



THE RENEWABLE MATERIALS COMPANY

Stora Enso Green and Sustainability-Linked Financing Report 2023

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Executive summary

Stora Enso is a leading provider of renewable, fiber-based products in packaging, biomaterials, and wooden construction, and one of the largest private forest owners in the world. The Group contributes to the transition towards a circular bioeconomy in the three areas where it has the biggest impact and opportunities: climate change, biodiversity, and circularity. Stora Enso's sustainability agenda is incorporated into its funding and financial services with the long-term goal to secure funding partners that have sustainability as a fundamental part of their agenda.

In 2019, Stora Enso issued its first green bonds under the Green Bond Framework published in 2018. In May 2023, the Group launched a new combined Green and Sustainability-Linked Financing Framework that allows it to issue both green and sustainability-linked financing instruments, as well as a combination of the two.

The framework further reinforces the connection between Stora Enso's sustainability agenda and financing strategy, demonstrating strong commitment to creating value in the bioeconomy and enabling investors to support the Group's renewable materials journey.

In 2023, Stora Enso issued green bonds in eight separate tranches based on the newly published framework. At the end of 2023, the portfolio of total green debt outstanding was EUR 2,594 million, consisting of fourteen green bonds or bilateral loans.

This report presents the allocation of the proceeds and impacts achieved of the green financing instruments issued between 2019 and 2023. The Eligible Projects and Assets fall within two of the six categories in the Green Financing Framework 2023: Sustainable forest management and Sustainable product processes. The eligibility criteria for the allocation of proceeds from green bonds issued before 2023 under the Green Bond Framework 2018 remain unchanged. Only the category names have been aligned with the framework published in 2023.

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In total, Stora Enso has a portfolio of green debt outstanding of
EUR 2,594 million
(31 December 2023)

Green bonds asset categories split



Annual environmental impact

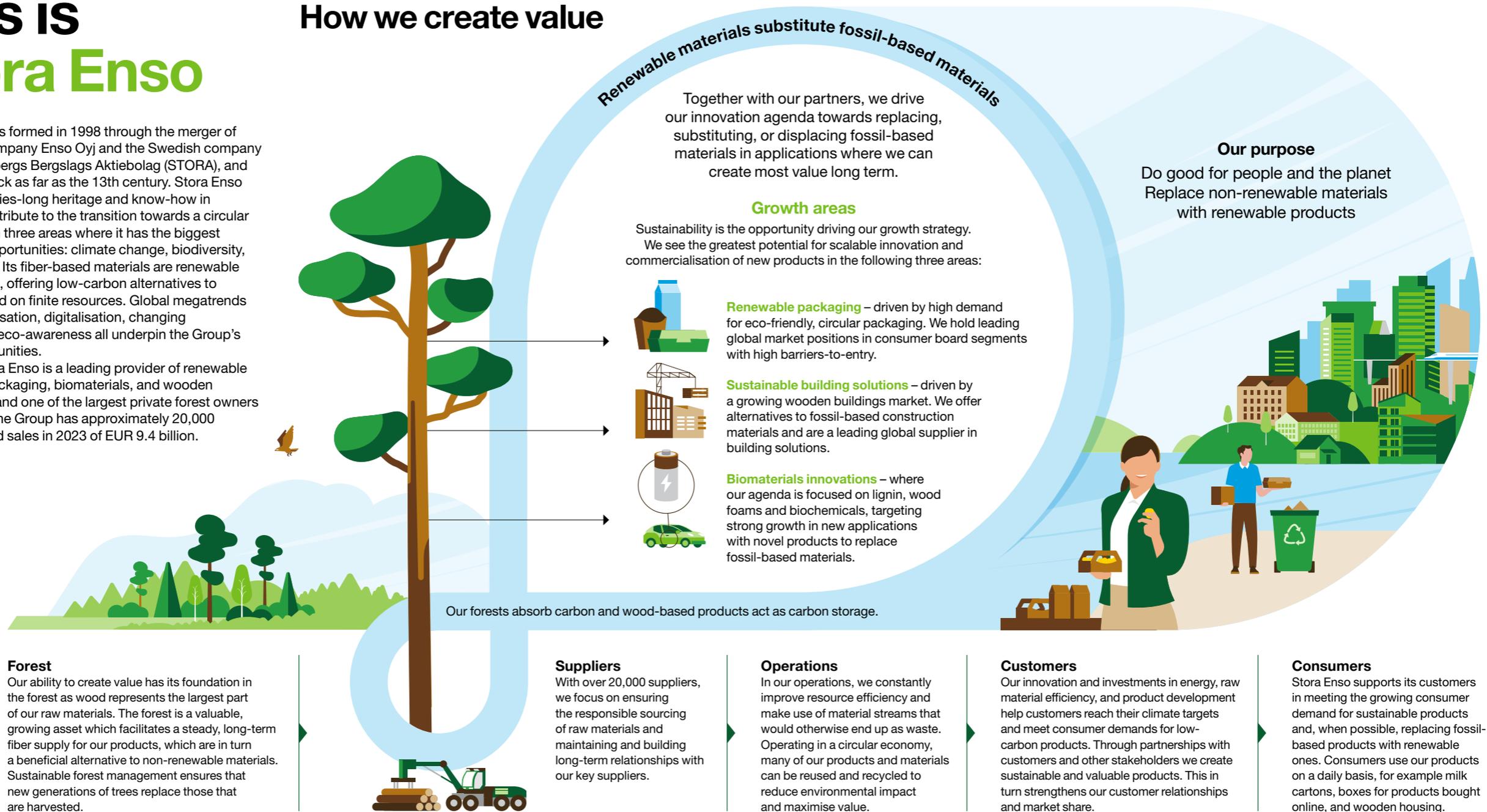


This is Stora Enso

Stora Enso was formed in 1998 through the merger of the Finnish company Enso Oyj and the Swedish company Stora Kopparbergs Bergslags Aktiebolag (STORA), and its roots go back as far as the 13th century. Stora Enso uses its centuries-long heritage and know-how in forestry to contribute to the transition towards a circular bioeconomy in three areas where it has the biggest impact and opportunities: climate change, biodiversity, and circularity. Its fiber-based materials are renewable and recyclable, offering low-carbon alternatives to products based on finite resources. Global megatrends such as urbanisation, digitalisation, changing lifestyles, and eco-awareness all underpin the Group's growth opportunities.

Today, Stora Enso is a leading provider of renewable products in packaging, biomaterials, and wooden construction, and one of the largest private forest owners in the world. The Group has approximately 20,000 employees and sales in 2023 of EUR 9.4 billion.

How we create value



Sustainability at Stora Enso

Stora Enso's long-term ambition is to offer 100% regenerative solutions by 2050. This means renewable and fully circular products and solutions that help reduce climate impact by sequestering more carbon than they emit and supporting biodiversity restoration. The long-term ambition is guided by intermediate targets for 2030 within the three key focus areas: climate, circularity, and biodiversity.



Climate

In 2017, Stora Enso became the first forest products company to set a Science Based Target for the reduction of its GHG emissions. Stora Enso is committed to reducing absolute GHG emissions from both own operations and within the value chain by 50% by 2030 from the 2019 baseline, aligned with the 1.5 degree scenario.



Circularity

With renewable and recyclable materials and solutions, Stora Enso is positioned at the core of circular bioeconomy. The Group's target is to reach 100% technically* recyclable products by 2030. The Group also collaborates actively with customers and partners to drive change on system level and accelerate the actual recycling of products.



Biodiversity

Stora Enso's ambition is to safeguard and enhance biodiversity through the Biodiversity Leadership Programme. The Group has developed a set of actions for the period until 2030 to improve biodiversity at species, habitat, and landscape levels. Progress is monitored through biodiversity impact indicators reported annually on the Group's website. Biodiversity is also an integral part of forest certifications, including protection of valuable ecosystems. Stora Enso's target is to maintain a minimum forest certification coverage level of 96% for the Group's own and leased forest lands.

2023 performance

Scope 1 & 2 CO₂e emissions were

41% lower

than in 2019

Scope 3 CO₂e emissions were

34% lower

than in 2019



of our products were technically recyclable



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

As part of its journey towards the regenerative ambition, Stora Enso is also committed to reaching net zero carbon emissions by 2040 as a signatory of The Climate Pledge. These ambitions stand on a foundation of conducting everyday business in a responsible manner.

Stora Enso acknowledges the importance of the United Nations Sustainable Development Goals (SDGs) and supports all seventeen SDGs. The SDGs 'Responsible consumption and production' (goal 12), 'Climate action' (goal 13), and 'Life on land' (goal 15) have been identified

as most relevant, where the Group has the largest impact through its operations and products. Sustainability is embedded in the Group's key business processes such as product management and innovation, investments, mergers and acquisitions, and management remuneration.

*Technical recyclability is defined by international standards and tests, when available, and in absence of these, by Stora Enso's own tests that prove recyclability.

Sustainable finance

Stora Enso has the long-term aim to secure funding partners that have sustainability as a fundamental part of their agenda. The Group aims to influence and develop the financial markets to ensure that sustainability becomes an integral part of decisions and credit evaluation.

Stora Enso signed its first sustainability-linked credit facility already in 2017 and published its first Green Bond Framework in 2018. In May 2023, Stora Enso launched a combined Green and Sustainability-Linked Financing Framework that allows it to issue both green and sustainability-linked financing instruments, as well as a combination of the two. The framework further reinforces the connection between the Group's sustainability agenda and financing strategy, demonstrating strong commitment

to creating value in the bioeconomy and enabling investors to support Stora Enso's renewable materials journey. Later in 2023, Stora Enso issued green bonds in eight separate tranches under its EMTN (Euro Medium Term Note) programme based on the newly published framework.

In total, Stora Enso has issued fourteen green bonds or bilateral loans with a total nominal amount of EUR 2,594 million. In addition to green bonds described in this report, Stora Enso has an undrawn EUR 700 million Revolving Credit Facility (RCF) loan signed in 2021, where the pricing mechanism is linked to the Group's science-based climate targets.

› For more information, please visit storaenso.com/investors.

New Green and Sustainability-Linked Financing Framework published in 2023

The Green Financing element of the framework comprises of six categories designed to promote the transition towards a low-carbon and environmentally sustainable society in accordance with the Group's sustainability agenda.

The Sustainability-Linked Financing element specifies key performance indicators for Stora Enso's performance on climate change, biodiversity, and circularity. It is one of the first to include a biodiversity-linked target. The biodiversity KPI is related to increasing planted birch on the Group's own forest lands in Sweden between 2025 and 2030. Birch is the most ecologically important native

broad-leaved species in Swedish forests, which are mainly dominated by conifers. The increase in the share of pure birch forest or mixed species forest enhances biodiversity, adapts forests to climate change, and ensures long-term forest resilience.

The Green and Sustainability-Linked Framework has been developed in accordance with the Sustainability-Linked Bond Principles 2020, Green Bond Principles 2021, Green Loan Principles 2023, as well as the Sustainability-Linked Loan Principles 2023. Sustainalytics has provided an independent second party opinion on the framework.

Green bond allocation and eligible projects

Outstanding green bonds and bilateral loans

Issued under Green Bond Framework 2018

| | Issued amount (local currency million) | Outstanding amount at 31 Dec 2023 (EUR million) | Issued | Maturity | Coupon |
|--------------|---|--|--------|---------------|---------------|
| 1. | SEK 1,250 ¹ | 93 | 2019 | February 2024 | STIBOR +1.45% |
| 2. | SEK 1,750 ¹ | 44 | 2019 | February 2024 | 1.875% |
| 3. | SEK 1,000 ² | 90 | 2019 | May 2026 | private |
| 4. | SEK 1,550 | 140 | 2020 | April 2025 | STIBOR +2.2% |
| 5. | SEK 1,550 | 140 | 2020 | April 2025 | 2.375% |
| 6. | EUR 500 | 500 | 2020 | December 2030 | 0.625% |
| Total | | 1,006 | | | |

¹ In conjunction with the green bond issuance on 1 November 2023, Stora Enso repurchased bonds with original maturity in February 2024 with a nominal amount of SEK 1.5 billion.

² Bilateral loan

Issued under Green Financing Framework 2023

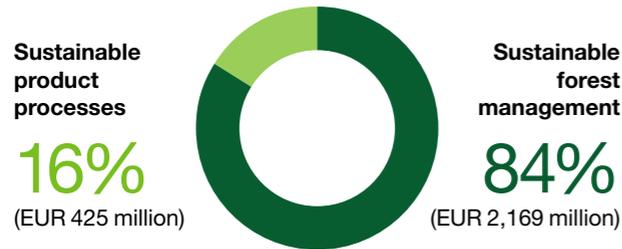
| | Issued amount (local currency million) | Outstanding amount at 31 Dec 2023 (EUR million) | Issued | Maturity | Coupon |
|--------------|---|--|--------|----------------|--------------|
| 7. | EUR 500 | 500 | 2023 | June 2026 | 4.000% |
| 8. | EUR 500 | 500 | 2023 | September 2029 | 4.250% |
| 9. | SEK 2,350 | 212 | 2023 | February 2027 | STIBOR+1.25% |
| 10. | SEK 600 | 54 | 2023 | February 2027 | 4.75% |
| 11. | SEK 500 | 45 | 2023 | November 2028 | STIBOR+1.60% |
| 12. | SEK 2,250 | 203 | 2023 | November 2028 | 5.00% |
| 13. | SEK 400 | 36 | 2023 | November 2025 | 4.75% |
| 14. | SEK 425 ³ | 38 | 2023 | December 2033 | private |
| Total | | 1,588 | | | |

³ Bilateral loan

Project categories and descriptions

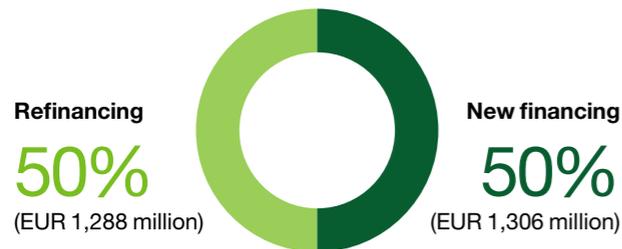
Eligible Green Assets represent two of the six categories described in Stora Enso's Green Financing Framework.

Allocated green bond categories as of 31 Dec 2023



(The Eligible Category for 'Renewable, low-carbon, and eco-efficient products, product technologies, and processes' in the Green Bond Framework 2018 has been renamed to be aligned with the heading in the Green Financing Framework 2023. No changes have been made to the eligibility criteria.)

Share of new financing and refinancing of the Eligible Green Assets



Sustainable forest management

Stora Enso contributes to a low-carbon economy through its growing trees that absorb carbon dioxide from the atmosphere and, together with wood-based products, act as carbon storage. Sustainable forest and plantation management secures the long-term availability of wood and pulp, while ensuring the preservation of ecosystems and biodiversity. The Group uses forest certification and third-party traceability systems to know the origin of all the wood it uses and to ensure that it comes from sustainable sources. These include the Forest Stewardship Council's (FSC¹) Chain of Custody/Controlled Wood scheme and the Chain of Custody/Due Diligence System of the Programme for the Endorsement of Forest Certification (PEFC).

Projects

- Acquisition of Swedish forest holdings in 2019 in connection with the restructuring of Bergvik Skog. At 31 December 2023, the total amount was 1.38 million hectares, including 1.14 million hectares of productive forest land with a standing stock of 149.7 million m³ forest cubic meters.
- Sustainable forest management projects in Sweden (OPEX). This category is applicable only to the bonds issued under the Green Bond Framework 2018.

¹ Stora Enso Communications' FSC[®] trademark license number is FSC-N001919.



This category refers to the SDGs 13.1, 15.1, 15.2, 15a, and 15b.



Actions for nature and climate in forests and wood supply in 2023

Biodiverse nature and sustainable wood supply form the basis of Stora Enso's renewable business, from forest to products. Some of the Group's concrete actions in forests and wood supply included wetland restoration in Finland and Sweden, continued cooperation between Stora Enso, Tornator and WWF for enhancing forest streams in Finland, and further efforts to increase mixed forests by decreasing spruce density in Finland. These actions are aligned with the overarching objectives of Stora Enso's biodiversity programme.

› Learn more about the actions [here](#).

Sustainable product processes

Stora Enso's materials are renewable, reusable and recyclable, contributing to the acceleration of a circular bioeconomy and minimisation of waste. Wood-based products store carbon during their entire lifetime and support a low-carbon economy by replacing fossil-based alternatives.

Projects

- Gruvön cross-laminated timber (CLT) site investment: production started at the new CLT unit in Gruvön, Sweden, in 2019. Capacity of 80,000 m³/year.
- Ždírec cross-laminated timber (CLT) site investment: new production line for CLT in Ždírec, Czech Republic. Production started in the third quarter of 2022. Capacity of 40,000 m³/year.
- Oulu consumer board site investment: converting the remaining idle paper machine at the Oulu site in Finland into a high-volume consumer board production line. Production on the converted machine is estimated to start in early 2025 with the capacity to produce up to 750,000 tonnes of renewable packaging materials.



This category refers to the SDGs 9.1, 9.4, 12.4, and 12.5.



Wisdome Stockholm stretches the boundaries of wooden architecture

Wisdome Stockholm, inaugurated in December 2023, is a new scientific experiential venue located in the courtyard of Sweden's National Museum of Science and Technology. The building features a wooden architectural design creating an arched-shaped room of 1,325 square meters. Stora Enso served as the primary partner, providing sustainable wooden construction materials for the project. The wood used for both the LVL (laminated veneer lumber) and CLT (cross-laminated timber) building elements came from sustainably managed, certified forests in Sweden and Finland, storing a total of 1,178 tonnes of CO₂.

› Read more [here](#).

Green bond impact report

| Eligible category | Eligible project | Green bond | Allocated proceeds | Outstanding amount at 31 Dec 2023 (EUR million) | Unit of impact | Annual impact | Annual impact per EUR million invested |
|-------------------------------|--|-------------------------|--------------------|---|--|---------------|--|
| Sustainable forest management | Acquisition of Swedish certified forestland | Bonds 1–5 ¹ | 100% | 506 | tonne CO ₂ sequestered | 144,000 | 285 |
| | Refinancing of Swedish certified forestland | Bond 6 ¹ | 65% | 325 | tonne CO ₂ sequestered | 92,700 | 185 |
| | | Bonds 7–8 ² | 70% | 700 | tonne CO ₂ sequestered | 199,600 | 200 |
| | | Bonds 9–14 ² | 100% | 588 | tonne CO ₂ sequestered | 167,700 | 285 |
| | Sustainable forest management projects in Sweden (OPEX) | Bond 6 ¹ | 10% | 50 | | | |
| Sustainable product processes | Cross Laminated Timber (CLT) site investment in Gruvön, Sweden | Bond 6 ¹ | 9% | 45 | tonne CO ₂ stored | 30,000 | 60 |
| | | | | | tonne CO ₂ avoided emissions | 45,000 | 90 |
| | Cross Laminated Timber (CLT) site investment in Ždírec, Czech Republic | Bond 6 ¹ | 16% | 80 | tonne CO ₂ stored | 12,000 | 25 |
| | | | | | tonne CO ₂ avoided emissions | 18,000 | 40 |
| | Consumer board site investment in Oulu, Finland | Bonds 7–8 ² | 30% | 300 | Production is expected to start in 2025. | | |

¹ Green Bond Framework 2018

² Green Financing Framework 2023

(Due to the divestment of the Maxau paper site in 2023, the proceeds from the site (bond 6) have been re-allocated to 'Acquisition of Swedish certified forestland'.)

Governance

The bonds described in this report are issued under two frameworks: Green Bond Framework 2018 and Green Financing Framework 2023. The governance model for the project evaluation and selection has been updated for the framework published in 2023 with a dedicated Green Finance Council as approval body. According to the 2018 framework, approvals for use of proceeds for investment was approved by the Sustainability Council, whereas in the 2023 framework the individual financing projects are approved by the Green Finance Council.

Governance model as defined in the Green Financing Framework 2023

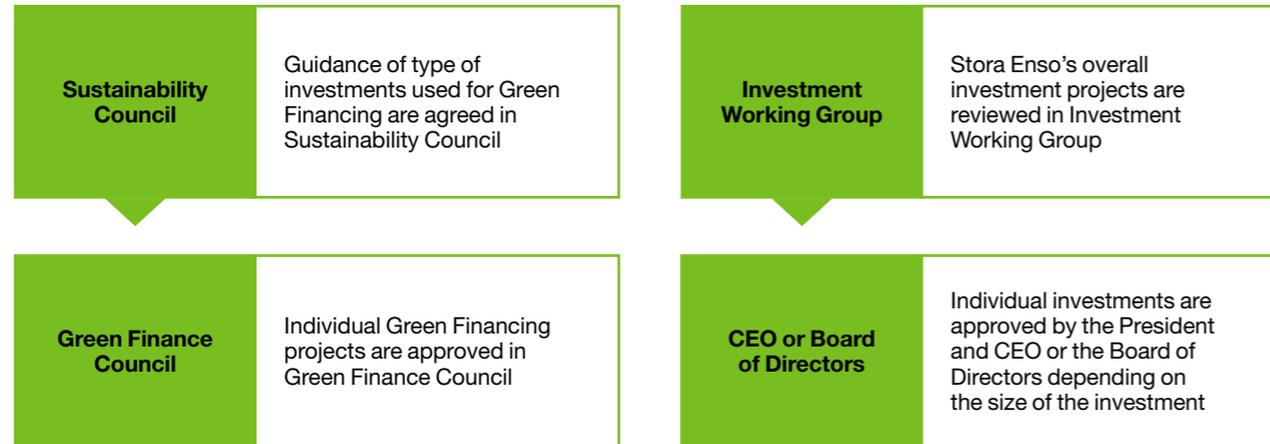
Strategic investment projects are approved on group-level following the mandate by the CEO and Board of Directors. Each division is also granted an annual allocation intended for smaller annual replacement and development needs in relation to investments. All large projects are reviewed by the Investment Working Group comprising Group and division representatives and headed by the CFO. Risks are

mitigated through detailed pre-feasibility and feasibility studies which are prepared for each large investment. Group investment guidelines stipulate the process, governance, risk management, and monitoring procedures for strategic projects. Post-completion audits are carried out for all significant investments.

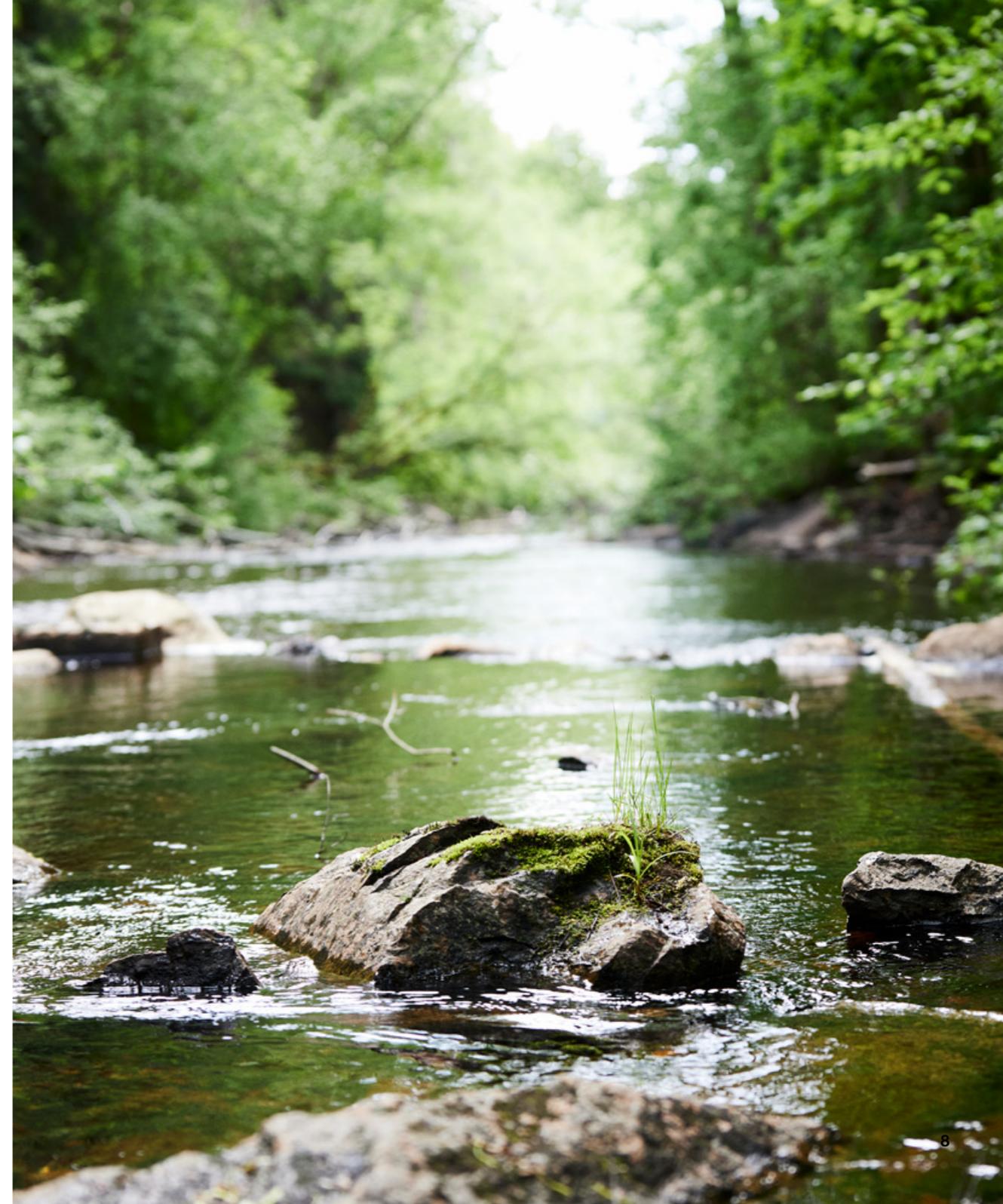
Stora Enso has defined a set of Green Finance specific steps, including, but not limited to, an assessment and compliance of Eligible Projects and Assets with the eligibility criteria outlined in the Green Financing Framework 2023, applicable laws and regulations, as well as the Group's sustainability agenda and policies. These steps have been integrated into the existing governance model.

The overall governance model for Stora Enso's Green Financing Framework, including the definition of Eligible Projects and Assets, has been further developed by a dedicated Green Finance Council consisting of Executive Vice President, Strategy and Sustainability, who holds a veto in the decision making, as well as the CFO and members from the Sustainability and Treasury teams.

Outline of the project evaluation and selection process



› For details on the governance model described in the Green Bond Framework 2018, see [here](#).



Independent practitioner's limited assurance report



To the Management of Stora Enso Oyj

We have been engaged by the Management of Stora Enso Oyj (hereinafter also the "Company") to perform a limited assurance engagement on selected information described below as of 31 December 2023 disclosed in the *Green and Sustainability-Linked Financing Report 2023* (hereinafter the Selected information).

Selected information

The Selected information within the scope of assurance covers:

- The selection and evaluation of eligible green projects and assets, and the disclosures on the allocation of proceeds from Stora Enso's green financing instruments to eligible green assets as of 31 December 2023 disclosed in the *Green and Sustainability-Linked Financing Report 2023* in accordance with Stora Enso Oyj's *Green and Sustainability-Linked Financing Framework 2023*.

Management's responsibility

The Management of Stora Enso is responsible for the preparation and presentation of the *Green and Sustainability-Linked Financing Report* including the disclosures related to the selection and evaluation of eligible green projects and assets, and for the allocation of proceeds from Stora Enso's green financing instruments to eligible green assets in accordance with the eligibility criteria as set out in the Stora Enso's *Green and Sustainability-Linked Financing Framework 2023*.

This responsibility includes designing, implementing and maintaining internal control relevant to the proper preparation and presentation of the *Green and Sustainability-Linked Financing Report* including the disclosures related to the allocation of proceeds as well as to the proper use of proceeds and applying an appropriate basis of preparation; and making estimates that are reasonable in the circumstances.

Practitioner's independence and quality management

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

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 limited assurance conclusion on the Selected information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised) "Assurance Engagements Other than Audits or Reviews of Historical Financial Information". This standard requires that we plan and perform the engagement to obtain limited assurance about whether the Selected information is free from material misstatement.

In a limited assurance engagement, the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. An assurance engagement involves performing procedures to obtain evidence about the amounts and other information in the Selected information. The procedures selected

depend on the practitioner's judgment, including an assessment of the risks of material misstatement of the Selected information.

Our work consisted of, amongst others, the following procedures:

- Interviewing Stora Enso Oyj's management, including those with responsibility for green financing management, governance and reporting.
- Evaluating and updating our understanding of the design of the internal tracking method for managing, recording and reporting of selected information in scope in the *Green and Sustainability-Linked Financing Report*.
- Obtaining the listing of eligible green assets and projects in the controlling application of "a separate register of eligible projects and assets and proceeds from the combined green debt instruments" allocated into the financing instruments to eligible green assets, and evaluating the consistency with the disclosure on allocation of proceeds in the Stora Enso Oyj's *Green and Sustainability-Linked Financing Report*.
- Inspecting meeting minutes of the Stora Enso Oyj's Green Finance Council to evaluate whether the allocated eligible assets and projects have been considered and approved according to the process described in the Stora Enso's *Green and Sustainability-Linked Financing Framework 2023*.
- Performing limited substantive testing to evaluate the appropriateness of allocation of proceeds from Stora Enso's green financing instruments to eligible green assets in accordance with the Stora Enso's *Green and Sustainability-Linked Financing Framework 2023*.
- Reviewing the disclosure and presentation of the Selected information.

Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our

attention to believe that the selection and evaluation of eligible green projects and assets, and the disclosures on the allocation of proceeds from Stora Enso's green financing instruments to eligible green assets disclosed in the Stora Enso Oyj's *Green and Sustainability-Linked Financing Report* has not been prepared, in all material aspects, in accordance with the Eligibility Criteria set out in the Stora Enso Oyj's *Green and Sustainability-Linked Financing Framework 2023*.

When reading our limited assurance report, the inherent limitations to the accuracy and completeness of Selected information should be taken into consideration.

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 conclusion that we have reached.

Helsinki 27 March 2024

PricewaterhouseCoopers Oy

Samuli Perälä
Partner,
Authorised Public Accountant (KHT)

Appendix:

Impact calculation methodology

The table on page 7 illustrates the estimated environmental impact achieved as a result of projects to which Green Bond proceeds have been allocated. The impact is reported per invested EUR for investment projects or project categories where the impact is quantifiable and relevant.

CO₂ sequestration in the Group's Swedish forests

Accounting methods of forest carbon sinks and storage are not standardised, and both the selected method and reporting period impact the results. Stora Enso has estimated the carbon sequestration by the Group's own productive forests using historical data as an annual average over the past three years. In sustainably managed forests, carbon sink and storage levels are maintained or increased over the forests' management cycle. During this cycle, harvesting and natural disturbances, growth rates related to forest ages and types, and potential other events result in short-term variations in the carbon sinks and storage. The calculations have been conducted using the best available current knowledge. As new information emerges, the calculation methodology will continue to be refined and developed.

In Stora Enso's own Swedish forests, the three-year average (2021–2023) sequestration was 1.8 Mt CO₂. The annual sequestration impact per issued bond is calculated based on the allocated proceeds of the respective bond and its share of the financing of the Swedish forest as of end of 2023.

Climate impact achieved through long-lived wood products

The sequestration of CO₂ is unique to renewable materials. Biogenic carbon content of a renewable material is an outcome of the CO₂ that has effectively been removed from the atmosphere by photosynthesis of growing trees and other plants, and turned into sugars (carbon) and oxygen. The longer the CO₂ is not in the atmosphere but stays stored in a material, the greater the environmental benefit. Biogenic carbon of wood (carbon stored) is calculated according to the EN 16485 and 16449 standards. For further details, please see the [Environmental Product Declaration](#).

The annual substitution impact represents avoided fossil emissions when wood-based products are used instead of products with a larger climate footprint. The substitution effect ratio used for solid wood products is 1.5 tCO₂/tCO₂, 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'](#).

Stora Enso's sustainability impacts and targets and performance are further described in the Annual Report 2023 as well as in the GRI and SASB content indices. The EU Taxonomy KPIs (turnover, capex and opex) are presented in the Annual Report in accordance with the EU Taxonomy Regulation.

› For further details, please see [storaenso.com](https://www.storaenso.com).

