

# Stora Enso Green Bond Report 2021



THE RENEWABLE MATERIALS COMPANY



storaenso



# Stora Enso Green Bond Report 2021

## Contents

Stora Enso in a nutshell .....	1
Sustainability at Stora Enso .....	1
Sustainable finance at Stora Enso .....	1
Green bonds at Stora Enso .....	2
Green Bond Categories.....	2
Outstanding Green Bonds and Bilateral Loans .....	2
Allocated proceeds and impact reporting.....	3
Governance .....	5
Commentaries .....	5
Contacts .....	5

# Stora Enso in a nutshell

Part of the bioeconomy, Stora Enso is a leading global provider of renewable solutions in packaging, biomaterials, wooden construction and paper. We employ some 22 000 people and our sales in 2021 were EUR 10.2 billion. Our shares are listed on the Helsinki (STEAV, STERV) and Stockholm (STE A, STE R) stock exchanges. In addition, the shares are traded in the USA as ADRs (SEOAY).

Our fiber-based materials are renewable, recyclable, and fossil free. Our solutions offer low-carbon alternatives to products based on finite resources. We believe that everything that is made from fossil-based materials today can be made from a tree tomorrow.



**We are the renewable  
materials company.**

## Sustainability at Stora Enso

Sustainability is integral in Stora Enso’s business strategy – it is at the core of what we do. We contribute to the transformation of the materials system in three areas where we have the biggest impact and opportunities: climate change, biodiversity, and circularity. We ensure that we conduct our everyday business in a responsible manner. Our goal is that by 2050, we provide 100% regenerative solutions. These are solutions that are circular, biodiversity positive, and that take out more CO<sub>2</sub> than we emit.

### Sustainable finance Stora Enso

Stora Enso has the long-term aim to secure funding partners that have sustainability as a fundamental part of their agenda. We aim to influence and develop the financial markets to ensure that sustainability becomes an integral part of decisions and credit evaluation. 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 our science-based climate targets. Stora Enso commits to reducing absolute scope 1 and 2 greenhouse gas (GHG) emissions from its own operations, as well as scope 3 GHG emissions from its value chain, by 50% by 2030 from the 2019 base-year. The targets relating to own operations are aligned with the scenario that limits global warming to 1.5 degrees.

Stora Enso’s Sustainable Finance strategy is an integrated part of our overall strategy. Stora Enso aims to have access to sufficient and competitively priced funding at any time to be able to pursue its strategy and achieve its targets.

Stora Enso issued its first green bonds in February 2019. With the Green Bond Framework, our ambition is to offer a format to support fixed income investors and to report the direct environmental impacts of the financed investments and business activities.

The Financial Stability Board’s (FSB) Task Force on Climate-related Financial Disclosures (TCFD) recommends a framework for disclosing climate-related risks and opportunities that goes beyond current practices. Stora Enso published its first TCFD-aligned reporting in the Report of Board of Directors in 2019. During 2021, we worked with qualitative scenario assessments for transition risks and opportunities while the world aspires to keep the global warming within the 1.5 C warming scenario. For more information on Stora Enso’s reporting according to TCFD recommendations, see [Financials 2021](#).

# Green bonds at Stora Enso

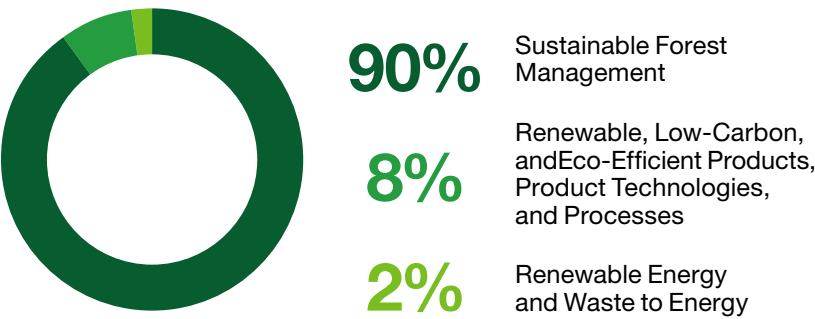
Stora Enso's Green Bond Framework is based on and aligned with the 2017 version of the [Green Bond Principles](#) (GBP) published by the International Capital Markets Association (ICMA). The framework lists the possibilities and limitations of the project categories that Stora Enso has defined as eligible for green funding. Proceeds from Green Bonds are used solely to finance or refinance (going back up to two years) projects and activities defined under the Eligible Categories.

The relevant use of proceeds is outlined for each Eligible Category and is comprised of individual projects or a portfolio of projects that has been selected based on Stora Enso's policies and governance structure. Where appropriate, the use of proceeds may be used to finance operating expenditures (for example forest management or R&D) and will be tracked on a project or portfolio basis. Only projects or investments controlled and managed by Stora Enso, or within one of Stora Enso group controlled subsidiaries, are deemed eligible.

In total Stora Enso has issued seven green bonds or bilateral loans in 2019–2021, with total nominal amount of about

1,500 EUR million

Allocated green bond categories as of 31 Dec 2021



## Green Bond Categories

To be eligible for Green Bond proceeds, the projects must fall within one of the following Eligible Categories.



### 1. Sustainable forest management

Sustainable forest and plantation management secures long-term availability of wood – our most important renewable raw material. We ensure that forests grow to a greater extent than they are harvested, and that biodiversity is promoted as part of everyday forest management practices.



### 3. Energy efficiency

By using materials efficiently and replacing non-renewable materials, Stora Enso operates at the heart of the bioeconomy. The environmental work at our mills, including water and energy management and resource efficiency, is supported by third-party-certified environmental management systems. A fundamental part of our work is a central energy and water efficiency investment fund.



### 5. Sustainable water management

Production at Stora Enso's board, pulp and paper units require large amounts of water. However, only around 4% is consumed in our production processes while almost 96% is returned to the local environment. Stora Enso uses high-performing wastewater treatment systems to ensure that discharged water is ecologically safe and meets all requirements.



### 2. Renewable, low-carbon, and eco-efficient products, product technologies, and processes

Our materials are renewable, reusable, and recyclable and come from sustainably managed forests and plantations. They form the building blocks for a range of innovative solutions in packaging, wooden construction, and biomaterials that can help replace products based on fossil fuels and other non-renewable materials.



### 4. Renewable energy and waste to energy

Stora Enso's production generates residuals and by-products such as black liquor, bark, and different kinds of sludge. These materials together with harvesting residues and recovered wood all constitute important biomass sources which can be used to produce energy. Stora Enso is responsible for the generation and transmission of renewable biomass-based energy. Such energy is to a large extent used in Stora Enso's operations but may also be used to heat and power local communities.



### 6. Waste management and pollution control


Stora Enso's production processes generate various residuals and wastes, including ash, sawdust, bark, and wastewater treatment sludge. Many of these materials are used in our internal bioenergy generation and pulp production, or supplied to partners. We are constantly innovating to improve resource efficiency and make profitable use of materials that would otherwise end up as waste.

## Outstanding green bonds and bilateral loans

	Nominal Amount		Issued	Maturity	Coupon
	Amount (million)	at 31 Dec 2020 (EUR million)			
1.	SEK 1,250	124.6	2019	February 2024	STIBOR +1.45%
2.	SEK 1,750	174.4	2019	February 2024	1.875%
3.*	SEK 1,000	99.7	2019	May 2026	private
4.	SEK 1,550	154.5	2020	April 2025	STIBOR +2.2%
5.	SEK 1,550	154.5	2020	April 2025	2.375%
6.	EUR 500	500.0	2020	December 2030	0.625%

\*bilateral loan

Allocated proceeds and impact reporting

Eligible category	Eligible project	Description	Green Bond and allocated proceeds	Environmental impact metric (KPI)	Performance 2021
 Sustainable Forest Management	Acquisition of Swedish certified forestland	Acquisition of Swedish forest holdings in 2019 in connection with the restructuring of Bergvik Skog.	Bonds 1–5: 100% Bond 6: 60%	% of the lands owned or leased that are in wood production and harvesting covered by forest certification schemes. <sup>1</sup>	The acquired forest assets are 100% certified <sup>2</sup> and amount to 1.39 million hectares, including 1.14 million hectares of productive forest land with standing stock of 150.5 million m <sup>3</sup> forest.
	Sustainable forest management projects in Sweden (OPEX)	Stora Enso forests in Sweden Sustainable forest management activities funded are: <ul style="list-style-type: none"><li>• Regeneration of forests and plantations managed and harvested by Stora Enso</li><li>• Wood harvesting of FSC or PEFC-certified forests (e.g. labor costs)</li><li>• Seedlings (e.g. production and procurement of pine, spruce, birch used in forest regeneration)</li><li>• Silvicultural operations (e.g. soil preparation, planting, pre-commercial thinning)</li><li>• Fertilisation (e.g. labor costs)</li><li>• Infrastructure to facilitate sustainable forest management</li><li>• Restoration of native forests and conservation of biodiversity.</li></ul>	Bond 6: 10%	Positive climate impact through forests' carbon sequestration based on estimated net forest growth for Stora Enso forests in Sweden.	As an average of 2019-2021, Stora Enso's forests in Sweden sequestered an estimated 2.0 million tonnes of CO <sub>2</sub> annually. <sup>3</sup>

<sup>1</sup> Biodiversity is an integral part of forest certifications including protection of valuable ecosystems. In 2022, the reporting will be complemented by selected biodiversity indicators on the Group's website.

<sup>2</sup> Certification by Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC). Stora Enso Communications' FSC® trademark license number is FSC-N001919.

<sup>3</sup> Including the above and below-ground biomass of trees. Currently excluding soil carbon. For more information, see Carbon in Stora Enso's forests.



Protecting the vulnerable sand lizard in Sweden

Since the 1990's, Stora Enso has conducted green audits to assess the quality of harvesting operations to minimize their negative impacts to biodiversity and implemented various management practices to enhance biodiversity in forestry operations. One example of these practices is creation of suitable habitats for the sand lizard (*Lacerta agilis*) that is classified as endangered. It has become extremely rare due to the loss of sandy heath and dune habitats.



After the measures Stora Enso has taken together with the County Administrative Board, the Swedish Forest Agency and the Diocese of Karlstad, sand lizard populations have increased remarkably in Brattforsheden in central Sweden. This was done by creating sand spots and creating deadwood on the ground, as well as allowing more sunlight by clearing areas inhabited by sand lizard. In addition to the completely new populations that have been built up, since 1988 female sand lizard incidence has increased from about 10 mature females to approximately 90 per population today.

Read more:

- › Protecting biodiversity
- › Stora Enso plants more than 48 million tree seedlings in Nordic forests in 2021

Case



Eligible category	Eligible project	Description	Green Bond and allocated proceeds	Environmental impact metric (KPI)	Performance 2021
 <p>Renewable, Low-Carbon, and Eco-Efficient Products, Product Technologies, and Processes</p>	<b>Gruvön Cross Laminated Timber (CLT) mill investment</b>	EUR 45 million investment in a new CLT unit at the Gruvön sawmill in Sweden was completed and production started in 2019.	Bond 6: 9%	Annual CLT production capacity (m <sup>3</sup> ), also considered as a proxy for positive climate impact through carbon storage and substitution of carbon-intensive construction materials <sup>4</sup>	CLT production capacity in Gruvön was 80,000 m <sup>3</sup> in 2021, ramping up towards the full capacity of 100,000 m <sup>3</sup> /year.
	<b>Ždírec Cross Laminated Timber (CLT) mill investment</b>	EUR 79 million investment in a new production line for CLT at Stora Enso's Ždírec sawmill in the Czech Republic. Production is scheduled to begin during the third quarter of 2022.	Bond 6: 16%	Annual CLT production capacity, (m <sup>3</sup> ), also considered as a proxy for positive climate impact through carbon storage and substitution of carbon-intensive construction materials <sup>4</sup>	The estimated annual production capacity will be approximately 120,000 m <sup>3</sup> after ramp-up.
 <p>Renewable Energy and Waste to Energy</p>	<b>Steam turbine investment at Maxau Mill</b>	EUR 25 million investment to boost green energy generation at Stora Enso's Maxau Mill in Germany. The project installed a new steam turbine with a closed-loop cooling system and additional biomass storage. The investment improves energy efficiency and enables the use of a higher biomass share and, consequently, reduces fossil CO <sub>2</sub> emissions.	Bond 6: 5%	Reduction of fossil CO <sub>2</sub> emissions (tonnes)	The reduction of fossil CO <sub>2</sub> emissions as a consequence of the investment is estimated to be approximately 50,000 tonnes annually.

<sup>4</sup> One cubic metre (m<sup>3</sup>) of CLT stores an equivalent of CO<sub>2</sub>-eq. The production unit specific calculations of avoided CO<sub>2</sub> emissions and carbon storage is additionally informed by third-party verified Environmental Product Declarations available at [our website](#). For Ždírec the development of third party validated Environmental Product Declarations will commence following start of production.

## Case



### Lendlease and Stora Enso launched global sustainable timber partnership

In 2021, Stora Enso, one of the world's leading suppliers of sustainable timber, launched a major partnership with international real estate group, Lendlease. The partnership was set to supercharge the use of environmentally friendly construction products in some of the world's most recognised cities. The partnership focuses on three key areas: R&D into sustainable timber products including cross laminated timber (CLT); new ways these products can be used in construction; and their accessibility in the global market.

Given the built environment currently contributes about 40% of greenhouse gas emissions globally, sustainable timber products represent a compelling opportunity for the construction industry to lighten its environmental footprint. Strong, lightweight and resilient to fire and shocks, sustainable timber contains much less embodied carbon than traditional building materials such as steel and cement.

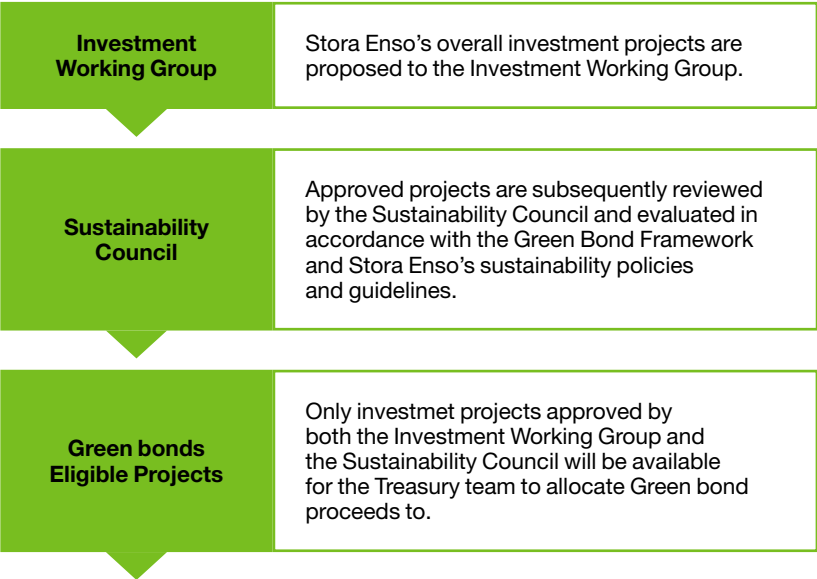
Governance

We have defined a set of Green Bond specific steps, which have been integrated into the existing governance model of Stora Enso.

Stora Enso’s strategic investment projects are approved on group-level following the mandate by the CEO and Board of Directors. Each division will also be 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.

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. Risks are mitigated through detailed pre-feasibility and feasibility studies which are prepared for each large investment. Green Bonds are administered by the Treasury team supported by experts from across the company to ensure alignment to the framework. Approvals for Green Bonds use of proceeds for investment are additionally approved by our Sustainability Council. The Sustainability Council consists of members from our six divisions, our Sourcing and Logistics function, and is chaired by the Executive Vice President, Sustainability.

Outline of the Green Bond selection process



In 2021, we launched our 2050 Sustainability goal and 2030 interim targets for circularity, biodiversity, and new 1.5 degrees aligned science-based targets on climate.

Stora Enso’s Sustainability goal is to provide our customers with 100% regenerative solutions by 2050. We will deliver these solutions through a strong focus on our product innovation processes and through collaboration with partners across value chains to help drive the needed system change.

Our goal and new targets will strengthen our work to advance both our finance and sustainability objectives.

**Annette Stube**  
Executive Vice President, Sustainability



The goal of our Sustainable Finance strategy is to have access to sufficient and competitively priced funding at any time to be able to pursue our strategy and achieve our targets.

I’m very pleased with the investor demand for our green bonds as well as the results of the funded projects. Green bonds have been crucial to finance our strategy, especially with the Group’s forest assets. With our investors’ support, we have advanced our renewable solutions offering as well as our sustainable forest management, promoted biodiversity and reduced our fossil CO<sub>2</sub> emissions.

Green funding supports our business and helps our customers in transformation towards a biobased circular economy.

**Seppo Parvi**  
Chief Financial Officer (CFO), Deputy CEO,  
Country Manager Finland