11 (12) million, low-value assets of EUR 26 (26) million and variable lease payments not included in the measurement of lease liabilities of EUR 2 (2) million. They also include service payments specified in lease contracts, which are excluded from the measurement of lease liabilities.

In 2024, research and development expenses of EUR 77 (98) million were recorded.

Auditor's fees and services

EUR million	2024	2023
Audit fees	4	4
Audit-related fees	0	0
Tax fees	0	0
Other fees	0	0
Total	**5**	**5**

Aggregate fees for professional services rendered to the Group principal auditor PwC amounted to EUR 5 (5) million. Audit fees relate to the auditing of the annual financial statements or ancillary services normally provided in connection with statutory and regulatory filings. Audit-related fees are incurred for assurance and associated services that are reasonably related to the performance of the audit or for the review of financial statements. Assurance fees related to the Sustainability Statement are included in other fees.

2.3 Depreciation, amortisation and impairment charges

✔ Accounting principles

Depreciation or amortisation of an asset begins when it is available for use in the location and condition necessary for it to be operated in the manner intended by management. Depreciation or amortisation ceases when the asset is derecognised or classified as held for sale. Depreciation or amortisation does not cease when the asset becomes idle. Assets are depreciated and amortised on a straight-line basis during their useful lives. Useful lives are reviewed annually. If an asset is disposed and the asset's book value is higher than the disposal proceeds, the difference is recognised as an impairment in the period when reliable estimate of disposal loss is available, at the latest when a binding sales contract is signed. Right-of-use (ROU) assets are depreciated using the straight line method from the commencement date of the contract to the earlier of the end of the lease term or the end of the useful life of the ROU assets.

The carrying amounts of intangible assets, property, plant and equipment and ROU assets are reviewed at each reporting date to determine whether there is any indication of impairment, whereas goodwill is tested annually. If any such indication exists, the recoverable amount is estimated as the higher of the fair value less costs of disposal and the value in use (discounted cash flow method), with an impairment loss being recognised whenever the carrying amount exceeds the recoverable amount.

A previously recognised impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount, however, not to an extent higher than the carrying amount that would have existed had no impairment loss been recognised in prior years. For goodwill, however, a recognised impairment loss is not reversed.

Whilst intangible assets, property, plant and equipment and ROU assets are subject to impairment testing at the cash generating unit (CGU) level, goodwill is subject to impairment testing at the CGU or group of CGUs level, which represents the lowest level within the Group at which goodwill is monitored for internal management purposes.

✔ Critical accounting estimates and judgement

The value in use (discounted cash flow) method uses future projections of cash flows of a CGU or a group of CGUs and includes, among other estimates, projections of future product pricing, production levels, costs, market supply and demand, projected capital expenditures and weighted average cost of capital. The discount rates used reflect the best estimate of the weighted average cost of capital. The Group has evaluated the most sensitive estimates and assumptions, which, when changed, could have a material impact on the valuation of the assets including goodwill and, therefore, could lead to an impairment. These estimates and assumptions are sales prices, operating costs, the discount rate and expected remaining useful life.

Management believes that the assigned values and useful lives, as well as the underlying assumptions, are reasonable, though different assumptions and assigned useful lives could have a significant impact on the reported amounts. For material intangible assets and property, plant and equipment in an acquisition, an external advisor makes a fair valuation and assists in determining their remaining useful life. The key assumptions used in the impairment testing are explained further in this note.

Depreciation, amortisation and impairment charges

EUR million	2024	2023
Depreciation and amortisation		
Intangible assets	37	41
Buildings and structures	66	76
Plant and equipment	334	349
Right-of-use assets	56	59
Other tangible assets	8	8
Total	**500**	**533**
Impairment		
Goodwill	342	85
Intangible assets	30	24
Buildings and structures	90	134
Plant and equipment	254	494
Right-of-use assets	26	33
Other tangible assets	5	6
Total	**746**	**776**
Reversal of impairment		
Plant and equipment	-1	-6
Total	**-1**	**-6**
Depreciation, amortisation and impairment charges	**1,246**	**1,303**

Impairment testing

The recoverable amount for the cash generating units (CGUs) has been determined as the higher of fair value less costs of disposal and their value in use. Value in use is determined by using cash flow projections from financial estimates approved by the Board of Directors and management. The pre-tax discount rates are determined for each CGU, taking into account the business environment of the CGU and the tax and risk profile of the country in which the cash flow is generated. The table in the goodwill impairment testing section below sets out the pre-tax discount rates used for goodwill impairment testing, which are similar to those used in the impairment testing of other intangible assets, property, plant and equipment, and ROU assets.

The following assumptions are used in calculating value in use for each CGU:

- Sales price estimates in accordance with internal and external specialist analysis;
- Cash flows and discount rates were prepared in nominal terms;
- Current cost structure to remain unchanged;
- For goodwill testing, a five-year future period, followed by perpetuity value, is primarily used,
- For intangible assets, property, plant and equipment, and ROU assets, the testing period is the remaining expected economic life of the assets.

Property, plant and equipment, other intangible assets, and ROU assets impairments

The total impairments on property, plant and equipment, other intangible assets and ROU assets in 2024 amounted to EUR 405 (691) million and resulted mainly from predictions of a weaker cash flow estimates compared to previous estimates.

In 2024, impairments were primarily related to the Packaging Materials, Packaging Solutions and Wood Products divisions. In Packaging Materials, the impairments of EUR 248 million were related to the Consumer Board China CGU (EUR 141 million), the Varkaus Mill CGU (EUR 54 million), the Poland CGU (EUR 27 million) and the Langerbrugge Mill CGU (EUR 24 million). In Packaging Solutions, the impairments of EUR 98 million were related to the Western Europe CGU. In Wood Products, the impairments of EUR 51 million were related to the Northern Europe CGU.

In 2023, impairments were primarily related to the Biomaterials and Packaging Materials divisions. In Biomaterials, the impairments of EUR 146 million pertained to the Nordic Mills CGU and were mainly associated with the Sunila site, due to the closure of the pulp production site in Finland, and the Uimaharju site, due to predictions of a weaker cash flow estimates compared to previous estimates. In the Packaging Materials division, impairments of EUR 490 million were primarily related to the Containerboard Oulu CGU (EUR 228 million), due to predictions of a weaker cash flow estimates compared to previous estimates; the Consumer Board China CGU (EUR 202 million) in connection with the potential disposal transaction and based on the fair value less cost to sell; and the De Hoop Mill CGU (EUR 42 million), due to the closure of the site in the Netherlands.

Goodwill impairments

The total impairments on goodwill in 2024 amounted to EUR 342 (85) million and resulted from predictions of a weaker cash flow estimates compared to previous estimates.

In 2024, goodwill impairments were recognised for the Packaging Solutions Western Europe CGU (EUR 277 million), Packaging Materials Varkaus Mill CGU (EUR 36 million), Packaging Materials Langerbrugge Mill CGU (EUR 23 million) and Wood Products Norther Europe CGU (EUR 6 million).

In 2023, a goodwill impairment of EUR 28 million was recognised for the Anjala Mill CGU and EUR 13 million for the De Hoop Mill CGU, primarily due to restructurings in the Packaging Materials division. Additionally, a goodwill impairment of EUR 44 million was recognised for the Biomaterials division's CGU Nordic Mills, due to predictions of a weaker cash flow estimates compared to previous estimates.

The most material groups of CGUs containing goodwill

	2024		2023	
EUR million	Goodwill at year end	Pre-tax discount rate	Goodwill at year end	Pre-tax discount rate
Packaging Solutions - Western Europe	0	9.7%	277	9.3%
Wood Products - Southern Europe	109	11.6%	110	11.8%
Other CGUs	54		119	
Total	**162**		**505**	

Goodwill testing sensitivity analysis

The calculation of value in use is highly sensitive to discount rates, sales prices and costs. Sensitivity analysis are conducted to calculate the amounts by which the value assigned to the key assumption must change in order for the unit's recoverable amount to be equal to its carrying amount for the CGUs for which a reasonably possible change in an assumption could result in an impairment. The recoverable amount for the Packaging Materials Oulu CGU amounted to EUR 1,187 million compared with the carrying amount of EUR 1,089 million. The table below summarises the amounts by which the key assumption must change in order for the unit's recoverable amount to be equal to its carrying amount.

	Packaging Materials Oulu CGU
Increase in the discount rate (percentage points)	0.5%
Annual decrease in the sales prices	-0.6%
Annual increase in the costs	0.7%

Summary of impairments and impairment reversals per division

EUR million	2024	2023
Packaging Materials	307	530
Packaging Solutions	375	5
Biomaterials	1	190
Wood Products	56	20
Forest	0	1
Other	6	23
Total (impairment +) / (Impairment reversal -)	**745**	**770**

2.4 Net financial items

✔ Accounting principles

Net financial items comprise net interest expenses, foreign exchange gains and losses and other financial income and expenses mainly arising from interest-bearing assets and liabilities.

Financial income and expense

EUR million	2024	2023
Net financial expense in the income statement		
Financial income	118	91
Financial expense	-329	-264
Total	**-211**	**-173**
Represented by		
Interest expense		
Interest expense from borrowings measured at amortised cost	-218	-167
Interest component of the effective hedges under cash flow hedge	11	9
Interest expense on leases	-25	-23
Interest capitalised	29	7
Interest income on loans and receivables measured at amortised cost	75	61
Net interest expense	**-127**	**-113**
Foreign exchange gains and losses		
Currency derivatives	2	-12
Borrowings, cash equivalents, lease liabilities and other	-22	-10
Net foreign exchange gains and losses	**-20**	**-22**
Other financial income	1	6
Other financial expense		
Financial fees	-43	-28
Fair valuation losses	0	0
Impairments of interest-bearing assets	-15	-11
Net interest on net defined benefit liabilities	-6	-5
Net other financial expense	**-64**	**-38**
Total	**-211**	**-173**

Gains and losses on derivative financial instruments are shown in note 5.4 Derivatives.

In 2024, the net interest expense increased mainly as a result of higher interest rates on borrowings and higher amount of gross debt. The negative impact was partly offset by higher interest income on loans and receivables.

The amount of interest costs capitalised during the year amounted to EUR 29 (EUR 7) million, and were mainly related to the Oulu site conversion project in Finland. The average interest rate used for capitalisation was 4.1% (3.6%). Costs on long-term debt issues capitalised as part of non-current debt amounted to EUR 6 (9) million in the statement of financial position. During the year, EUR 3 (2) million was amortised through interest expense by using the effective interest rate method.

Exchange gains and losses for currency derivatives mainly relate to non-hedge accounted instruments fair valued in the income statement. In 2024, the amount reported as other financial income mainly consists of fair valuation gains, while other financial expense in the table above relates to net financial fees for unused committed credit facilities, guarantees and factoring and supply chain financing programmes. Impairments of interest-bearing assets relate to receivables originating from the sale of the Russia operations in 2022. During 2024 the Group decided to write-off the remaining receivables of EUR 15 million, the write-off is discussed in more detail in note 5.3 Interest-bearing assets and liabilities.

2.5 Income taxes

✔ Accounting principles

The Group income tax expense/benefit includes taxes of Group companies based on taxable profit/loss for the period, together with tax adjustments for previous periods and the change in deferred taxes. Tax assets and liabilities reflect uncertainty related to income taxes, if any.

Deferred taxes are provided using the liability method, as measured with enacted, or substantially enacted, tax rates, to reflect the net tax effects of all temporary differences between the tax bases and the accounting bases of assets and liabilities. No deferred tax is recognised for the initial recognition of goodwill and the initial recognition of an asset or liability in a transaction which is not a business combination, and at the time of the transaction this affects neither accounting profit nor taxable profit. Deferred tax is recognised on transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. Deferred tax assets reduce income taxes payable on taxable income in future years. The deferred tax assets, whether arising from temporary differences or from tax losses, are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised.

✔ Critical accounting estimates and judgement

Tax assets and liabilities are reviewed on a regular basis and balances are adjusted appropriately. The deferred tax assets, whether arising from temporary differences or from tax losses, are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised. Management considers that adequate provision has been made for future tax consequences based on the current facts, circumstances and tax laws. However, should any tax positions be challenged and not prevail, different outcomes could result and have a significant impact on the amounts reported in the consolidated financial statements.

Tax expense

EUR million	2024	2023
Current tax	-41	-54
Deferred tax	-24	119
Total income tax	**-65**	**64**

Income tax rate reconciliation

EUR million	2024	2023
Profit before tax	**-118**	**-495**
Tax at statutory rates applicable to profits in the country concerned[1]	76	121
Non-deductible expenses and tax exempt income[2]	-14	-10
Valuation of deferred tax assets	-44	-60
Taxes from prior years	-2	-3
Changes in tax rates and tax laws	0	-1
Impairment of goodwill[3]	-84	-19
Results from associated companies	10	27
Other	-8	9
Total income taxes	**-65**	**64**
Effective tax rate	**-55.4%**	**13.0%**
Statutory tax rate (blended)	**64.1%**	**24.5%**

1 Includes a EUR 30 million impact from countries with tax holidays and tax benefits in 2024 and a EUR 22 million impact from tax holidays and other tax benefits in 2023.
2 The tax value of non-deductible expenses of EUR 18 million has been netted against tax exempt income of 4 EUR million in 2024, and tax value of non-deductible expenses of EUR 12 million has been netted against tax exempt income of EUR 3 million in 2023.
3 Impairment of goodwill previously presented on line other. Comparative figures restated accordingly.

The statutory tax rate is a weighted average of the statutory tax rates prevailing in jurisdictions where Stora Enso operates.

Change in deferred taxes in 2024

EUR million	Value at 1 Jan 2024	Income statement	OCI	Acquisitions/ disposals	Translation difference	Value at 31 Dec 2024
Forest assets	-1,315	-117	69	-2	30	-1,335
Fixed assets	-83	61	0	0	5	-17
Financial instruments	-12	2	16	0	0	5
Untaxed reserves	-6	-1	0	0	0	-7
Pensions and provisions	3	-33	-5	0	-3	-38
Tax losses and tax credits carried forward	112	50	0	-1	2	164
Other deferred taxes	3	17	0	0	-2	18
Total	**-1,299**	**-22**	**81**	**-3**	**31**	**-1,211**
Equity hedges and net investment loans (CTA)		-3	3			
Cash flow hedging		0	0			
Change in deferred tax		**-24**	**83**	**-3**	**31**	
Assets[1]	134					205
Liabilities[1]	-1,433					-1,416

1 Deferred tax assets and liabilities have been offset in accordance with IAS 12.
OCI = Other Comprehensive income, CTA = Cumulative Translation Adjustment

Change in deferred taxes in 2023[2]

EUR million	Value at 1 Jan 2023	Income statement	OCI	Acquisitions/ disposals	Translation difference	Value at 31 Dec 2023
Forest assets	-1,267	-54	9	0	-4	-1,315
Fixed assets	-123	105	0	-62	-3	-83
Financial instruments	-10	-2	-1	0	0	-12
Untaxed reserves	-85	77	0	0	2	-6
Pensions and provisions	26	-34	9	0	1	3
Tax losses and tax credits carried forward	74	40	0	0	-2	112
Other deferred taxes	15	-14	0	0	1	3
Total	**-1,370**	**119**	**18**	**-62**	**-4**	**-1,299**
Equity hedges and net investment loans (CTA)		0	0			
Change in deferred tax		**119**	**18**	**-62**	**-4**	
Assets[1]	74					134
Liabilities[1]	-1,443					-1,433

1 Deferred tax assets and liabilities have been offset in accordance with IAS 12.
2 2023 restated due to reversal of held for sale classification.
OCI = Other Comprehensive income, CTA = Cumulative Translation Adjustment

The recognition of deferred tax assets is based on the Group's estimations of future taxable profits available against which the Group can utilise the benefits.

Non-recognised deferred tax assets on deductible temporary differences amounted to EUR 126 (97) million.[1] There is no expiry date for these differences. Taxable temporary differences in respect of investments in subsidiaries, branches and associates and interests in joint operations, for which deferred tax liabilities have not been recognised amounted to EUR 440 (428) million.

Tax losses

	Tax losses carried forward		Recognised tax values		Unrecognised tax values[1]	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Expiry within five years	193	304	7	9	41	66
Expiry after five years	565	326	108	60	6	6
No expiry	1,199	1,213	48	42	208	219
Total	**1,957**	**1,842**	**163**	**111**	**256**	**290**

1 2023 restated due to reversal of held for sale classification.

At the end of 2024, tax losses of EUR 496 (259) million related to Finland. A deferred tax asset of EUR 99 (52) million was recognised relating to these tax losses, as it is likely that future taxable profit will be available against which the unused tax losses can be utilised before expiration. Despite losses in recent years in Finland, the Group has considered in its assessment that the losses arise from identifiable causes unlikely to recur and that measures to improve profitability are in place.

Uncertain tax positions

At balance sheet date there were on-going tax audits in several jurisdictions. It is not expected that any significant additional taxes in excess of those already recorded for will arise as a result of these audits.

Impact of OECD Pillar Two model rules

The Group is within the scope of the OECD Pillar Two model rules as from 1 January 2024. The Group applies the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes, as provided in the amendments to IAS 12.

The impact of the legislation to the Group's average effective tax rate is expected to vary from year to year. In 2024 current tax expense of EUR 41 million includes EUR 2 million Pillar Two top-up tax expense.

2.6 Earnings per share

✔ Accounting principles

Basic earnings per share, attributable to the owners of the parent company, are calculated by dividing the net result attributable to shareholders by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares held by the Group as treasury shares. Diluted earnings per share are calculated by adjusting the weighted average number of ordinary shares plus the diluted effect of all potential dilutive ordinary shares, such as shares from share-based payments.

Earnings per share

	2024	2023
Net result for the period attributable to the owners of the parent, EUR million	-136	-357
Weighted average number of A and R shares	788,619,987	788,619,987
Weighted average number of share awards	1,151,874	1,094,121
Weighted diluted number of shares	789,771,861	789,714,108
Basic earnings per share, EUR	**-0.17**	**-0.45**
Diluted earnings per share, EUR	**-0.17**	**-0.45**

3 Employee remuneration

3.1 Personnel expenses

Personnel expenses

EUR million	2024	2023
Wages and salaries	926	962
Pension expenses	143	147
Share-based remuneration	2	4
Other statutory employer costs	135	139
Other voluntary costs	22	23
Total	**1,228**	**1,275**

Pension expenses

EUR million	2024	2023
Defined benefit plans	7	7
Defined contribution plans	137	140
Total	**143**	**147**

The average number of employees in 2024 amounted to 19,233 (20,822). Pension costs are discussed further in note 3.3 Post-employment benefit obligations.

In 2024, the expense of the share-based remuneration was EUR 2 (4) million. Share-based remuneration comprising of share awards is described in more detail in note 3.4 Employee variable compensation and equity incentive schemes. Remuneration of the Group Leadership Team and Board are described in note 3.2 Board and executive remuneration.

3.2 Board and executive remuneration

Board and committee remuneration

	2024			2023	
EUR thousand (before taxes)	**Cash**	**Value of shares**[1]	**Total**[4]	**Total**	**Committee memberships**
Board members at 31 December 2024					
Kari Jordan, Chair	140	87	227	220	People and Culture, Nomination[2, 3]
Håkan Buskhe, Vice Chair	79	49	129	125	People and Culture, Nomination[2, 3]
Elisabeth Fleuriot	66	34	100	97	Financial and Audit
Helena Hedblom	57	34	90	88	Sustainability and Ethics
Astrid Hermann	66	34	100	97	Financial and Audit
Christiane Kuehne	61	34	95	93	Sustainability and Ethics
Richard Nilsson	80	34	114	104	Financial and Audit, Sustainability and Ethics
Reima Rytsölä	57	34	90	–	People and Culture
Former Board members					
Antti Mäkinen (until 20 March, 2024)	–	–	–	88	People and Culture
Hans Sohlström (until 18 September, 2023)	–	–	–	88	Sustainability and Ethics
Total remuneration as Directors[1]	**605**	**340**	**945**	**1,000**	

1 40% of the Board remuneration, excluding Committee remuneration, in 2024 was paid in Stora Enso R shares purchased from the market and distributed as follows: to Chair 6,806 R shares, Vice Chair 3,843 R shares, and members 2,638 R shares each. The Company has no formal policy requirements for the Board members to retain shares received as remuneration.
2 Stora Enso's Shareholders' Nomination Board has been appointed by the AGM in 2016 to exist until otherwise decided. The Shareholders' Nomination Board according to its Charter as approved by the AGM comprises of four members: the Chair and Vice Chair of the Board of Directors, as well as two members appointed by the two largest shareholders (one each) as of 31 August each year. No separate remuneration is paid to members of the Nomination Board.
3 Marcus Wallenberg, appointed by FAM AB, is Chair of the Nomination Board. Jouko Karvinen is the member of the Shareholders' Nomination Board appointed by Solidium Oy. Kari Jordan and Håkan Buskhe were appointed as members of the Shareholders' Nomination Board in their roles as Chair and Vice Chair of the Board of Directors.
4 The Company additionally pays the transfer tax for share purchases for each member, in line with AGM decision, which amount is considered also taxable income for each member.

Shareholders at the Annual General Meeting (AGM) have established a Shareholders' Nomination Board to exist until otherwise decided and to annually prepare proposals for the AGM's approval concerning the number of members of the Board of Directors, the Chair, Vice Chair and other members of the Board, as well as the remuneration for the Chair, Vice Chair and members of the Board and its committees.

Board share interests at 31 December 2024

	Shares held (direct and indirect ownership)	
	A	R
Board members at 31 December 2024		
Kari Jordan, Chair		15,818
Håkan Buskhe, Vice Chair		15,912
Elisabeth Fleuriot		35,506
Helena Hedblom		8,994
Astrid Hermann		5,477
Christiane Kuehne		20,067
Richard Nilsson[1]	127	32,845
Reima Rytsölä		2,638
Total shares held	**127**	**137,257**

1 Spouse holds 127 of A shares and 236 of R shares.

The following Board members also served in 2024

	Shares held when Board membership ended (direct and indirect)	Effective date of Board membership ending
Antti Mäkinen	19,415	20 March 2024

Group Leadership Team (GLT) remuneration and share interests

The following table includes the remuneration earned by GLT members during the year, including those shares with performance conditions that have ended and are due to vest in the coming year. The Company recommends and expects the CEO and GLT members to hold Stora Enso shares at a value corresponding to at least one annual base salary. Stora Enso shares received as remuneration are therefore recommended not to be sold until this level has been reached.

The aggregate cost of earned remuneration for the GLT in 2024 amounted to EUR 9 (12) million. The total number of GLT members was 11 (11) at the year end in 2024.

In accordance with their respective pension arrangements, GLT members may retire at sixty-five years of age with pensions consistent with local practices in their respective home countries. Employment contracts provide for six months' notice prior to termination, with severance compensation of twelve months basic salary if the termination is at the Company's request.

The outcome of the financial targets relating to the Short-term incentive programmes for the performance year 2024, and Long-term incentive programmes for the performance years 2022 to 2024 were reviewed and confirmed by the People and Culture Committee and approved by the Board of Directors in February 2025.

Note 3.4 Employee variable compensation and equity incentive schemes includes details of incentive schemes and share opportunity programmes for the management and staff of Stora Enso.

Group Leadership Team remuneration

	2024			2023			
EUR thousand	**CEO**	**Others[2,5]**	**GLT Total**	**CEO**	**Former CEO**	**Others**	**GLT Total**
Remuneration[1,4]							
Annual salary	1,000	3,476	4,476	290	669	3,656	4,615
Local housing (actual costs)	—	2	2	—	—	3	3
Other benefits	—	940	940	—	26	263	289
Termination benefits	—	—	—	—	933	300	1,233
Short Term Incentive programme[3]	640	1,187	1,827	—	157	1,024	1,181
Long Term Incentive programme[3]	—	394	394	—	912	1,652	2,564
	1,640	**5,999**	**7,639**	**290**	**2,697**	**6,898**	**9,885**
Pension costs							
Mandatory plans	139	809	948	48	428	920	1,396
Stora Enso voluntary plans	—	636	636	—	—	730	730
	139	**1,445**	**1,584**	**48**	**428**	**1,650**	**2,126**
Total compensation	**1,779**	**7,444**	**9,223**	**338**	**3,125**	**8,548**	**12,011**

1 The Finnish Corporate Governance code requires companies to report remuneration that is paid or due, and due to this the figures presented in the above table do not directly reconcile with the amounts recognised as personnel expenses in the Income statement as presented in the below table Group Leadership Team remuneration in Income statement.
2 Includes earnings related to Seppo Parvi until 31 October 2024, Ad Smit until 31 October 2024, Tuomas Hallenberg as of 15 October 2024 and Carolyn Wagner as of 1 November 2024.
3 Related to amounts due at year end, which will be paid in 2025. LTI value is calculated using the 30 December 2024 closing price of EUR 9.72 and forecasted LTI outcome as after Q3/2024.. The final value of the vested shares will be approved after February 2025 and depend on the share price on vesting date 18 March 2025.
4 Remuneration for executives is disclosed only for the period during which they were GLT members.
5 Remuneration of GLT members decreased in 2024 compared to 2023 mainly due to the performance outcome of variable pay programmes. The average number of GLT members during 2024 was 9.21.

Group Leadership Team remuneration in Income statement

	2024			2023			
EUR thousand	**CEO**	**Others**	**GLT Total**	**CEO**	**Former CEO**	**Others**	**GLT Total**
Salaries and other short-term employee benefits	1,640	5,605	7,245	290	852	4,946	6,088
Long Term Incentive programme[1]	146	632	778	137	432	1,245	1,814
Post-employment benefits [2]	139	1,445	1,584	48	428	1,650	2,126
Total recognised in Income statement	**1,925**	**7,682**	**9,607**	**475**	**1,712**	**7,841**	**10,028**

1 The costs of long-term incentive (LTI) programmes are recognised as costs over the three year vesting period based on the share price at grant date and the estimate of equity instruments that will eventually vest.
2 Includes statutory and supplementary pension contributions.

Executives other than CEO

Short term incentive (STI) programmes for management

In 2024, GLT members had STI programmes with up to a maximum of 70% or 80% of their annual fixed salary, payable the year following the performance period. 100% of the STI for 2024 was based on Group and divisional financial measures.

Long-term incentive (LTI) programmes for management

The 2022, 2023 and 2024 programmes feature performance metrics with one-year performance periods, which are accumulated after three years, as well as three-year performance periods. All three programmes will be settled in a single portion after three years, with the absolute maximum vesting level being 100% of the number of shares granted. The 2022 programme pertains to the performance period 2022–2024, the 2023 programme to the performance period 2023–2025, and the 2024 programme to the performance period 2024–2026. The opportunity under these programmes is in Performance Shares, with shares vesting in accordance with performance criteria proposed by the People and Culture Committee and approved by the Board of Directors.

During the year, the 2024 programme was launched, under which GLT members (as of the year-end) can potentially receive a value corresponding to 221,370 shares before taxes, assuming the maximum vesting level during the three-year vesting period (2024–2026) is achieved. The total number of shares actually transferred will be lower, as a portion corresponding to the tax obligation will be withheld to cover income tax.

The fair value of employee services received in exchange for share-based compensation payments is accounted for in a manner consistent with the method of settlement, which is either cash or equity settled as described in more detail in note 3.4 Employee variable compensation and equity incentive schemes. For the equity-settled portion, it is possible that the actual cash cost does not align with the accounting charges, as the share price is not updated at the time of the vesting. The figures in the Group Leadership Team Remuneration table refer to individuals who were executives at year-end or during part of the year.

At the end of the year, the performance period for the 2022 programme ended, and will be settled in one portion after three years, in March 2025, depending on Earnings Per Share (EPS) for the Stora Enso Group, Relative Total Shareholder Return (TSR) and ESG metrics (emission reduction and diversity) . The outcome of the Performance Share programme will be confirmed in the beginning of March 2025, once the relative TSR outcome is confirmed. The maximum number of shares due to executives (GLT members at year-end) from programmes that ended during 2024 amounted to 111,060 shares. The total number of shares actually transferred will be based on the confirmed outcome and a portion corresponding to the tax obligation will be withheld to cover income tax.

CEO

President & Chief Executive Officer – Hans Sohlström

The CEO has been employed by Stora Enso and assumed the position of CEO on 18 September 2023. He has a notice period of six months, with a severance payment of twelve months' salary upon termination by the Company, but no contractual payments in the event of change of control. The CEO's pension plan and retirement age are in accordance with the Finnish statutory TyEL plan. The CEO has no supplementary pension plan.

Short-term incentive (STI) programme for CEO

The CEO is entitled to an STI programme with a maximum opportunity of 100% of the annual fixed salary for each 12-month period. The CEO STI plan for the period Q4/2023– Q3/2024 resulted in an outcome of 64% and was paid in 2024.

Long-term incentive (LTI) programme for CEO

As of 18 September 2023, a two-year CEO Performance Plan was initiated, with a vesting date in Q4/2025. The CEO has the potential to receive a value corresponding to a maximum of 169,420 shares before taxes. The performance targets are related to the balance sheet, capital expenditure, strategy, and sustainability. The CEO is not participating in the LTI 2023–25 or other potential LTI programmes that commenced during 2024.

Group Leadership Team share interests

	R shares held[1]	Shares due 2025[2]	Performance share opportunity 2026–2027[3]	Restricted share opportunity 2026–2027[3]
Total, Serving Officers	345,902	280,480	383,500	–

1 Direct and indirect ownership. None of the GLT members holds A shares.
2 Shares due to GLT member are gross of taxes for the LTI programmes with performance periods that ended in 2024 and are due to be paid 2025. The Performance Share programme value is based on maximum earning opportunity and final value will be available after February 2025. Some GLT members hold restricted shares in the Restricted Shares programme that ended in 2024 and those shares are due to be paid 2025.
3 Potential shares to GLT members are gross of taxes for LTI programmes with performance periods that end in 2025-2026 and are due to be paid 2026-2027.

3.3 Post-employment benefit obligations

✔ Accounting principles

Employee benefits

The Group operates a number of defined benefit and contribution plans throughout the world, the assets of which are generally held in separate trustee administered funds. Such pension and post-retirement plans are generally funded by payments from employees and by the relevant Group companies, taking into account the recommendations of independent qualified actuaries. Employer contributions to the defined contribution pension plans are charged to the consolidated income statement in the year they relate to.

For defined benefit plans, accounting values are assessed using the projected unit credit method. Under this method, the cost of providing pensions is charged to the consolidated income statement to spread the regular cost over the service lives of employees in accordance with the advice of qualified actuaries who carry out a full valuation of the plan every year. The pension obligation is measured as the present value of the estimated future cash outflows using interest rates of highly rated corporate bonds or government securities, as appropriate, that match the currency and expected duration of the related liability.

The Group recognises all actuarial gains and losses arising from defined benefit plans directly in equity, as disclosed in its consolidated statement of comprehensive income. Past service costs are identified at the time of any amendments to the plans and are recognised immediately in the consolidated income statement regardless of vesting requirements. The full liability for all plan deficits is recorded in the Group's consolidated statement of financial position.

✔ Critical accounting estimates and judgement

The determination of the Group pension obligation and expense is subject to the selection of certain assumptions used by actuaries in calculating such amounts, including, among others, the discount rate, the annual rate of increase in future compensation levels and estimated lifespans. Amounts charged in the income statement are determined by independent actuaries; however, where actual results differ from the initial estimates, together with the effect of any change in assumptions or other factors, these differences are recognised directly in equity, as disclosed in the statement of comprehensive income.

The Group's pension expenses amounted to EUR 143 (147) million in 2024, as shown in note 3.1 Personnel expenses. Pensions are classified as defined contribution plans and defined benefit plans. The majority of the Group's pensions plans are defined contribution plans for which the charge amounted to EUR 137 (140) million. The aim of the Group is to provide defined contribution plans as its post-employment benefits.

Net defined benefit obligation reconciliation

	Defined benefit obligation (+)		Fair value of plan assets (-)		Net defined benefit obligation / (asset)	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
At 1 January	**775**	**736**	**-578**	**-577**	**197**	**159**
Current service cost	7	7	0	0	7	7
Settlements	-1	0	1	0	0	0
Interest expense (+) income (-)	29	27	-23	-22	6	5
Total included in income statement	**35**	**34**	**-22**	**-22**	**12**	**12**
Actuarial changes in demographic assumptions	-1	1	0	0	-1	1
Actuarial changes in financial assumptions	-3	31	0	0	-3	31
Actuarial changes from experience adjustments	-7	19	0	0	-7	19
Return on plan assets[1]	0	0	-16	-1	-16	-1
Asset ceiling impact[1]	0	0	4	2	4	2
Total remeasurement gains (-) / losses (+) included in OCI	**-11**	**52**	**-12**	**0**	**-23**	**52**
Benefit payments	-58	-56	47	45	-11	-12
Employer contributions and refunds	0	0	-13	-20	-13	-20
Translation difference	-6	3	4	-3	-2	0
Disposals and classification as held for sale	0	6	0	-1	0	5
At 31 December	**735**	**775**	**-574**	**-578**	**161**	**197**

1 Excluding amounts included in interest expense (+) income (-)

In 2025, contributions of EUR 4 (22) million are expected to be paid to Group's defined benefit plans.

Significant actuarial assumptions used in the valuation of defined benefit obligations

	Finland		Germany		Sweden	
	2024	**2023**	**2024**	**2023**	**2024**	**2023**
Discount rate %	3.2	3.1	3.4	3.3	3.3	3.1
Future salary increase %	3.0	3.0	2.5	2.5	2.9	2.9
Future pension increase %	2.2	2.2	2.0	2.0	2.0	2.0
Duration of pension plans	8.0	8.0	9.8	8.8	13.8	12.7

Sensitivity of the defined benefit obligation

	Impact on defined benefit obligation		
	Change in assumption	**Increase in assumption**	**Decrease in assumption**
Discount rate	0.50%	Decrease by 5.8%	Increase by 6.5%
Salary growth rate	0.50%	Increase by 1.3%	Decrease by 1.3%
Pension growth rate	0.50%	Increase by 5.0%	Decrease by 4.6%
Life expectancy	1 year	Increase by 3.5%	Decrease by 3.5%

The Group defines following actuarial risks associated with defined benefit plans:

Interest risk

The obligations are assessed using market rates of high-quality corporate or government bonds to discount the obligations and are therefore subject to any volatility in the movement of the market rate. The net interest income or expense recognised in profit and loss are also calculated using the market rate of interest.

Life expectancy

In the event that members live longer than assumed, the obligations may be understated originally and a deficit may emerge if funding has not adequately provided for the increased life expectancy.

Defined benefit plan summary by country as at 31 December 2024

EUR million	Finland	Germany	Sweden	Other	Total
Present value of funded obligations	150	6	261	156	574
Present value of unfunded obligations	0	122	17	22	160
Defined benefit obligations (DBO)	**150**	**128**	**278**	**178**	**735**
Fair value of plan assets	-149	-5	-270	-149	-574
Net obligation in the balance sheet	**1**	**123**	**7**	**29**	**161**
Represented by					
Defined benefit pension plans	1	123	7	8	140
Other post-employment benefits	0	0	0	21	21
Net obligation in the balance sheet	**1**	**123**	**7**	**29**	**161**

Defined benefit plan summary by country as at 31 December 2023

EUR million	Finland	Germany	Sweden	Other	Total
Present value of funded obligations	167	5	277	151	600
Present value of unfunded obligations	0	131	20	23	174
Defined benefit obligations (DBO)	**167**	**136**	**297**	**174**	**775**
Fair value of plan assets	-160	-5	-271	-142	-578
Net obligation in the balance sheet	**7**	**131**	**26**	**32**	**197**
Represented by					
Defined benefit pension plans	7	131	26	9	174
Other post-employment benefits	0	0	0	23	23
Net obligation in the balance sheet	**7**	**131**	**26**	**32**	**197**

Finland

In Finland, the employees are entitled to a statutory pensions benefit determined by the Employee Pension Act (TyEL). These benefits are defined as contribution benefits. They are insured with an insurance company and provide coverage for old age, disability, and death. The charge in the income statement from contribution benefits is EUR 63 (62) million.

In addition, the Group has additional defined benefit plans which resulted in a charge of EUR 0 (0) million excluding finance costs. Defined benefit plans and plan assets are managed by insurance companies. Details of the exact structure and investment strategy surrounding plan assets are not available to participating employers, as the assets actually belong to the insurance companies themselves. The assets are managed in accordance with EU regulations, and also national requirements, under which there is an obligation to pay guaranteed benefits irrespective of market conditions.

Germany

The German pension costs amounted to EUR 2 (3) million, of which EUR 2 (3) million related to defined contribution plans and EUR 0 (0) million to defined benefits excluding finance costs. The net defined benefit obligation amounted to EUR 123 (131) million.

Defined benefit pension plans are mainly accounted for in the statement of financial position through book reserves with some minor plans using insurance companies or independent trustees. Retirement benefits are based on the years worked and salaries received during the pensionable service, and the commencement of pension payments are linked to the national pension scheme's retirement age. Pensions are paid directly by the companies themselves to their former employees. The security for the pensioners is provided by the legal requirement that the book reserves held in the statement of financial position are insured up to certain limits.

Sweden

In Sweden, all blue-collar staff and part of the white-collar staff are covered by defined contribution plans, with a charge of EUR 48 (50) million in the income statement. Defined benefit plans are covering the remaining white-collar staff and resulted in a charge of EUR 3 (3) million, excluding finance costs. The net defined benefit obligation amounted to EUR 7 (26) million. The decrease in the net obligation during the year is explained by the benefit payments made during the year and changes in actuarial assumptions, especially from a slightly higher in discount rate. Stora Enso has undertaken to pay all local legal pension obligations for the main ITP scheme to the foundation, so the remaining obligation relates to other small plans. The long-term investment return target for the foundation is a 3% real return after tax.

Other countries

The net defined benefit obligation in the remaining countries amounted to EUR 29 (EUR 32) million. The change in net obligation arose mainly from changes in actuarial assumptions.

Plan assets

	2024				2023			
EUR million	**Quoted**	**Unquoted**	**Total**	**% of total**	**Quoted**	**Unquoted**	**Total**	**% of total**
Equity instruments	90	6	96	17%	89	7	96	17%
Debt instruments	67	29	96	17%	41	51	92	16%
Property	0	61	61	11%	0	62	62	11%
Cash	15	0	15	3%	5	0	5	1%
Assets held by insurance companies	0	221	221	39%	0	228	228	39%
Others	0	85	85	15%	7	89	96	17%
Total pension fund assets	**172**	**402**	**574**	**100%**	**142**	**436**	**578**	**100%**

Plan assets do not include any real estate or other assets occupied by the Group or the Company's own financial instruments.

The two main financial factors affecting Group's pension obligation are changes in interest rates and inflation expectations. The aim of asset investment allocations is to neutralise these effects, secure solvency for benefit payments and maximise returns.

3.4 Employee variable compensation and equity incentive schemes

✔ Accounting principles

Share awards

The costs of all employee-related share-based payments are charged to the consolidated income statement as personnel expenses over the vesting period.

All share-based payment transactions are classified as equity-settled share awards. The equity-settled share awards (net of tax), are measured at the fair value of the equity instruments on the grant date, and are adjusted for the present value of expected dividends. The fair value of the equity-settled share-based payments determined on the grant date is expensed on a straight-line basis over the vesting period, based on the estimate of equity instruments that will eventually vest, with a corresponding increase in equity.

Short term incentive (STI) programmes

Salaries for senior management are negotiated individually. Stora Enso has incentive plans that take into account the performance, development and results of both business units and individual employees. This performance-based variable compensation system is based on profitability as well as on attaining key business targets.

Group Executives, as well as division and business unit management have STI programmes in which the payment is calculated as a percentage of the annual base salary with a maximum level ranging from 35% to 100%. Middle management and employees participate in an STI programme with a maximum incentive level from 7% to 25%. All incentives are discretionary. These performance-based programmes cover most employees globally, where allowed by local practice and regulations. For the performance year 2024, the annual incentive programmes were based on financial measures and safety targets. The financial success metrics in the STI programme 2024 are adjusted EBIT and operating working capital.

Long term incentive (LTI) programmes

Since 2005, new share-based programmes for executives have been launched every year. The 2022, 2023 and 2024 programmes feature a performance metric with one-year performance periods, which are accumulated after three years, as well as performance metrics with three-years performance periods. All outstanding programmes will be settled in a single portion after three years.

For the 2022 and 2023 plans, three quarters (75%) of the opportunity under the programmes are in performance shares, where shares will vest in accordance with performance criteria proposed by the People and Culture Committee and approved by the Board of Directors. The financial performance metrics for the 2022, 2023, and 2024 programme are 3-year Earnings Per Share (EPS) for the Stora Enso Group and Relative Total Shareholder Return (absolute TSR in 2024), which also feature ESG metrics (emissions reduction and diversity). One quarter (25%) of the opportunity under the programmes are in Restricted Shares, for which vesting is subject to continued employment. For the 2024 plan, Restricted Shares have been awarded only in exceptional cases. Members of the GLT have been awarded only performance shares.

Outstanding restricted and performance share opportunities before taxes are shown in the table below. The total number of shares actually transferred will be less than that shown below because a portion of shares corresponding to employees' tax obligation will be withheld to cover income tax.

Share awards at 31 December 2024

	Outstanding restricted and performance share awards at year end			
Number of shares	**2025**	**2026**	**2027**	**Total**
2022 programme	608,011			608,011
2023 programme		937,080		937,080
2024 programme			1,125,160	1,125,160
Total	**608,011**	**937,080**	**1,125,160**	**2,670,251**

The costs of the Stora Enso share-based programmes are recognised as costs over the vesting period, which is the period between the grant and vesting. The total impact of share-based programmes in the income statement amounted to an expense of EUR 2 (EUR 4) million, all of which were related to restricted and performance share awards.

4 Operating capital

4.1 Intangible assets, property, plant and equipment and right-of-use assets

✔ Accounting principles

Goodwill

Goodwill represents future economic benefits arising from assets that are not capable of being individually identified and separately recognised by the Group on an acquisition. Goodwill is computed as the excess of the cost of an acquisition over the fair value of the Group's share of the fair value of net assets of the acquired subsidiary at the acquisition date and is allocated to those groups of cash generating units expected to benefit from the acquisition. Goodwill arising on the acquisition of non-euro foreign entities is treated as an asset of the foreign entity denominated in the local currency and translated at the closing rate.

Goodwill is not amortised but tested for impairment on an annual basis, or more frequently if there is an indication of impairment.

Other intangible assets

Intangible assets are stated at their historical cost and amortised on a straight-line basis over their expected useful lives, which usually varies from 3 to 10 years and up to 20 years for patents. An adjustment is made for any impairment. Intangible items acquired must be recognised as assets separately from goodwill if they meet the definition of an asset, are either separable or arise from contractual or other legal rights, and their fair value can be measured reliably.

The cost of development or acquisition of new software clearly associated with an identifiable asset that will be controlled by the Group and has a probable benefit exceeding its cost beyond one year is recognised as an intangible asset and will be amortised over the expected useful life of the software between 3 to 10 years.

Intangible assets recognised separately from goodwill in acquisitions consist of marketing and customer-related or contract and technology-based intangible assets. Typical marketing and customer-related assets include trademarks, trade names, service marks, collective marks, certification marks, customer lists, order or production backlogs, customer contracts and the related customer relationships. Contract and technology-based intangible assets are normally licensing and royalty agreements or patented technology and trade secrets, such as confidential formulas, processes or recipes. The initial fair value of customer contracts and related relationships is derived from expected retention rates and cash flow over the customers' remaining estimated lifetime using excess earnings method. The initial fair value of trademarks is derived from a discounted cash flow analysis using the relief from royalty method.

Property, plant and equipment

Property, plant and equipment acquired by Group companies are stated at their historical cost, which are adjusted where appropriate by asset retirement costs. Assets arising on the acquisition of a new subsidiary are stated at fair value at the date of acquisition. Depreciation is computed on a straight-line basis and adjusted for any impairment and disposal charges. The carrying amount represents the cost deducted by received grants and subsidies and less the accumulated depreciation and any impairment charges. Interest costs on borrowings to finance the construction of assets are capitalised as part of the cost during the construction period when the requirements are fulfilled.

Land and water areas are not depreciated, as these are deemed to have an indefinite life, but otherwise depreciation is based on the following expected useful lives:

Asset class	Depreciation years
Buildings, industrial	10–50
Buildings, office & residential	20–50
Groundwood mills	15–20
Hydroelectric power	40
Paper, board and pulp mills, main machines	20–30
Heavy machinery	10–20
Converting factories	10–15
Sawmills	10–15
Computers	3–5
Vehicles	5
Office equipment	3–5
Railway, harbours	20–25
Forest roads	10–15
Roads, fields, bridges	15–20

Ordinary maintenance and repair charges are written as expensed when incurred, but the costs of significant renewals and improvements are capitalised and depreciated over the remaining useful lives of the related assets. Retirements, sales and disposals of property, plant and equipment are recorded by deducting the cost and accumulated depreciation from the accounting records with any resulting terminal depreciation adjustments reflected in impairment charges in the consolidated income statement. Capital gains are shown in other operating income.

Spare parts are accounted for as property, plant and equipment if they are major and used over more than one period, or if they are used only in connection with an item of property, plant and equipment. In all other cases, spare parts are carried as part of the inventory and recognised in profit or loss as consumed items.

Right-of-use (ROU) assets

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. ROU assets are initially measured at cost, which comprises the initial amount of the lease liability adjusted mainly for lease payments made at or before the commencement date. The Group allocates the consideration in the contract to each lease component and will separate non-lease components if these are identifiable. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions.

The ROU assets are subsequently depreciated using the straight line method from the commencement date to the earlier of the end of the lease term or the end of the useful life of the ROU asset. In addition, the ROU asset is adjusted for certain remeasurements of the lease liability.

The Group has elected not to recognise ROU assets for short-term leases that have a lease term of 12 months or less and leases of low value assets. Leases of low value assets mainly include IT and office equipment, certain vehicles and machinery and other low value items. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term, see note 2.2 Other operating income and expenses, for more information.

✔ Critical accounting estimates and judgement

When assessing the lease term and if an extension or renewal options are included or not, the Group considers all relevant facts, circumstances and incentives that might have an impact on the assessment. Options to extend or renew the lease are included in the lease term only if it is reasonably certain that Stora Enso will exercise the option. The Group will do a reassessment, for example upon changes in circumstances, receiving new information or an occurrence of a significant event that is within the control of the lessee and might have an impact on the assessment.

For more information about critical accounting estimates and judgement related to valuation of intangible assets, property plant and equipment, right-of-use assets and goodwill, please see note 2.3 Depreciation, amortisation and impairment charges.

Intangible assets

EUR million	Computer software	Customer relationships and trademarks	Other intangible assets	Assets in progress	Goodwill	Total
Acquisition cost						
At 1 January 2023	222	0	100	18	502	842
Translation difference	-1	0	-3	0	-3	-7
Reclassifications	5	0	0	0	0	5
Additions	15	206	6	18	349	594
Disposals[1]	-1	0	106	0	0	105
At 31 December 2023	**241**	**206**	**209**	**36**	**848**	**1,539**
Translation difference	0	0	2	0	-1	1
Reclassifications	5	0	2	-13	0	-6
Additions	9	0	15	19	0	43
Disposals[1]	-4	0	-7	0	0	-10
At 31 December 2024	**251**	**206**	**222**	**42**	**847**	**1,567**
Accumulated amortisation and impairment						
At 1 January 2023	185	0	35	0	258	478
Translation difference	-1	0	-2	0	-1	-3
Disposals[1]	-1	0	107	0	0	106
Amortisation	17	16	8	0	0	41
Impairment	6	0	14	3	85	109
At 31 December 2023	**206**	**16**	**162**	**3**	**343**	**730**
Translation difference	0	0	2	0	1	3
Reclassifications	-6	0	0	0	0	-6
Disposals[1]	-3	0	-6	0	0	-9
Amortisation	14	16	7	0	0	37
Impairment	1	14	16	0	342	372
At 31 December 2024	**212**	**45**	**181**	**3**	**685**	**1,127**
Net Book Value at 31 December 2024	**39**	**160**	**40**	**38**	**162**	**440**
Net Book Value at 31 December 2023	**35**	**190**	**47**	**32**	**505**	**809**

1 Company disposals are included in Disposals line. Company disposals and classification of assets as held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.
2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Included in Customer relationships and trademarks, as part of the acquisition of De Jong Packaging Group, are customer-related intangibles purchased with a carrying amount of EUR 133 million and a remaining amortisation period of 13 years, as well as marketing-related intangibles of EUR 27 million with remaining amortisation periods ranging from 3 to 18 years.

Property, plant and equipment

EUR million	Land and water	Buildings and structures	Plant and equipment	Other tangible assets	Assets in progress	Total
Acquisition cost						
At 1 January 2023	103	3,041	10,909	393	454	14,900
Translation difference	1	-22	-17	-2	7	-32
Reclassifications	0	25	260	8	-298	-5
Reclassifications to biological assets	0	-2	-1	0	0	-3
Additions	5	77	434	14	583	1,113
Disposals[1]	-1	-32	-495	-4	-1	-533
At 31 December 2023	**109**	**3,087**	**11,089**	**410**	**745**	**15,440**
Translation difference	0	18	-29	-4	1	-14
Reclassifications	195	-10	-56	1	-129	1
Reclassifications to biological assets	0	-3	-1	0	0	-4
Additions	1	25	291	2	555	874
Disposals[1]	-199	-7	-79	-8	0	-292
At 31 December 2024	**107**	**3,111**	**11,215**	**400**	**1,172**	**16,004**
Accumulated depreciation and impairment						
At 1 January 2023	2	1,804	7,882	336	16	10,040
Translation difference	0	-4	7	-1	0	1
Disposals[1]	0	-31	-480	-4	0	-516
Depreciation	0	74	349	10	0	433
Impairments and reversals	0	133	488	5	1	628
At 31 December 2023	**2**	**1,976**	**8,246**	**345**	**17**	**10,586**
Translation difference	0	-5	-41	-3	0	-48
Reclassifications	195	-23	-164	-4	-1	2
Additions	0	1	0	0	0	1
Disposals[1]	-198	-20	-72	-8	0	-298
Depreciation	0	64	334	9	0	408
Impairments and reversals	12	77	253	3	2	347
At 31 December 2024	**11**	**2,071**	**8,557**	**342**	**18**	**10,998**
Net Book Value at 31 December 2024	**96**	**1,039**	**2,659**	**58**	**1,154**	**5,006**
Net Book Value at 31 December 2023	**107**	**1,111**	**2,843**	**65**	**728**	**4,854**

1 Company disposals are included in the Disposals line. Company disposals and classification of assets as held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.
2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Right-of-use assets

EUR million	Land and water	Forest land	Buildings and structures	Plant and equipment and other	Total
Acquisition cost					
At 1 January 2023	105	243	96	113	556
Translation difference	-5	-14	-1	0	-19
Reclassifications to biological assets	0	-16	0	0	-16
Additions	0	5	188	14	207
Disposals[1]	0	0	-22	-19	-41
Other changes	1	15	7	3	26
At 31 December 2023	**101**	**233**	**268**	**111**	**712**
Translation difference	3	9	-1	-2	9
Reclassifications to biological assets	0	-18	0	0	-18
Additions	5	5	53	13	76
Disposals[1]	-1	0	-10	-14	-25
Other changes	-4	-7	7	-1	-4
At 31 December 2024	**104**	**222**	**317**	**107**	**750**
Accumulated depreciation and impairment					
At 1 January 2023	10	22	49	56	138
Translation difference	-1	-1	0	0	-3
Disposals[1]	0	0	-18	-18	-36
Depreciation	3	3	32	21	59
Impairment	28	0	3	2	33
At 31 December 2023	**40**	**24**	**66**	**61**	**192**
Translation difference	2	1	-1	-1	1
Disposals[1]	-1	0	-9	-15	-24
Depreciation	2	3	31	19	56
Impairment	10	0	16	0	26
At 31 December 2024	**53**	**28**	**104**	**65**	**250**
Net Book Value at 31 December 2024	**51**	**194**	**212**	**43**	**499**
Net Book Value at 31 December 2023	**61**	**209**	**201**	**49**	**521**

1 Company disposals are included in the Disposals line. Company disposals and classification of assets as held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.
2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Stora Enso's most material right-of-use assets capitalised consist of land areas used in forestry and industrial operations, various machinery and equipment leases including operative machinery and logistic equipment, as well as properties including offices, warehouses and other operative properties. Some of the leases contain renewal options and extension options that are considered in the lease term if the Group is reasonably certain to exercise the option.

See notes 5.3 Interest-bearing assets and liabilities for more details about lease liabilities and 2.2 Other operating income and expenses for details about lease expenses included in the income statement.

Intangible assets and property, plant and equipment, and right-of-use asset additions

The total capital expenditure excluding investments in biological assets for the year amounted to EUR 1,009 (1,054) million. Details of the ongoing projects and future plans are discussed in more detail in the Report of the Board of Directors.

4.2 Forest assets

✔ Accounting principles

Stora Enso's forest assets are defined as standing growing trees, classified as biological assets, and related forest land. Biological assets consist of standing trees to be used as raw material for pulp and mechanical wood production and as biofuels.

Forest asset valuation is based on continuous operations and sustainable forest management, while also taking into account environmental restrictions and other reservations. Biological assets are recognised and valued in accordance with IAS 41 Agriculture at fair value, while forest land assets are recognised in accordance with IAS 16 Property, plant and equipment. Leased forest land assets are presented as part of right-of-use assets in note 4.1 Intangible assets, property, plant and equipment and right-of-use assets.

Nordic and plantation forest assets are classified as different asset classes due to their differing nature, usage, and characteristics. The main difference is the short-term growing cycle of 6–12 years in plantations versus the long-term growing cycle of 60–100 years in Nordic forests. There are also differences in regeneration methods, forest management, and the use of assets for other purposes.

Nordic forest assets include holdings in Sweden and Finland, while plantation forest assets include holdings in China, Brazil and Uruguay. Accounting policies for the different classes of forest assets are presented separately below. Additionally, the Group has minor forest asset holdings in Estonia and Romania through the associate company Tornator. The Group holds forest assets in its own subsidiaries in Sweden and China as well as in joint operations in Brazil and Uruguay, and in associate company in Finland. Stora Enso also ensures that the Group's share of the valuation of forest holdings in associated companies and joint operations is consistent with Group accounting policies. At harvesting, biological assets are transferred to inventory.

Nordic forest assets

Forest assets in Sweden and Finland are recognised at fair value and valued using a market approach method based on forest market transactions in the areas where Stora Enso's forests are located. Stora Enso's forest assets create value by securing wood supply, increasing long-term yield, optimising land use and securing financial flexibility. They play an important role in mitigating climate change impacts, as growing trees absorb CO_2. The forest lands offer additional opportunities for future value streams, such as wind power.

The total forest assets value is calculated with verified inventory data and regional standing stock prices, considering, among others:

- regional market transaction data based on the geographical locations of forest assets,
- standing stock prices by forest cubic metre (m^3 fo) combined from traded forest estates and
- regional standing stock inventory.

Information relating to forest asset transactions is available from market data suppliers. Stora Enso applies three-year (36-month) weighted average market transaction prices which are considered to include a sufficient number of transactions and are estimated to represent market conditions at the reporting date. The market transaction information is viewed as market-corroborated inputs. Certain adjustments are made to refine the market-corroborated inputs using unobservable inputs; therefore, inputs are categorised based on Level 3 of the fair value hierarchy.

The total value of the forest assets in the Nordics is allocated across biological assets and forest land. The allocation of the combined fair value of forest assets is based on the income approach where the present values of expected net cash flows for both biological assets and forest land are calculated separately.
The discount rate is determined as the rate at which the valuation, based on market transaction prices, matches the combined cash flows of total forest assets for biological assets and forest land. The discount rate is estimated to be the same for biological assets and forest land as the nature and timing of the cash flows are similar.

Biological assets are measured at fair value in accordance with IAS 41. The fair value is based on the income approach and the discounted cash flow method, whereby the fair value of the biological assets is calculated using cash flows from continuous operations, taking into account the growth potential of one cycle. Forest land is measured at fair value using the revaluation method, as defined in IAS 16. The fair value of forest land is measured based on the income approach, including net cash flows related to trees to-be-planted in the future as well as other land related income, such as wind power leases, hunting rights and soil material sales. The valuation of forest assets owned through Tornator Oyj in Estonia and Romania is based on the discounted cash flow method both for biological and land assets.

Changes in the fair value of biological assets are recognised in the income statement. Changes in the fair value of forest land, net of deferred taxes, are recognised in other comprehensive income (OCI) and accumulated in a revaluation reserve in equity. The revaluation reserve is not recycled to the income statement upon disposal. If the fair value of forest land were to be less than cost, the difference would be recognised in the income statement as an impairment loss.

Plantation forest assets

In plantation forest areas, biological assets are recognised at fair value in accordance with IAS 41 and based on the income approach in those areas where the Group has forest land. Fair value measurement is based on Level 3 of the fair value hierarchy. Forest land is measured initially and subsequently at cost, using the cost model as defined in IAS 16.

The valuation of biological assets is based on the discounted cash flow method. This method uses cash flows from continuous operations, incorporating sustainable forest management, and taking into account growth potential of one cycle. The fair value of biological assets is based on the productive forest land. The yearly harvest from the forecasted tree growth is multiplied by wood prices and the cost of silviculture and harvesting is deducted. The fair value of biological assets is measured as the present value of the harvest from one growth cycle, taking into consideration environmental restrictions and other reservations. The discount rate applied is determined using the weighted average cost of capital method.

Young standing timber less than two years old (less than three years in Montes del Plata) is considered to be an immature asset and accounted at cost. The fair value approximates the cost when little biological transformation has occurred or the impact of the transformation on the price is not expected to be significant. This varies according to the location and species of the assets.

Changes in the fair value of biological assets are recognised in the income statement. Forest land is measured at cost and not depreciated.

✔ Critical accounting estimates and judgement

Biological assets

The fair value of biological assets is determined by using discounted cash flow method. These discounted cash flows require estimates of growth, harvesting, sales price, costs and discount rate. To determine the fair value of biological assets, management must estimate future price levels and trends for sales and costs and conduct regular surveys to establish the volumes of wood available for harvesting and their current growth rates.

Nordic forest assets

The fair value of forest assets in the Nordics is determined using a market approach, based on forest market transactions in the areas where Stora Enso's forests are located. Market prices between areas vary significantly and judgement is applied to define relevant areas for market transactions used in valuation. The valuation of the forest assets is based on detailed transaction data and price statistics provided by market data suppliers. Judgement is applied when adjustments are made to reflect the specific characteristics and nature of Stora Enso's forest assets and to exclude certain non-forest assets and outlier transactions. Stora Enso applies three-year (36 month) weighted average market transaction prices, which are considered to include a sufficient number of transactions and are estimated to represent market conditions at the reporting date.

The value of the forest assets is allocated to biological assets and forest land. The allocation of the combined fair value of forest assets is based on the income approach where the present values of expected net cash flows for both biological assets and forest land are calculated separately. The total net cash flows for each component include estimates for future cash flows.

The value of forest assets disclosed in the consolidated statement of financial position from subsidiary companies and joint operations amounts to EUR 7,227 (7,105) million as shown below. The Group's indirect share of forest assets held by associated company amounts to EUR 1,474 (1,417) million. The total forest asset value, including leased forest land, amounts to EUR 8,894 (8,731) million.

Forest assets

	Biological assets		Forest land[2]		Forest assets total	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Subsidiaries and joint operations						
Value at 1 January	**4,836**	**4,531**	**2,269**	**2,315**	**7,105**	**6,846**
Translation differences	-132	2	-60	0	-192	2
Unrealised change in fair value[1]	638	385	-281	-49	358	335
Additions	102	71	57	1	159	72
Disposals and classification as held for sale[3]	-6	4	-2	2	-9	6
Change due to harvesting[1]	-208	-168	—	—	-208	-168
Other operative changes[1]	-9	-7	—	—	-9	-7
Reclassification from PPE	22	20	—	—	22	20
Value at 31 December	**5,243**	**4,836**	**1,983**	**2,269**	**7,227**	**7,105**
Associated company						
Tornator Oyj (41%)	1,335	1,287	139	130	1,474	1,417
Value at 31 December	**1,335**	**1,287**	**139**	**130**	**1,474**	**1,417**
Total	**6,579**	**6,123**	**2,122**	**2,399**	**8,701**	**8,522**

1 For biological assets, changes are presented in the profit and loss. For forest land, changes in fair value are recognised directly in equity.
2 Not including leased forest land.
3 2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Valuation and standing stock of forest assets

			As at 31 December 2024					
			Swedish forests	**Guangxi**	**Veracel (50%)**	**MdP (50%)**	**Tornator (41%)**	**Total**
Total area		Thousand ha	1,410	62	117	154	319	2,063
- of which owned		Thousand ha	1,410	—	103	111	319	1,944
- of which leased		Thousand ha	—	62	14	43	0	119
Productive area		Thousand ha	1,150	54	49	102	286	1,641
Total area	Standing stock	million m^3 fo.[1]	155.9	4.2	6.8	16.0	34.1	217.0
Productive area	Standing stock	million m^3 fo.[1]	153.7	4.2	6.8	16.0	33.8	214.6
	Estimated growth	million m^3 fo.[1]	5.9	1.2	2.3	2.9	1.5	13.9
	Harvesting	million m^3 fo.[1]	-4.1	-1.1	-1.6	-2.4	-1.4	-10.5
	Other changes	million m^3 fo.[1]	2.1	-0.2	0.0	0.6	0.3	2.8
	Harvesting	million m^3 u.b.[2]	-3.4	-0.9	-1.3	-2.0	-1.1	-8.7
Biological assets		EUR million	4,577	189	118	358	1,335	6,579
Biological assets	Productive area	EUR/ha	3,980	3,517	2,392	3,516	4,675	4,009
Forest land		EUR million	1,725	—	25	233	139	2,122
Total forest assets		EUR million	6,302	189	143	592	1,474	8,701
Leased forest land		EUR million	—	140	6	48	—	194
Total forest assets incl. leased land			6,302	329	150	639	1,474	8,894

1 Forest cubic meters
2 Solid under bark (sub) cubic meters

As at 31 December 2023

			Swedish forests	Guangxi	Veracel (50%)	MdP (50%)	Tornator (41%)	Total
Total area		Thousand ha	1,383	70	116	138	310	2,016
- of which owned		Thousand ha	1,383	—	104	95	310	1,892
- of which leased		Thousand ha	—	70	12	43	—	125
Productive area		Thousand ha	1,139	61	49	92	285	1,627
Total area	Standing stock	million m^3 fo.[1]	151.9	4.3	6.1	15.0	33.7	210.8
Productive area	Standing stock	million m^3 fo.[1]	149.7	4.3	6.1	15.0	33.4	208.4
	Estimated growth	million m^3 fo.[1]	5.8	1.3	2.2	2.0	1.5	12.8
	Harvesting	million m^3 fo.[1]	-4.2	-1.2	-1.3	-2.3	-1.4	-10.5
	Other changes	million m^3 fo.[1]	-2.5	0.0	0.0	-0.3	0.6	-2.1
	Harvesting	million m^3 u.b.[2]	-3.5	-1.0	-1.1	-1.9	-1.1	-8.6
Biological assets		EUR million	4,239	184	124	288	1,287	6,123
Biological assets	Productive area	EUR/ha	3,723	3,010	2,531	3,121	4,509	3,764
Forest land		EUR million	2,072	—	30	167	130	2,399
Total forest assets		EUR million	6,312	184	154	455	1,417	8,522
Leased forest land		EUR million	—	157	4	48	—	209
Total forest assets incl. leased land			6,312	341	158	504	1,417	8,731

1 Forest cubic metres
2 Solid under bark (sub) cubic metres

Subsidiaries and joint operations

At the end of 2024, forest assets (excluding leases) were located by value, in Sweden 87% (89%), China 3% (3%), Brazil 2% (2%) and Uruguay 8% (6%). The total area amounts to 1,744 (1,706) thousand hectares of which 7% (7%) is leased and 0% (0%) is restricted. From Stora Enso's total forest holdings 1,355 (1,341) thousand hectares constitutes productive forest area. The Montes del Plata and Veracel amounts reflect the ownership share.

Swedish forests

At the end of 2024, the value of biological assets in Swedish forests amounted to EUR 4,577 (4,239) million, related forest land amounted to EUR 1,725 (2,072) million and total forest assets amounted to EUR 6,302 (6,312) million. Standing stock increased due to more accurate volume measurements in productive areas and a slight increase in market prices had a positive impact on forest asset value, but due to negative foreign exchange impact, the value of the forest assets decreased slightly. Biological assets increased due to increase in wood market prices but increased discount rate had a negative effect on the value. Deferred tax liabilities related to forest assets amounted to EUR 1,297 (1,297) million. The discount rate of 4.1% (3.8%) was applied in the valuation.

The productive area in Swedish forests amounted to 1,150 (1,139) thousand hectares with a standing stock of 153.7 (149.7) million forest m^3. The weighted three-year (36 month) average market transaction price applied in the valuation for Swedish forests assets in 2024 is EUR 41 (42) per forest m^3. The forest asset value corresponds to an average of EUR 5,480 (5,540) per hectare of productive forest area.

As explained in the section Critical accounting estimates and judgement, the valuation of forest assets is based on detailed transaction data and price statistics as provided by different market data suppliers. Market transaction data is adjusted to consider the characteristics and nature of Stora Enso's forest assets and to exclude certain non-forest assets and outliers. The valuation takes into account the location of the forest land, price levels and volume of standing stock. Market prices vary significantly between areas. Future changes in the value of Swedish forest assets will be influenced by changes in market transaction prices and changes in volume of standing stock, considering growth and other factors.

Forest asset location and volume

2024		North	Middle	South	Total
Productive area	Thousand ha	191	959	0	1,150
Percentage of total	%	17%	83%	0%	100%
Standing stock	million m^3 fo.[1]	17.6	136.1	0.0	153.7
Percentage of total	%	11%	89%	0%	100%

1 Forest cubic metres

2023		North	Middle	South	Total
Productive area	Thousand ha	186	953	0	1,139
Percentage of total	%	16%	84%	0%	100%
Standing stock	million m^3 fo.[1]	16.9	132.8	0.0	149.7
Percentage of total	%	11%	89%	0%	100%

1 Forest cubic metres

Guangxi

At the end of 2024, the value of the biological assets in Guangxi, China, amounted to EUR 189 (184) million. All the forest land in China is leased. In 2024 some of the lease contracts ended. The biological asset value increase is mainly driven by capital expenditure, sales prices and foreign exchange impact, whereas harvesting depletion and lower volume decreased the value. Biological assets included young standing timber with a value of EUR 30 (24) million. The discount rate of 9.2% (9.7%) used in the discounted cash flows (DCF) decreased in 2024.

Veracel

Veracel is a 50% joint operation in Brazil. Stora Enso's share of biological assets was EUR 118 (124) million. The decrease is mainly caused by increased discount rate and weaker exchange rate, while higher prices and volume increased the value. Biological assets included young standing timber with a value of EUR 33 (40) million. The discount rate of 12.4% (10.2%) is used in 2024. The related forest land is measured at cost.

Montes del Plata

Montes del Plata (MdP) is a 50% joint operation in Uruguay. Stora Enso's share of biological assets was EUR 358 (288) million. The increase is mainly driven by acquisitions, higher wood price and stronger exchange rate. Biological assets included young standing timber with a value of EUR 55 (48) million. The discount rate of 9.0% (9.0%) is used in the DCF in 2024. The related forest land is measured at cost.

Associated company

Tornator

Tornator Oyj is a 41% owned Finnish associate company. Stora Enso's share of biological assets was EUR 1,335 (EUR 1,287) million, related forest land amounted to EUR 139 (130) million, and total forest assets equalled to EUR 1,474 (1,417) million. The increase in the value of forest assets is mainly driven by acquisitions and slightly higher market prices.

Stora Enso's share of the productive forest area totals 286 (285) thousand hectares with a standing stock of 33.8 (33.4) million forest m^3. The weighted three-year (36 month) average market transaction price applied in the valuation for forest assets located in Finland in 2024 is EUR 44 (42) per forest m^3. The forest asset value in Finland corresponds to an average of EUR 5,160 (4,960) per hectare of productive forest area.

Valuation sensitivities of significant assumptions of a +/- 10% movement

EUR million	Wood market prices	Growth rate	Discount rate
Guangxi	+/-32	+/-20	+/-3
Veracel	+/-11	+/-11	+/-3
Montes del Plata	+/-39	+/-39	+14/-13

Nordic forest asset valuation is sensitive to changes in market transaction prices and volume of standing stock. A change in the average market price of forest assets in Sweden of EUR 1 per forest m^3 would impact the value of forest assets by EUR 154 (150) million. A change in the volume of standing stock of 1 million forest m^3 would impact the value of forest assets by EUR 41 (42) million.

4.3 Associates

✔ Accounting principles

Associated companies over which Stora Enso exercises significant influence are accounted for using the equity method. Stora Enso does not control associated companies alone or jointly with other parties, but has significant influence. The Group's share of the associated companies profit or loss is recognised in the consolidated income statement. The Group's interest in an associated company is carried in the consolidated statement of financial position at an amount that reflects its share of the net assets of the associate together with goodwill. Goodwill arising from the acquisition of an associated companies is included in the carrying amount of the investment and is assessed for impairment as part of that investment. There is no material goodwill in the carrying amount of associated companies.

When the Group share of losses exceeds the carrying amount of an investment, the carrying amount is reduced to zero and any recognition of further losses ceases unless the Group is obliged to satisfy obligations of the investee that it has guaranteed or which it is otherwise committed to.

The Group's share of results in associated companies is reported in the operating result to reflect the operational nature of these investments. Similarly, dividends received from associated companies are presented in the net cash provided by operating activities in the consolidated cash flow statement.

Principal associated company investments

			Ownership interest %		EUR million	
Company	**Reportable segment**	**Domicile and principal place of operations**	**2024**	**2023**	**2024**	**2023**
Tornator Oyj	Forest	Finland	41.00	41.00	922	892
Others					32	35
Carrying amount					**954**	**926**

Group share of associated companies income statements

EUR million	2024	2023
Sales	139	126
Net operating expenses	-80	-69
Biological asset valuation	14	121
Operating result	**74**	**178**
Net financial items	-14	-12
Net result before tax	**60**	**166**
Income tax	-10	-30
Net result for the year	**52**	**136**

The average number of personnel in the associated companies was 1,015 in 2024, compared with 1,046 in 2023.

A summary of the financial information, prepared in accordance IFRS, in respect of the Group's material associate, Tornator Oyj is set out below. The Group's share of Tornator Oyj is reported in the Forest division and covers the majority of the Group's total carrying amount of associated companies.

Tornator Oyj

EUR million	2024	2023
Forest assets	3,595	3,456
Other non-current assets	71	73
Current assets	134	102
Non-current liabilities	948	851
Current liabilities	141	146
Tax liabilities	460	459
Sales	221	194
Net result for the year	133	341
Other comprehensive income	12	-57
Total comprehensive income	145	284
Dividends received during the financial year	70	60
Net assets of the associate	2,250	2,175
Ownership interest	41.00%	41.00%
Carrying amount of the Group's interest in Tornator Oyj	**922**	**892**

The Group's current 41% ownership in Tornator is valued at EUR 922 (892) million at the year-end. The Group's share of Tornator's net profit was EUR 54 (140) million, including a biological asset valuation gain net of taxes of EUR 12 (97) million.

Aggregate information of associated companies that are not individually material

EUR million	2024	2023
Non-current assets	44	33
Current assets	16	13
Non-current liabilities	8	0
Current liabilities	20	11
Sales	49	47
Net result for the year	-2	-4
Dividends received during the financial year	0	0
Net assets of the associates	32	35
Associate company value	**32**	**35**
Associate company value for Tornator Oyj	922	892
Total associate company value	**954**	**926**

Associated company balances

EUR million	2024	2023
Receivables from associated companies		
Non-current loan receivables	2	2
Trade receivables	5	2
Current loan receivables	10	0
Liabilities to associated companies		
Trade payables	46	128

Associated company transactions

EUR million	2024	2023
Sales to associated companies	30	16
Purchases from associated companies	199	181

The Group engages in transactions with associated companies such as sales and purchases of wood. All agreements are negotiated at arm's length and are conducted on terms that the Group considers customary in the industry and generally no less favourable than would be available from independent third parties.

4.4 Equity instruments

✔ Accounting principles

The Group has elected to classify its equity investments in Pohjolan Voima shares and certain listed shares held by the Group at fair value through other comprehensive income (FVTOCI) under IFRS 9 by applying the irrevocable election for equity instruments under the standard due to the long-term nature of the ownership. The gains and losses resulting from changes in the fair value of equity investments under FVTOCI are not recycled to the income statement upon impairment or disposal, only the dividend income is recognised in the income statement. In addition, the Group also has certain equity investments in unlisted securities that are classified as fair value through income statement. The majority of the Group's equity instruments consist of investments in Pohjolan Voima Oyj (PVO).

✔ Critical accounting estimates and judgement

Where the fair value of financial assets and liabilities cannot be derived directly from publicly quoted market prices, other valuation techniques, such as discounted cash flow models, and Gordon model, are applied. Changes in the key assumptions, such as future cash flow estimates, could affect the reported fair value of the financial instruments. Investments in equity and debt instruments of unlisted entities, such as Pohjolan Voima Oyj (PVO), represent a significant portion of the Group's assets and require management judgement, as explained in more detail below.

Equity instruments

EUR million	2024	2023
1 January	**819**	**1445**
Change in fair value - OCI	-203	-645
Change in fair value - Income statement	0	0
Additions	0	18
Disposals	-3	0
Translation difference and other changes	-1	0
31 December	**613**	**819**

PVO shares

The Group holds a 16.1% (15.7%) interest in Pohjolan Voima Oyj (PVO), a public limited company in the energy sector that produces electricity and heat for its shareholders in Finland at cost-based and non-profit making principle (Mankala-principle). Each subsidiary of the PVO group has its own class of shares that, instead of dividends, entitle the shareholder to the energy produced in proportion to its ownership of that class of share. Also, the shareholders then have an obligation to cover the costs of production, which are generally lower than market prices. Stora Enso received EUR 3 (0) million of dividends from PVO during 2024. The holding is fair valued using the discounted cash flow method. The valuation is categorised at level 3 in the fair value hierarchy. More details about these levels are included in note 5.2 Fair values.

The electricity prices used in the valuation are based on market future derivative prices for the first two years and on long-term electricity price estimates for the years thereafter. The historical financial statements provide the basis for the cost structure for each power asset and for future periods, estimates from PVO shareholder information is used when available and these are adjusted by inflation factor in future years. The discount rate of 6.31% used in the valuation model is determined using the weighted average cost of capital method. A +/- 5% change in the electricity price used in the DCF would change the valuation by EUR +86 million and -86 million, respectively. A +/- percentage point change in the discount rate would change the valuation by EUR -114 million and +151 million, respectively.

PVO's shares are divided in different share series. The B and B2 series relate to PVO's shareholdings in Teollisuuden Voima Oyj (TVO), which operates three nuclear plants in Finland (Olkiluoto 1–3).Stora Enso holds an indirect share of approximately 8.9% of the capacity of the Olkiluoto 3 nuclear plant unit through its PVO B2 shares.

PVO shareholding and other equity instruments 31 December 2024

EUR million	Share Series[1]	% Holding	Asset Category	Fair value 2024	Fair value 2023
PVO	A	20.6	Hydro	191	226
PVO	B, B2	15.7, 14.8	Nuclear	378	546
PVO	C	10.9	Thermal	1	7
Total PVO				**570**	**778**
Other unlisted securities				31	32
Total unlisted securities				**602**	**810**
Listed securities (Packages Ltd)		6.4		11	9
Total Equity instruments				**613**	**819**

1 After the finalisation of winding down of their related operations, the share series C2, V and M were dissolved during 2024.

The valuation of PVO in 2024 amounted to EUR 570 (778) million. The decrease in PVO's valuation is mainly due to a decrease in electricity price estimates, netted with impact from lower discount rate. No deferred tax is recognised, as under Finnish tax regulations, holdings above 10% are exempt from tax on disposal proceeds.

4.5 Emission rights and other non-current assets

✔ Accounting principles

The Group participates in the European Emissions Trading Scheme, with the aim of reducing greenhouse gas emissions. The Group has been allocated allowances to emit a fixed tonnage of carbon dioxide (CO_2) over a fixed period of time, which are recognised as intangible assets, government grants and as liabilities for the obligation to deliver allowances equal to those emissions that have been made during the compliance period.

Intangible assets related to emission allowances are measured at level 1 fair value at the date of initial recognition. The liabilities to deliver allowances are recognised based on actual emissions and are settled using allowances on hand and measured at the carrying amount of those allowances. At the reporting date, if the market value for the emission allowances is less than the carrying amount, any surplus allowances that are not required to cover emissions made are impaired to the market value.

The Group expenses emissions made at the grant date fair value, under materials and services, together with purchased emission rights at their purchase price. Such costs will be offset under other operating income by the income from the original rights used at their grant date fair value. The consolidated income statement will, thus, be neutral in respect to all the rights consumed that were within the original grant of rights. Sales of excess emission allowances are recognised as income on the delivery date. Any net effect represents the costs of purchasing additional rights to cover excess emissions, or the sale of unused rights in case that the realised emissions are below the allowances received free of charge or the impairment of allowances that are not required for own use.

Emission rights

EUR million	2024	2023
Value at 1 January	**108**	**123**
Emission allowances allocated	110	146
Sales	-65	-64
Settlement with the government	-80	-98
Disposals and classification as held for sale	—	0
Value at 31 December	**73**	**108**

The liability to deliver allowances is presented in the consolidated statement of financial position in line other operative liabilities. As of 31 December 2024, the liability to deliver allowances amounted to EUR 56 (79) million as presented in note 4.8 Operative liabilities. The excess emission rights held at the year end were valued at EUR 17 (28) million.

Other non-current assets

EUR million	2024	2023
Prepaid expenses and accrued income	21	25
Tax credit	3	4
Other non-current operative assets	28	29
Total	**53**	**58**

4.6 Inventories

✔ Accounting principles

Inventories are reported at lower of cost and net realisable value with the cost determined by the first-in first-out (FIFO) method or, alternatively, by the weighted average cost where it approximates FIFO. The same cost formula is used for all inventories having a similar nature and use to the Group. The cost of finished goods and work in progress comprises raw material, direct labour, depreciation, other direct costs and related production overheads, but excludes interest expenses. Net realisable value is the estimated selling price in the ordinary course of business, less the costs of completion and sale.

Where market conditions result in the manufacturing costs of a product exceeding its net realisable value, a valuation allowance is made. Valuation allowances are also made for old, slow moving and obsolete finished goods and spare parts when needed. Such valuation allowances are deducted from the carrying value of the inventories in the consolidated statement of financial position.

EUR million	2024	2023
Materials and supplies	468	403
Work in progress	73	62
Finished goods	829	808
Spare parts and consumables	325	322
Other inventories	26	30
Advance payments and cutting rights	85	66
Obsolescence allowance - spare parts and consumables	-104	-102
Obsolescence allowance - finished goods	-12	-18
Net realisable value allowance	-20	-25
Total	**1,672**	**1,545**

2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

EUR 5,842 (6,271) million of inventories in total were expensed during the year. EUR 23 (35) million of inventory write-downs were recognised as an expense. EUR 26 (55) million were recognised as a reversal of previous write-downs.

4.7 Operative receivables

✔ Accounting principles

Trade receivables

Trade receivables are recognised initially at fair value and subsequently at their anticipated realisable value with an estimate made for loss allowance on expected credit losses based on a forward-looking and objective review of all outstanding amounts at period end. A simplified approach under IFRS 9 has been implemented for trade receivables and loss allowances are recognised based on expected lifetime credit losses in the consolidated income statement within other operating expenses. For non-defaulted receivables, expected credit losses are estimated based on externally generated customer level probability of default data that is used in the forward-looking loss allowance calculation model. The loss allowance model for non-defaulted receivables also takes into account a macroeconomic indicator that considers the macroeconomic developments and further incorporates forward-looking data to the calculation model. The rebuttable presumption that default does not occur later than when a financial asset is 90 days past due has been applied in the calculation model and a default is normally estimated to occur when trade receivables are at least 90 days overdue or there is otherwise objective evidence supporting the conclusion that a default has occurred. Trade receivables will be written off and booked as a credit loss only with the court's decision of bankruptcy or in some other cases when there is objective evidence supporting the write-off. Trade receivables are presented in current assets under operative receivables in the consolidated statement of financial position.

Trade receivables under factoring arrangements

Stora Enso uses factoring arrangements as one of the working capital management tools. Sold trade receivables are derecognised once significant related risks and rewards of ownership have been transferred to the buyer. Outstanding balances for trade receivables that were not yet sold at period end but qualify to be sold under factoring programmes in the next period, are classified as trade receivables fair valued through other comprehensive income in accordance with the business model and contractual cash flow characteristics tests under IFRS 9. Please refer to note 5.2 Fair values for further details.

Current operative receivables

EUR million	2024	2023
Trade receivables - gross carrying amount	688	939
Loss allowance	-20	-27
Prepaid expenses and accrued income	87	80
Other receivables	214	247
Total	**969**	**1,239**

2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

Age analysis of trade receivables

EUR million	2024	2023
Not overdue	619	841
Less than 30 days overdue	39	57
31 to 60 days overdue	1	1
61 to 90 days overdue	0	3
91 to 180 days overdue	1	1
Over 180 days overdue	27	36
Total	**688**	**939**

As at 31 December 2024, a gross amount of EUR 69 (98) million of trade receivables were overdue. These relate to a number of countries and unrelated customers that have no recent history of default. At 31 December 2024, lifetime expected credit losses for trade receivables amounted to EUR 20 (27) million. Loss allowances for trade receivables are estimated on an individual basis based on a forward-looking model where estimated probabilities of customer default are used in the calculation model. If the Group has concerns regarding the financial status of a customer, an advance payment or an irrevocable letter of credit drawn from a bank is required. At the year end, the letters of credit awaiting maturity totalled EUR 48 (54) million. Please refer to note 5.1 Financial risk management for details of customer credit risk management.

Age analysis of loss allowance

EUR million	2024	2023
Not overdue and less than 90 days overdue	1	2
91 to 365 days overdue	1	2
Over 365 days overdue	17	23
Total	**20**	**27**

Reconciliation of loss allowance

EUR million	2024	2023
Opening balance at 1 January	**27**	**32**
Change in loss allowance booked through income statement	3	9
Write-offs	-10	-15
Other	0	1
Closing balance at 31 December	**20**	**27**

The actual credit losses during 2024 amounted to EUR 10 (15) million of trade receivables being written-off from the Group's balance sheet.

Stora Enso has entered into factoring agreements to sell trade receivables in order to accelerate cash conversion. These agreements resulted in full derecognition of trade receivables amounting to a nominal value of EUR 414 (178) million at the end of the year. The continuing involvement of Stora Enso in the sold receivables was estimated as being insignificant due to the non-recourse nature of the factoring arrangements involved.

4.8 Operative liabilities

Non-current operative liabilities

EUR million	2024	2023
Share-based payments	1	2
Other payables	9	9
Total	**10**	**11**

Current operative liabilities

EUR million	2024	2023
Trade payables	1,781	1,666
Payroll and staff-related accruals	224	227
Accrued liabilities and deferred income	114	122
Emission liabilities	56	79
Advances received	15	18
Other payables[1]	107	99
Total	**2,296**	**2,211**

1 Other payables consist especially of taxes payable to government, such as VAT and payroll taxes.

2023 restated due to reversal of held for sale classification. For more details see note 6.1 Acquisitions, disposals and assets held for sale.

In 2024, EUR 16 million of grants were paid back to the authorities in Belgium, as a result of a 2019 legionella-related incident being considered as an environmental infringement.

Supplier Chain Finance arrangements

Stora Enso has entered into several supply chain finance agreements. Supply chain finance arrangements are recognised as trade payables and are not reclassified after initial recognition.

Supply chain finance arrangements have the following terms and conditions:

Suppliers offered chance to join the programme, either as part of contract negotiations or during the contract period to update the terms the agreement. This is a trade payable programme where invoices are paid to the bank under the same payment terms that Stora Enso has agreed upon with the supplier, while the bank pays the supplier early for the invoice according to the arrangement. The bank conducts negotiations for the supplier's participation in the programme, with Stora Enso acting as an agent to connect the two parties. The only cost to the supplier is the early payment of invoices. The programme is funded on a non-recourse basis by the funder, and the supplier predominantly bears the cost of the discounting in the programme. In some individual contracts the supplier pays for the discounting in the programme, but charges this cost back to Stora Enso. These individual contracts are still classified as trade payables. No joint and several liability clause is included in the programme, with all invoices treated the same in Stora Enso's subsidiaries.

EUR million	2024
SCF presented within trade payables	254
Of which suppliers have received payment	236

Range of payment due dates

Days after invoice date	2024
Trade payables that are part of an arrangement	60–180
Comparable trade payables that are not part of an arrangement	60–120

There were no material non-cash changes that would have caused changes in the carrying amounts.

4.9 Provisions

✔ Accounting principles

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, and it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount of the obligation can be made. Provisions are measured at the management's best estimate and there is some uncertainty regarding the timing and amount of the costs. Provisions for obligations to dismantle, remove or restore assets after their use are added to the carrying amount of the assets at acquisition date and depreciated over the useful life of the asset. Provisions are discounted to their current net present value if the effect of the time value of money is material.

Environmental provisions

Environmental expenditures resulting from the remediation of an existing condition caused by past operations, and which do not contribute to current or future revenues, are recognised as provisions. Environmental provisions are recorded when it is probable, based on current interpretations of environmental laws and regulations, that a present obligation has arisen and the amount of such liability can be reliably estimated.

Restructuring provisions

A restructuring provision is recognised in the period in which the Group becomes legally or constructively committed to the plan. The relevant costs are those that are incremental to, or incurred as a direct result of, the exit plan, or are the result of a continuing contractual obligation with no ongoing economic benefit, or represent a penalty incurred to cancel the obligation.

Other provisions

Other provisions are recognised regarding different legal or constructive obligations, such as reforestation, onerous contracts, ongoing lawsuits, claims, or similar.

✔ Critical accounting estimates and judgement

The amounts recognised as provisions are based on the management's best estimate of the costs required to settle the obligation. Due to uncertainty regarding the timing and amount of these costs, the actual costs might differ significantly from the original estimate. The carrying amounts of provisions are reviewed regularly and adjusted when needed to consider changes in cost estimates, regulations, applied technologies and conditions.

Provisions

EUR million	Environ-mental provisions	Restructuring provisions	Other provisions	Total provisions
Carrying Value at 1 January 2023	**73**	**21**	**30**	**124**
Translation difference	0	0	1	1
Disposals and classification as held for sale	3	0	0	3
Charge in Income Statement				
New provisions	7	89	12	107
Increase in existing provisions	4	4	1	8
Reversal of existing provisions	-16	-7	0	-22
Payments	-9	-31	-14	-54
Carrying Value at 31 December 2023	**63**	**77**	**28**	**168**
Translation difference	-1	0	-2	-3
Disposals and classification as held for sale	0	-1	0	-1
Charge in Income Statement				
New provisions	2	42	10	55
Increase in existing provisions	14	2	0	16
Reversal of existing provisions	-3	-14	0	-17
Payments	-8	-80	-12	-100
At 31 December 2024	**67**	**26**	**25**	**118**
Allocation between current and non-current provisions				
Current provisions: Payable within 12 months	5	21	11	37
Non-current provisions: Payable after 12 months	62	5	14	81
Total at 31 December 2024	**67**	**26**	**25**	**118**

The Group has undergone major restructuring in recent years, from divestments to mill closures and administrative cost-saving programmes. The obligation at the end of 2024 amounted to EUR 26 (EUR 77) million for restructuring provisions and EUR 25 (EUR 28) million for other provisions. Material payments in 2024 in restructuring provisions are mainly related to the divestment of De Hoop BV in Netherlands, as announced in December 2024, and to the profit improvement programme. The most material restructuring provision included in the ending balance of 2023 is EUR 35 million related to closing down the De Hoop containerboard site in the Netherlands.

The most significant environmental provision is based on an agreement between Stora Enso and the City of Falun that obligates the Group to purify runoff from the Kopparberg mine before releasing the water into the environment. The provision at year end amounted to EUR 27 (EUR 27) million. The most material case in other provisions is related to an obligation in some Nordic countries to take care of reforestation within a specified time after final harvesting.

5 Capital structure and financing

5.1 Financial risk management

Risk management principles and process

Stora Enso is exposed to several financial market risks that the Group is managing under the policies approved by the Board of Directors. The objective is to ensure cost-effective funding of Group companies and manage financial risks effectively. The Stora Enso Group Financial Risk Policy governs all financial transactions in Stora Enso. This policy and any future amendments take effect once they are approved by the Board of Directors and all policies covering the use of financial instruments must comply with it. The Group's joint operations companies operate under their own financial risk policies, which may not be fully similar to the Group's policies.

The major financial market risks are detailed below with the main exposures for the Group being interest rate risk, currency risk, liquidity risk, refinancing risk, and commodity price risk, especially for fiber, pulp, and energy.

Interest rate risk

The Group is exposed to an interest rate risk that is the risk of fluctuating interest rates affecting the interest expense of the Group and value of its assets and liabilities. Stora Enso is exposed to the interest rate risk through interest-bearing assets and liabilities, such as loans, financial instruments and lease liabilities, but also through commercial agreements and operative assets and liabilities such as biological assets. The Group's aim is to keep interest costs stable. The Group's aggregate duration should not exceed the average loan maturity, but should aim towards a long duration. A duration above the average loan maturity is approved by the Board of Directors.

The Group may use interest-rate swaps and cross-currency swaps to manage the interest-rate risk by synthetically converting floating-rate loans into fixed-rate loans through the use of derivatives. The Group's floating and fixed rate interest-rate position as per the year-end is presented in the following table. The table includes the respective assets and liabilities classified as held for sale.

Floating and fixed interest-rate position

	As at 31 December 2024		As at 31 December 2023	
EUR million	Floating rate	Fixed rate	Floating rate	Fixed rate
Non-current interest-bearing receivables[1]	1	8	11	51
Current interest-bearing receivables[1]	4	28	1	14
Cash and cash equivalents	1,999	—	2,464	—
Interest-bearing liabilities[2]	-1,747	-3,928	-1,718	-3,998
Interest-bearing assets and liabilities excluding interest rate derivatives	**258**	**-3,892**	**758**	**-3,934**
Interest-rate and cross-currency swaps	346	-346	488	-488
Interest-bearing assets and liabilities, net of interest rate derivatives	**604**	**-4,238**	**1,246**	**-4,422**

1 Excluding interest receivable, listed securities, and derivative assets
2 Non-current interest-bearing liabilities, current portion of non-current debt, short-term interest bearing liabilities and bank overdrafts excluding derivative liabilities and interest payable
2023 figures have been restated.

The average interest duration for the Group's net interest-bearing liabilities, including all interest rate derivatives but excluding cash and cash equivalents, is 2.5 (2.7) years.

As of 31 December 2024, one percentage point increase in interest rates would increase annual net interest expenses by approximately EUR 7 (EUR 10) million and a similar decrease in interest rates would decrease net interest expenses by EUR 7 (EUR 10) million. This assumes that the duration and the funding structure of the Group remain constant throughout the year. This simulation calculates the interest effect of a 100 basis point parallel shift in interest rates on all floating rate instruments excluding cash equivalents from their next reset date to the end of the year. In addition, all short-term loans maturing during the year are assumed to be rolled over on maturity to year end using the new higher or lower interest rate.

A one percentage point parallel change up or down in interest rates would also result in fair valuation gains or losses of EUR 3 (EUR 6) million before taxes in the cash flow hedge reserve in OCI regarding interest rate swaps under cash flow hedge accounting. Note 5.4 Derivatives summarises the nominal and fair values of the outstanding interest rate derivative contracts.

Foreign exchange risk – transaction risk

The Group operates globally and is exposed to a foreign-currency transaction risk arising from exchange rate fluctuations. Foreign exchange transaction risk exposure comprises both the geographical location of Stora Enso production facilities around the world, sourcing of raw materials and sales of end products in foreign currencies, mainly denominated in US dollars, British pounds and Swedish crowns. Stora Enso Group companies with functional currency other than euro are also exposed to a foreign-currency transaction risk arising from EUR denominated net cash flows. These EUR exposures mainly arise from Stora Enso subsidiaries located in Sweden, Czechia and Poland.

The currency transaction risk is the impact of exchange rate fluctuations on the Group's Income statement, which is the effect of currency rates on expected future cash flows and subsequent trade receivables or payables. The Group's standard policy to mitigate the risk is to hedge 15–60% of the highly probable forecast cash flows in major currencies for the next 12 months by using derivative financial instruments, such as foreign exchange forwards and foreign exchange options. The Group may also hedge periods between 12 months and 36 months, or change the above mentioned hedging ratio for the next 12 months upon the discretion of the Group's management.

For operative receivables and payables in foreign currencies, the objective is to hedge 50–100% of the outstanding net receivable balance in major currency pairs.

The table below presents the estimated net operative foreign currency transaction risk exposures for the main currencies for the next 12 months and the related foreign-currency hedges in place as at 31 December, retranslated using year-end exchange rates.The net operative receivables and payable exposures, representing the balances as at 31 December, include foreign currency exposures generated by external and intercompany transactions in line with the requirements of IFRS 7. A positive amount of exposure in the table below represents an estimated future inflow or receivable of a foreign currency amount.

Operative foreign currency transaction risk exposure

EUR million	As at 31 December 2024						As at 31 December 2023					
	EUR	SEK	USD	GBP	AUD	UYU	EUR	SEK	USD	GBP	AUD	UYU
Estimated annual net cash flow exposure in hedged foreign-currency flows[1]	792	-321	1,580	158	73	-46	674	-278	1,446	126	63	-48
Cash flow hedges for the next 12 months	-436	206	-737	-38	-20	32	-394	188	-632	-34	-15	27
Estimated annual net cash flow exposure, net of hedges	**356**	**-115**	**843**	**120**	**54**	**-14**	**280**	**-90**	**814**	**93**	**47**	**-21**
Hedging percentage as at 31 December for next 12 months	**55%**	**64%**	**47%**	**24%**	**27%**	**69%**	**58%**	**68%**	**44%**	**27%**	**25%**	**57%**
Weighted-average hedged rate against EUR[2]		11.42	1.11	0.84	1.64	43.74		11.57	1.10	0.87	1.66	45.07
Operative receivables and payables net exposure	-87	-40	49	17	42	-4	-38	-23	181	18	18	-5
Net receivable currency hedges	34	6	6	-10	-22	—	-7	7	-119	-15	-20	—
Net operative receivables exposure, net of hedges	**-54**	**-34**	**55**	**7**	**19**	**-4**	**-45**	**-15**	**62**	**3**	**-2**	**-5**
Estimated annual net transaction risk exposure after hedges	**302**	**-149**	**898**	**127**	**73**	**-18**	**235**	**-105**	**876**	**96**	**46**	**-26**

1 Cash flows are forecasted highly probable net operating foreign-currency cash flows in hedged currencies. The exposure presented in the EUR column relates to operative transaction risk exposure from EUR denominated cash flows in Group companies located in Sweden, Czechia and Poland with functional currency other than EUR.
2 The weighted-average exchange rate against EUR is calculated based on bought leg of option collar structure and forward contracts' forward rate and therefore represents the weighted-average hedged rate based on the least favourable hedged rate from the Group's point-of-view.

In addition, the Group hedge estimated net operative foreign currency exposures in SEK and USD for the period between 12 and 24 months. Cash flow hedges outstanding at the reporting date was EUR 130 million for SEK exposures and EUR -96 million for USD exposures. A calculated 5% weakening of exposure currencies would result in a EUR -6 million (SEK hedges) and EUR 5 million (USD hedges) effect on cash flow hedging OCI reserve at year end.

The following table includes the estimated effect on the annual operating result of a weakening of an exposure currency against the functional currencies of exposed subsidiaries. The sensitivities have been calculated based on a 5% movement in EUR, SEK, USD, GBP and AUD while 10% movement in UYU. These changes are estimated as reasonably possible changes in exchange rates, measured against year-end closing rates. A corresponding strengthening of the exposure currency would have an approximately equal opposite impact. A negative amount in the table reflects a potential net loss in the income statement or equity and, conversely, a positive amount reflects a potential net gain. In practice, the actual foreign currency results may differ from the sensitivity analysis presented below, since the income statements of subsidiaries with functional currencies other than the euro are translated into the Group reporting currency using the average exchange rates for the year, whereas the statements of the financial position of such subsidiaries, including currency hedges, trade receivables and payable, are translated using the exchange rates at the reporting date. The translation risk exposures are discussed more in detail under the Translation risk chapter below.

The calculation includes currency hedges and assumes that there are no changes in other underlying currencies. The currency effects are based on estimated operative foreign currency flows for the next twelve months, hedging levels at the year end, and the assumption that the currency cash flow hedging levels and all other variables will remain constant during the next twelve months. Hedging instruments include foreign exchange forward contracts and foreign exchange options. Indirect currency effects with an impact on prices and product flows, such as a product becoming cheaper to produce in a different geographical location, have not been considered in this calculation.

Sensitivity analysis of operative foreign currency transaction risk exposure

EUR million	As at 31 December 2024						As at 31 December 2023					
	EUR	SEK	USD	GBP	AUD	UYU	EUR	SEK	USD	GBP	AUD	UYU
Exposure currency change by[1]	-5%	-5%	-5%	-5%	-5%	-10%	-5%	-5%	-5%	-5%	-5%	-10%
Effect on estimated annual net cash flows in hedged flows	-40	16	-79	-8	-4	5	-34	14	-72	-6	-3	5
Effect on cash flow hedging OCI reserve before taxes as at year end[2]	22	-10	37	2	1	-3	20	-9	32	2	1	-3
Effect on net operative receivables and payables after hedges[3]	3	2	-3	—	-1	—	2	1	-3	—	—	1
Estimated annual EBIT impact[4]	**-15**	**7**	**-45**	**-6**	**-4**	**2**	**-12**	**5**	**-44**	**-5**	**-2**	**3**

1 The sensitivity analysis for EUR denominated annual net cash flows, operative net receivables and related hedges refer to the EUR denominated transaction risk arising from EUR denominated foreign-currency cash flows in Sweden, Czechia and Poland with functional currency other than EUR.
2 The effect on OCI cash flow hedging reserve before taxes at year end is related to the fair value change in derivative contracts qualifying as cash flow hedges of highly probable forecast transactions under IFRS 9. Amount effecting OCI will be recycled to operative result when the transaction realises.
3 Currency effect related to net operative receivables or payables and related hedges.
4 The estimated annual EBIT impact includes currency effects in respect of operative exposures in the Statement of Financial Position, forecast cash flows and the related hedges.

The following table presents the financial foreign currency exposure and the related hedges in place as at 31 December for the main currencies. Net debt includes foreign-currency external loan payables and receivables, foreign-currency internal loan payables and loan receivables and cash equivalents. Loans designated as net investment loans under IAS 21 are excluded from the table as they reduce the foreign-currency exposures on a Group level. Internal transaction exposure includes foreign-currency payables and receivables outstanding within the Group at reporting date. The currency derivatives mainly hedge financial exposures in the statement of financial position. A negative amount of exposure in the table represents a net payable of a foreign currency amount.

Additionally, the table includes the estimated effect on the income statement of a currency weakening of an exposure currency against EUR. The sensitivities have been calculated based on a 5% movement in SEK, USD, CNY, PLN, and CZK. These changes are estimated as reasonably possible changes in exchange rates, measured against year-end closing rates. A corresponding strengthening of the exposure currency would have an approximately equal opposite impact. A negative amount in the table reflects a potential net loss in the Income statement and, conversely, a positive amount reflects a net potential gain. In practice, the actual foreign currency results may differ from the sensitivity analysis below as the exposure amounts may change during the year.

Financial foreign currency exposure and estimated currency effects in income statement

EUR million	As at 31 December 2024						As at 31 December 2023					
	SEK	USD	CNY	PLN	BRL	CZK	SEK	USD	CNY	PLN	BRL	CZK
Foreign-currency net debt[1]	256	-151	141	-11	80	30	140	-121	185	-3	44	24
Currency hedges	-257	-53	—	-11	—	-29	-158	-5	—	-5	—	-21
Net exposure after hedges	**-2**	**-204**	**141**	**-22**	**80**	**1**	**-18**	**-126**	**185**	**-8**	**44**	**3**
Internal transaction exposure	3			-6		—	137			13		—
Currency hedges	—			—		—	—			—		—
Net non-operative exposure	**3**			**-6**		**—**	**137**			**13**		**—**
Exposure currency change by	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Effect in the Income Statement[2]	**—**	**10**	**-7**	**1**	**-4**	**—**	**-6**	**6**	**-9**	**-1**	**-2**	**—**

1 The Group has designated certain internal loans to Chinese subsidiaries as net investment loans under IAS 21. The loans are denominated in EUR, USD, and CNY. The underlying foreign currency gain or loss will be posted as part of CTA in Equity. The nominal amount of net investment loans amounted to EUR 620 (EUR 591) million as per the year end and reduces the currency exposure for relevant currencies in the above table.
2 Gains and losses are recognised as part of Net financial items in the Income Statement

Foreign exchange risk – translation risk

Translation risk results from fluctuations in exchange rates affecting the value of Stora Enso's consolidated net foreign currency denominated assets, liabilities, and income. Translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset itself. The Group may also enter into foreign exchange forwards, foreign exchange options or foreign currency denominated loans to hedge its net investments in foreign entities with different functional currencies than the Group.

The balance sheets of foreign subsidiaries, associated companies and foreign currency denominated equity instruments in the scope of IFRS 9 are translated into euros using exchange rates prevailing on the reporting date, thus exposing consolidated Group equity to fluctuations in currency rates. The resulting translation differences, along with other movements such as the translation rate difference in the income statement, are recorded directly in shareholders' equity. These cumulative differences materialise through the Income statement on the disposal, in whole or in part, of the foreign entity.

The following table presents the translation risk exposure in the Group's Income statement arising from the translation of subsidiaries' and joint operations' foreign-currency income statements into the presentation currency of the Group in the consolidated financial statements.

Translation exposure in Income statement

EUR million	As at 31 December 2024					As at 31 December 2023				
	SEK	USD	BRL	CZK	CNY	SEK	USD	BRL	CZK	CNY
Translation exposure in Income Statement	-2	-208	-149	-57	78	-357	-196	-179	-65	67
Exposure currency change by	-5%	-5%	-10%	-5%	-10%	-5%	-5%	-10%	-5%	-5%
Effect on EBIT from translation risk exposure	**—**	**10**	**15**	**3**	**-8**	**18**	**10**	**18**	**3**	**-3**

The next table presents the translation exposure for geographical areas for which the Group has applied net investment hedging techniques to reduce the foreign-currency translation exposure in the consolidated equity. In practise, the Group also incurs material unhedged translation risk exposures in other geographical areas such as Sweden and China. The exposures used in the calculations are based on the foreign currency denominated equity and the hedging levels as at 31 December. Full details of actual CTA movements and hedging results are given in note 5.6 Cumulative translation adjustment and equity hedging. The sensitivity analysis includes the effects of currency hedges of net investments in foreign entities and assumes that no changes take place other than a single currency exchange rate movement on 31 December each year.

Hedged translation exposure in Equity

EUR million	As at 31 December 2024	2023
Translation exposure on equity in USD area[1]	**1,799**	**1,625**
EUR/USD equity hedges[2]	-289	-271
Translation exposure after hedges	**1,510**	**1,354**
Sensitivity before hedges - EUR strengthening 5%	-90	-81
Sensitivity after hedges - EUR strengthening 5%	-75	-68

[1] Includes the joint operation Montes del Plata in Uruguay, which has USD as its functional currency.
[2] USD denominated bonds classified as hedges of net investments in foreign assets.

Liquidity and refinancing risk

Liquidity risk arises from the difficulty of obtaining finance for operations at a given point in time. Stora Enso's financial risk policy states that the average maturity of outstanding loans and committed credit facilities covering short-term borrowings should be at least four years. The policy further states that the Group must have cash equivalents and undrawn committed credit facilities to cover all debt maturing within the next 12 months, including supply chain financing and factoring. At 31 December 2024, undrawn committed credit facilities and undrawn loans were at EUR 1,235 (EUR 800) million. The credit facilities are used as a backup for general corporate purposes and are fully undrawn. Additionally, Stora Enso has access to various additional long-term sources of funding up to EUR 1,100 (EUR 1,100) million. These mainly relate to available funding sources from Finnish pension funds.

During 2024, Stora Enso secured a EUR 435 million long-term loan from European Investment Bank. Loan is currently undrawn and loan repayment extends until 2037. Stora Enso signed extensions of one to two years for a total of EUR 350 million of its existing bilateral loans. In addition, the Company also signed a two-year extension to its EUR 100 million committed credit facility. Funding events from during 2024 are described in more detail in note 5.3 Interest-bearing assets and liabilities

As disclosed in note 4.8, the Group has entered into several supply finance agreements to improve the Group's working capital. The finance providers are in good financial condition and the Group has no significant concentration of liquidity risk with the finance providers. The Group's supplier finance agreements are discussed in more detail in note 4.8.

Refinancing risk, or the risk that maturing debt is not refinanced in the markets, is mitigated by Stora Enso's target of maintaining an even maturity profile of outstanding debt. The table below shows maturity analysis for the Group's contractual financial liabilities classified under principal headings based on the remaining period to contractual maturity at the reporting date. Forward interest rates as at the year-end were used for estimating contractual finance charges for the upcoming years. The table includes the respective assets and liabilities classified as held for sale.

Contractual maturity repayments of financial liabilities, settlement net: 2024

EUR million	2025	2026	2027	2028	2029	2030+	Total
Bond loans	430	587	582	540	500	826	3,466
Loans from credit institutions	577	255	104	4	4	35	979
Lease liabilities	83	59	54	48	44	257	545
Other non-current financial liabilities	0	1	0	0	0	0	2
Non-current borrowings including current portion	**1,090**	**903**	**741**	**592**	**548**	**1,119**	**4,992**
Estimated contractual finance charges	163	123	88	73	53	168	668
Estimated contractual lease charges	27	24	23	21	20	162	**276**
Contractual repayments on non-current borrowings	**1,281**	**1,050**	**851**	**686**	**620**	**1,449**	**5,936**
Current borrowings, carrying amounts	689	0	0	0	0	0	689
Gross-settled derivative liabilities - receipts	-1,333	-225	0	0	0	0	-1,558
Gross-settled derivative liabilities - payments	1,370	232	0	0	0	0	1,602
Trade payables	1,781	0	0	0	0	0	1,781
Bank overdrafts	7	0	0	0	0	0	7
Estimated contractual finance charges	14	0	0	0	0	0	14
Total contractual repayments at 31 December 2024	**3,808**	**1,057**	**851**	**686**	**620**	**1,449**	**8,471**

Contractual maturity repayments of financial liabilities, settlement net: 2023

EUR million	2024	2025	2026	2027	2028	2029+	Total
Bond loans	136	440	590	591	548	1,310	3,615
Loans from credit institutions	140	717	105	5	5	27	998
Lease liabilities	71	57	48	43	39	263	520
Other non-current financial liabilities	0	2	0	0	0	0	2
Non-current borrowings including current portion	**347**	**1,217**	**742**	**639**	**592**	**1,600**	**5,137**
Estimated contractual finance charges	193	152	113	82	69	194	802
Estimated contractual lease charges	29	26	25	23	22	225	**350**
Contractual repayments on non-current borrowings	**569**	**1,395**	**880**	**744**	**683**	**2,018**	**6,289**
Short-term borrowings, carrying amounts	595	0	0	0	0	0	595
Gross-settled derivative liabilities - receipts	-2,154	0	0	0	0	0	-2,154
Gross-settled derivative liabilities - payments	2,132	0	0	0	0	0	2,132
Trade payables	1,666	0	0	0	0	0	1,666
Bank overdrafts	0	0	0	0	0	0	0
Estimated contractual finance charges	9	0	0	0	0	0	9
Total contractual repayments at 31 December 2023	**2,817**	**1,395**	**880**	**744**	**683**	**2,018**	**8,537**

Financial transactions counterparty credit risk

Financial counterparty risk is the risk of fluctuations in the value of the Group's assets as a result of counterparties being unable to meet their obligations arising from financial contracts. The exposure to a financial counterparty risk is measured as the maximum loss that Stora Enso can suffer directly in the event of a single counterparty's credit default. This risk is minimised by:

- entering into transactions only with leading financial institutions and with industrial companies that have a good credit rating;
- only investing in liquid funds and deposits with financial institutions or companies that have a minimum credit rating of A-3 or BBB-.
- at least the higher of 50% of cash equivalents, or EUR 150 million, of cash equivalents to be held at counterparties with a minimum rating of A- or equivalent using credit ratings from main rating agencies;
- investing at least EUR 75 million of the Group's cash and cash equivalents at counterparties other than the counterparty at which most of Stora Enso's cash and cash equivalents are held;
- requiring parent company guarantees when dealing with any subsidiary of a rated company.

The Group Financial Risk Policy defines the limits for accepted counterparty risk, based on the tenor of financial contract and counterparty's credit rating.

At the year end 2024, there were no significant concentrations of risk with respect to counterparties of derivative contracts, with the highest counterparty mark-to-market exposure being at EUR -8 (13) million and credit rating of A+ (A+) using Standard and Poor's credit rating symbols.

Customer credit risk

Customer credit risk is Stora Enso's exposure to contracts arising from deterioration in the financial health of its customers. The Group uses various measures to reduce customer credit risks, including, but not limited to, letters of credit, prepayments and bank guarantees. The Group has also obtained export guarantees, covering both political and commercial risks, which are used in connection with individual customers outside the OECD area. Management considers that no significant concentration of credit risk with any individual customer, counterparty or geographical region exists for Stora Enso. The ageing information of trade receivables and related loss allowances are given in note 4.7 Operative receivables.

Commodity price risk

Outstanding commodity hedges

	As at 31 December 2024				As at 31 December 2023			
	Underlying amount of commodity hedged	**Average hedged commodity price**	**Nominal amount hedged in EUR million**	**Fair value EUR million**	**Underlying amount of commodity hedged**	**Average hedged commodity price**	**Nominal amount hedged in EUR million**	**Fair value EUR million**
Electricity purchases								
- Nordic region	2,242,560 MWh	EUR 37.3	84	-1	245,712 MWh	EUR 55.6	14	-1
Oil purchases	208,896 barrels	USD 72.9	15	-1	205,058 barrels	USD 75.9	14	-1

The Group is exposed to commodity and energy price volatility that will have an impact on the Group's profitability. Electricity, natural gas and oil hedge derivatives are part of energy price risk management in the Group, whilst other commodity risks are measured and hedged if economically possible. In addition to electricity hedge derivatives, the Group also manages energy price risk by entering into long-term physical fixed price purchase agreements, and by holding a 16.1% stake in Pohjolan Voima Oy (PVO), which is a privately owned Group of companies in the energy sector in Finland. The fair value of the shares amounted to EUR 570 (EUR 778) million as per the year-end. The fair value of these shares is dependent on electricity market prices and discussed in more detail in note 4.4 Equity instruments.

A 10% movement in energy and raw material prices would result in a EUR 10 (EUR 5) million change in the fair value of commodity financial hedges described in the above table. The majority of these fair value changes, after taxes, are recorded directly in Equity under Hedging Reserves, until the contracts mature and the result is entered in the Income statement. These estimates only represent the sensitivity of commodity financial instruments to market risk and not the Group's full exposure to raw material and energy price risks as a whole, since the actual underlying purchases are not financial instruments within the scope of the IFRS 7 standard. At the end of 2024, the maturities of the energy and commodity contracts, including both financial hedges and fixed-price physical purchase agreements, ranged between 2025 and 2027. In 2023, the maturities ranged between 2024 and 2025.

In an effort to mitigate other commodity price risk exposures in relation to wood fiber price risk, the Group is a significant owner of forest assets in the Nordic region. In Sweden the Group owns 1.4 million hectares of forest land. In addition, Stora Enso holds 41% share in Tornator Oyj, which is a significant forest owner in Finland. The Group's share in Tornator is reported as an associate company and discussed in more detail in note 4.3 Associates. The Group's forest assets are discussed in more detail in note 4.2 Forest assets.

Equity price risk

The Group has certain investments in publicly traded securities. Currently these relate to Packages Ltd shares in Pakistan. The market value of these equity investments was EUR 11 (EUR 9) million at the year end. Market value changes in these investments are recorded, after taxes, directly under Shareholders' Equity in the Equity instruments through OCI reserve. More details on the publicly traded securities can be found from note 4.4 Equity instruments.

Capital risk management

Stora Enso's debt structure is focused on capital markets and commercial banks. Group objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders, as well as to maintain an optimal capital structure to maintain reasonable cost of capital. In order to maintain or adjust the capital structure, the Group may, subject to shareholder approval as appropriate, vary the dividends paid to shareholders, buy its own shares on financial markets, return capital to shareholders, issue new shares or sell assets to reduce debt. The Group strives to pay stable dividends linked to the long-term performance with the aim of distributing 50% of Earnings per share (EPS) excluding fair valuations over the cycle.

The Group monitors its capital on the basis of a target net debt-to-equity ratio of 0.60 or less, and aiming that the Net-debt-to-adjusted EBITDA ratio remains below 2.0, indicating a solid financial position and financial flexibility.

Capital structure

	As at 31 December	
EUR million	**2024**	**2023**
Interest-bearing liabilities[1]	5,779	5,780
Interest-bearing assets[1]	2,072	2,613
Net debt	**3,707**	**3,167**
Equity attributable to owners of the parent	**10,139**	**10,985**
Adjusted EBITDA[2]	**1,223**	**989**
Net debt to equity ratio	**0.37**	**0.29**
Net debt to adjusted EBITDA	**3.0**	**3.2**

1 Interest-bearing liabilities and assets in the table include the respective amounts classified as held for sale. More detailed reconciliation of net debt is included in the "Alternative performance measures" chapter in the Report of the Board of Directors.
2 Adjusted EBITDA definition is included in the "Alternative performance measures" chapter in the Report of the Board of Directors.

The Group's subsidiary Stora Enso (Guangxi) Packaging and Forestry Company Ltd have complied with financial covenants related to debt-to-assets ratio during the reported periods. There are no other covenants in the Group's financing contracts.

5.2 Fair values

✔ Accounting principles

Financial assets

The Group classifies its financial assets into three categories, which are amortised cost, fair value through other comprehensive income and fair value through profit and loss. The classification is made according to the IFRS 9 standard and management determines the classification of investments at the time of initial recognition.

With investments in debt instruments, the classification is made based on the business model and contractual cash flow characteristics of debt instruments. Investments in debt instruments, for which the business model objective is to hold the financial instruments to collect contractual cash flows and those cash flows are solely payments of principal and interest, are classified as amortised cost and presented under current or non-current assets in the consolidated statement of financial position. Investments in debt instruments, for which the business model objective is to hold the financial instruments for both to collect contractual cash flows and sell financial instruments and the cash flows are solely payments of principal and interest, are classified as fair value through other comprehensive income and presented under current or non-current assets in the consolidated statement of financial position.

The Group's investments into equity instruments, such as listed and unlisted securities, are classified as fair value through profit and loss unless the Group has at inception decided to apply the irrevocable election under IFRS 9 to classify the investments as fair value through other comprehensive income with only dividend income from the investments being recognised in the income statement.

Investments that are not measured at amortised cost or at fair value through other comprehensive income are classified as fair value through profit and loss and are therefore fair valued through the consolidated income statement and presented under current or non-current assets in the consolidated statement of financial position.

Financial liabilities

The Group's financial liabilities are classified into amortised cost or fair value through profit and loss categories. Financial liabilities are measured at amortised cost unless the Group has decided to apply a fair value option to designate a financial liability to be measured at fair value through profit and loss.

Derivatives

Derivative financial assets and liabilities are measured at fair value and classified as fair value through profit and loss or, if the Group has applied hedge accounting, at fair value through other comprehensive income according to the IFRS 9 standard. Derivative financial instruments and hedge accounting are discussed in more detail in note 5.4 Derivatives.

Fair value of financial instruments

The fair values of publicly traded derivatives and listed securities, are based on quoted market prices at the reporting date; the fair values of interest rate swaps are calculated as the present value of the estimated future cash flows, and the fair values of foreign exchange forward contracts are determined using forward exchange rates at the reporting date. The valuation principles for derivative financial instruments have been described in more detail in note 5.4 Derivatives.

In assessing the fair values of non-traded derivatives and other financial instruments, the Group uses a variety of methods and makes assumptions based on the market conditions at each reporting date. Quoted market prices or dealer quotes for identical or similar instruments are used for non-current debt. Other techniques, such as option pricing models and estimated discounted value of future cash flows, are used to determine fair values for the remaining financial instruments. The face values, less any estimated credit adjustments, for financial assets and liabilities with a maturity of less than one year are assumed to approximate their fair values. The fair values of financial liabilities for disclosure purposes are estimated by discounting the future contractual cash flows at the current market interest rates available to the Group for similar financial instruments.

Purchases and sales of financial instruments are recognised based on trade date accounting, which is the date on which the Group commits to purchasing or selling the financial instrument. Financial instruments are derecognised when the rights to receive or the cash flows from the financial instruments have expired or have been transferred and the Group has substantially transferred all risks, rewards and obligations of the ownership of the financial asset or liability.

Fair value hierarchy

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques, for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs which have a significant effect on the recorded fair values that are not based on observable market data.

The Group evaluates the categorisation of its fair value measurements within the fair value hierarchy on a regular basis at the end of the reporting period. There were no transfers recognised in the fair value hierarchy between Levels 1 and 2 and no transfers into or out of Level 3 fair value measurements during 2024 and 2023. See note 4.4 Equity instruments for more information on Level 3 fair value measurement of unlisted securities.

✔ Critical accounting estimates and judgement

Where the fair value of financial assets and liabilities cannot be derived directly from publicly quoted market prices, other valuation techniques, such as discounted cash flow models, transaction multiples, the Black and Scholes model and the Gordon model, are applied. The key judgements include future cash flows, credit risk, volatility and changes in assumptions about these factors which could affect the reported fair value of the financial instruments.

Carrying amounts of financial assets and liabilities by measurement and fair value categories: 2024

						Fair value hierarchy			
EUR million	**Amortised cost**	**Fair value through OCI**	**Fair value through income statement**	**Total carrying amount**	**Fair value**	**Level 1**	**Level 2**	**Level 3**	**Note**
Financial assets									
Listed securities	—	11	—	11	11	11	—	—	4.4
Unlisted securities	—	587	15	602	602	—	—	602	4.4
Non-current interest-bearing receivables	9	5	—	14	14	—	5	—	5.3
Derivative assets	—	5	—	5	5	—	5	—	
Loan receivables	9	—	—	9	9	—	—	—	
Trade and other operative receivables	626	42	—	668	668	—	42	—	4.7
Current interest-bearing receivables	38	9	1	47	47	—	10	—	5.3
Derivative assets	—	9	1	10	10	—	10	—	
Other short-term receivables	38	—	—	38	38	—	—	—	
Cash and cash equivalents	1,999	—	—	1,999	1,999	—	—	—	
Total	**2,672**	**654**	**16**	**3,342**	**3,342**	**11**	**57**	**602**	

						Fair value hierarchy			
EUR million	**Amortised cost**	**Fair value through OCI**	**Fair value through income statement**	**Total carrying amount**	**Fair value**	**Level 1**	**Level 2**	**Level 3**	**Note**
Financial liabilities									
Non-current interest-bearing liabilities	3,889	5	—	3,894	4,129	—	5	—	5.3
Derivative liabilities	—	5	—	5	5	—	5	—	
Non-current debt	3,889	—	—	3,889	4,124	—	—	—	
Current portion of non-current debt	1,090	—	—	1,090	1,090	—	—	—	5.3
Current interest-bearing liabilities	744	42	2	788	788	—	44	—	5.3
Derivative liabilities	—	42	2	44	44	—	44	—	
Current debt	744	—	—	744	744	—	—	—	
Trade and other operative payables	2,005	—	—	2,005	2,005	—	—	—	4.8
Bank overdrafts	7	—	—	7	7	—	—	—	
Total	**7,735**	**47**	**2**	**7,784**	**8,019**	**—**	**50**	**—**	

In accordance with IFRS, derivatives are classified as fair value through income statement. In the above tables for financial assets and liabilities the cash flow hedge accounted derivatives are however presented as fair value through OCI, in line with how they are booked for the effective portion.

Carrying amounts of financial assets and liabilities by measurement and fair value categories: 2023

						Fair value hierarchy			
EUR million	**Amortised cost**	**Fair value through OCI**	**Fair value through income statement**	**Total carrying amount**	**Fair value**	**Level 1**	**Level 2**	**Level 3**	**Note**
Financial assets									
Listed securities	—	9	—	9	9	9	—	—	4.4
Unlisted securities	—	794	15	810	810	—	—	810	4.4
Non-current interest-bearing receivables	62	14	—	76	76	—	15	—	5.3
Derivative assets	—	14	—	15	15	—	15	—	
Loan receivables	62	—	—	62	62	—	—	—	
Trade and other operative receivables	882	30	—	912	912	—	30	—	4.7
Current interest-bearing receivables	21	39	4	64	64	—	43	—	5.3
Derivative assets	—	39	4	43	43	—	43	—	
Other short-term receivables	21	—	—	21	21	—	—	—	
Cash and cash equivalents	2,464	—	—	2,464	2,464	—	—	—	
Total	**3,428**	**887**	**19**	**4,334**	**4,334**	**9**	**87**	**810**	

						Fair value hierarchy			
EUR million	**Amortised cost**	**Fair value through OCI**	**Fair value through income statement**	**Total carrying amount**	**Fair value**	**Level 1**	**Level 2**	**Level 3**	**Note**
Financial liabilities									
Non-current interest-bearing liabilities	4,774	1	—	4,775	4,926	—	1	—	5.3
Derivative liabilities	—	1	—	1	1	—	1	—	
Non-current debt	4,774	—	—	4,774	4,925	—	—	—	
Current portion of non-current debt	347	—	—	347	347	—	—	—	5.3
Current interest-bearing liabilities	651	4	2	657	657	—	6	—	5.3
Derivative liabilities	—	4	2	6	6	—	6	—	
Current debt	651	—	—	651	651	—	—	—	
Trade and other operative payables	1,892	—	—	1,892	1,892	—	—	—	4.8
Bank overdrafts	—	—	—	0	0	—	—	—	
Total	**7,664**	**6**	**2**	**7,672**	**7,823**	**—**	**8**	**—**	

31 December 2023 restated, see chapter Restatements for more details.
In accordance with IFRS, derivatives are classified as fair value through income statement. In the above tables for financial assets and liabilities the cash flow hedge accounted derivatives are however presented as fair value through OCI, in line with how they are booked for the effective portion.

In the previous tables, the fair value is estimated to be equal to the carrying amount for current financial assets and financial liabilities, such as trade receivables and payables due to their short time to maturity and limited credit risk. The fair value of non-current loan receivables, considered as a level 2 fair value measurement, is based on the discounted cash flow analysis. The fair value of non-derivative interest-bearing liabilities, considered as a level 2 fair value measurement, is estimated based on a discounted cash flow analysis in which the yield curves observable at commonly quoted intervals are used as a discount factor in the model.

Reconciliation of level 3 fair value measurement of financial assets and liabilities

EUR million	2024	2023
Financial assets		
Opening balance at 1 January	**810**	**1,437**
Reclassifications	0	0
Gains/losses recognised in other comprehensive income	-205	-646
Additions	0	18
Disposals	-3	0
Closing balance at 31 December	**602**	**810**

The Group did not have level 3 financial liabilities as at 31 December 2024.

5.3 Interest-bearing assets and liabilities

✔ Accounting principles

Interest-bearing assets - loan receivables

Loan receivables are debt instruments with fixed or determinable payments that are not quoted on an active market. They are recorded initially at fair value and subsequently measured at an amortised cost. Loss allowance for expected credit losses is calculated based on the general approach under IFRS 9, where loss allowance is recognised based on 12-month expected credit losses if there has not been a significant increase in credit risk since the initial recognition. A significant increase in the credit risk will be evaluated based on a comparison of the risk of a default occurring on the financial instrument as at the reporting date with the risk of default occurring on the financial instrument as at the date of initial recognition. The Group may use, for example, rates of credit default swaps (CDS) observable on financial markets to produce the risk assessment.

Interest income on loan receivables is included in financial income and expense. Loan receivables with a maturity less than 12 months are included in current assets under interest-bearing receivables, and those with maturities greater than 12 months, in non-current interest-bearing receivables.

Interest-bearing liabilities

Interest-bearing liabilities are recognised initially at fair value, net of transaction costs incurred. In subsequent periods, interest-bearing liabilities are measured at amortised cost using the effective interest method. Any difference between the proceeds net of transaction costs and redemption value is recognised in the consolidated income statement over the maturity period of the borrowings. Interest expenses are accrued for and recorded in the consolidated Income statement for each period.

Interest-bearing liabilities with an original maturity greater than 12 months are classified as non-current interest-bearing liabilities in the consolidated statement of financial position, though repayments falling due within 12 months are presented in current liabilities under the current portion of non-current debt. Short-term commercial paper, bank and other interest-bearing liabilities, for which the original maturity is less than 12 months, are presented in current liabilities under interest-bearing liabilities.

Lease liabilities

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Lease liabilities are initially capitalised at the commencement of the lease and measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Group's incremental borrowing rate. The lease term applied corresponds to the non-cancellable period except in cases where the Group is reasonably certain to exercise renewal option or prolong the contract. The Group allocates the consideration in the contract to each lease component and separates non-lease components if these are identifiable. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions.

The lease liabilities are subsequently measured at amortised cost using the effective interest method. Lease payment is allocated between the capital liability and finance charges to achieve a constant interest rate on the outstanding liability balance. Lease liabilities are remeasured mainly when there is a change in future lease payments arising from a change in an index or rate, or if there is a change in the Group's assessment whether it will exercise an extension option. When lease liability is remeasured, a corresponding adjustment is generally made to the carrying amount of the right-of-use asset.

The Group has elected not to recognise lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low value assets. Leases of low value assets mainly include IT and office equipment, certain vehicles and machinery and other low value items. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

For more information about critical accounting estimates and judgement related to leases, see note 4.1 Intangible assets, property, plant and equipment and right-of-use assets

Managing Interest Rate Benchmark Reform and associated risks

The Group monitors the transition process from IBORs to new benchmark rates by reviewing the total number of contracts that have yet to transition to an alternative benchmark rate. The impact of any ongoing changes is expected to be limited. The Group's financial instruments are mainly indexed to Euribor and Stibor reference rates which are expected to continue to exist for now. All interest-bearing liabilities have been transitioned to follow new benchmark rates. There has been no significant impact on the Group from the change.

Interest-bearing assets

EUR million	2024	2023
Listed securities	11	9
Long-term derivative assets	5	15
Long-term deposits	0	48
Long-term loans to associated companies	2	2
Other long-term loan receivables	7	12
Total non-current interest-bearing assets	**25**	**85**
Short-term derivative assets	9	42
Current portion of long-term deposits	22	0
Other short-term loan receivables	16	22
Cash and cash equivalents	1,999	2,464
Total current interest-bearing assets	**2,047**	**2,528**
Total interest-bearing assets	**2,072**	**2,613**

The annual average interest income rate for deposits and loan receivables during the year was approximately 3.4% (3.0%). Current interest-bearing receivables included EUR 6 (EUR 8) million accrued interest at 31 December 2024. The Group has evaluated that there has not been a significant increase in credit risk related to interest-bearing deposits and investments after the initial recognition. Accordingly, the loss allowance is recognised based on 12-month expected credit losses.

During 2024, the Group assessed that it has no reasonable expectation to recover financial assets from the sale of Russian operations in 2022. Therefore the receivable, a total of EUR 15 million, was written-off the balance sheet and impacted the net financial items.

Interest-bearing liabilities

EUR million	2024	2023
Bond loans	3,454	3,601
Loans from credit institutions	978	997
Lease liabilities	545	520
Long-term derivative financial liabilities	5	1
Other non-current liabilities	2	2
Non-current interest-bearing liabilities including current portion	**4,985**	**5,123**
Short-term borrowings	689	595
Interest payable	55	56
Short-term derivative financial liabilities	44	6
Bank overdrafts	7	0
Total interest-bearing liabilities[1]	**5,779**	**5,780**

EUR million	2024	2023
Carrying value at 1 January	5,780	3,972
Additions in long-term debt, companies acquired	0	131
Proceeds of new long-term debt	19	2,006
Repayment of long-term debt	-176	-619
Additions in lease liabilities, companies acquired	0	99
Additions in lease liabilities	82	109
Repayment of lease liabilities and interest	-85	-87
Change in short-term borrowings	69	177
Change in interest payable	23	45
Change in derivative financial liabilities	42	-41
Disposals and classification as held for sale	-2	-8
Other	15	26
Translation differences	11	-29
Total interest-bearing liabilities[1]	**5,779**	**5,780**

1 2023 restated, see chapter Restatements for more details.

Events during 2024 and 2023

In July 2024, Stora Enso secured a EUR 435 million long-term loan from the European Investment Bank to fund its EUR 1 billion investment at the Oulu site in Finland. Loan repayment extends until 2037, and the loan is currently undrawn.

During the second quarter, Stora Enso signed extensions of one to two years for a total of EUR 350 million of its existing bilateral loans. The Company also signed a two-year extension to its EUR 100 million committed credit facility.

During 2024, Stora Enso's total repayments of SEK bond notes amounted to a nominal of EUR 135 million.

Stora Enso published a new framework for green and sustainability-linked financing in May 2023. The combined Green and Sustainability-Linked Financing Framework allows Stora Enso to issue both green and sustainability-linked financing instruments, as well as a combination of the two.

In May 2023, Stora Enso issued two EUR 500 million green bonds with 3- and 6.25-year maturities. In November 2023, Stora Enso issued new SEK green bonds with nominal value of SEK 6,100 million, equal to EUR proceeds of 524 million at the transaction date FX rate. The SEK green bonds feature several tranches, with the maturities ranging from 2025 to 2028. Later in December 2023 the Company also completed a private placement of SEK 425 million with maturity in 2033. This was equal to EUR proceeds of 38 million at the transaction date FX rate.

During 2023, Stora Enso drew new bilateral loans totaling EUR 400 million, with original maturities ranging from 1.5 to 3 years, along with extension options. The Company also re-financed a total of EUR 450 million of its bilateral loans and committed credit facility, originally maturing in the fourth quarter of 2023. The existing loans were extended by one to two years, and the new terms also include extension options. In the fourth quarter a one-year extension was signed for the revolving credit facility of EUR 700 million, extending its maturity to 2028.

During 2023, Stora Enso's total repayments of SEK and EUR bond notes amounted to a nominal of EUR 427 million. This amount includes partial repayment of SEK bond notes with original maturity in February 2024, which resulted in a EUR 1 million modification net gain being recognised in the Income Statement under net financial items.

Interest-bearing liabilities – maturities, interest rates and currency breakdown

Stora Enso's borrowings maturities range from 2025 to the longest borrowing maturing in 2039. The Company's borrowings have either fixed or floating interest rates ranging from 0.6% (0.6%) to 7.3% (7.3%). Stora Enso's average interest rate on borrowings for the full year amounted to 4.1% (3.7%) with a run-rate of 4.0% as per the year end. Part of Stora Enso's borrowings have been fixed through floating-to-fixed interest rate swaps. The majority of Group loans are denominated in euros, US dollars, Swedish crowns or Chinese renminbis. Detailed maturity analysis of the Group's borrowings are set out in note 5.1 Financial risk management.

Net debt

In 2024 net interest-bearing liabilities, including amounts classified as held for sale, increased by EUR 540 (increased by EUR 1,314) million to EUR 3,707 (3,167) million. Net interest-bearing liabilities are equal to total interest-bearing liabilities less total interest-bearing assets such as cash equivalents and deposits. Cash and cash equivalents net of overdrafts decreased by EUR 472 (increased by EUR 547) million to EUR 1,993 (2,464) million as at 31 December 2024. In 2024, the total cash outflow for leases was EUR 85 (87) million including interest component of EUR 25 (23) million.

The ratio of net debt to the last 12 months' adjusted EBITDA was 3.0 (3.2). The net debt/equity ratio was 0.37 (0.29) as per the year-end.

Bond loans

Issue/ Maturity Dates	Description of Bond	Interest Rate %	Currency of Bond	Nominal Value Issued	Outstanding As at 31 December 2024	Outstanding As at 31 December 2023	Carrying Value As at 31 December 2024	Carrying Value As at 31 December 2023
All Liabilities are Held by the Parent Company				**Currency million**			**EUR million**	
Fixed Rate								
2006-2036	Global 7.250% Notes 2036	7.25	USD	300	300	300	287	269
2016-2023	Euro Medium Term Note	2.125	EUR	300	300	0		0
2017-2027	Euro Medium Term Note	2.50	EUR	300	300	300	300	299
2018-2028	Euro Medium Term Note	2.50	EUR	300	300	300	299	299
2019-2024	Euro Medium Term Note (Green Bond)	1.875	SEK	1,750		1,750		44
2020-2025	Euro Medium Term Note (Green Bond)	2.375	SEK	1,550	1,550	1,550	135	140
2020-2030	Euro Medium Term Note (Green Bond)	0.625	EUR	500	500	500	496	496
2023-2027	Euro Medium Term Note (Green Bond)	4.75	SEK	400	400	400	35	36
2023-2026	Euro Medium Term Note (Green Bond)	4.00	EUR	500	500	500	499	499
2023-2029	Euro Medium Term Note (Green Bond)	4.25	EUR	500	500	500	498	497
2023-2027	Euro Medium Term Note (Green Bond)	4.75	SEK	600	600	600	52	54
2023-2028	Euro Medium Term Note (Green Bond)	5.00	SEK	2,250	2,250	2,250	196	202
Total Fixed Rate Bond Loans							**2,797**	**2,834**
Floating Rate								
2015-2025	Euro Medium Term Note	Euribor+2.25	EUR	125	125	125	125	125
2015-2027	Euro Medium Term Note	Euribor+2.35	EUR	25	25	25	25	25
2019-2024	Euro Medium Term Note (Green Bond)	Stibor+1.45	SEK	1,250		1,030		93
2019-2026	Euro Medium Term Note (Green Bond)	Stibor+1.60	SEK	1,000	1,000	1,000	87	90
2020-2025	Euro Medium Term Note (Green Bond)	Stibor+2.20	SEK	1,550	1,550	1,550	135	140
2023-2027	Euro Medium Term Note (Green Bond)	Stibor+1.25	SEK	2,350	2,350	2,350	205	211
2023-2028	Euro Medium Term Note (Green Bond)	Stibor+1.60	SEK	500	500	500	44	45
2023-2033	Euro Medium Term Note	Stibor + 2.20	SEK	425	425	425	37	38
Total Floating Rate Bond Loans							**658**	**767**
Total Bond Loans							**3,455**	**3,601**

5.4 Derivatives

✔ Accounting principles

Derivative financial instruments and hedge accounting

Derivative financial instruments are initially recognised in the consolidated statement of financial position at fair value and subsequently measured at their fair value at each reporting date according to valuation methods described in this note. Derivative contracts with maturity greater than 12 months are classified as non-current interest-bearing receivables and liabilities, and contracts maturing within 12 months are presented under current interest-bearing receivables and liabilities.

When derivative contracts are entered into, the Group designates them as either hedges of highly probable forecast transactions or firm commitments (cash flow hedges), hedges of the exposure to changes in the fair value of recognised assets or liabilities (fair value hedges), hedges of net investments in foreign entities, or derivative financial instruments not meeting the hedge accounting criteria in accordance with IFRS 9. The method of recognising the resulting gains or losses on derivative instruments is dependent on the nature of the item being hedged.

At the inception of a hedge, the Group documents the relationship between the hedging instrument and the hedged item, as well as its risk management objective and strategy for undertaking various hedging transactions. This process includes linking all financial instruments designated under hedge accounting to specific assets and liabilities or to specific firm commitments or highly probable forecast transactions in order to verify and document the hedge relationship between the hedged item and the hedging instrument as required by IFRS 9. The Group also documents its qualitative prospective assessment at the hedge inception of whether the derivatives used in a hedge relationship are highly effective in offsetting changes in fair value or cash flows of hedged items. Hedge effectiveness will be assessed in accordance with IFRS 9 requirements.

The hedge ratio used for hedging relationships is usually 1:1. For currency and commodity hedging purposes, the Group uses a hedge designation where the critical terms of the hedging instrument and the hedged item will coincide in terms of the notional amount and timing. In respect of interest rate hedging, the interest rate basis between swap contracts and underlying debt will coincide. Since the critical terms of the hedges and underlying risks match, the hedging instruments are considered to offset any changes related to the anticipated transactions.

Potential sources of ineffectiveness that may be expected to occur in relation to currency and commodity hedges are mainly related to the forecasted transaction not occurring in the amount or at the time expected. For interest rate hedges, cross-currency basis spread or initial fair value of the hedging instrument at the date of hedge designation may result in ineffectiveness being recognised in the income statement. Potential sources of ineffectiveness for all the aforementioned hedges also include possible effects of credit risk dominating fair value changes arising from the hedging instrument and the hedged item designated under the hedging relationship.

Cash flow hedges

Derivatives used in currency cash flow hedges are mainly forward contracts and options, with swaps mainly used for commodity and interest rate hedging purposes. During 2024 and 2023, the Group did not enter into new interest rate swap contracts.

Changes in the fair value of derivatives designated and qualifying as cash flow hedges, and which are effective, are recognised in a separate equity category of OCI cash flow hedges reserve, the movements of which are disclosed in the consolidated statement of comprehensive income. For foreign exchange forwards, both the spot element and forward points have been included to the hedge designation. In case of foreign exchange options, the time value of an option is excluded from the hedge designation and only the intrinsic value component of an option is designated as the hedging instrument. The changes in option time value are recognised in a cost of hedging reserve within OCI. The cumulative gain or loss of a derivative deferred in equity is transferred to the consolidated income statement and classified as an income or expense in the same period in which the hedged item affects the consolidated income statement. The unrealised gains and losses related to cash flow hedges are expected to be recycled through the income statement within one to four years with the longest hedging contract maturing in 2027 (2027). However, the majority of the contracts are expected to mature in 2025.

Realised results of hedge accounted derivative instruments hedging foreign currency sales transactions or purchases are booked as adjustments to sales or materials and services, depending on the nature of the underlying hedged item. In respect of hedges of exposures to foreign currency risk of future transactions resulting in the recognition of non-financial assets, the gains and losses deferred to the cash flow hedges reserve within OCI are transferred from equity to be included in the initial acquisition cost of the non-financial asset at the time of recognition. The Group may hedge foreign-currency risk of external or internal foreign-currency purchases where the underlying amount purchased in a foreign-currency impacts the value of inventory in a local currency. In such cases the gains and losses are initially booked as an adjustment to raw material inventory and recycled further to finished goods inventory with being ultimately recognised in the consolidated income statement at the time when the hedged items are sold to an external customer. In case of non-current assets, the deferred amounts are ultimately recognised in the income statement through depreciation over the lifetime of the non-financial assets.

When a hedging instrument expires or is sold, terminated or exercised or no longer meets the hedge accounting criteria under IFRS 9, any cumulative gain or loss deferred in equity at that time remains in equity and is accounted for as an adjustment to income or expense when the committed or forecast transaction is ultimately recognised in the consolidated income statement. However, if the underlying forecasted transaction is no longer expected to occur, the cumulative gain or loss reported in equity from the period when the hedge was effective is immediately recognised in the consolidated income statement.

Fair value hedges

In case of fair value hedges, the Group uses either derivatives or borrowings as a hedging instrument to manage the risk associated with the fair value of a hedged item. The gains and losses on hedging instruments designated and qualifying as fair value hedges, and which are highly effective, are recorded in the consolidated income statement, along with any changes in the fair value of the hedged assets or liabilities attributable to the hedged risk. As at the end of 2024, the Group did not have fair value hedges.

Net investment hedges

For hedges of net investments in foreign entities, the Group uses either derivatives or foreign-currency borrowings for this purpose. If the hedging instrument is a derivative, any gain or loss thereon relating to the effective portion of the hedge is recognised in equity in CTA as disclosed in the consolidated statement of comprehensive income; the gain or loss relating to the ineffective portion is immediately recognised in the consolidated income statement. In addition, exchange gains and losses arising on the translation of a foreign-currency borrowing that hedges net investment in a foreign operation are also recognised in CTA, with any ineffective portion being immediately recognised in the consolidated income statement. The gains and losses recognised in CTA are recycled from equity to the consolidated income statement at the time when the underlying hedged net investment is disposed.

Non-hedge accounted derivatives

Certain derivative transactions, while providing effective economic hedges under Group risk management policies, do not qualify for hedge accounting under the specific rules in IFRS 9 and therefore changes in the fair value of such non-qualifying hedges are accounted for at fair value in the consolidated income statement. For non-hedge accounted derivatives economically hedging foreign-currency risk of net of operative receivables and payables, the fair value changes are recognised in operating result under other operating income and expense. For other non-hedge accounted derivatives, the fair value changes are recognised in the consolidated income statement under financial income and expense.

Valuation of derivatives

Derivative financial instruments are recorded in the statement of financial position at their fair values defined as the amount at which the instrument could be exchanged in an orderly transaction between market participants at the measurement date. The fair values of such financial items have been estimated on the following basis:

- Foreign exchange forward contract fair values are calculated using forward exchange rates at the reporting date.
- Foreign exchange option contract fair values are calculated using reporting date market rates together with common option pricing models.
- Commodity contract fair values are computed with reference to quoted market prices on futures exchanges or other reliable market sources.
- Interest rate swaps fair values are calculated using a discounted cash flow method.
- Cross-currency swaps fair values are calculated by using a discounted cash flow method with the exchange of notional also included in the valuation model.

Total foreign exchange gains and losses in the income statement excluding hedges

EUR million	2024	2023
Other operating income	27	-11
Other operating expense	-18	-4
Borrowings, cash equivalents. lease liabilities and other	-22	-10
Total	**-13**	**-25**

Hedge gains and losses in operating result

EUR million	2024	2023
Cash flow hedge accounted derivatives		
Currency hedges	-2	-7
Commodity hedges	-5	-2
Total	**-7**	**-8**
As adjustments to sales	-5	-7
As adjustments to materials and services	-1	-2
Realised from OCI through income statement	**-7**	**-8**
Currency hedges ineffectiveness	1	1
Net gains/losses from cash flow hedges	**-6**	**-7**
Non-hedge accounted derivatives		
Net receivable hedges	-3	5
Net gains/losses on non-hedge accounted derivatives	**-3**	**5**
Net hedge gains/losses in operating result	**-9**	**-2**

In 2024, certain forecasted future transactions were no longer expected to occur, and due to this hedge accounting was ceased for those transactions. This resulted in a gain of EUR 1 (gain of 1) million being booked in the Group's operating result and is being presented in the table above as ineffectiveness from cash flow hedges.

Hedge gains and losses in financial items

EUR million	2024	2023
Non-hedge accounted derivatives		
Currency derivatives	2	-12
Interest rate derivatives	0	4
Net gains/losses on non-hedge accounted derivatives	**2**	**-8**
Net gains/losses in financial items	**2**	**-8**

Nominal and fair values of derivative instruments

EUR million	Nominal values	Positive fair values	Negative fair values	Net fair values	Nominal values	Positive fair values	Negative fair values	Net fair values
	2024				2023			
Currency derivatives								
Forwards: Operational cash flow hedging	1,340	5	-38	-33	1,210	31	-4	27
Options: Operational cash flow hedging	673	1	-6	-5	405	6	-1	5
Total cash flow hedge accounted	**2,013**	**7**	**-44**	**-38**	**1,615**	**37**	**-5**	**33**
Forwards: Trade and loan receivables hedging	515	1	-2	-1	379	4	-1	3
Total non-hedge accounted	**515**	**1**	**-2**	**-1**	**379**	**4**	**-1**	**3**
Total currency derivatives	**2,528**	**7**	**-47**	**-39**	**1,994**	**41**	**-6**	**35**
Commodity derivatives								
Electricity swaps: Costs hedging	84	1	-2	-1	14	0	-1	-1
Oil swaps: Costs hedging	15	0	-1	-1	14	0	-1	-1
Total cash flow hedge accounted	**98**	**2**	**-3**	**-1**	**28**	**0**	**-2**	**-2**
Total commodity derivatives	**98**	**2**	**-3**	**-1**	**28**	**0**	**-2**	**-2**
Interest rate derivatives								
Interest rate swaps: Financial expenses hedging	346	6	0	6	443	16	0	16
Total cash flow hedge accounted	**346**	**6**	**0**	**6**	**443**	**16**	**0**	**16**
Total interest rate derivatives	**346**	**6**	**0**	**6**	**443**	**16**	**0**	**16**
Total cash flow hedge accounted	**2,457**	**14**	**-47**	**-34**	**2,086**	**54**	**-7**	**47**
Total non-hedge accounted	**515**	**1**	**-2**	**-1**	**379**	**4**	**-1**	**3**
Total derivatives	**2,973**	**15**	**-50**	**-35**	**2,464**	**57**	**-8**	**49**

Positive and negative fair values of financial derivative instruments are shown under interest-bearing receivables and liabilities, and non-current interest-bearing receivables and liabilities. The presented fair values in the table include accrued interest and option premiums.

Changes in fair values of hedged items and hedging instruments 2024

EUR million	Change in value of hedged item to determine hedge effectiveness	Change in value of outstanding hedging instruments	Ineffectiveness
Foreign exchange risk - Forward and option contracts (excluding option time value)[1]	69	-68	1
Foreign exchange risk - Net investment hedges	17	-17	0
Commodity price risk - Commodity swaps	5	-5	0
Interest rate risk - Interest rate swaps	10	-10	0

1 Ineffectiveness booked in operating result.

Changes in fair values of hedged items and hedging instruments 2023

EUR million	Change in value of hedged item to determine hedge effectiveness	Change in value of outstanding hedging instruments	Ineffectiveness
Foreign exchange risk - Forward and option contracts (excluding option time value)[1]	-23	24	1
Foreign exchange risk - Net investment hedges[2]	-10	10	0
Commodity price risk - Commodity swaps	21	-21	0
Interest rate risk - Interest rate swaps	13	-13	0

1 Ineffectiveness booked in operating result.
2 Comparison figures restated.

Breakdown of cash flow hedging reserve and net investment hedges in equity 2024

EUR million	At 1 Jan 2024	Change in fair value recognised in OCI/CTA	Reclassified from OCI to profit and loss	Reclassified to non-financial assets	Tax impact	At 31 Dec 2024
Foreign exchange risk - Operational cash flow hedging	25	-70	2	0	14	-30
Commodity price risk - Commodity swaps	-1	-5	5	0	0	0
Interest rate risk - Interest rate swaps	13	-10	0	0	2	5
Interest rate and foreign exchange risk - Cross-currency swaps	0	0	0	0	0	0
Cost of hedging reserve	1	-3	0	0	1	-2
Total cash flow hedge reserve in OCI	**38**	**-88**	**7**	**0**	**16**	**-27**
Foreign exchange risk - Net investment hedges	7	-17	0	0	3	-7
Total net investment hedges in CTA	**7**	**-17**	**0**	**0**	**3**	**-7**
Total hedging reserves	**45**	**-105**	**7**	**0**	**20**	**-34**

Breakdown of cash flow hedging reserve and net investment hedges in equity 2023

EUR million	At 1 Jan 2023	Change in fair value recognised in OCI/CTA	Reclassified from OCI to profit and loss	Reclassified to non-financial assets	Tax impact	At 31 Dec 2023
Foreign exchange risk - Operational cash flow hedging	2	20	8	2	-6	25
Commodity price risk - Commodity swaps	15	-21	2	0	4	-1
Interest rate risk - Interest rate swaps	23	-13	0	0	3	13
Interest rate and foreign exchange risk - Cross-currency swaps	1	0	-1	0	0	0
Cost of hedging reserve	-1	2	0	0	0	1
Total cash flow hedge reserve in OCI	**39**	**-12**	**9**	**2**	**0**	**38**
Foreign exchange risk - Net investment hedges	1	10	-2	0	-2	7
Total net investment hedges in CTA	**1**	**10**	**-2**	**0**	**-2**	**7**
Total hedging reserves	**40**	**-3**	**7**	**2**	**-2**	**45**

Financial impact of netting for instruments subject to an enforceable master netting agreement 2024

	Not offset in the statement of financial position			
EUR million	Gross amount of recognised financial instruments	Related liabilities (-) or assets (+) subject to master netting agreements	Collateral received (-) or given (+)	Net exposure
Derivative assets	15	-12	0	3
Derivative liabilities	-50	12	0	-37

Financial impact of netting for instruments subject to an enforceable master netting agreement 2023

	Not offset in the statement of financial position			
EUR million	Gross amount of recognised financial instruments	Related liabilities (-) or assets (+) subject to master netting agreements	Collateral received (-) or given (+)	Net exposure
Derivative assets	57	-2	0	56
Derivative liabilities	-8	2	0	-6

The Group enters into derivative transactions under master netting agreements agreed with each counterparty. In case of an unlikely credit event, such as default, all outstanding transactions under the agreements are terminated, and only a single net amount per counterparty is payable for settlement of all transactions. The agreements do not meet the criteria for offsetting in the statement of financial position, because offsetting is enforceable only in the occurrence of certain future events.

5.5 Shareholders' equity

✔ Accounting principles

Dividend and capital repayments

Any dividend or capital repayment proposed by the Board is not deducted from distributable shareholders' equity until approved by the shareholders at the Annual General Meeting.

At 31 December 2024, shareholders' equity amounted to EUR 10,139 (10,985) million, compared to the market capitalisation on Nasdaq Helsinki of EUR 7,657 (9,864) million. The market values of the shares were EUR 9.68 (12.45) for A shares and EUR 9.72 (12.53) for R shares. In 2024, EUR 158 (473) million of dividends was recognised as distributed to owners, corresponding to EUR 0.20 (0.60) per share.

The A shares entitle the holder to one vote per share, whereas R shares entitle the holder to one vote per ten shares with a minimum of one vote, though the accountable par of both shares is the same. A shares may be converted into R shares at any time at the request of a shareholder. At 31 December 2024, the Company's fully paid-up share capital, as entered in the Finnish Trade Register, was EUR 1,342 (1,342) million. The current accountable par of each issued share is EUR 1.70 (1.70).

At 31 December 2024, Directors and Group Leadership Team members owned 127 (127) A shares and 483,159 (506,790) R shares representing 0.02% of the total voting rights of the Company. Full details of Director and Executive interests are shown in note 3.2 Board and executive remuneration. A full description of Company share award programmes is shown in note 3.4 Employee variable compensation and equity incentive schemes. However, none of these have any impact on the issued share capital.

Change in number of shares

	A shares	R shares	Total
At 1 January 2023	**176,238,280**	**612,381,707**	**788,619,987**
Conversion of A shares to R shares	-7,364	7,364	–
At 31 December 2023	**176,230,916**	**612,389,071**	**788,619,987**
Conversion of A shares to R shares	-566,837	566,837	–
At 31 December 2024	**175,664,079**	**612,955,908**	**788,619,987**
Number of votes as at 31 December 2024[1]	**175,664,079**	**61,295,590**	**236,959,669**
Share capital at 31 December 2024, EUR million[2]	**299**	**1,043**	**1,342**

1 The R share votes are calculated by dividing the number of R shares by 10.
2 No changes in share capital in 2024 or 2023.

5.6 Cumulative translation adjustment and equity hedging

✔ Accounting principles

The Group operates internationally and is thus exposed to currency risks arising from exchange rate fluctuations on the value of its net investment in non-euro entities. Exchange rate differences arising from the retranslation of net investments in foreign non-euro entities, and financial instruments that are designated as hedges of such investments, are recognised directly in equity in the cumulative translation adjustment (CTA). Movements in CTA (including related hedges) are shown in the consolidated statement of comprehensive income.

The cumulative translation adjustments related to disposed and liquidated entities are combined with their gain or loss on disposal. The CTA is recycled in the consolidated income statement upon disposal and liquidation.

The Group policy for translation risk exposure is to minimise this by funding assets in the same currency whenever economically viable, but if matching the assets and liabilities in the same currency is not possible, hedging of the remaining translation risk may take place. The Group has also applied net investment loan accounting for certain intragroup loans for which settlement is neither planned nor likely to occur in the foreseeable future. These are in substance, a part of the entity's net investment in the foreign operation.

Cumulative translation adjustment - movement

EUR million	2024	2023
At 1 January		
CTA	-376	-432
Net investment hedges and loans	6	21
Income tax related to hedges and loans	-4	-5
Net CTA in equity	**-375**	**-415**
CTA movement OCI		
CTA movement	-88	0
CTA release through income statement	-1	56
Net investment hedges and loans	4	-15
Income tax related to hedges and loans	3	0
CTA movement OCI total	**-82**	**41**
At 31 December		
CTA	-465	-376
Net investment hedges and loans	10	6
Income tax related to hedges and loans	-2	-4
Net CTA in equity	**-457**	**-375**

In 2024 there were no significant releases of cumulative translation adjustments to the income statement.

In 2023 the release of cumulative translation adjustments to the income statement amounted to a loss of EUR 56 million and was related to disposals of Hylte and Nymölla sites in Sweden.

Cumulative translation adjustment – financial position

	Cumulative Translation Adjustment (CTA)		Net investment hedges and loans		Net CTA in the statement of financial position	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Brazil	-284	-242	0	0	-284	-242
China	143	151	1	-4	144	147
Czechia	35	39	-9	-9	26	30
Poland	-14	-22	17	17	3	-5
Sweden	-649	-494	33	33	-616	-461
Uruguay (USD)	298	191	-33	-31	265	160
Others	6	1	0	0	6	1
CTA before Tax	**-465**	**-376**	**10**	**6**	**-455**	**-370**
Taxes	0	0	-2	-4	-2	-4
Net CTA in Equity	**-465**	**-376**	**8**	**2**	**-457**	**-375**

Hedging instruments and unrealised hedge losses

	Nominal amount (Currency)		Nominal amount (EUR)		Unrealised losses (EUR)	
EUR million	**2024**	**2023**	**2024**	**2023**	**2024**	**2023**
Borrowings						
USD area	300	300	289	271	-47	-33
Total hedging			**289**	**271**	**-47**	**-33**

The Group is currently only hedging its equity exposure to the US dollar arising from its joint operation located in Uruguay with USD as functional currency.

5.7 Non-controlling interests

✔ Accounting principles

Non-controlling interests are presented as a separate component within the equity of the Group in the consolidated statement of financial position. The proportionate shares of profit or loss attributable to non-controlling interests and to owners of the parent company are presented in the consolidated income statement after the net result for the period. Transactions between non-controlling interests and Group shareholders are transactions within equity and are thus shown in the statement of changes in equity. The measurement type of non-controlling interest is decided separately for each acquisition.

Non-controlling interests

EUR million	2024	2023
At 1 January	**-97**	**-30**
Acquisitions	—	2
Share of net result for the period	-48	-74
Share of other comprehensive income	-5	5
At 31 December	**-150**	**-97**

Principal non-controlling interests

Company	Principal place of business	2024 Ownership and voting rights held by non-controlling Interests, %	2023 Ownership and voting rights held by non-controlling Interests, %	2024 EUR million	2023 EUR million
Stora Enso Pulp and Paper Asia AB Group (subgroup)[1]	Sweden and China	5.79%–19.92%	5.79%–19.92%	-148	-100
Others	-			-2	3
Total				**-150**	**-97**

1 Consists of non-controlling interests in Guangxi Integrated Project and Operations. Entity level ownership presented in note 6.2 Group companies.

Non-controlling interests in Stora Enso Pulp and Paper Asia AB Group

Summarised financial information in respect of the subsidiaries that have material non-controlling interests is set out below.

Stora Enso Pulp and Paper Asia AB Group

EUR million	2024	2023
Assets	675	858
Equity attributable to the owners of the parent	-515	-345
Non-controlling interests[1]	-148	-100
Total equity	**-663**	**-445**
Liabilities	1,337	1,303
Net result for the period	-196	-268
Attributable to		
Owners of the parent	-153	-194
Non-controlling interests	-43	-74
Net result for the period	**-196**	**-268**
Net cash flow from operating activities	9	16
Net cash flow from investing activities	-38	-37
Net cash flow from financing activities	18	-23
Net cash flow	**-11**	**-43**

1 No dividends were paid to non-controlling interests in 2024 or 2023.

6 Group structure

6.1 Acquisitions, disposals and assets held for sale

✔ Accounting principles

Acquired companies are accounted in accordance with the acquisition method whereby these companies are included in the consolidated financial statements from the date the control is obtained. Accordingly, the consideration transferred (including contingent consideration) and the acquired company's identifiable net assets are measured at fair value at the date of the acquisition. Transaction costs related to acquisition are expensed as incurred. The measurement type of non-controlling interest is decided separately for each acquisition, and measured either at fair value or non-controlling interest's proportionate share of the net assets. The excess of the consideration transferred, non-controlling interest and possible previously held equity interest over the fair value of net assets of the acquired company is recognised as goodwill.

The disposed companies are included in the consolidated financial statements up to the date when the control is lost. The gain or loss on disposal together with cumulative translation adjustments (CTA) related to disposed companies are recognised in the consolidated income statement at the date control is lost. Gains and losses on the disposal of a Group entity include any goodwill relating to the entity sold.

Assets are classified as held for sale, if their carrying amounts will be recovered mainly through a sale transaction rather than through continuing use. The assets must be available for immediate sale in their present condition subject only to terms that are usual and customary for sale of such assets. Also, the sale must be highly probable and expected to be completed within one year from the date of classification. These assets and related liabilities are presented separately in the consolidated statement of financial position and measured at the lower of the carrying amount and fair value less costs to sell. Comparative information is not restated when classification is made. Assets classified as held for sale are not depreciated.

Acquisition of Group companies

EUR million	2024	2023
Net assets acquired		
Cash and cash equivalents	2	27
Property, plant and equipment	0	200
Forest assets	77	0
Intangible assets	0	222
Right-of-use assets	0	99
Working capital	0	5
Tax assets and liabilities	-2	-56
Interest-bearing assets and liabilities	0	-233
Fair value of net assets acquired	**77**	**265**
Purchase consideration, cash part	77	612
Purchase consideration, contingent	0	0
Total purchase consideration	**77**	**612**
Fair value of net assets acquired	-77	-265
Non-controlling interest	0	2
Goodwill	**0**	**349**
Cash outflow on acquisitions	-77	-612
Cash and cash equivalents of acquired subsidiaries	2	27
Cash flow on acquisition, net of acquired cash	**-75**	**-584**

2024

Montes del Plata forest assets

In March 2024 Stora Enso's 50% owned joint operation in Uruguay, Montes del Plata (MdP), completed a transaction to acquire forest assets and related forestry business in Uruguay. Stora Enso's share of the transaction includes approximately 16.3 thousand hectares of land, of which about 9.8 thousand hectares are productive land. The acquired units are fully owned and reported under the Biomaterials division. The acquired forest land and operations are located in various regions of Uruguay. These operations primarily include forestry plantations to supply wood for pulp production.

Stora Enso's share of the cash purchase consideration was EUR 77 million. The related transaction costs were not considered significant. The fair values of the identifiable assets and liabilities as of the acquisition date consisted mainly of forest assets and are presented in the table above. The post combination review was completed at the end of 2024 and therefore acquisition accounting is considered final. There were no significant measurement period adjustments in 2024. The acquisition is not considered to have had a significant impact on Stora Enso Group's sales or net profit.

2023

De Jong Packaging Group

In September 2022, Stora Enso signed an agreement to acquire De Jong Packaging Group, and the transaction was completed at the beginning of January 2023. De Jong Packaging Group is based in the Netherlands and is one of the largest corrugated packaging producers in the Benelux countries. De Jong Packaging Group is also active in containerboard production through the acquisition of the De Hoop mill in the Netherlands in 2021. De Jong Packaging Group has 16 sites in the Netherlands, Belgium, Germany and the UK and employs approximately 1,300 people. The acquisition will advance Stora Enso's strategic direction, increase its corrugated packaging capacity, accelerate revenue growth and build market share in renewable packaging in Europe. De Jong Packaging Group's products enhance Stora Enso's offering. The acquisition is expected to generate synergies over the cycle, mainly through sourcing, containerboard integration optimisation and commercial opportunities.

The shares of the acquired companies are mainly 100% owned, with certain units having minor non-controlling interests. The non-controlling interest is measured on the basis of the proportionate share of the identifiable net assets.

The cash purchase consideration was EUR 612 million, excluding a contingent earn-out component. The maximum amount of the earn-out component is EUR 45 million, which will be settled in cash in 2024 and is subject to De Jong Packaging Group achieving certain earnings thresholds. The contingent consideration is measured at its fair value and is estimated at EUR 0 million at the date of acquisition and at the end of the year 2023. The fair values of the identifiable assets and liabilities as of the acquisition date are presented in the table above.

The post combination review was completed at the end of 2023 and therefore acquisition accounting is considered to be final. The fair values of the acquired assets, liabilities and goodwill in the table above are representing final acquisition accounting. Measurement period adjustments in 2023 included property, plant and equipment decrease of EUR 23 million, right-of-use assets decrease of EUR 5 million, working capital items decrease of EUR 10 million, tax items increase of EUR 14 million and goodwill increase of EUR 22 million.

The goodwill represent the expected synergies, mainly through sourcing, containerboard integration optimisation and commercial opportunities. The goodwill is allocated to divisions benefiting from the acquisition, Packaging Solutions and Packaging Materials. None of the goodwill recognised is expected to be deductible for tax purposes. Also, as part of the acquisition, customer related intangible assets have been recognised with a carrying amount of EUR 167 million and an amortisation period of 15 years, and marketing related intangible assets of EUR 39 million with amortisation periods of between 5–20 years. See note 4.1 Intangible assets, property, plant and equipment and right-of-use assets for more details.

For 2023, De Jong Packaging Group contributed sales of EUR 598 million and a net result of EUR -88 million to the Group's results, of which the De Hoop unit closure impairment and provision charges had approximately EUR -58 million net result impact. The acquired units are included in Stora Enso Group's consolidated sales and net result from the beginning of 2023. The related transaction costs amounted to EUR 6 million and are presented in other operating expenses. The acquired units are reported in the Packaging Solutions and Packaging Materials divisions.

Disposal of Group companies

EUR million	2024	2023
Net assets sold		
Cash and cash equivalents	5	29
Property, plant and equipment	2	271
Intangible assets	0	60
Working capital	6	-5
Tax assets and liabilities	1	-28
Interest-bearing assets and liabilities	-2	-96
Net assets in disposed companies	**13**	**233**
Total disposal consideration	**13**	**266**
CTA release	1	-56
Asset writedowns[1]	-7	-17
Loan impairments	0	0
Transaction costs	-1	-6
Total net gain/loss	**-7**	**-45**

1 2023 mainly related to units classified as held for sale and restated since Beihai unit held for sale classification was ceased in 2024.

2024

De Hoop site

In December 2024, Stora Enso completed the divestment of its 100% owned De Hoop site in the Netherlands to DS Smith. Production at the De Hoop containerboard site was closed in 2023. The sold unit was part of the segment Other at the time of disposal. The transaction did not have a significant impact on the Group.

Selfly Store business

In December 2024, Stora Enso completed the divestment of its 100% owned Selfly Store business to Husky Intelligent Fridges. Selfly Store provides complete smart vending machine solutions. The sold unit was part of the segment Other. The transaction did not have a significant impact on the Group.

Sunila site

In December 2024, Stora Enso completed the divestment of its 100% owned Sunila site in Finland to AALTO Development Oy. Production in the Sunila pulp mill was closed in 2023. Stora Enso's Lignode pilot plant operations in Sunila continue unaffected by the disposal. The sold unit was part of the segment Other at the time of disposal. The transaction did not have a significant impact on the Group.

E-Corrugated site

In October 2024, Stora Enso completed the divestment of its 100% owned E-Corrugated unit in the United Kingdom to Lavelle Corrugated. The sold unit was part of the Packaging Solutions division. The transaction did not have a significant impact on the Group.

Paper for recycling trading unit

In July 2024, Stora Enso completed the divestment of its 51% share in a Danish-based Packaging Materials division unit to Hartmann. The unit specialises in paper for recycling trading. The transaction did not have a significant impact on the Group.

2023

Biocomposite business

In November 2023, Stora Enso divested its Biocomposite business to Sweden Timber, which also owns the paper production site at Hylte. The sold unit was part of the segment Other at the time of disposal. The transaction did not have a significant impact on the Group.

Wood Products DIY site

In August 2023, Stora Enso divested its 100% owned Wood Products DIY unit in the Netherlands to Megahout, a local importer, wholesaler and producer of a wide variety of wood products. The divestment reduced Stora Enso's planing capacity by 80,000 m^3. The sold unit was part of the Wood Products division. The transaction did not have a significant impact on the Group.

Hylte site

In April 2023, Stora Enso divested its 100% owned Hylte paper production site in Sweden and all related assets to Sweden Timber, a Swedish based sawmill and planing mill company. The Hylte site's annual capacity is 245,000 tonnes of newsprint paper. During 2022, the Group recognised asset write-downs of EUR 16 million related to the transaction. The selling price of the transaction was not significant. The loss on disposal was approximately EUR 45 million, consisting mainly of cumulative translation adjustments (CTA) being released from equity to the income statement. The sold unit was part of the segment Other at the time of disposal.

Maxau site

In February 2023, Stora Enso divested its 100% owned the Maxau paper production site in Germany and all related assets to Schwarz Group, one of the top retailers in the world. The transaction reduced Stora Enso's annual supercalendered paper (SC paper) capacity by 530,000 tonnes. The selling price of the transaction was approximately EUR 211 million and the gain on disposal was approximately EUR 52 million. The sold unit was part of the segment Other at the time of disposal.

Nymölla site

In January 2023, Stora Enso divested its 100% owned Nymölla paper production site in Sweden and all related assets to Sylvamo, a US-based global producer of uncoated paper. The Nymölla site's capacity is 485,000 metric tonnes of woodfree uncoated office papers. During 2022, the Group recognised asset write-downs of EUR 6 million related to the transaction. The selling price of the transaction was approximately EUR 49 million. The loss on disposal was approximately EUR 30 million, consisting mainly of cumulative translation adjustments (CTA) being released from equity to income statement. The sold unit was part of the segment Other at the time of disposal.

Russian operations

As communicated in 2022, Stora Enso sold all of its operations in Russia. Related to one forest operations unit, the disposal was expected to be completed in 2023, upon finalisation of certain formalities. These formalities were finalised in 2023 and did not have a significant impact on the Group. For more information about the valuation of Russia-related receivables, see note 5.3 Interest-bearing assets and liabilities.

Assets held for sale

At the end of 2024 and 2023 there were no assets held for sale. 2023 has been restated, more information below about the reversal of held for sale classification.

As announced in December 2022, Stora Enso initiated a sales process to divest its Beihai packaging board production site and forestry operations in Guangxi, China, which are part of the Packaging Materials division.

The Beihai operations were classified as held for sale at the end of 2023. Based on evaluations during 2024, the divestment was no longer considered highly probable. Stora Enso's view is that the value in own use of the assets exceeds the achievable transaction value, and therefore, it chose to retain these operations within the Group. Consequently, the held-for-sale classification was ceased during 2024. Comparative figures for 2023 have been restated accordingly.

6.2 Group companies

Subsidiaries	Country	Group ownership, % 2024	Group ownership, % 2023
Anjala Fiber & Energy Oy	Finland	100.00	100.00
AS Stora Enso Latvija	Latvia	100.00	100.00
Bangma Productie B.V.	Netherlands	100.00	100.00
Bangma Verpakking B.V.	Netherlands	100.00	100.00
Bergnät 1 AB	Sweden	100.00	100.00
Beta Skog 1 AB	Sweden	100.00	100.00
Cellutech AB	Sweden	100.00	100.00
Centrum Dystrybucji i Obróbki Drewna Sp. z.o.o.	Poland	100.00	100.00
Changzhou Stora Enso Packaging Technology Co. Ltd.	China	100.00	100.00
DanFiber A/S	Denmark	0.00	51.00
De Jong Box B.V.	Netherlands	100.00	100.00
De Jong Kasser Ehf.	Iceland	0.00	100.00
De Jong Packaging Ltd.	UK	100.00	100.00
De Jong Verpackung GmbH	Germany	100.00	100.00
De Jong Verpakking B.V.	Netherlands	100.00	100.00
DJV Holding B.V.	Netherlands	100.00	100.00
DJV Strategisch Advies B.V.	Netherlands	100.00	100.00
Dongguan Stora Enso Inpac Packaging Co. Ltd.	China	100.00	100.00
DuraSense AB	Sweden	0.00	100.00
eCorrugated Ltd.	UK	0.00	100.00
Enso Alueverkko Oy	Finland	100.00	100.00
Euro - Timber, spol. s.r.o.	Slovak Republic	100.00	100.00
Felco B.V.	Netherlands	100.00	100.00
FuraCore AB (Formerly Lignode AB)	Sweden	100.00	100.00
FuraCore BV	Belgium	100.00	0.00
Gaster Wellpappe GmbH	Germany	100.00	100.00
Green Packaging System B.V.	Netherlands	100.00	100.00
Guangxi Stora Enso Forestry Co. Ltd.	China	89.50	89.50
Herman Andersson Oy	Finland	100.00	100.00
HESPOL Sp. z.o.o.	Poland	100.00	100.00
Jiashan Stora Enso Inpac Packaging Co. Ltd.	China	100.00	100.00
Karpack B.V.	Netherlands	100.00	100.00
KPMB Agri BV	Belgium	100.00	100.00
KPMB NV	Belgium	100.00	100.00
Lignode Holding Oy	Finland	100.00	100.00
Lignode Oy	Finland	100.00	100.00
Lumipaper Ltd	UK	100.00	100.00
Lumipaper NV	Belgium	100.00	100.00
PTI Packmitteltechnik GmbH	Germany	80.00	80.00
Pulse Anilox Cleaning B.V.	Netherlands	100.00	100.00
Rudico B.V.	Netherlands	100.00	100.00
Rudico Groep B.V.	Netherlands	100.00	100.00
Rudico Holding B.V.	Netherlands	100.00	100.00
Selfly Store Oy	Finland	0.00	100.00
Skogsutveckling Syd AB	Sweden	66.67	66.67
Södra Norrlands Hamnbolag nr 1 AB	Sweden	100.00	100.00
Stora Enso (Guangxi) Forestry Company Ltd.	China	80.08	80.08
Stora Enso (Guangxi) Packaging Company Ltd.	China	80.08	80.08
Stora Enso (HK) Ltd	Hong Kong	100.00	100.00
Stora Enso (Southern Africa) (Pty) Ltd	South Africa	100.00	100.00
Stora Enso AB	Sweden	100.00	100.00
Stora Enso Amsterdam B.V.	Netherlands	100.00	100.00
Stora Enso Arapoti Holding Florestal S.A.	Brazil	100.00	100.00
Stora Enso Australia Pty Ltd	Australia	100.00	100.00
Stora Enso Belgium NV	Belgium	100.00	100.00
Stora Enso Bergskog 2 AB	Sweden	100.00	100.00
Stora Enso Bergskog 3 AB	Sweden	100.00	100.00
Stora Enso Bois SAS	France	100.00	100.00
Stora Enso Brasil Ltda	Brazil	100.00	100.00
Stora Enso China Co., Ltd	China	100.00	100.00
Stora Enso China Holdings AB	Sweden	100.00	100.00
Stora Enso China Packaging (HK) Co., Limited	Hong Kong	100.00	100.00

Stora Enso Corbehem SAS	France	100.00	100.00
Stora Enso Danmark A/S	Denmark	100.00	100.00
Stora Enso De Hoop B.V.	Netherlands	0.00	100.00
Stora Enso Eesti AS	Estonia	100.00	100.00
Stora Enso Espana S.A.U	Spain	100.00	100.00
Stora Enso Fors AB	Sweden	100.00	100.00
Stora Enso France SAS	France	100.00	100.00
Stora Enso Germany GmbH	Germany	0.00	100.00
Stora Enso Germany GmbH (Formerly Stora Enso Paper GmbH)	Germany	100.00	100.00
Stora Enso Holding B.V.	Netherlands	100.00	100.00
Stora Enso Holding France SAS	France	100.00	100.00
Stora Enso Holdings UK Ltd	UK	100.00	100.00
Stora Enso Ingerois Oy	Finland	100.00	100.00
Stora Enso Inpac Corrugated Packaging (Hebei) Company Limited	China	100.00	100.00
Stora Enso Inpac Hebei Protective Packaging Co., Ltd.	China	100.00	100.00
Stora Enso Inpac Packaging Co. Ltd	China	100.00	100.00
Stora Enso International Oy	Finland	100.00	100.00
Stora Enso Italia Srl	Italy	100.00	100.00
Stora Enso Japan K.K.	Japan	100.00	100.00
Stora Enso Kvarnsveden Industriutveckling AB	Sweden	0.00	100.00
Stora Enso Langerbrugge NV	Belgium	100.00	100.00
Stora Enso LLC	Ukraine	100.00	100.00
Stora Enso Mexico S.A.	Mexico	100.00	100.00
Stora Enso Middle East DMCC	United Arab Emirates	100.00	100.00
Stora Enso Narew Sp.z.o.o.	Poland	100.00	100.00
Stora Enso North American Sales, LLC	USA	100.00	100.00
Stora Enso Oulu Oy	Finland	100.00	100.00
Stora Enso Packaging AB	Sweden	100.00	100.00
Stora Enso Packaging AS	Estonia	100.00	100.00
Stora Enso Packaging Oy	Finland	100.00	100.00
Stora Enso Packaging SIA	Latvia	100.00	100.00
Stora Enso Packaging UAB	Lithuania	100.00	100.00
Stora Enso Paper AB	Sweden	100.00	100.00
Stora Enso Paper France SAS	France	0.00	100.00
Stora Enso Paper Oy	Finland	0.00	100.00
Stora Enso Paper UK Ltd	UK	100.00	100.00
Stora Enso Pension Trust Ltd.	UK	100.00	100.00
Stora Enso Poland S.A.	Poland	100.00	100.00
Stora Enso Polska Sp.z.o.o.	Poland	100.00	100.00
Stora Enso Portugal Lda	Portugal	100.00	100.00
Stora Enso Praha s.r.o.	Czechia	100.00	100.00
Stora Enso Publication Papers Oy Ltd	Finland	100.00	100.00
Stora Enso Pulp AB	Sweden	100.00	100.00
Stora Enso Pulp and Paper Asia AB	Sweden	94.21	94.21
Stora Enso Skog AB	Sweden	100.00	100.00
Stora Enso Skog AS	Norway	100.00	100.00
Stora Enso Skog och Mark AB	Sweden	100.00	100.00
Stora Enso South East Asia Pte Ltd	Singapore	100.00	100.00
Stora Enso Timber AB	Sweden	100.00	100.00
Stora Enso Treasury Stockholm AB	Sweden	0.00	100.00
Stora Enso Turkey Karton Ve Kağıt Ticaret Anonim Sirketi	Turkey	100.00	100.00
Stora Enso UK Limited	UK	100.00	100.00
Stora Enso US Inc.	USA	100.00	100.00
Stora Enso Veitsiluoto Oy	Finland	100.00	100.00
Stora Enso Wood Products d.o.o. Koper	Slovenia	100.00	100.00
Stora Enso Wood Products GmbH	Austria	100.00	100.00
Stora Enso Wood Products Japan K.K.	Japan	100.00	100.00
Stora Enso Wood Products Planá s.r.o.	Czechia	100.00	100.00
Stora Enso Wood Products Sp.z.o.o.	Poland	100.00	100.00
Stora Enso Wood Products Zdirec s.r.o.	Czechia	100.00	100.00
Stora Enso WP Bad St. Leonhard GmbH	Austria	100.00	100.00
Stora Enso WP HV s.r.o.	Czechia	100.00	100.00
Stora Kopparbergs Bergslags AB	Sweden	100.00	100.00
Sumarbox B.V.	Netherlands	100.00	100.00
Sydved AB	Sweden	66.67	66.67
Twinpack B.V.	Netherlands	100.00	100.00
UAB Stora Enso Lietuva	Lithuania	100.00	100.00

Virdia B2X, LLC	USA	100.00	100.00
Virdia LLC	USA	100.00	100.00
Virdia Ltd	Israel	100.00	100.00
Wellpappenfabrik Gesellschaft GmbH	Germany	80.00	80.00

Associated companies	Country	Group ownership, % 2024	Group ownership, % 2023
A.C.D.F. Industrie	France	35.00	35.00
Bergslagens Vind AB (Formerly Stora Enso Vind 1 AB)	Sweden	50.00	50.00
Honkalahden Teollisuuslaituri Oy	Finland	50.00	50.00
Industriewater Eerbeek B.V.	Netherlands	0.00	37.50
Industrikraft i Sverige AB	Sweden	20.00	0.00
Kemira Cell Sp.z.o.o.	Poland	45.00	45.00
Metsäteho Oy	Finland	23.95	23.95
Novimus Oy (Formerly Oy Keskuslaboratorio - Centrallaboratorium Ab)	Finland	32.24	32.24
Österbergs Förpackningsmaskiner AB	Sweden	50.00	50.00
Perkaus Oy	Finland	33.33	33.33
SELF Logistika SIA	Latvia	50.00	50.00
Steveco Oy	Finland	34.39	34.39
Suomen Keräyspaperi Tuottajayhteisö Oy	Finland	40.09	40.09
SweTree Technologies AB	Sweden	23.83	23.83
T&B Containers Holdings Ltd.	UK	30.00	30.00
Tornator Oyj	Finland	41.00	41.00
Trätåg AB	Sweden	50.00	50.00
TreeToTextile AB	Sweden	28.94	28.94
ZMP GMBH	Austria	30.00	30.00

Other companies	Country	Group ownership, % 2024	Group ownership, % 2023
AMEXCI AB	Sweden	9.10	9.10
Arevo AB	Sweden	12.73	12.73
CarbonScape Ltd	New Zealand	15.00	15.00
Clic Innovation Oy	Finland	9.87	9.87
Combient AB	Sweden	5.40	5.40
East Office of Finnish Industries Oy	Finland	4.00	4.00
Packages Limited	Pakistan	6.40	6.40
Pohjolan Voima Oyj	Finland	16.14	15.71
PulPac AB	Sweden	10.30	10.30
Radioskog AB	Sweden	10.00	10.00
RK Returkartong AB	Sweden	8.40	8.40
SSG Standard Solutions Group AB	Sweden	14.29	14.29
Suomen Puukauppa Oy	Finland	10.74	10.74
T&B Containers Ltd.	UK	30.00	30.00
Union Developement Récup. Pap.	France	10.70	10.70

Joint operations	Country	Group ownership, % 2024	Group ownership, % 2023
Celulosa y Energia Punta Pereira S.A.	Uruguay	50.00	50.00
El Esparragal Asociación Agraria de Responsabilidad Limitada	Uruguay	50.00	50.00
Eufores S.A.	Uruguay	50.00	50.00
Forestal Cono Sur S.A.	Uruguay	50.00	50.00
Monte Fresnos A.A.R.L.	Uruguay	50.00	0.00
Monte Fresnos S.A.	Uruguay	50.00	0.00
Ongar S.A.	Uruguay	50.00	50.00
Stora Enso Uruguay S/A	Uruguay	50.00	50.00
Taurion A.A.R.L.	Uruguay	50.00	0.00
Taurion S.A.	Uruguay	50.00	0.00
Terminal Logística e Industrial M`Bopocuá S.A.	Uruguay	50.00	50.00
Veracel Celulose SA	Brazil	50.00	50.00
Zona Franca Punta Pereira S.A.	Uruguay	50.00	50.00

6.3 Related party transactions

Balances and transactions between Stora Enso and its subsidiaries and joint operations have been eliminated on consolidation and are not disclosed in this note. For the other entities which are classified as the Group's related parties and disclosed in this note, their subsidiary companies are also considered as related parties.

The Group has classified Solidium Oy as a related party. Solidium Oy is entirely owned by the State of Finland, and it owned 10.7% of Stora Enso shares and 27.4% of all votes on 31 December 2024. The Group has applied an exemption, as stated in IAS 24 paragraph 25, not to disclose transactions and outstanding balances with government-related entities.

The Group has classified FAM AB and Wallenberg Investments AB as related parties. FAM AB owned 10.2% of Stora Enso shares and 27.4% of all votes on 31 December 2024. FAM AB is wholly owned by Wallenberg Investments AB.

The key management personnel of the Group are the members of the Group Leadership Team and the Board of Directors. The compensation of key management personnel is presented in note 3.2 Board and executive remuneration.

In the ordinary course of business, the Group engages in transactions on commercial terms with associated companies, joint arrangements and other related parties that are not any more favourable than those that would be available to other third parties. Stora Enso intends to continue with transactions on a similar basis with its associated companies and joint arrangements. Further details of the transactions with associated companies are shown in note 4.3 Associates.

Group companies, including subsidiary companies and joint operations, are listed in note 6.2 Group companies.

Forest assets and wood procurement

The Group has a 41.0% interest in Tornator with the remaining 59.0% being held mainly by Finnish institutional investors. Stora Enso has long-term purchase contracts of wood at market prices with the Tornator Group, and in 2024 purchases of 3 (2) million cubic metres came to EUR 167 (150) million.

The Group procures wood at market prices from Kopparfors Fastigheter AB, a fully owned subsidiary of Kopparfors Skogar AB, which is wholly owned by FAM AB. In 2024 the purchases from the related party amounted to EUR 15 (21) million and the sales of services by Stora Enso to the said related party amounted to EUR 0 (1) million. At the end of 2024 the Group had EUR 0 (6) million of open payables to the related party.

Stevedoring

The Group owns 34.4% of shares in Steveco Oy, a Finnish company engaged in loading and unloading vessels. The other shareholders in Steveco are UPM-Kymmene, Finnlines and Myllykoski. The stevedoring services are provided by Steveco at market prices and in 2024 amounted to EUR 25 (24) million.

7 Other

7.1 Commitments and contingencies

✔ Accounting principles

Guarantees

The guarantees entered into with financial institutions and other credit guarantors generally oblige the group to make payment in the event of default by the borrower. The guarantees have an off-balance sheet credit risk representing the accounting loss that would be recognised at the reporting date if the counterparties fail to perform completely as contracted. The credit risk amounts are equal to the contract sums, assuming the amounts are not paid in full and are irrecoverable from other parties.

Commitments

EUR million	2024	2023
On own behalf		
Guarantees	17	18
Other commitments	6	6
On behalf of associated companies		
Guarantees	4	5
On behalf of others		
Guarantees	16	16
Other commitments	0	0
Total	**43**	**44**
Guarantees	37	38
Other commitments	6	6
Total	**43**	**44**

In 2024, the Group's commitments amounted to EUR 43 (44) million. In addition, the parent company Stora Enso Oyj has guaranteed the liabilities of many of its subsidiaries and joint operations up to EUR 792 (734) million as of 31 December 2024.

Capital commitments

EUR million	2024	2023
Total	**304**	**683**

Capital expenditure commitments are not recognised in the balance sheet and these include the Group's share of direct capital expenditure contracts in joint operations. The largest commitments in relation to capital expenditure relate to the mill conversion at Oulu site in Finland.

Contingent liabilities

Stora Enso has undertaken significant restructuring actions in recent years which have included the divestment of companies, sale of assets and mill closures. These transactions include a risk of possible environmental or other obligations the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related amount can be estimated reliably and for which the related future cost is considered to be at least probable.

Stora Enso has been granted various investment subsidies and compensations, and has made certain investment commitments in several countries such as Finland, China, and Sweden. If commitments to planning conditions are not met, local officials may pursue administrative measures to reclaim some of the previously granted investment subsidies or impose penalties on Stora Enso. The outcome of such a process could result in adverse financial impact on Stora Enso.

Stora Enso has been granted investment subsidies and has given certain investment commitments in China. There is a risk that the majority owned local Chinese company may be subject to a claim based on alleged costs resulting from certain uncompleted investment commitments. Given the specific mitigating circumstances surrounding the investment case as a whole, Stora Enso does not consider it to be probable that this situation would result in an outflow of economic benefits that would be material to the Group.

Stora Enso is party to legal proceedings that arise in the ordinary course of business and which primarily involve claims arising out of commercial law. The management does not consider that liabilities related to such proceedings before insurance recoveries, if any, are likely to be material to the Group's financial condition or results of operations.

Veracel

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of, at the time of the decision, BRL 20 (EUR 4) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

7.2 Events after the reporting period

The were no significant adjusting or non-adjusting events after the reporting period end.

Parent company Stora Enso Oyj financial statements

Parent company income statement

		Year ended 31 December	
EUR million	**Note**	**2024**	**2023**
Sales	2	**2,631**	**2,809**
Changes in inventories of finished goods and work in progress + / -		25	-43
Production for own use		2	3
Other operating income	3	462	658
Materials and services	4	-1,992	-1,985
Personnel expenses	5	-298	-341
Depreciation and impairment	6	-183	-274
Other operating expenses	7	-895	-1,283
		2,877	3,265
Operating profit / loss		-246	-455
Financial income and expenses	9	238	278
Profit before appropriations and taxes		-8	-177
Appropriations	10	68	222
Income tax expense	11	-3	0
Profit for the period		**57**	**45**

Parent company statement of financial position

		As at 31 December	
EUR million	**Note**	**2024**	**2023**
Assets			
Non-current assets			
Intangible assets	13	54	53
Tangible assets	13	834	917
Investments	14	9,250	8,596
Non-current assets total		**10,137**	**9,567**

		As at 31 December	
EUR million	**Note**	**2024**	**2023**
Current assets			
Inventories	15	543	473
Short-term receivables	16	1,296	2,257
Financial securities	17	1,007	1,550
Cash in hand and at bank		764	661
Total current assets		**3,610**	**4,941**
Total assets		**13,746**	**14,508**
Equity and liabilities			
Equity	18		
Share capital		1,342	1,342
Share premium		3,639	3,639
Fair value reserve		-2	14
Invested non-restricted equity fund		633	633
Retained earnings		751	864
Profit for the period		57	45
Total equity		**6,421**	**6,537**
Accumulated appropriations	19	192	201
Obligatory provisions	20	25	36
Liabilities			
Non-current liabilities	22	3,386	4,123
Current liabilities	23	3,722	3,611
Total liabilities		**7,109**	**7,734**
Total equity and liabilities		**13,746**	**14,508**

Parent company cash flow statement

EUR million	Year ended 31 December 2024	2023
Cash provided by operating activities		
Profit for the period	57	45
Adjustments and reversal of non-cash items:		
Direct taxes	3	0
Appropriations	-68	-222
Depreciation according to plan and impairment	183	274
Unrealised foreign exchange gains and losses	15	38
Other non-cash items	-2	15
Financial income and expenses	-238	-278
Change in working capital:		
Increase(-)/decrease(+) in current non-interest-bearing receivables	266	48
Increase(-)/decrease(+) in inventories	-70	101
Increase(+)/decrease(-) in current non-interest-bearing liabilities	118	-154
Cash flow from operating activities before financial items and taxes	263	-133
Interest received from operating activities	214	181
Interest paid from operating activities	-250	-173
Dividends received from operating activities	481	371
Other financial items, net	-33	36
Direct taxes paid	-11	-23
Cash provided by operating activities	**665**	**259**
Net cash provided by investing activities		
Investments in tangible and intangible assets	-112	-166
Capital gains from sale of tangible and intangible assets	1	0
Investments in other financial assets	0	-16
Investments in subsidiary shares and other capital contributions	-538	0
Proceeds from disposal of subsidiary shares and other repayment of capital	3	0
Proceeds from disposal of other investments	1	0
Payments of non-current loan receivables	-961	-2,184
Proceeds from non-current loan receivables	1,700	780
Net cash provided by investing activities	**96**	**-1,586**

EUR million	Year ended 31 December 2024	2023
Cash flow from financing activities		
Proceeds from (issue of) long-term liabilities	0	3,468
Proceeds from (payment of) long-term liabilities	-730	-1,623
Proceeds from (issue of) short-term liabilities	91	164
Proceeds from (payment of) short-term liabilities	-544	-249
Dividends paid	-147	-472
Group contributions received	133	0
Cash flow from financing activities	**-1,197**	**1,287**
Net change in cash and cash equivalents	**-437**	**-39**
Translation differences	-3	3
Cash and cash equivalents at start of year	2,211	2,247
Cash and cash equivalents at year end	**1,771**	**2,211**
Cash and cash equivalents at year end includes:		
Financial securities	**1,007**	**1,550**
Cash in hand and at bank	**764**	**661**
Cash and cash equivalents total	**1,771**	**2,211**

Notes to the parent company financial statements

✔ Note 1 Accounting principles

The financial statements of Stora Enso Oyj have been prepared in accordance with the Finnish Accounting Act and other current rules and regulations concerning financial statements in Finland. The financial statements are presented in millions of euros and rounded and therefore the sum of individual figures might deviate from the presented total figure.

Derivative contracts

Stora Enso is exposed to several financial market risks that the Group is responsible for managing under policies approved by the Board of Directors. The objective is to have cost-effective funding in Group companies and to manage financial risks using financial instruments in order to decrease earnings volatility. The main exposures for the Group are interest rate risk, currency risk, funding risk and commodity price risk, especially for fiber and energy. The parent company manages these risks centrally in the Group. The Group's risk management principles are presented in more detail in note 5.1 Financial Risk Management to the consolidated financial statements.

Derivative contracts are measured at fair value on the balance sheet. Derivatives with external counterparties that are subject to hedge accounting are recognised as financial assets and liabilities at fair value through the income statement in the same manner as the parent company's derivatives with other Group companies as counterparties. The parent company's derivative contracts that are used to hedge the parent company's own cash flow are measured at fair value, and the change in fair value (effective part) is recognised, in line with hedge accounting principles, in the fair value reserve in equity on the balance sheet, while the ineffective part is recognised in the parent company's income statement. The change in fair value of derivatives not included in hedge accounting is entered immediately in the income statement.

Interest income and expenses related to derivatives that are used to manage the interest rate risk are allocated over the contract period and are used to adjust interest expenses related to hedged loans. Option premiums are recognised as advance payments until the options mature.

With regard to derivatives, more information about the measurement principles, fair values and changes in fair value is provided in note 25 Financial instruments.

Foreign currency transactions

Transactions in foreign currencies are recorded at the rate of exchange prevailing at the transaction date, but at the end of the month foreign-currency-denominated receivables and liabilities are translated using the month-end exchange rate.

Equity incentive schemes

The employees covered by the scope of Stora Enso Oyj's share-based incentive schemes are awarded with shares in the company. The awarded shares and the costs of the schemes are recognised as an expense in the income statement when the shares are delivered. The settlement covers taxes and similar changes incurred. The principles of the Group's share opportunity programmes are presented in more detail in note 3.4 Employee variable compensation and equity incentive schemes to the consolidated financial statements.

Pensions

Statutory pension security is arranged through employment pension insurance companies outside the Group. Some employees have additional pension security through life insurance companies outside the Group. Pension contributions are allocated in accordance with performance-based salaries and wages for the financial period.

Non-current assets

The balance sheet value of intangible and tangible assets is their direct acquisition cost less depreciation according to plan and any impairment. Depreciation according to plan is recognised for intangible and tangible assets, based on their expected useful lives.

Depreciation is based on the following useful lives:	
Buildings and structures	10–50 years
Production machinery and equipment	10–20 years
Light machinery and equipment	3–5 years
Intellectual property rights	3–20 years

No depreciation is recognised for land and water areas.

Interest in Group companies

Interest in the Group companies is measured at cost less any impairment losses. Interest in the Group companies is assessed for impairment annually.

The fair value of the subsidiary shares has been assessed mainly based on income approach, in which the fair value of investment is calculated based on the discounted cash flow model (DCF). Impairment need is assessed by comparing the fair value of the subsidiary shares to the book value in the parent company's balance sheet and possible write down is booked through profit or loss, if considered permanent in nature.

Loan receivables

Loan receivables are debt instruments with fixed or determinable payments that are not quoted on an active market. They are recorded initially at fair value and subsequently measured at an amortised cost. Investments in subsidiaries and other companies are measured at cost, or fair value in case the fair value is less than cost. Loan receivables are presented in the balance sheet item Investments. The loan receivables are mainly from Group companies.

Inventories

Inventories are measured at acquisition cost or at net realisable value if lower. Acquisition cost is determined using the FIFO method or the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labour, depreciation and other direct costs, as well as the related production overhead. Net realisable value is the estimated selling price less the costs of completion and sale.

Leasing

Leasing payments are recognised in other operating expenses. The remaining leasing payments under leasing agreements are presented in note 24 Commitments and Contingencies.

Expenditure on research and development

Expenditure on research and development is recognised as an expense for the financial period.

Income taxes

The tax expense on the income statement includes income taxes based on the taxable profit for the financial period and tax adjustments for previous periods. The parent company does not recognise deferred tax assets and liabilities, excluding derivatives, in its financial statements. Deferred tax assets and liabilities that can be recognised on the balance sheet are presented in note 21 Deferred tax liabilities and receivables.

Obligatory provisions

Future costs and losses that no longer generate corresponding income, to which the company is committed or by which the company is obligated, are recognised in the income statement according to their nature and in obligatory provisions on the balance sheet.

Emission rights

For 2024, 0.4 million tonnes of free emission allowances in accordance with the EU Emissions Trading Directive were allocated to the company. Emission allowances are recognised through a net cash cost basis, meaning that the difference between the actual emissions and the emission allowances received is recognised through profit or loss if the actual emissions are larger than the emission allowances received. During the financial period, the emissions emitted were estimated at 0.3 million tonnes. The emission rights purchased during the financial period are recognised in other operating expenses, and the emission rights sold during the financial period are recognised in other operating income.

At the end of the financial period, the market value of the emission rights was EUR 70.95 per tonne.

Comparability of the information for the financial period

Stora Enso Paper Oy merged with the parent company Stora Enso Oyj as of 1 January 2024. The merger included the transfer of subsidiary shares a total of EUR 572.0 million to the parent company's balance sheet. The merger loss of EUR 9.5 million is presented in note 7 Other operating expenses.

Note 2 Net sales by division and market area

EUR million	2024	2023
By division		
Packaging Materials	1,559	1,564
Biomaterials	160	351
Forest	658	596
Wood Products	161	158
Other	93	140
Total	**2,631**	**2,809**
Distribution by region		
Finland	1,043	1,256
Other Europe	908	888
North and South America	179	211
Asia and Oceania	394	279
Africa	108	99
Others	0	76
Total	**2,631**	**2,809**

Note 3 Other operating income

EUR million	2024	2023
Rent and equivalents	2	3
Gains on sale of fixed assets	1	0
Insurance compensation	1	0
Subsidies, grants and equivalents	17	11
Administration services	47	64
Proceeds from sales of emission rights	63	75
Other operating income[1]	332	505
Total	**462**	**658**

1 Other operating income consists mainly of items relating to the division based operating model in the Group.

Note 4 Materials and services

EUR million	2024	2023
Materials and supplies		
Purchases during the period	1,501	1,402
Change in inventories +/-	-29	59
External services	520	524
Total Materials and Services	**1,992**	**1,985**

Note 5 Personnel expenses and average number of employees

EUR million	2024	2023
Salaries and fees	242	278
Statutory employer costs		
Pensions	48	52
Other personnel costs	8	10
Total	**298**	**341**

Remuneration for the CEO and the members of the Board of Directors

Remuneration for the CEO and the members of the Board of Directors is presented in note 3.2 Board and executive remuneration to the consolidated financial statements.

Pension liabilities for the CEO

Pension liabilities for the CEO are presented in note 3.2 Board and executive remuneration to the consolidated financial statements.

Receivables from management

There were no loan receivables from the company's management.

Average number of employees	2024	2023
Number of employees during the financial period	3,664	4,048

Note 6 Depreciation and impairment

EUR million	2024	2023
Depreciation according to plan	115	126
Impairment of fixed assets	68	148
Total	**183**	**274**

Depreciation and amortisation on each item in the statement of financial position is included under intangible and tangible assets.

Note 7 Other operating expenses

EUR million	2024	2023
Product freight	193	204
Sales commissions	56	60
Rental costs	22	22
Administration and office services	313	330
Insurance premiums	21	18
Other personnel expenses	17	18
Representation costs	0	0
Public and other relations	4	4
Emission rights expenses	51	60
Other operating expenses[1]	208	563
Merger loss	9	4
Total	**895**	**1,283**

[1] Other operating expenses consist mainly of items relating to the division based operating model in the Group.

Note 8 Auditors' fees

EUR million	2024	2023
Audit fees	1	1
Other audit-related fees	0	0
Tax fees	0	0
Other fees	0	0
Total	**2**	**2**

Note 9 Financial income and expenses

EUR million	2024	2023
Dividend income		
From Group companies	480	346
From associated companies	29	25
From others	3	1
Total	**511**	**371**
Interest income from non-current investments		
From Group companies	93	96
From associated companies	2	1
From others	0	1
Total	**95**	**98**
Other interest and financial income		
From Group companies	42	48
From others	74	54
Total	**116**	**102**
Total financial income	**722**	**571**
Interest and other financial expenses		
To Group companies	-85	-69
Other financial expenses	-200	-149
Total	**-285**	**-217**
Impairment on investments		
Impairment on investments in non-current assets	-199	-75
Total financial expenses	**-484**	**-293**
Total financial income and expenses	**238**	**278**
The item "Financial Income and Expenses" includes exchange rate gains/losses (net)	-9	15

Note 10 Appropriations

EUR million	2024	2023
Difference between depreciation according to plan and depreciation recognised in taxation	9	89
Group contributions received	59	133
Total appropriations	**68**	**222**

Note 11 Income tax expense

EUR million	2024	2023
Income taxes from primary operations for the period	-3	0
Total income tax	**-3**	**0**

Note 12 Environmental expenses

EUR million	2024	2023
Materials and services	30	40
Personnel expenses	4	3
Depreciation and impairment	11	29
Total	**44**	**72**
Air quality protection	5	19
Wastewater treatment	22	34
Waste management	10	12
Soil and groundwater protection	1	1
Noise and vibration prevention	0	0
Other environmental protection measures	6	5
Total	**44**	**72**

Note 13 Intangible and tangible assets

Intangible assets

EUR million	Intellectual property rights	Other non-current expenditure	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	180	26	25	**231**
Increases	3	0	12	**16**
Increases merger	1	0	0	**1**
Decreases	-4	0	0	**-4**
Reclassification	15	0	-15	**0**
Acquisition cost 31 Dec	195	26	23	**244**
Accumulated depreciation and impairment 1 Jan	-153	-25	0	**-178**
Accumulated depreciation transferred in mergers	-1	0	0	**-1**
Accumulated depreciation on decreases and reclassifications	4	0	0	**4**
Depreciation for the period	-13	0	0	**-13**
Impairments	-2	-1	0	**-3**
Accumulated depreciation 31 Dec	-165	-25	0	**-190**
Book value on 31 December 2024	**30**	**1**	**23**	**54**
Book value on 31 December 2023	27	2	25	**53**

Tangible assets

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	18	626	3,006	184	59	**3,893**
Increases	0	1	42	0	40	**83**
Decreases	0	-1	-19	-2	0	**-22**
Reclassification	0	1	36	0	-38	**0**
Acquisition cost 31 Dec	18	628	3,065	182	62	**3,954**
Accumulated depreciation and impairment 1 Jan	0	-466	-2,347	-165	0	**-2,977**
Accumulated depreciation on decreases and reclassifications	0	1	19	2	0	**22**
Depreciation for the period	0	-13	-87	-2	0	**-102**
Impairment for the period	-4	-5	-56	0	0	**-65**
Accumulated depreciation 31 Dec	-4	-483	-2,471	-165	0	**-3,123**
Increase in value 1 Jan	2	0	0	0	0	**2**
Decreases	0	0	0	0	0	**0**
Increase in value 31 Dec	2	0	0	0	0	**2**
Book value on 31 December 2024	**16**	**145**	**594**	**18**	**62**	**834**
Book value on 31 December 2023	20	160	659	19	59	**917**
Production plant and equipment						
Book value on 31 December 2024			**581**			
Book value on 31 December 2023			626			

Advance payments and acquisitions in progress

EUR million	Intangible assets	Buildings and structures	Plant and equipment	Total
Acquisition cost 1 Jan	25	1	58	**84**
Increases	12	0	40	**52**
Reclassification	-15	-1	-36	**-52**
Acquisition cost 31 Dec 2024	23	0	62	**84**

Capitalised environmental expenditure

31 Dec 2024

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	4	22	46	3	18	**93**
Increases	0	1	12	0	6	**18**
Depreciations for the period	0	-1	-9	-1	0	**-11**
Book value on 31 December 2024	3	22	48	3	24	**100**
Air quality protection	0	8	40	0	14	**63**
Wastewater treatment	0	2	7	0	6	**15**
Waste management	2	0	0	2	0	**5**
Soil and groundwater protection	1	11	1	0	3	**16**
Noise and vibration prevention	0	0	1	1	0	**1**
	3	22	48	3	24	**100**

31 Dec 2023

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	4	21	53	4	19	**101**
Increases	0	5	17	0	-1	**21**
Depreciations for the period	0	-4	-24	-1	0	**-29**
Book value on 31 December 2023	4	22	46	3	18	**93**
Air quality protection	1	6	33	0	11	**50**
Wastewater treatment	0	4	10	0	4	**18**
Waste management	2	1	1	2	1	**7**
Soil and groundwater protection	1	12	2	1	2	**17**
Noise and vibration prevention	0	0	1	1	0	**1**
	4	22	46	3	18	**93**

In 2024 and 2023, no environmentally based fines, charges or compensation were paid. Subsidies were received for environmental protection of EUR 0.0 million (EUR 0.9 million in 2023)

Note 14 Non-current investments in shares and loan receivables

EUR million	Shares in Group companies	Loan receivables from Group companies	Shares in associated companies	Loan receivables from associated companies	Other shares	Other receivables	Total investments
Acquisition cost 1 Jan	6,830	1,916	37	25	209	68	**9,085**
Increases	1,110	25	0	1	0	7	**1,143**
Decreases	-123	-107	0	0	-1	-59	**-289**
Acquisition cost 31 Dec	7,817	1,834	37	26	209	16	**9,939**
Impairments 1 Jan	-483	0	0	0	-1	-5	**-490**
Increases	-181	0	0	0	-18	0	**-199**
Impairments 31 Dec	-664	0	0	0	-20	-5	**-689**
Book value on 31 December 2024	**7,153**	**1,834**	**37**	**26**	**189**	**11**	**9,250**
Book value on 31 December 2023	6,347	1,916	37	25	208	63	**8,596**

Note 15 Inventories

	2024	2023
Materials and supplies	258	229
Work in progress	9	9
Finished goods	232	206
Other inventories	0	0
Prepayments	44	28
Total	**543**	**473**

Note 16 Short-term receivables

EUR million	2024	2023
Short-term loan receivables		
Receivables from Group companies		
Loan receivables	798	1,455
Commodity derivative receivables	2	0
Interest receivables	50	38
Total	**850**	**1,493**
Receivables from associated companies		
Loan receivables	10	0
Total	**10**	**0**
Receivables from others		
Loan receivables	21	11
Commodity derivative receivables	0	0
Other receivables	6	36
Interest receivables	9	12
Total	**35**	**59**
Total current interest-bearing receivables	**896**	**1,553**

EUR million	2024	2023
Current non-interest-bearing receivables		
Receivables from Group companies		
Trade receivables	153	240
Other receivables	58	274
Total	**211**	**515**
Receivables from equity accounted investments		
Trade receivables	1	1
Total	**1**	**1**
Receivables from others		
Trade receivables	109	137
Deferred tax assets	2	0
Other receivables	53	32
Accrued income	24	21
Total	**187**	**189**

Stora Enso may enter into factoring agreements to sell trade receivables in order to accelerate cash conversion. Nominally, such agreements led to the nominal derecognition of EUR 59.7 million (EUR 42.8 million in 2023) by the end of the financial period. The continuing involvement of Stora Enso in the sold receivables was estimated as being insignificant due to the non-recourse nature of the factoring arrangements involved.

EUR million	2024	2023
Total current non-interest-bearing receivables	**399**	**705**
Total current receivables	**1,296**	**2,257**
Significant accruals		
Tax-equivalent receivables	0	0
Advances paid	10	8
Other accruals	14	13
Total	**24**	**21**

Note 17 Financial securities

EUR million	2024	2023
From Group companies	2	16
From others	1,005	1,534
Total	**1,007**	**1,550**

Note 18 Shareholders' equity

EUR million	2024	2023
Restricted shareholders' equity		
Share capital 1 Jan	1,342	1,342
Share capital 31 Dec	1,342	1,342
Share premium fund 1 Jan	3,639	3,639
Share premium fund 31 Dec	3,639	3,639
Fair value reserve 1 Jan	14	25
Increase (-) / Decrease (+)	-16	-11
Fair value reserve 31 Dec	-2	14
Total restricted equity	**4,979**	**4,995**

Change in share capital and number of shares are presented in Note 5.5 to the consolidated financial statements.

EUR million	2024	2023
Non-restricted shareholders' equity		
Invested unrestricted equity reserve 1 Jan	633	633
Invested unrestricted equity reserve 31 Dec	633	633
Retained earnings 1 Jan	909	1,338
Dividend distribution	-158	-473
Retained earnings 31 Dec	751	864
Profit for the period	57	45
Total non-restricted equity	**1,442**	**1,542**
Total shareholders' equity	**6,421**	**6,537**
Calculation of distributable equity 31 Dec		
Fair value reserve 31 Dec	-2	0
Invested unrestricted equity reserve 31 Dec	633	633
Retained earnings 31 Dec	751	864
Profit for the period	57	45
Total	**1,440**	**1,542**

Note 19 Accumulated appropriations

EUR million	2024	2023
Depreciation difference		
Intellectual property rights	-6	-4
Goodwill	0	0
Other non-current expenditure	-2	-2
Buildings and structures	13	13
Plant and equipment	190	198
Other tangible assets	-2	-3
Total	**192**	**201**

Note 20 Obligatory provisions

EUR million	2024	2023
Restructuring provisions	3	20
Environmental provisions	20	14
Pension provisions	0	1
Other provisions	2	1
Total	**25**	**36**

Note 21 Deferred tax liabilities and receivables

EUR million	2024	2023
Deferred tax liability due to depreciation difference	-19	-23
Deferred tax receivables and liabilities due to derivatives	1	-4
Deferred tax receivable due to loss	94	48
Deferred tax receivable due to provisions	5	7
Deferred tax receivables and liabilities due to other temporary differences	6	-1
Total deferred tax receivable	**87**	**27**

Deferred tax liabilities and receivables excluding derivatives have not been recognised on the balance sheet.

Note 22 Non-current liabilities

EUR million	2024	2023
Non-current liabilities		
Bonds	3,029	3,472
Loans from credit institutions	355	651
Other non-current liabilities	1	0
Other non-current liabilities to group companies	1	0
Total	**3,386**	**4,123**
Liabilities with maturities later than five years		
Bonds	823	1,303
Other non-current liabilities	22	4
Total	**845**	**1,308**

Specifications of Bond loans are presented in note 5.3 Interest-bearing liabilities in consolidated financial statements.

Note 23 Current liabilities

EUR million	2024	2023
Current interest-bearing liabilities		
Liabilities to Group companies		
Other loans	1,798	2,396
Interest due	0	0
Total	**1,798**	**2,396**
Liabilities to others		
Other loans	242	224
Commodity derivative liabilities	2	0
Interest due	50	50
Bonds	430	136
Loans from credit institutions	400	100
Total	**1,124**	**511**
Total current interest-bearing liabilities	**2,922**	**2,907**

EUR million	2024	2023
Current non-interest-bearing liabilities		
Liabilities to Group companies		
Trade payables	64	72
Commodity derivative liabilities	1	1
Accrued liabilities and deferred income	0	3
Total	**65**	**75**
Liabilities to associated companies		
Trade payables	187	126
Total	**187**	**126**
Liabilities to others		
Advances received	3	6
Trade payables	427	393
Other loans	34	22
Accrued liabilities and deferred income	85	82
Total	**548**	**503**
Total current non-interest-bearing liabilities	**800**	**704**
Total current liabilities	**3,722**	**3,611**
Substantial accrued liabilities and deferred income		
Payroll payments accrued	58	56
Annual discounts	14	12
Other accrued liabilities and deferred income	12	14
Total	**85**	**82**

Note 24 Commitments and contingencies

EUR million	2024	2023
On own behalf, for own debt		
Mortgages	0	0
For Group debt		
Guarantees	792	734
On behalf of Associated companies		
Guarantees	4	5
On behalf of others		
Guarantees	10	10
Other commitments, own		
Leasing commitments, in next 12 months	22	9
Leasing commitments, after next 12 months	30	13
Lease commitments	6	5
Other commitments	15	15
Total	**879**	**792**
Mortgages	0	0
Guarantees	806	748
Leasing commitments	52	23
Lease commitments	6	5
Other commitments	15	15
Total	**879**	**792**

Contingent liabilities

Stora Enso Oyj has implemented significant restructuring measures in recent years. These measures have included divestments of business operations and production units, as well as mill closures. These transactions include a risk of possible environmental or other obligations, the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related amount can be estimated reliably and the occurrence of which is considered likely.

Stora Enso Oyj has been granted various investment subsidies and has given certain investment commitments in Finland. If committed planning conditions are not met, local officials may pursue administrative measures to reclaim some of the formerly granted investment subsidies or to impose penalties on Stora Enso Oyj and the outcome of such a process could result in a negative financial impact on Stora Enso Oyj.

Stora Enso Oyj is party to legal proceedings that arise in the ordinary course of business and primarily involve claims arising out of commercial law. The company management does not believe that such processes as a whole, before any insurance compensation, would have significant impacts on the company's financial position or profit from operations. Some of the most significant legal proceedings are described in note 7.1 to the consolidated financial statements.

Note 25 Financial instruments

Valuation of derivatives

The fair value is defined as the amount at which a derivative instrument could be exchanged in an orderly transaction between market participants at the measurement date. The fair values of such instruments are determined on the following basis:

- Foreign exchange forward contract fair values are calculated using forward exchange rates on the reporting date.
- Foreign exchange option contract fair values are calculated using reporting date market rates together with common option pricing models.
- Commodity contract fair values are computed with reference to quoted market prices on futures exchanges or other reliable market sources.
- Interest rate swaps fair values are calculated using a discounted cash flow method.

Fair value hierarchy

Stora Enso uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques, for which all inputs that have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs that have a significant effect on the recorded fair values that are not based on observable market data.

The parent company's derivatives are classified as Level 2 in the fair value hierarchy.

Nominal and fair values of derivative instruments

EUR million	As at 31 December 2024 Nominal values	Positive fair values	Negative fair values	Fair values, Net
Cash flow hedges entered on behalf of the parent company and its subsidiaries, for which hedge accounting is applied in target companies				
Foreign exchange forwards	2,491	34	-41	-7
Foreign exchange options	1,280	7	-8	-1
Commodity contracts	167	4	-4	0
Interest rate swaps	346	6	0	6
Non-hedge accounted derivatives				
Foreign exchange forwards	774	2	-4	-2
Total	**5,058**	**52**	**-56**	**-4**
of which against subsidiaries	2,138	38	-9	28
of which against external parties	2,920	15	-47	-32

EUR million	As at 31 December 2023 Nominal values	Positive fair values	Negative fair values	Fair values, Net
Cash flow hedges entered on behalf of the parent company and its subsidiaries, for which hedge accounting is applied in target companies				
Currency forwards	2,284	34	-34	1
Currency options	667	7	-5	2
Commodity contracts	27	1	-1	0
Interest rate swaps	443	16	0	16
Non-hedge accounted derivatives				
Currency forwards	588	5	-5	0
Commodity contracts	0	0	0	0
Total	**4,009**	**63**	**-44**	**19**
of which against subsidiaries	1,586	6	-37	-31
of which against external parties	2,423	56	-7	49

Fair value reserve

The net amount of the parent company's unrealised cash flow hedge loss in the fair value reserve was EUR -2.2 (14.3) million, which was related to currency and interest rate derivatives. Currency and interest rate derivatives also include a gain of EUR 0.2 (0.2) million related to the time value of options. These unrealised gains are recognised in the income statement upon the maturity of the hedging contracts. The longest hedging contract will mature in 2027. However, the majority of the contracts are expected to mature during 2025. The ineffective portions of hedges are recognised as adjustments to financial items, revenue or materials and services according to the hedged item. During 2024 and 2023, there were no material ineffectiveness related to hedges recognised in the income statement. Derivatives used in currency cash flow hedges are mainly forward contracts and options. Swaps are mainly used in commodity hedges and interest rate cash flow hedges.

Hedge gains and losses in operating profit

EUR million	2024	2023
Cash flow hedge accounted derivatives		
Currency hedges	-2	2
Total	**-2**	**2**
As adjustments to sales	-2	2
As adjustments to materials and services	0	0
Items realised from the fair value reserve that are recognised in the income statement	**-2**	**2**
Net losses from cash flow hedges	**-2**	**2**
Non-hedge accounted derivatives		
Currency derivatives	-2	0
Net gains on non-hedge accounted derivatives	**-2**	**0**
Net hedge gains/losses in operating profit	**-4**	**2**

Hedge gains and losses in financial items

EUR million	2024	2023
Non-hedge accounted derivatives		
Currency derivatives	3	-21
Net gains/losses in financial items	**3**	**-21**

Sensitivity of currency derivatives to strengthening of EUR

	31 December 2024		
EUR million	**SEK**	**USD**	**GBP**
Currency change against EUR	-5.0%	-5.0%	-5.0%
Nominals of currency derivatives hedging next 12 months cash flow in EUR	0	-81	-6
Estimated effect on fair value reserve in EUR (net of taxes)	0	6	0

Sensitivity of commodity derivatives to price risk

There were no outstanding commodity derivatives related to parent company's cash flows at the end of reporting period.

More detailed information about financial instruments are presented in note 5.1 Financial risk management, note 5.2 Fair values and note 5.4 Derivatives to the consolidated financial statements.

Note 26 Related party transactions

EUR million	**2024**	**2023**
Related party transactions with associated companies and joint ventures:		
Purchase of materials and supplies during the year	22	23
Interest income on non-current loan receivables	0	1
Non-current loan receivables at year end	3	26
Trade payables at year end	44	126

The Group's principles for related party transactions are presented in note 6.3 to the consolidated financial statements. In the parent company's notes 14, 16, 22, and 23, the loans with group companies are specified. The terms have complied with company's established principles and policies and adhered to arm's length principle.

Note 27 Separated Electricity business statements

According to the Electricity Market Act (588/2013), a company operating in the electricity market, must separate its electricity business from its other business operations.

Basis of preparation of the separated electricity business statements: income, costs, assets and liabilities immediately attributable to the electricity business are allocated directly and indirect costs and non-attributable items are allocated according to allocation or allocation keys.

Electricity business income statement

	31 December	
EUR million	**2024**	**2023**
Sales	**87**	**126**
Other operating income	0	1
Materials and services	-65	-113
Personnel expenses	0	0
Depreciation and impairment	-6	-14
Other operating expenses	-1	-1
Operating profit	**16**	**-2**
Profit before Appropriations and Taxes	**16**	**-2**
Appropriations	0	5
Profit before Taxes	**17**	**3**
Income tax expense and windfall tax	-3	-1
Profit / loss for the period	**13**	**2**

Electricity business statement of financial position

	As at 31 December	
EUR million	**2024**	**2023**
Assets		
Non-current assets		
Tangible assets	28	47
Investments	171	190
Non-current assets total	**199**	**237**
Current assets		
Short-term receivables	13	24
Total current assets	**13**	**24**
Total assets	**212**	**261**
Equity and liabilities		
Equity		
Share capital	35	35
Share premium	95	95
Invested non-restricted equity fund	17	17
Retained earnings	42	39
Profit for the period	13	2
Total equity	**202**	**189**
Accumulated appropriations	**6**	**10**
Liabilities		
Non-current liabilities	–	52
Current liabilities	4	10
Total liabilities	**4**	**62**
Total equity and liabilities	**212**	**261**

Signatures for the financial statements

These financial statements are prepared in accordance with the applicable accounting standards and give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group and of the companies included in its consolidated financial statements. The report of the Board of Directors includes a fair review of the development and performance of the Group and of the companies included in its consolidated accounts, together with a description of the principal risks and uncertainties and the financial position of the Company. The sustainability statements included in the Report of the Board of Directors have been prepared in accordance with the reporting standards referred to in Chapter 7 of the Finnish Accounting Act and Article 8 of the Taxonomy Regulation.

10 February 2025

Kari Jordan
Chair

Håkan Buskhe
Vice Chair

Elisabeth Fleuriot

Helena Hedblom

Astrid Hermann

Christiane Kuehne

Richard Nilsson

Reima Rytsölä

Hans Sohlström
President and CEO

Auditor's Report (Translation of the Finnish Original)

To the Annual General Meeting of Stora Enso Oyj

Report on the Audit of the Financial Statements

Opinion

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 company'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.

Our opinion is consistent with the additional report to the Audit Committee.

What we have audited

We have audited the financial statements of Stora Enso Oyj (business identity code 1039050-8) for the year ended 31 December 2024. The financial statements comprise:

- the consolidated statement of financial position, consolidated income statement, consolidated statement of comprehensive income, statement of changes in equity, consolidated cash flow statement and notes to the consolidated financial statements, which include material accounting policy information and other explanatory information
- the parent company statement of financial position, parent company income statement, parent company cash flow statement and notes to the parent company financial statements.

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

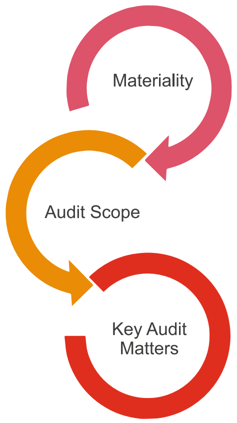
Independence

We are independent of the parent company 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.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 2.2 to the Consolidated Financial Statements.

Our Audit Approach

Overview



- We have applied an overall group materiality of EUR 60 million.
- We performed audit procedures at 23 reporting components in 10 countries that are considered significant based on our overall risk assessment and materiality.
- Valuation of forest assets
- Provisions and contingent liabilities

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

Overall group materiality	EUR 60 million
How we determined it	Based on operating profit and total assets
Rationale for the materiality benchmark applied	We chose operating profit and total assets as the benchmarks because, in our view, they are relevant benchmarks against which the performance of the group is commonly measured by users of the financial statements.

How we tailored our group audit scope

We tailored the scope of our audit, taking into account the structure of the group, the accounting processes and controls, and the industry in which the group operates.

The Group operates through a number of legal entities or other reporting components globally. We determined the nature, timing and extent of audit work that needed to be performed at reporting components by us, as the group engagement team, or component auditors operating under our instruction. Where the work was performed by component auditors, we issued audit instructions to those auditors including our risk analysis, materiality and global audit approach. We performed audit procedures at 23 reporting components in 10 countries that are considered significant based on our overall risk assessment and materiality. We have considered that the remaining reporting components do not present a reasonable risk of material misstatement for consolidated financial statements and thus our procedures related to these reporting components have been limited to analytical procedures performed at group level and to possible targeted audit procedures over individual significant balances.

By performing the procedures above at reporting components, combined with additional procedures at the group level, we have obtained sufficient and appropriate evidence regarding the financial information of the group as a whole to provide a basis for our opinion on the consolidated 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.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Key audit matter in the audit of the group	How our audit addressed the key audit matter
Valuation of forest assets *Refer to Note 1.2 and Note 4.2 in the consolidated financial statements for the related disclosures.* Forest assets comprise of biological assets and forest land excluding leased forest land assets. As of December 31, 2024 the fair value of the Group's forest assets owned through subsidiaries, joint operations and associated companies was EUR 8 701 million. The fair value of EUR 6 579 million was related to biological assets and EUR 2 122 million was related to forest land. Forest assets in Sweden and Finland are recognised at fair value and valued by using a market approach method on the basis of the forest market transactions in the areas where Stora Enso's forests are located. Market prices between areas vary significantly and judgment is applied to define relevant areas for market transactions used in the valuation. Market transaction data is adjusted to consider characteristics and nature of the Group's forest assets and to exclude certain non-forest assets and transactions considered as outliers compared to other transactions. Biological assets valuation is calculated based on a discounted cash flow (DCF) method in accordance with IAS 41 Agriculture. For forest land the revaluation method is applied as defined in IAS 16 Property, plant and equipment. Forest land is revalued using a DCF method based on estimated future net cash flow streams related to trees to-be-planted in the future as well as other income, such as hunting rights, wind power leases and soil material sales. Total value determined for biological assets and forest land agrees to the market transaction based fair value of forest assets as a discount rate implied by the market transactions is used in the DCF method to value these assets. The value of biological assets outside Sweden and Finland is measured based on fair value less cost to sell. The fair value is determined using a DCF method based on sustainable forest management plans taking into account the growth potential of one cycle. The one cycle varies depending on the geographic location and species. Determining the discounted cash flows requires estimates of growth, harvest, sales price and costs.	We obtained an understanding of management's forest assets valuation process, evaluated the design and tested the operating effectiveness of internal controls related to directly and indirectly owned forest assets. Our audit procedures over valuation of directly owned forest asset included: • Evaluation of the methodology adopted by management for the valuation; • Testing the mathematical accuracy of the model used for valuation; • Assessment of the discount rates applied in the valuation; • Assessment of the other key valuation assumptions; and • Validation of key inputs and data used in the valuation model including sales price assumptions, growth assumptions and cost assumptions. In addition, specific to the market transaction based valuation our audit procedures included: • Assessment of the definition of relevant areas for market transactions used in the valuation; • Assessment of the adjustments made to the market transaction data; and • Validation of key inputs and data used in the valuation model including market transaction data and volume of standing trees. We involved valuation specialists in the audit work over valuation of directly owned forest assets. Related to indirectly owned forest assets we have communicated with the auditors of the three largest associates and joint operations. As part of the communication, among other things, we have evaluated the audit procedures performed and conclusions reached related to valuation of forest assets. In addition, we assessed the appropriateness of disclosures related to forest assets.

The other European forest lands are revalued by using a DCF method based on its estimated future net cash flows related to trees to-be-planted in the future as well as other non-forest related income. The forest land for the plantations is accounted at cost. Due to the level of judgment involved in the valuation of forest assets as well as the significance of forest assets to the Group's financial position, this is considered to be a key audit matter.	
Provisions and contingent liabilities *Refer to Note 1.2, Note 4.9 and Note 7.1 in the consolidated financial statements for the related disclosures.* As of 31 December 2024, the Group had environmental, restructuring and other provisions totaling EUR 118 million. In addition, the Group has disclosed significant open legal cases and contingent liabilities in Note 7.1. The assessment of the existence of the present legal or constructive obligation, the analysis of the probability of the outflow of future economic benefits, and making a reliable estimate, require management's judgment to ensure appropriate accounting and disclosures. Due to the level of judgment relating to recognition, valuation and presentation of provisions and contingent liabilities, this is considered to be a key audit matter.	We obtained an understanding of management's process to identify new obligations and changes in existing obligations. We analysed significant changes in material provisions from prior periods and obtained a detailed understanding of these changes and assumptions applied. Our audit procedures related to material provisions recognized included: • Assessment of the recognition criteria for the liability; • Evaluation of the methodology adopted by management for the measurement of the liability; • Testing of the mathematical accuracy of the measurement calculation; • Assessment of the discount rates applied in the measurement; and • Assessment of the other key measurement assumptions and inputs. We obtained legal letters on the main outstanding legal cases. We reviewed minutes of the meetings of the board of directors and board committees. We assessed the appropriateness of the presentation of the most significant contingent liabilities in the consolidated financial statements.
We have no key audit matters to report with respect to our audit of the parent company financial statements.	
There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements or the parent company financial statements.	

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 company'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 company or the group or to 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 these 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 company'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 company'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 company 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.
- Plan and perform the group audit to obtain sufficient appropriate audit evidence regarding the financial information of the entities or business units within the group as a basis for forming an opinion on the group financial statements. We are responsible for the direction, supervision and review of the audit work performed for purposes 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 to 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

Appointment

We were first appointed as auditors by the annual general meeting on 28 March 2018.

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.

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 compliance with the applicable provisions, excluding the sustainability report information on which there are provisions in Chapter 7 of the Accounting Act and in the sustainability reporting standards.

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 compliance with the applicable provisions. Our opinion does not cover the sustainability report information on which there are provisions in Chapter 7 of the Accounting Act and in the sustainability reporting standards.

If, based on the work we have performed, we conclude that there is a material misstatement of the report of the Board of Directors, we are required to report that fact. We have nothing to report in this regard.

Other Statements

We support the proposal that the financial statements are adopted. The proposal by the Board of Directors regarding the distribution of profits is in compliance with the Limited Liability Companies Act. We support that the Board of Directors and the Managing Director of the parent company should be discharged from liability for the financial period audited by us.

Helsinki 12 February 2025

PricewaterhouseCoopers Oy

Authorised Public Accountants

Samuli Perälä

Authorised Public Accountant (KHT)

Assurance Report on the Sustainability Statement (Translation of the Finnish Original)

To the Annual General Meeting of Stora Enso Oyj

We have performed a limited assurance engagement on the group sustainability statement of Stora Enso Oyj (business identity code 1039050-8) that is referred to in Chapter 7 of the Accounting Act and that is included in the report of the Board of Directors for the reporting period 1.1.–31.12.2024.

Opinion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the group sustainability statement does not comply, in all material respects, with

1) the requirements laid down in Chapter 7 of the Accounting Act and the sustainability reporting standards (ESRS);
2) the requirements laid down in Article 8 of the Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (EU Taxonomy).

Point 1 above also contains the process in which Stora Enso Oyj has identified the information for reporting in accordance with the sustainability reporting standards (double materiality assessment).

Our opinion does not cover the tagging of the group sustainability statement in accordance with Chapter 7, Section 22, of the Accounting Act, because sustainability reporting companies have not had the possibility to comply with that requirement in the absence of the ESEF regulation or other European Union legislation.

Basis for Opinion

We performed the assurance of the group sustainability statement as a limited assurance engagement in compliance with good assurance practice in Finland and with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*.

Our responsibilities under this standard are further described in the Responsibilities of the Authorised Group Sustainability Auditor section of our report.

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

Authorised Group Sustainability Auditor's Independence and Quality Management

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our engagement, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Our firm 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.

Responsibilities of the Board of Directors and the Managing Director

The Board of Directors and the Managing Director of Stora Enso Oyj are responsible for:

- the group sustainability statement and for its preparation and presentation in accordance with the provisions of Chapter 7 of the Accounting Act, including the process that has been defined in the sustainability reporting standards and in which the information for reporting in accordance with the sustainability reporting standards has been identified;
- the compliance of the group sustainability statement with the requirements laid down in Article 8 of the Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088;
- such internal control as the Board of Directors and the Managing Director determine is necessary to enable the preparation of a group sustainability statement that is free from material misstatement, whether due to fraud or error.

Inherent Limitations in the Preparation of a Sustainability Statement

In reporting forward-looking information in accordance with ESRS, management of the Company is required to prepare the forward-looking information on the basis of assumptions that have been disclosed in the sustainability statement about events that may occur in the future and possible future actions by the Group. Actual outcomes are likely to be different since anticipated events frequently do not occur as expected.

Responsibilities of the Authorised Group Sustainability Auditor

Our responsibility is to perform an assurance engagement to obtain limited assurance about whether the group sustainability statement is free from material misstatement, whether due to fraud or error, and to issue a limited assurance report that includes our opinion. 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 decisions of users taken on the basis of the group sustainability statement.

Compliance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised) requires that we exercise professional judgment and maintain professional skepticism throughout the engagement. We also:

- Identify and assess the risks of material misstatement of the group sustainability statement, whether due to fraud or error, and obtain an understanding of internal control relevant to the engagement in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Design and perform assurance procedures responsive to those risks to obtain 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.

Description of the Procedures That Have Been Performed

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. The nature, timing and extent of assurance procedures selected depend on professional judgment, including the assessment of risks of material misstatement, whether due to fraud or error. 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.

Our procedures included for example the following:

- We interviewed the company's management and the individuals responsible for collecting and reporting the information contained in the group sustainability statement at the group level and business areas of the organization to gain an understanding of the sustainability reporting process and the related internal controls and information systems.
- We familiarised ourselves with the background documentation and records prepared by the company where applicable and assessed whether they support the information contained in the group sustainability statement.
- We assessed the company's double materiality assessment process in relation to the requirements of the ESRS standards, as well as whether the information provided about the assessment process complies with the ESRS standards.
- We assessed whether the sustainability information contained in the group sustainability statement complies with the ESRS standards.
- Regarding the EU taxonomy information, we gained an understanding of the process by which the company has identified the group's taxonomy-eligible and taxonomy-aligned economic activities, and we assessed the compliance of the information provided with the regulations.

Helsinki 12 February 2025

PricewaterhouseCoopers Oy

Authorised Sustainability Auditors

Samuli Perälä

Authorised Sustainability Auditor

Independent practitioner’s reasonable assurance report on selected sustainability information (Translation of the Finnish original)

To the Management of Stora Enso Oyj

We have been engaged by the Management of Stora Enso Oyj (business identity code 1039050-8) (hereinafter also the “Company” or “Parent company”) to perform a reasonable assurance engagement on selected sustainability information for the reporting period 1.1.–31.12.2024, disclosed in sustainability statement that is referred to in Chapter 7 of the Accounting Act and that is included in the report of the Board of Directors 2024 (hereinafter the “selected sustainability information”).

Selected sustainability information

The sustainability information subject to our reasonable assurance or the reporting period 1.1.–31.12.2024 covers:

Greenhouse Gas gross emissions for Scope 1 and Scope 2 (market-based), which are presented in group sustainability statement in the table “Fossil CO2 equivalent”.

Our assurance engagement does not extend to selected sustainability information in respect in respect of earlier reporting periods.

Management’s responsibility

The Management of Stora Enso Oyj is responsible for preparing the selected sustainability information in accordance with the reporting criteria as set out in European Sustainability Reporting Standards (ESRS). The Management of Stora Enso Oyj is also responsible for such internal control as the management determines is necessary to enable the preparation of the selected sustainability information that is free from material misstatement, whether due to fraud or error.

Greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Practitioner’s independence and quality management

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our engagement, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

PricewaterhouseCoopers Oy 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.

Practitioner’s responsibility

Our responsibility is to express a reasonable assurance opinion on the selected sustainability information based on the procedures we have performed and the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3410 “*Assurance Engagements on Greenhouse Gas Statements*”. This standard requires that we plan and perform the engagement to obtain reasonable assurance about whether the selected sustainability information is free from material misstatement.

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

Reasonable assurance opinion

In our opinion, Stora Enso Oyj’s selected sustainability information for the reporting period 1.1.–31.12.2024 is prepared, in all material respects, in accordance with the reporting criteria.

Our assurance report has been prepared in accordance with the terms of our engagement. We do not accept, or assume responsibility to anyone else, except to Stora Enso Oyj for our work, for this report, or for the opinion that we have reached.

Helsinki 12 February 2025

PricewaterhouseCoopers Oy

Samuli Perälä

Authorised Auditor, KHT

Sustainability data by production unit

		Certificates		GHG emissions		Pollution							Water			Biodiversity	Waste	
	Number of employees[a]	ISO 45001	ISO14001	Scope 1 and 2 CO_2eq emissions	Biogenic CO_2 emissions	COD	Total suspended solids	AOX	Phosphorus	Nitrogen	SO_2[b]	NO_x as NO_2	Total water withdrawal	Process water discharges	Water stress WRI Water Aqueduct[c]	Biodiversity significance (IBAT)[d]	Total waste to landfill	Hazardous waste[e]
Production site				t	t	t	t	t	t	t	t	t	1,000 m^3	1,000 m^3			t	t
Austria																		
Bad St. Leonhard	236	x	x	983								0	11	11	Low			45
Brand	197	x	x	1,475							0	0	47	47	Low	Low		37
Ybbs	394	x	x	2,494								0	53	46	Low			103
Belgium																		
Langerbrugge	354	x	x	203,399	505,079	1,161	180	2	0	0	0	244	8,092	6,013	High	Low		39,290
Roeselare	12			54											Medium-High			
China																		
Beihai	430	x	x	342,326	105,560	218	113		0	0	0	184	7,508	6,625	High		215	52
Dongguan	454		x	3,723		0	0	0	0	0	0	0	9	9	Medium-High		61	37
Qian´an	459		x	2,121		0	0			0			1	0	High			—
Wujin	434	x	x	8		0	0						32	32	High			97
Czechia																		
Planá	234	x	x	2,496	44,177	8	3				0	0	14	14	Low		320	206
Ždírec	438	x	x	4,221	125,729	0	0				0	0	80	5	Low-Medium		3,385	36
Estonia																		
Imavere	279	x	x	2,542	56,360	7	2		0	0		0	24	15	Low-Medium			108
Tallinn	28	x	x	70									1		Low-Medium			
Finland																		
Anjala/Ingerois	495	x	x	31,769	159,665		92		0	0	0	186	23,424	7,174	Low		—	21,995
Enocell	267	x	x	38,861	1,280,367	10,011	178	66	0	0	0	780	66,591	22,006	Low		2,877	50
Heinola Fluting	221	x	x	85,536	222,146	773	122		0	0	335	245	10,934	1,528	Low		878	147
Honkalahti	133	x	x	1,741	35,554						0	0	238	231	Low		33	35
Imatra	1,079	x	x	142,149	2,030,068	14,746	2,438	50	14	183	0	1,561	85,636	53,687	Low		224	415
Kristiinankaupunki	57	x	x	33									1	1	Low-Medium	Low		3
Lahti	271	x	x	3,543		3	0		0	0			26	18	Low			356
Oulu	526	x	x	23,828	910,111	1,416	179		0	0	0	868	31,510	14,853	Low	Medium	148	118
Uimaharju	84	x	x	1,180									4	4	Low		45	17
Varkaus (sawmill)	150	x	x	2,676		9	1		0	0			164	148	Low		5	62
Varkaus	270	x	x	33,924	618,136	2,379	399		0	68	0	376	21,827	16,454	Low		2,006	18
Veitsiluoto	58	x	x	1,645									1					14
Germany																		
Augsburg	19			414									2	0	Low			
Heidelberg	153		x	1,126									1	0	Low-Medium	Low		1
Sausenheim	186		x	3,353									8	3	Low	High		
St. Ingbert	21	x	x	83											Low-Medium	Low		
Latvia																		
Laukalne	190	x	x	3,856	39,873	0	0		0	0	0	0	37	37	Low-Medium		168	29
Riga	166	x	x	2,325								0	17	17	Medium-High			38

		Certificates		GHG emissions		Pollution							Water			Biodiversity	Waste	
	Number of employees[a)]	ISO 45001	ISO14001	Scope 1 and 2 CO_2eq emissions	Biogenic CO_2 emissions	COD	Total suspended solids	AOX	Phosphorus	Nitrogen	SO_2[b)]	NO_x as NO_2	Total water withdrawal	Process water discharges	Water stress WRI Water Aqueduct[c)]	Biodiversity significance (IBAT)[d)]	Total waste to landfill	Hazardous waste[e)]
Production site				t	t	t	t	t	t	t	t	t	1,000 m^3	1,000 m^3			t	t
Lithuania																		
Alytus	247	x	x	1,357	27,084		10				0	0	24	8	Medium-High			57
Kaunas	46	x	x	82									1	1	Medium-High	Medium		1
Netherlands																		
Aalsmeer	50			125											Low			
De Lier	446			18,338									85	66	Low	High		280
Dronten	53			207											Low	Low		
Eerbeek Felco	38			158									3	1	Low	Medium		196
Eerbeek Rudico	37			72											Low	Medium		17
Roosendaal	58			274											Low			
Venlo[f)]	16			118											Low-Medium	Medium		
Poland																		
Łódz	235	x	x	3,261									20	12	High			4
Mosina	79	x	x	229									1	1	Medium-High	Medium		64
Murow	285	x	x	1,949	28,215						0	0	9	8	Low-Medium	High		183
Ostrołęka Containerboard[g)]	675	x	x	169,468	495,415	944	147		0	68	0	465	14,271	10,067	Medium-High	High		77
Ostrołęka Corrugated[g)]	266	x	x	2,718									98	95	Medium-High	High		
Tychy	169	x	x	2,537									16	10	Medium-High			4
Sweden																		
Ala	115	x	x	1,869	69,250						0	0	62	62	Low-Medium			
Falu Rödfärg	[h)]		x	472							0		21	5	Low		13	3
Fors	472	x	x	1,086	212,826	1,458	92	0	0	0	0	0	5,905	4,579	Low			41
Gruvön	170	x	x	5,053							0	0	57	57	Low			11
Hylte Formed Fiber	47			1		2							107	45	Low			
Jönköping	160	x	x	799									12	12	Medium			52
Skene	57	x	x	5									5	5	Low			166
Skoghall	626	x	x	60,190	953,614	9,195	815	16	9	81	0	469	42,880	30,117	Low		2,767	283
Skoghall (Forshaga)	103	x	x	886									8	6	Low		5	8
Skutskär	435	x	x	10,941	1,218,150	4,418	490	20	15	117	0	666	51,734	18,496	Low		11,962	3,637
Vikingstad[f)]	42	x	x	742									14	14	Low-Medium			0
Total production units[i)]				**1,226,893**	**9,137,378**	**46,748**	**5,262**	**154**	**37**	**517**	**335**	**6,044**	**371,624**	**192,646**			**25,112**	**68,391**

a) Yearly average as full-time equivalents.
b) Total sulphur is reported as sulphur dioxide (SO_2) equivalent, but includes all sulphurous compounds.
c) Production site located in region with high baseline water stress according to the WRI Water Aqueduct Tool.
d) Biodiversity significance assessed via IBAT associated with each site indicating the total sum of significance score for Key Biodiversity Areas. Empty cell indicate no significance.
e) Reported on the basis of country-specific definitions applied in national regulations.
f) Venlo and Vikingstad production sites were closed during the reporting year.
g) Water discharges reported together from both Ostrołeka units.
h) Does not have its own personnel but hires personnel from Stora Enso AB.
i) Excluding joint operations.

See Sustainability Statement for accounting principles applied.

The divestment of Ellesmere Port was completed in October 2024. Therefore the unit is not presented in the 'Sustainability data by unit' table.

Capacities by production site in 2025

Consumer board	Location	Grade	Division	Capacity 1,000 t
Beihai	CHN	LPB, CUK, FSB, FBB		575
Fors	SWE	FBB		455
Imatra	FIN	FSB, SBS, FBB, LPB		1,230
Ingerois	FIN	FBB		310
Oulu[1]	FIN	FBB, CUK		—
Skoghall[2]	SWE	LPB, CUK		1,000
Total			**Packaging Materials**	**3,570**

1 The converted consumer board line at the Oulu mill expected to start up during H1/2025., the full capacity of 750,000 tonnes is estimated to be reached during 2027.
2 Includes the expected capacity increase for the BM8, ramp-up ongoing

Containerboard	Location	Grade	Division	Capacity 1,000 t
Heinola	FIN	SC fluting		300
Ostrołęka	POL	Testliner, PfR fluting, sack paper, wrapping paper		660
Oulu	FIN	Kraftliner, white-top kraftliner		450
Varkaus	FIN	Kraftliner, white-top kraftliner		410
Total			**Packaging Materials**	**1,820**

Paper	Location	Grade	Division	Capacity 1,000 t
Anjalankoski	FIN	Book paper		185
Langerbrugge	BEL	SC, news		555
Total			**Packaging Materials**	**740**

Barrier coating	Location	Grade	Division	Capacity 1,000 t
Beihai	CHN	Barrier coating		80
Skoghall (Forshaga)	SWE	Barrier coating		120
Imatra	FIN	Barrier coating		455
Total			**Packaging Materials**	**655**

Corrugated packaging	Grade	Division	Capacity million m²
Baltic states (Riga)	Corrugated packaging		120
Finland (Lahti)	Corrugated packaging		140
Poland (Łódz, Mosina, Ostrołeka, Tychy)	Corrugated packaging		390
Sweden (Jönköping, Skene)	Corrugated packaging		120
Western Europe (De Lier, Heidelberg, Augsburg, Sausenheim)	Corrugated packaging		860
Total		**Packaging Solutions**	**1,630**

Additionally, conversion capacity available at the following sites: Tallinn and Kaunas (EST), and Kristiinankaupunki (FIN)

China Packaging	Location	Grade	Division	Capacity million pcs	Capacity million m²
Gaobu, Dongguan	CHN	Consumer packaging		390	30
Qian'an, Hebei	CHN	Consumer packaging		100	10
Wu Jin, Jiangshu	CHN	Consumer packaging		300	35
Total			**Packaging Solutions**	**790**	**75**

Chemical pulp	Location	Grade	Division	Capacity 1,000 t
Enocell	FIN	Long-fiber		630
Skutskär	SWE	Long-fiber, fluff		545
Montes del Plata (50% share)	URU	Short-fiber		750
Veracel (50% share)	BRA	Short-fiber		575
Total			**Biomaterials**	**2,500**

Chemical pulp	Location	Grade	Division	Capacity 1,000 t
Heinola	FIN	NSSC		285
Kaukopää, Imatra	FIN	Short and long-fiber		825
Ostrołęka	POL	Long-fiber		130
Oulu	FIN	Long-fiber		550
Skoghall	SWE	Long-fiber		390
Tainionkoski, Imatra	FIN	Long-fiber		195
Varkaus	FIN	Long-fiber		335
Total			**Packaging Materials**	**2,710**
Chemical pulp total (Packaging Materials and Biomaterials)				**5,210**

Deinked pulp (DIP)	Location	Grade	Division	Capacity 1,000 t
Langerbrugge	BEL	DIP	Packaging Materials	680
Ostrołęka	POL	Recycled fiber-based pulp	Packaging Materials	700
Varkaus	FIN	Recycled fiber-based pulp	Packaging Materials	150
Total				**1,530**

CTMP	Location	Grade	Division	Capacity 1,000 t
Beihai	CHN	BCTMP		210
Fors	SWE	CTMP		220
Kaukopää	FIN	CTMP		220
Oulu[1]	FIN	BCTMP		–
Skoghall	SWE	CTMP		310
Total			**Packaging Materials**	**960**

1 Start-up during H1/2025

Formed fiber	Location	Product	Division	Capacity million pcs
Hylte	SWE	Formed Fiber		90
Skene	SWE	Formed Fiber		17
Total Formed Fiber			**Segment Other**	**107**

Wood Products	Location	Sawing Capacity 1,000 m³	Further Processing Capacity 1,000 m³	Pellet capacity 1,000 t	CLT capacity 1,000 m³	LVL capacity 1,000 m³
Ala	SWE	400	50	100	–	–
Alytus	LIT	240	115	–	–	–
Bad St. Leonhard	AUT	360	105	–	80	–
Brand	AUT	440	295	–	–	–
Gruvön	SWE	370	150	100	80	–
Honkalahti	FIN	340	70	–	–	–
Imavere	EST	350	160	100	–	–
Launkalne	LAT	270	70	50	–	–
Murow	POL	300	210	–	–	–
Planá	CZE	390	220	–	–	–
Uimaharju[1]	FIN	240	–	–	–	–
Varkaus	FIN	260	120	30	–	85
Veitsiluoto	FIN	200	–	–	–	–
Ybbs	AUT	700	450	–	110	–
Zdírec[2]	CZE	580	220	80	70	–
Total		**5,440**	**2,235**	**460**	**340**	**85**

1 Uimaharju sawmill belongs to the Biomaterials division.
2 Theoretical CLT capacity 120,000 m³, limited capacity due to ramp-up.

Abbreviations used in the tables:

BCTMP	bleached chemi-thermomechanical pulp
CKB	coated kraft back board
CLT	cross-laminated timber
CTMP	chemi-thermomechanical pulp
CUK	coated unbleached kraftboard
DIP	deinked pulp
FBB	folding boxboard
FSB	food service board
LPB	liquid packaging board
LVL	laminated veneer lumber
LWC	light-weight coated paper
NSSC	neutral sulphite semi-chemical pulp
PfR	paper for recycling
SBS	solid bleached sulphate board
SC	supercalendered paper
SC fluting	semi-chemical fluting

The formula: (Sum of net saleable production of two best consecutive months / Available time of these two consecutive months) × Available time of the year

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