



Annual Report 2019

Stora Enso supports customers to meet consumers' demand for sustainable products based on renewable materials. Our solutions offer low-carbon alternatives to products based on finite resources.

Strategy

Part of Stora Enso's Annual Report 2019



THE RENEWABLE MATERIALS COMPANY



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Our renewable products provide a sustainable alternative to fossil-based materials.



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This is Stora Enso

Part of the bioeconomy, Stora Enso is a leading global provider of renewable solutions in packaging, biomaterials, wooden construction, and paper. We employ some 26 000 people in more than 30 countries and our shares are listed on the Helsinki (STEAV, STERV) and Stockholm (STE A, STE R) stock exchanges.

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.

Our products respond to the needs of eco-conscious consumers and producers looking for innovative alternatives to plastic. PureFiber™, a new selection of formed fiber products can be used for single-use food packaging, and DuraSense™ biocomposites for example in cutlery.



We are the renewable materials company



Our raw material is renewable, recyclable and fossil-free.



Our products replace fossil-based materials.



Our renewable products contribute to a circular bioeconomy.

Divisions in brief

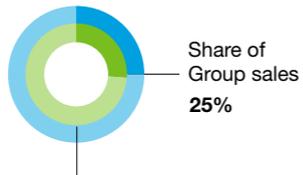
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Consumer Board

The ambition of the Consumer Board division is to be the global leader in high-quality virgin fiber cartonboard. We aim to be the preferred partner of customers and brand owners in premium end-use packaging and graphical segments. Our wide board and barrier coating selection is suitable for consumer packaging for liquid, food, pharmaceutical and luxury goods.

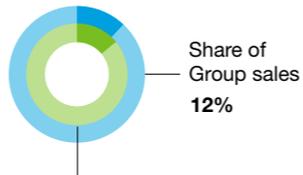


Share of Group operational EBIT
26%



Packaging Solutions

The Packaging Solutions division provides fiber-based board materials and corrugated packaging products and services that are designed for a wide array of applications. Our renewable high-end packaging solutions serve leading converters, brand owners and retailers – including those in e-commerce that are looking to optimise performance, drive innovation and improve their sustainability.

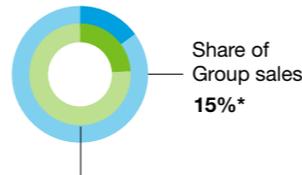


Share of Group operational EBIT
14%



Biomaterials

The Biomaterials division offers a wide variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers. We maximise the business potential of the side streams of our processes, such as tall oil and turpentine from biomass. Based on our strong innovation approach, all fractions of biomass, like lignin and sugars, hold substantial potential for use in various applications.

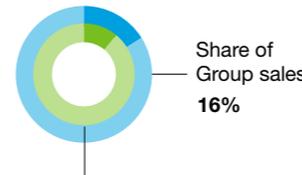


Share of Group operational EBIT
24%



Wood Products

The Wood Products division is a leading provider of innovative wood-based solutions. The product range covers applications for construction, the window and door industry, as well as for the packaging and decoration industries. Biocomposites offer plastic replacement opportunities in e.g. consumer goods, industrial components, cosmetics and packaging. Pellets provide a sustainable solution for heating. The offering includes service concepts such as Building Solutions and e-business. Our solutions meet strict requirements regarding safety, quality, design and sustainability.

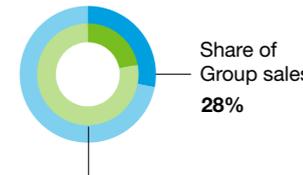


Share of Group operational EBIT
11%



Paper

Stora Enso is the second largest paper producer in Europe with an established customer base and a wide product portfolio for print and office use. Customers benefit from Stora Enso's broad selection of papers made from recycled and virgin fiber as well as our valuable industry experience, know-how and customer support.



Share of Group operational EBIT
22%

* of which internal sales 19%

As of 1 January 2020, Stora Enso merged its containerboard business previously in the Packaging Solutions division with the Consumer Board division, creating a new Packaging Materials division. The remaining business in Packaging Solutions together with the recently created Formed Fiber unit, will constitute a more focused Packaging Solutions division. The Group also established a new Forest division.

Divisions in 2020: Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest, Paper

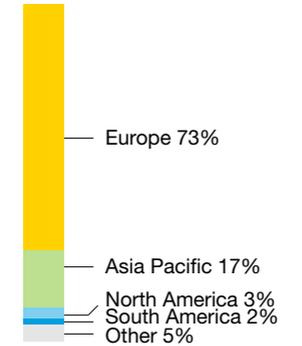
Serving markets around the world

Stora Enso operates worldwide and focuses on utilising expertise in renewable materials and creating value in packaging, pulp, paper and wood. We combine global resources with local presence, service and sustainability.

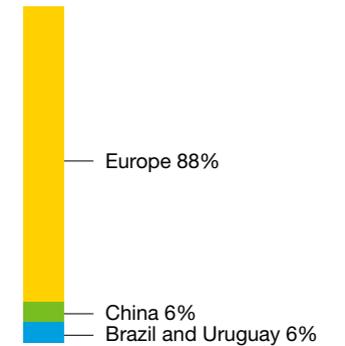
Sales
EUR 10.1 billion

Countries
30 | Employees
26 000

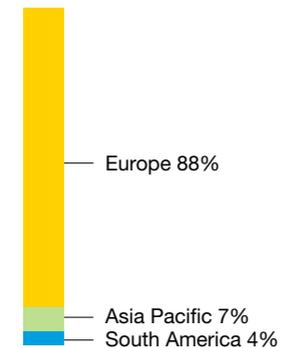
Sales by destination



Sales by origin



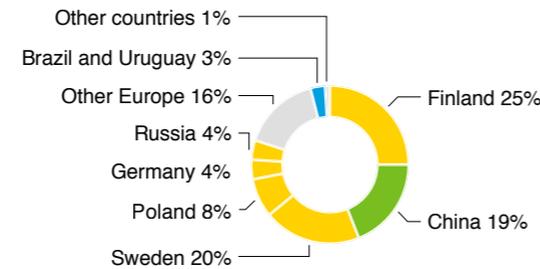
Purchases by region



We have production in 17 countries



Personnel by country¹



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

South America

Latin America is important for Stora Enso's strategy of obtaining low-cost pulp from tree plantations. In Brazil, we own 50% of Veracel Celulose pulp mill, with Suzano. Our share of the eucalyptus pulp is mostly used in our paper and board mills. Veracel also owns land, around half of which is former pasture land planted with eucalyptus. The other half is dedicated to protecting local biodiversity by restoring the natural Atlantic rainforest.

The Montes del Plata pulp mill in Uruguay is a joint operation between Stora Enso and Arauco. Stora Enso's share is sold entirely as market pulp, mainly in Europe and Asia. Montes del Plata's tree plantations are also utilised as pasture by local farmers through land rental schemes.

North America

In the United States, Stora Enso has a pilot facility in Danville, Virginia, to develop technologies for the conversion of biomass into highly refined sugars and lignin. In Raceland, Louisiana, there is a demonstration plant for the production of xylose. These new technologies will enable the development of sustainable replacements for fossil-based materials in various industries.

Asia

The demand for Stora Enso's products, especially consumer board, is growing fast in China. Our consumer board mill in Beihai, in the Guangxi region, serves the markets with virgin fiber-based board. In Guangxi our operations also include eucalyptus plantations. In addition, Stora Enso has four packaging plants in China. We divested our stake in the Dawang paper mill in 2019 and no longer have paper production in China.

Europe

Stora Enso's head office is in Helsinki, Finland. Most of the group's sales and operations take place in Europe, where we are a leading producer of packaging board and solutions, pulp, wooden products and paper.

Stora Enso has three research centres, in Imatra (Finland), Karlstad (Sweden) and Mönchengladbach (Germany), and two innovation centres, in Stockholm and Helsinki. In Northern Europe, we source most of our main raw material – wood – from our own forests in Sweden, our forest associate Tornator and private forest owners.

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**Stora Enso is
taking the lead in
the bioeconomy.**

Operational ROCE

9.8%

72%

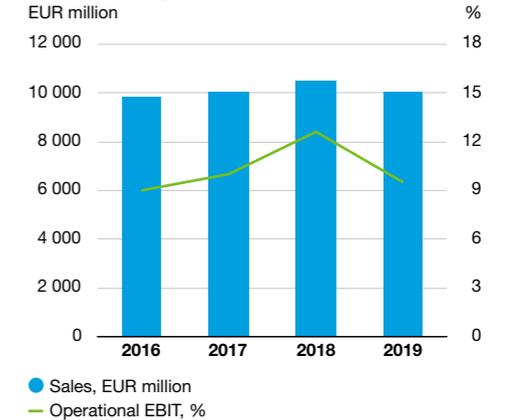
of sales from
growth businesses

Average
personnel



- Consumer Board 16%
- Packaging Solutions 30%
- Biomaterials 7%
- Wood Products 15%
- Paper 19%
- Other 13%

Sales and operational EBIT



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Highlights of 2019



Changes in divisions 2020

To increase transparency, Stora Enso established a Forest division and started reporting it separately. Stora Enso also merged its containerboard business in the Packaging Solutions division with the Consumer Board division, creating a new Packaging Materials division. The remaining business in Packaging Solutions together with Stora Enso's recently created Formed Fiber unit, constitutes a more focused Packaging Solutions division.



Annica Bresky new President and CEO

Annica Bresky became the new President and CEO of Stora Enso on 1 December 2019. Previously, she was Head of Stora Enso's Consumer Board division. She replaces Karl-Henrik Sundström, who left his position of CEO at the end of November 2019.



Oulu Mill to produce packaging materials

Stora Enso invests approximately EUR 350 million to convert the Oulu paper mill in Finland to produce kraftliner for packing. The conversion will enable us to further improve our position in the growing packaging business. The typical end use for kraftliner is packaging that requires high strength, quality and purity, such as for food, as well as heavy-duty packaging. Production is expected to start by the end of 2020. After the conversion, Stora Enso will no longer manufacture woodfree coated papers.



Bergvik Skog restructuring finalised

The restructuring of Bergvik Skog, a Swedish forest holding company, was finalised. Stora Enso's forest holdings in Sweden increased to 1.4 million hectares, of which 1.14 million hectares is productive forest land. Prior to the transaction, Stora Enso's indirect share of Bergvik Skog's productive forest land was 936 thousand hectares.



New production unit for CLT

Stora Enso inaugurated its third production unit for cross-laminated timber (CLT) at Gruvön sawmill in Sweden in May 2019.

Strong cash flow

up 45%

from 2018

Combating global warming

-25%

lower CO₂e in 2019 than the 2010 base-year level

Ensuring the sustainability of wood

98%

of the lands Stora Enso owns or manages covered by forest certification schemes



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The future grows in the forest

For our customers, leaders and society, the need for a shift towards a sustainable bioeconomy with positive climate impact is more apparent than ever. Awareness among companies and consumers alike has increased substantially, as well as discussions among policy makers and industries to find solutions supporting change.

Stora Enso is in a unique position to lead a transition from a linear to a circular economy, from dependency on finite or fossil-based materials towards materials and solutions that are renewable, recyclable and with low or zero carbon footprint. Our renewable materials naturally form a circle of their own. We harvest trees and replant in a continuous cycle where trees grow back and the forests are constantly renewed. Growing trees absorb carbon dioxide. Wood and fiber-based products act as carbon storage and can easily be recycled.

Sustainability and innovation at the core

We continue to build a strong portfolio, helping our customers to be more competitive and sustainable – for today and tomorrow. Our promise to society and our foundation for innovation is “Everything that is made from fossil-based materials today can be made from a tree tomorrow.” This ambition provides good opportunities for growth, but we cannot do it alone. The products and solutions of the future require collaboration with partners outside of our company and transformation across the value chain. Our strong ecosystem of customers, suppliers, research institutions and start-ups enable our future growth and is key to bring new solutions to the market.

Stora Enso supports all 17 Sustainable Development Goals (SDGs) defined by the United Nations and we have identified the three strategic goals where we contribute most: Responsible Consumption and Production, Climate Action and Life on Land. We have set tough science-based targets regarding the reduction of greenhouse gas emissions and will continue our drive to improve energy efficiency and reduce our use of fossil fuels.

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Stora Enso is in a unique position to lead a transition from a linear to a circular economy.

Through our Sustainability Agenda we emphasise social, environmental and economic responsibility in our own operations and throughout our value chain. We are committed to the UN Global Compact's ten principles and the UN's Guiding Principles on Business and Human Rights. Our Community Investment strategy is intended to promote resilient communities close to the sources of our fiber, mills and other units as well as being an attractive and socially responsible employer. You can read more about our agenda and progress in Stora Enso's **Sustainability 2019** report.

In 2019, 72% of sales and 78% of operational EBIT came from our growth businesses of packaging, wood products and biomaterials. Over 7% of our sales came from new products and services. Our operational EBIT was affected by lower prices for our products. I am not pleased with our profitability levels, but we have focused on areas we can influence. I am very satisfied that we delivered a record high cash flow, despite the challenging market conditions.

While megatrends and our customers' needs support our strategic direction, Stora Enso is also affected by today's political and economic instability. To mitigate these effects, we implemented a profit protection programme during 2019 and will continue this into 2021. We have also strengthened our cash flow management and constantly work to improve our balance sheet.

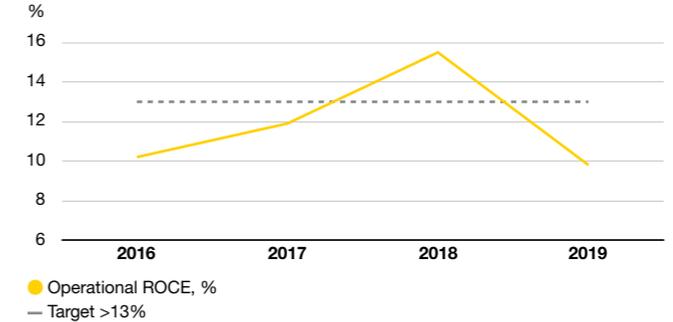
Investments for the future

100% of our wood comes from sustainable sources where biodiversity values are secured. With the acquisition of forests from Bergvik Skog in Sweden, we became one of the largest private owners of biological assets in the world. We issued our first Green Bonds in February 2019, and the proceeds were solely used for financing the acquisition. Since our forest assets represent a sizeable part of our capital, we formed a new Forest division on 1 January this year. One of our biggest decisions during 2019 was to convert the Oulu

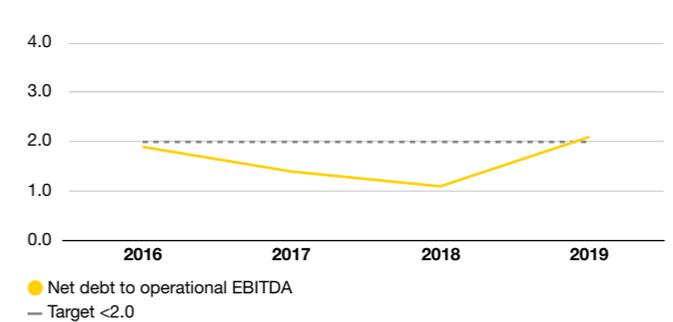
paper mill into packaging materials. This is another action that shows our determination to grow in the packaging sector and reduce our exposure in the declining paper business. Other milestones of the year include the finalisation of the cross-laminated timber investment at Gruvön sawmill as demand is increasing for building in wood instead of concrete and steel. The conversion of Enocell Mill into dissolving pulp, pulp that can be used for textile applications, is another example where we respond to the global megatrend to replace materials from finite sources with more sustainable alternatives.

We are investing for the future to strengthen our own capabilities to innovate and bring new products and solutions to the market. During 2019, we introduced formed fiber products to replace, for example, plastic plates and bowls in food service. We also started building a pilot facility for bio-based carbon used in energy storage systems. Our co-operation with the start-up community resulted in the launch of a renewable and biodegradable straw to combat the global problem

Operational ROCE



Net debt to operational EBITDA



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of plastic waste. We have introduced a board for drinking cups and ice cream packaging without a plastic layer and designed for easy recycling and full fiber recovery.

Our work in digitalisation supports us to optimise current business and enabling new business models. Our focus is on digital customer experience, smart operations, transparent supply chains, robotic process automation and intelligent processes.

The circularity of our products

Fibers can be recycled 5–7 times, sometimes over 20 times, depending on the end use. We are taking more steps to develop circular solutions by enabling efficient recycling and reducing carbon footprint across our own and our partners' operations. We are researching and testing how our products perform in different kinds of recycling systems, analysing their lifecycles to reduce carbon footprint or improve material efficiency and looking closely at ways to promote recycling and reduce waste.

Among our circular initiatives, we take back used paper cups and give them second life as magazine paper at Langerbrugge Mill in Belgium. We use recycled paper for corrugated board production at Ostrołęka Mill in Poland as well as operate a biogas plant to turn wastewater effluent into renewable energy at Nymölla Mill in Sweden. You can find more examples of our new projects and solutions later in this report.

Our people drive the change

Our values are "Lead" and "Do What's Right" and our greatest assets are our people and our ecosystems of customers, partners and suppliers. Taking the lead requires courage, a mindset of openness to change and new ways of solving society's challenges. We focus on leadership, engagement and clear communications to empower our committed and talented people and we recognise the importance of inclusion, diversity and equality as prerequisites for a culture characterised by innovation and sustainability.

At the end of 2019, we took further steps to bolster our ability to drive innovation and sustainability with a common agenda. The new Packaging Materials division will provide an even stronger offering for customers utilising virgin and recycled board material. For Packaging Solutions, we are increasing our focus on growing new services and renewable packaging solutions as well as innovation collaborations throughout the value chain.

I'm very proud of leading this fantastic company. We are well equipped to deliver on our strategy and take the challenge of creating a world based on renewable materials. I'd also like to thank Karl-Henrik Sundström, our previous CEO, for all his achievements in Stora Enso. I look forward to continuing our exciting transformation journey.



Annica Bresky
President and CEO



Over 7% of sales came from new products and services.

Dividend proposal per share

EUR 0.50

Earnings per share

EUR 1.12

Reaching key financial targets

EUR million	2019	2018	2017	Target	Performance against target
Payout ratio ¹ , %	45%	39%	52%	See below ²	●
Operational ROCE, %	9.8%	15.5%	11.9%	>13%	●
Net debt/equity ratio	0.43	0.31	0.38	<0.60	●
Net sales growth ³ , %	-3.0%	5.9%	8.5%		
Net debt/last 12 months' operational EBITDA	2.1	1.1	1.4	<2.0	●
Fixed costs/sales	24.3%	23.6%	25.1%	<20%	●

¹ Dividend per share / EPS.

² To distribute 50% of EPS over the cycle.

³ Excluding the paper business.

● Achieved
● Not achieved

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How we create value as a renewable materials company

Key inputs

- Investments in Human Rights Due Diligence programme
- 26 000 direct employees in more than 30 countries
- OHS and well-being
- Employee and leadership development
- Partnerships with communities and universities
- EUR 2.7 million voluntary community investments
- Business ethics and compliance

Key outputs

- Development areas mapped against the highest priority human rights during 2019
- Personnel turnover 15.0%
- 7.0 TRI rate
- Illness related absenteeism 3.2%
- 30 hours of training per employee
- Leadership index 83/100
- 441 voluntary community investment projects
- Code of Conduct index 84/100

Key impacts

- Respect for Human Rights in all operations
- EUR 1 331 million salaries and benefits
- Impacts of injuries, illness, and well-being
- Engaged and motivated employees and a capable organisation
- EUR 2 032 million value through taxes borne and collected
- Value creation with local communities
- Value through ethical operations in the market place

Social

- 2.35 million hectares of lands under ownership or management
- 37.1 million m³ of wood used
- EUR 54 million environmental investments
- 2.2 million tonnes of Paper for Recycling (PfR)
- 2.3 million tonnes of pigments, fillers and other chemicals
- 599 million m³ water withdrawal
- 41.8 TWh fuels of which 82% biomass
- 7.0 TWh purchased electricity

Our fiber-based materials are renewable and recyclable.

Our solutions provide low-carbon alternatives to products based on finite resources.

- 10.5 million tonnes of board, market pulp, and paper
- 4.9 million m³ of wood products
- Certification coverage 98% for lands in wood production and harvesting and 75% sourced wood
- 25% utilisation rate for Paper for Recycling
- 98% utilisation rate for process residuals and waste
- 96% of water withdrawal returned back to the environment incl. 298 million m³ process water discharges
- 3.04 million tonnes fossil CO₂e emissions from generated and purchased energy
- 1.2 TWh externally delivered electricity/heat/steam

- Total climate benefit 12 million tonnes of CO₂e with our renewable products and forest carbon sinks
- Environmental impacts of operations and along the value chain
- Forests work as carbon sinks and provide ecosystem services

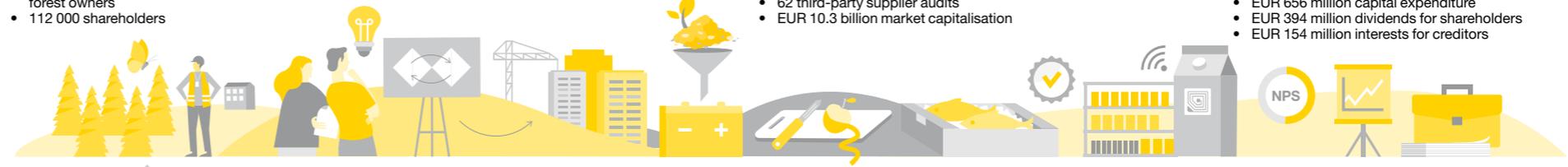
Environmental

Economic

- EUR 10 632 million capital employed
- EUR 141 million R&D investments
- Over 20 000 suppliers and 23 500 private forest owners
- 112 000 shareholders

- Customer satisfaction: Net Promoter Score 56%
- 65 patent applications and over 430 patents granted
- 96% of supplier spend covered by Supplier Code of Conduct
- 62 third-party supplier audits
- EUR 10.3 billion market capitalisation

- EUR 10.1 billion sales of products and services
- 7% of sales from new products
- EUR 6.9 billion paid to suppliers
- EUR 656 million capital expenditure
- EUR 394 million dividends for shareholders
- EUR 154 million interests for creditors



Trees absorb CO₂ and store carbon together with wood-based products, which can then be recycled as raw material or used for energy generation.



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Renewable materials take us to a fossil-free future

At Stora Enso we are continuing our journey as a global growth company, basing our products and services on renewable materials and supporting our customers in meeting consumer demand for eco-friendly solutions. Our renewable products contribute to a greener planet in a number of ways: they are renewable, recyclable and store carbon. We continuously aim to increase the sustainability of our production and use our raw material as efficiently as possible, and we can trace every tree back to its origin.



Our purpose:

Do good for people and the planet. Replace fossil-based materials with renewable solutions.

Our values:

Lead. Do What's Right.

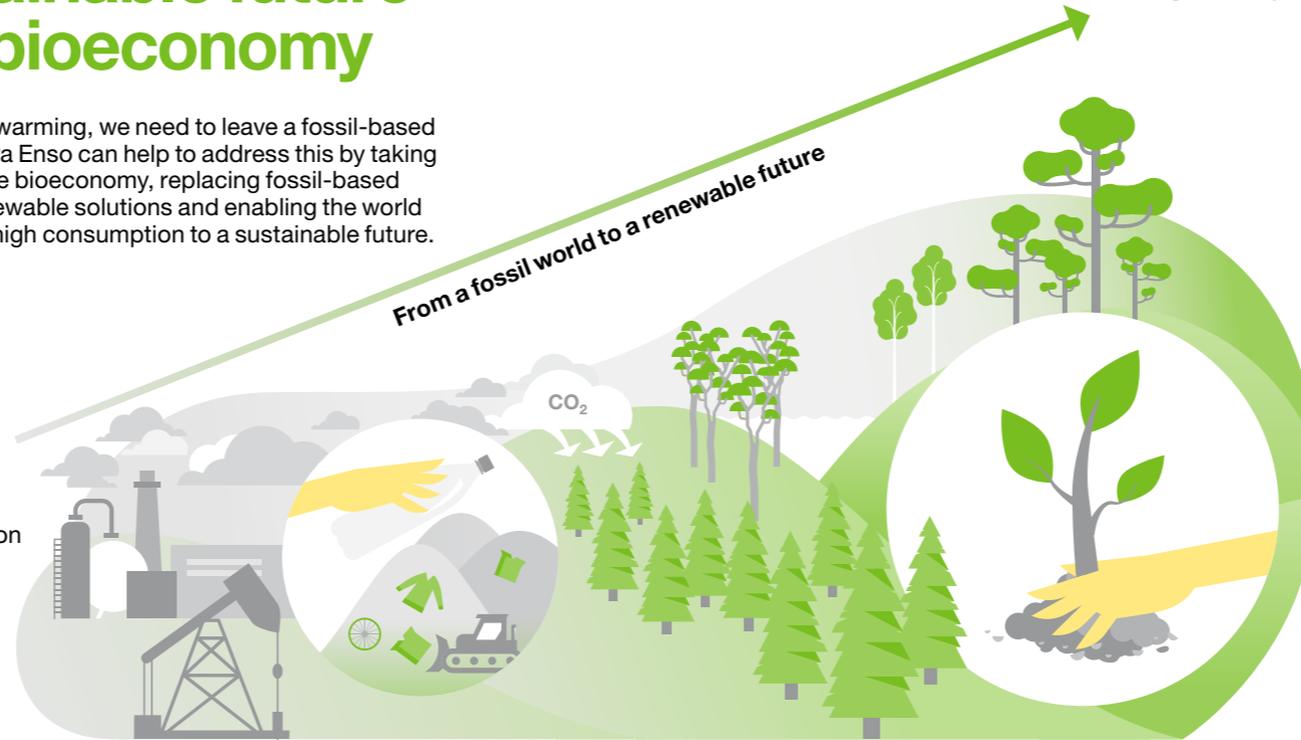
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The drive for a sustainable future in the bioeconomy

To combat global warming, we need to leave a fossil-based world behind. Stora Enso can help to address this by taking a leading role in the bioeconomy, replacing fossil-based materials with renewable solutions and enabling the world to transition from high consumption to a sustainable future.

Carbon emissions
Fossil materials
Finite resources
Waste accumulation



By replacing fossil-based materials with our renewable solutions, we help drive the transition from a world that consumes fossil fuels to a sustainable future based on the bioeconomy.

The global megatrends continue to affect industries and businesses around the world. The signposts are quite clear, pointing to an acute need for raw materials that are renewable, recyclable and fossil-free. This is a huge advantage for Stora Enso. The promise that steers our innovation agenda is: "Everything that is made from fossil-based materials today can be made from a tree tomorrow."

From our customers' perspective, the trends influence their choice of materials, utilisation of resources, operations, supply chain and logistics, in order for them to respond to the increasing consumer demand for reduced carbon footprint and eco-friendly products.

Together, we can all make a difference. Many developments are already underway.

In the packaging industry in the European Union, it is already possible to replace about 25 percent of fossil-based materials with existing packaging technologies for renewable materials. EU legislation on single-use plastics is driving up demand for fiber-based materials. With an expanding market for batteries, it is possible to replace graphite with a lignin-based component. Wooden buildings reduce the need for concrete and steel. The apparel industry is looking for raw material alternatives to petroleum-based artificial fibers and to cotton, which requires large amounts of water and arable land. This makes viscose an attractive alternative, as it comes from renewable wood pulp.

Stora Enso has a strong portfolio. We are a market leader in liquid packaging, food service board, fluff

and paper, among other products, in Europe and other parts of the world. We have a strong position in containerboard in Europe, and we are first in Europe and fourth in the world in supplying wooden construction material. Overall, four of our divisions are growing while the Paper division is focused on cash generation.

Replacing plastics with renewable materials is a gradual process and will not happen overnight, but we are ambitious. We cannot always completely eliminate use of plastic but we can reduce it. Biocomposites are a good example. They have the same performance, flexibility and strength as plastic but are partly made from renewable materials. It is better to use biocomposites than to use plastic alone.

Carbon storage
Renewable materials
Recyclability
Biodegradability

More people and more consumption mean that the planet's resources are being stretched even further.

Global warming:
Carbon neutrality will create a EUR 6 000 billion market for smart green solutions by 2050. Source: Sitra Megatrends

Growing middle class:
By 2030, 60 percent of the world's population will be middle class, earning USD 10–100 a day. Source: UN Development Programme

Eco-awareness:
As many as 70 percent of consumers state that they have purchased an environmentally friendly product, even if it was more expensive. A total of 66 percent have avoided a particular product or brand for environmental reasons. Source: Millward Brown for TetraPak – Environment Research

Changing lifestyles:
China's demand for packaged food will continue to grow by about 8 percent a year until 2024. Source: Research and Markets – Packaged Food Markets in China

Urbanisation:
Close to 70 percent of the world's population are expected to live in urban areas by 2050. With pressure on infrastructure and resources, urbanisation is creating significant opportunities for more sustainable living. Source: Sitra Megatrends

Growing population:
The global population is expected to reach 9 billion by 2050, leading to greater resource shortage. By 2030, the global population of people aged 65 and older will double to one billion. Sources: Sitra Megatrends; National Institute on Aging

Digitalisation:
Retail e-commerce sales are projected to increase to over USD 4 000 billion, making up 14.6 percent of total retail spending. Source: eMarketer

Increasing demand for raw material that is renewable, recyclable and fossil-free

Making our mark as the renewable materials company

Our strategy for growth is based on customer insights and innovation, supported by structured processes and motivated employees, and underlined and encircled by sustainability. We will continue to invest in attractive segments and concentrate on offering innovative products and services to our customers.



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In 2019

over 7%

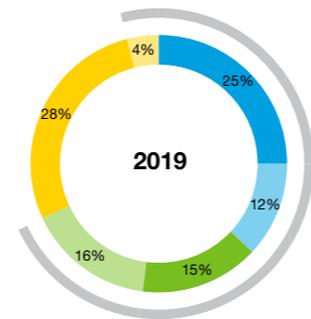
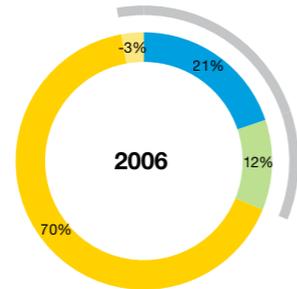
of our sales came from new products and services.

Long-term target

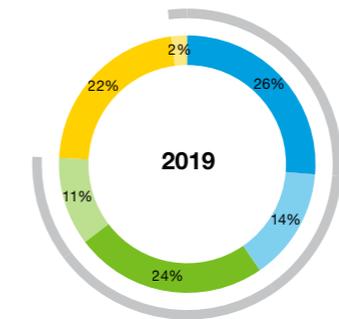
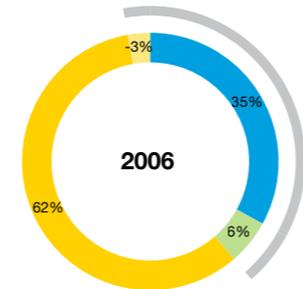
15%

of our sales is expected to come from new products and services.

Sales by business



Operational EBIT by business



- Consumer Board
- Packaging Solutions¹
- Biomaterials
- Wood Products
- Paper²
- Other and eliminations
- from growth businesses

¹ In 2006 in Consumer Board
² In 2006 includes merchants

Stora Enso is transforming from a traditional paper and board producer to a renewable materials growth company. The capital expenditure for 2012–2019 amounted to 6.1 billion, of which 3.5 billion was strategic capex. As part of the transformation, Stora Enso has closed 5.0 million tonnes of capacity since 2006.

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An ecosystem for collaboration and innovation

Through innovation, based on customer insights, Stora Enso works to develop products and services, manage raw materials, build partnerships and collaboration, shape business models, improve value chain and utilise resources in the best possible manner. We do this to offer our customers more value than the competition.

During 2019 we had

1148 ideas | **26** campaigns | **65** patents filed

Addressing broader markets and different areas in the bioeconomy, our focus on innovation has resulted in a number of recent launches or pilots, including formed fiber, lignin, biocomposites, intelligent packaging and micro-fibrillated cellulose (MFC). The latter, when used in packages, adds strength, reduces weight and can be used as a renewable barrier material. We are working with start-ups such as TRÅ Group, Sulapac and TreeToTextile.

Innovation projects with high potential impact to transformation

Bio-barriers, MFC films



Liquid and food packaging

Native and modified MFC



Specialty papers, nonwovens, personal and home care, barrier materials

Intelligent packaging



Sophisticated applications to brand owners and supply chains

Lignin for phenol replacement



Reduction of fossil raw materials in adhesives

Carbon fiber



Sports and leisure, wind energy, automotive, aviation

Bio-based carbons for energy storage



Anode material for batteries, activated carbon for double layer capacitors

Bio-based plastics



Chemical intermediates

Dissolving pulp to novel cellulose materials



Textiles and nonwovens

Biocomposites



Replacement of fossil-based plastics in composites

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Cases



New
2019

Sustainable automated new retail solutions

Stora Enso and the digital transformation company Atos are bringing new automated retail solutions and services to the market. The new service is based on the concept of "Intelligent Cabinets", which are RFID (Radio Frequency Identification) enabled e-kiosks designed for on-the-go purchasing. To buy a product from the intelligent cabinets, the consumer only needs a compatible payment app or payment card. When the cabinet door is closed, the consumer is charged via the app for the items taken out.

The partnership will combine Stora Enso's technologies with the service delivery experience and methodology of Atos. The "new retail solution" by Stora Enso merges in-store and online shopping and uses sustainable RFID tags to track and trace stored items. These tags are paper-based, providing a plastic-free and recyclable solution for packaging authentication.

› Read more about New Retail Solution by Stora Enso



The many applications of lignin: bio-asphalt

Recently, Lineo™ by Stora Enso has proven its excellence in replacing a fossil-based binder, bitumen, in asphalt. Stora Enso's customer H4A (Holding de Vier Ambachten) has successfully been using Lineo™ in Central Europe in several asphalt projects – from bike lanes to heavy load transportation roads.



Awarded 5G technology solution in mill maintenance

Stora Enso has been one of the first companies in the industry to implement 5G technology to enable HD 360° camera solutions in production. This solution was recognised in the Industry of Things World Awards 2019.

New
2019

Next generation eco-products designed for purpose

In 2019, Stora Enso announced an investment of EUR 5 million to build a new production line and related infrastructure to manufacture formed fiber products at Hylte Mill in Sweden. Formed fiber products are manufactured by pressing various wood-based pulps into a three-dimensional shape in a moulding machine. This enables a broad range of applications, including plastic-free cups, bowls and plates.

Stora Enso entered into a strategic collaboration with HS Manufacturing Group (HSMG), a producer of plant-based barrier coatings, to develop sustainable barriers for formed fiber products. Stora Enso will apply the PROTÉAN™ barrier technology to its renewable and recyclable PureFiber™ by Stora Enso product offering. This enables the manufacture of single-use products that are renewable, recyclable, biodegradable and plastic-free. The PROTÉAN™ barrier coating can be applied to produce a wide range of high-quality cellulose-based paper products, including single-use food service items.

› Read more about formed fiber



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Building competencies in leadership, sales, innovation and data analytics

Success in delivering sustainable profitable growth depends greatly on our people and culture. Leadership is a key factor in strengthening Stora Enso's position as the renewable materials company. We continuously invest in the development of our leaders through programmes such as Lead Through People, which targets all managers in the organisation. Since 2015, approximately 3 200 managers have participated in this programme.

Our Commercial Excellence Programme focuses on developing capabilities in sales and commercial acumen. We conducted a common Sales Academy programme for more than 300 sales leaders, front-line sales persons and business developers during 2017–2019. In total, more than 400 people have gone through the training. In addition to sales organisation, people from other areas such as supply chain, product management, marketing, sourcing and logistics, customer service, human resources, and sustainability have participated in the programme. Other outcomes from the Commercial Excellence Programme are harmonised sales processes and common systems such as Customer Relationship Management.

Combining work with start-up companies and executive training, the Stora Enso Accelerator programme aims at further strengthening the capabilities required for our transformation. The focus has been placed on deepening competencies and skills in innovation, entrepreneurship, customer insight and change management as well



Valuable insights from global employee survey
Stora Enso conducts an annual global survey (Your Voice) of all employees. In 2019, the survey was conducted for the eighth time and had a response rate of 86% (88%). The survey follows progress in areas that impact our ability to deliver on our strategic agenda, steering activities and priorities. It also supports managers and teams as they continuously improve their work methods. In 2019, the results remained at a high level in the leadership index and engagement index. After many consecutive years of positive development there was a slight downturn on other indices compared to the previous year's results.

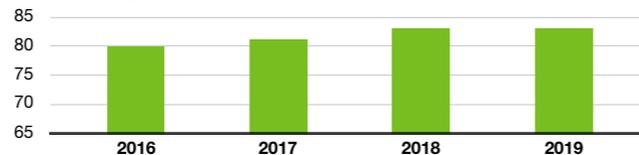
as developing new business opportunities with start-ups. In 2019, the programme focused specifically on solutions in the area of the circular economy. The selected six start-ups for the programme teamed up with Stora Enso participants to co-create and innovate for new solutions with renewable materials as the foundation.

Stora Enso aims at further strengthening its operational competitiveness by making data analytics an integral part of its business operations. In 2019, a training programme was conducted for employees working in operations, mainly within production and maintenance, with focus on developing competencies and skills in data analytics. By training our own employees in data analytics,

with experience of the business and its operations, we will be able to bring relevant data analytics insights to the business and support our company transformation agenda.

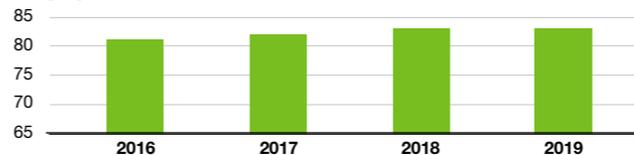
To further promote new talent and diverse perspectives, Stora Enso runs the GROW Global Trainee Programme in which graduates are initiated into the Stora Enso organisation globally during their first 16 months of employment. In 2019 we welcomed 24 new GROW trainees to the programme. The GROW 2019 programme focuses on strengthening our capabilities in customer insights and operational efficiency, and it supports in strengthening our position as the renewable materials company.

Leadership



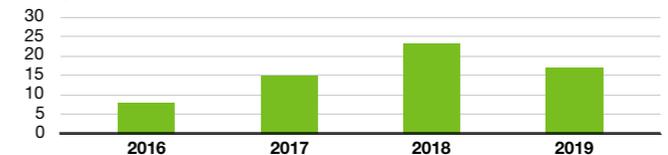
Leadership Index is measured annually in Stora Enso's Your Voice employee survey, and consists of numerical answers to 16 questions related to the respondent's view of the direct manager.

Engagement



Employee Engagement Index is measured annually in Stora Enso's Your Voice employee survey, and consists of numerical answers to seven questions related to engagement indicators including, but not limited to motivation, pride and goal orientation.

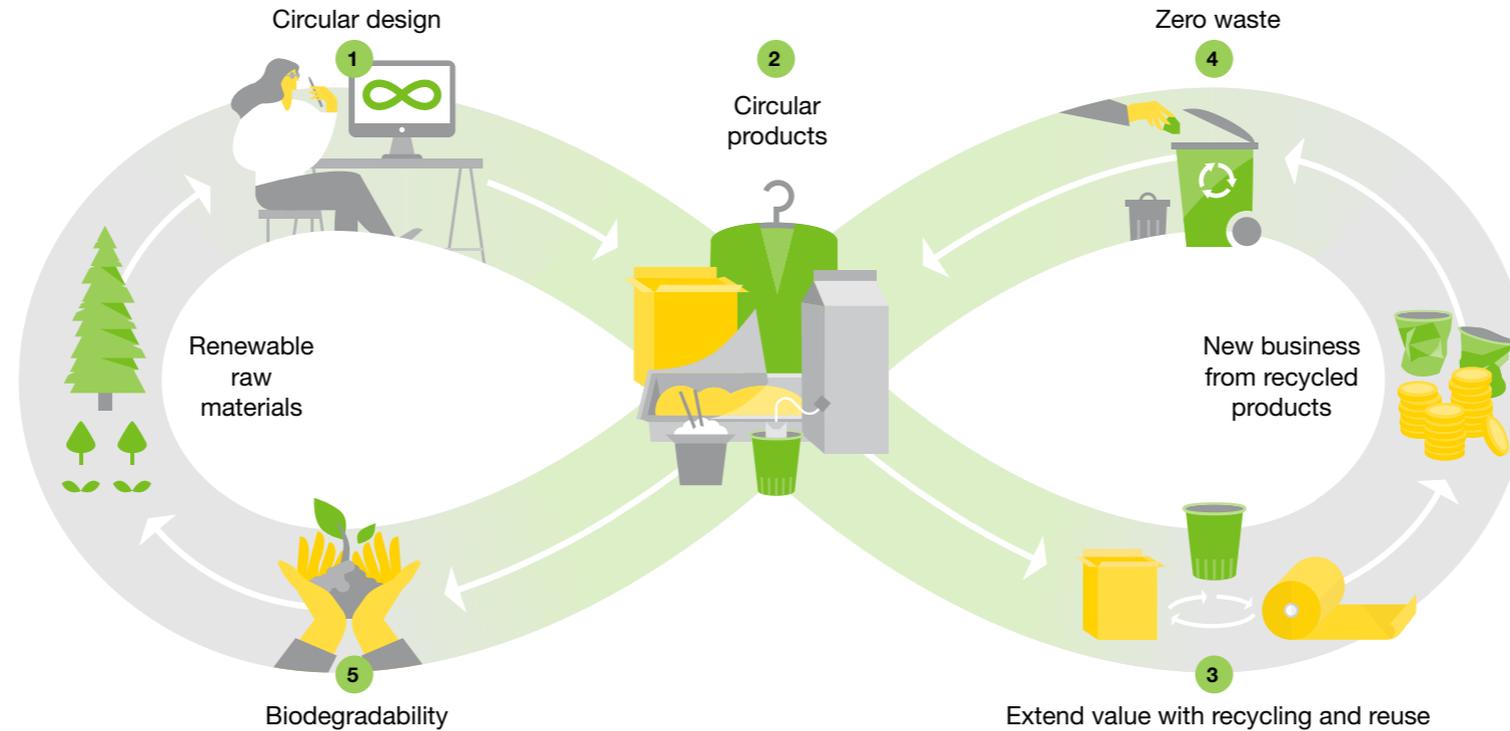
Employee Net Promoter Score



Employee Net Promoter Score is measured annually in Stora Enso's Your Voice employee survey, and consists of one question related to the likelihood of recommending Stora Enso as a workplace to a friend. A positive score indicates that there are more promoters than detractors, while a negative score indicates the opposite.

A circular view for a better and brighter world

A leader in the bioeconomy, Stora Enso also wants to contribute to a circular economy where resources are kept in use for as long as possible, reusing and finally recovering materials for other purposes. Altogether, the circular bioeconomy is a good formula for keeping the planet healthier.



The circular economy requires partnerships across the value chain

Stora Enso, along with other members of CEPI, the European association representing the forest fiber and paper industry, has joined forces with companies across the value chain to drive the recycling of fiber-based packaging. This collaboration in circular design brings about positive change in the circular economy. The initiative, 4evergreen, aims to increase awareness of innovation in fiber-based packaging materials and recycling, and to set guidelines for product design that enable circularity and the secondary use of fibers. It also aims to support the development of optimised collection systems as well as critical recycling infrastructures and technologies adapted for fiber-based packaging.

Wood fibers lend themselves to the circular bioeconomy very well. They are renewable, fossil-free and can be recycled at least 5–7 times.

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1 Circular design
Circular design refers to designing for the whole system and all stages of the product lifecycle instead of just designing the product. It considers the materials used, the manufacturing process, the distribution and the potential for reuse, refurbishment, remanufacturing or recycling. Our aim is to maintain the value

of products and materials for as long as possible through product design, innovation and recycling.

2 New business from circular products and solutions
In the circular bioeconomy, products are bio-based. They are also shared, reused, remanufactured and finally recycled. Creating new products

and business models is all about collaboration. We are forming partnerships to build circular value chains for the future.

3 Extend value with reuse and recycling
To this end, we are collaborating with customers and partners to develop circular solutions to replace plastics and cut down on waste along the supply chain.

We are testing how our products perform in different kinds of recycling systems, analysing lifecycles in terms of their carbon footprint, and looking closely at directives regarding recycling and waste. This work is supported by joining different alliances and commitments, such as CEPI's 4evergreen initiative and the New Plastics Economy Global Commitment,

led by the Ellen MacArthur Foundation in collaboration with the UN Environment Programme.

4 Zero waste
As the renewable materials company, we work to minimise waste and resource use overall. In our own operations, we focus on optimising our use of resources and on creating value

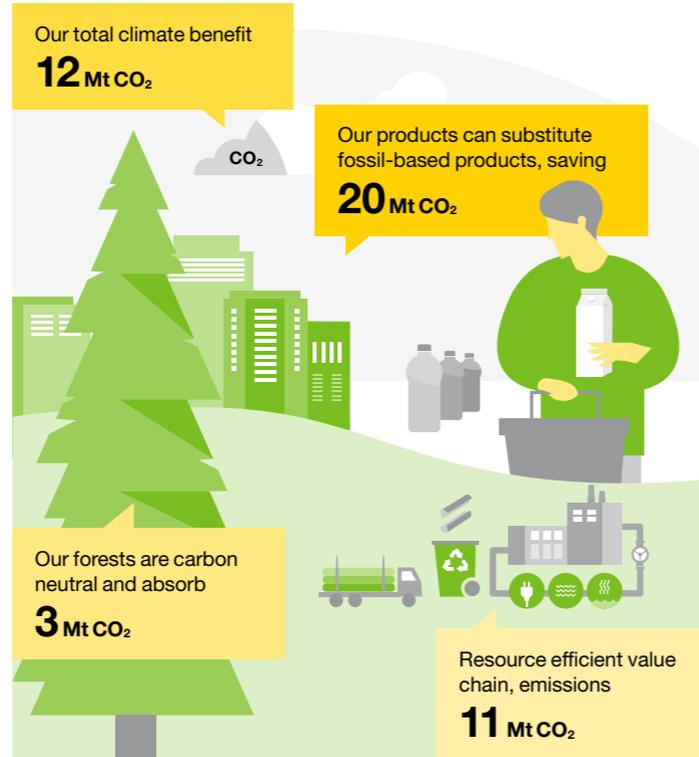
out of by-products through innovation and collaboration.

5 Biodegradability
When a material or product has reached the end of its life, we promote recycling and energy recovery to create further value. At the end of the life cycle, many of our products are biodegradable or can be burned for energy.

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Substituting materials from finite resources is our key competitive advantage



Best climate benefit comes from combining forest-based products and sustainable forestry with a resource efficient value chain. › Read more about the calculation method.

As a company, Stora Enso contributes to a better climate. Trees in our sustainably managed forests absorb CO₂ from the atmosphere and when harvested act as a store. Carbon stays in the fibers when they are made into products, and even through recycling. Carbon storage can be increased by substituting materials from finite resources with renewable alternatives. This is a significant and growing opportunity for us. By substituting fossil-based materials, Stora Enso's products saved an estimated 20 million tonnes of CO₂ in 2019 which is comparable to the average annual CO₂ emissions of 5.1 million cars.

Our business is a net contributor to prevent global warming.

Fiber-based products have a lower carbon footprint

Substitute plastic trays

Trayforma paperboard trays for ready-meal packaging offer up to 64% lower carbon footprint than plastic trays.



If all plastic trays in Germany were replaced with Trayforma, the savings in CO₂ emissions would equal to heating all houses in Berlin in January.

Substitute plastic fish boxes

EcoFishBox by Stora Enso offers up to 30% lower carbon footprint than a traditional polystyrene fish box.



Switching to EcoFishBox in the Nordics would save fossil CO₂ emissions equal to the annual emissions of 76 000 cars.

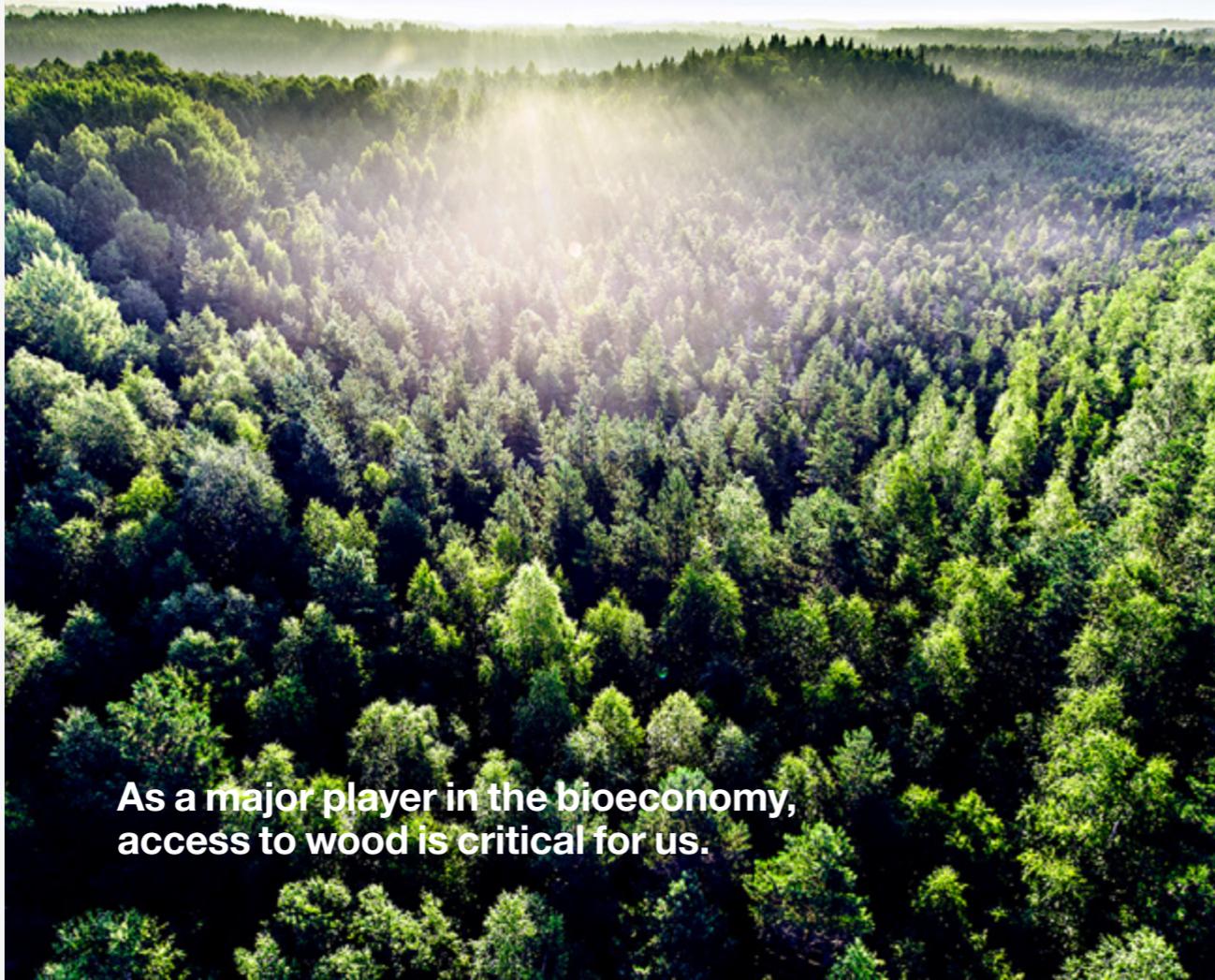
Substitute plastic PET bottles



In Europe, a fiber-based beverage carton has up to 45% lower carbon footprint than a PET plastic bottle.*

* According to studies made by Ifeu for SIG Combibloc

It all starts in the forest



As a major player in the bioeconomy, access to wood is critical for us.

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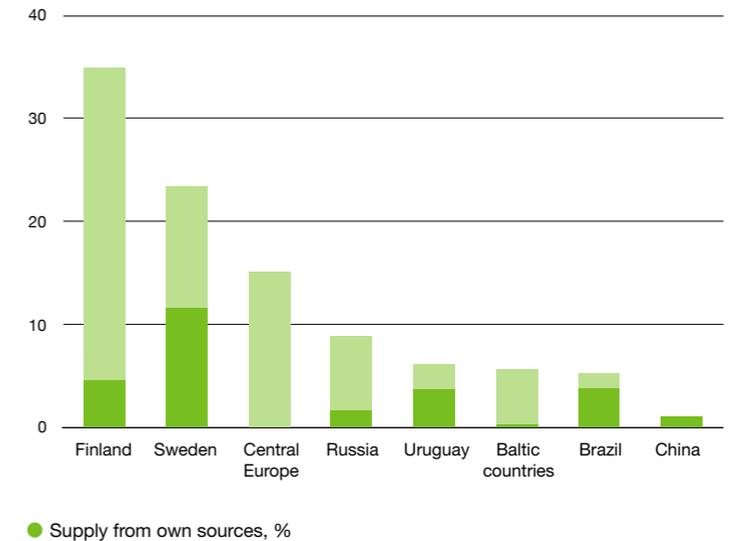
Our products are made of wood

Sustainable forest and plantation management is essential for Stora Enso in securing long-term availability of wood – our most important renewable raw material.

Stora Enso owns forest lands in Sweden, and has biological assets also in Finland, Brazil, Uruguay, China and Laos through subsidiaries, joint operations and indirectly through equity accounted investments. These biological assets are used as raw material in pulp and mechanical wood production and as biofuels.

Today, Stora Enso is one of the largest private forest owners in the world with forest assets valued at more than EUR 4.9 billion (land and biological assets) in its balance sheet the highest value being of biological assets of EUR 3.9 billion in Northern Europe. Globally, Stora Enso owns or manages lands covering a total area of 2.35 million hectares. About 30% of the Group's wood raw material needs are covered from own sources or long term supply agreements globally.

Wood procurement by region, %



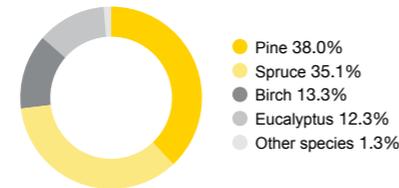
We control about 30% of our wood raw material consumption globally. In 2019, we harvested in own forests and sourced from long-term agreements 11 million m³ in total. Our deliveries to our own mills were 37.1 million m³ in total.

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Sustainable forestry is the foundation for long-term carbon neutral raw material from forests.

The distribution of species



Forest growth in 2019

Forest growth	million m ³ fo.*
Forest growth	10.8
Annual harvesting	9.4
Productive standing stock at the end of 2019	193.9

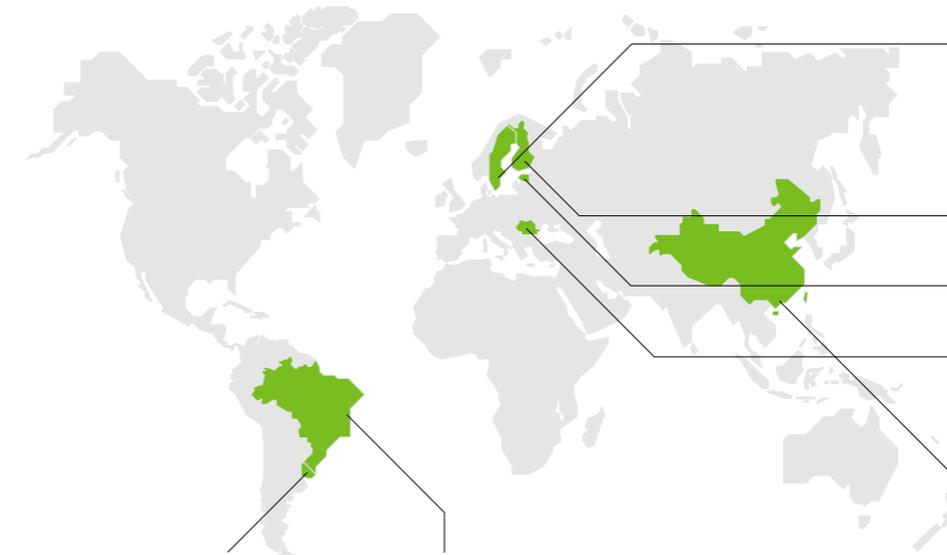
* Forest cubic metres

In 2019 we increased our forest holdings in Sweden in connection with the restructuring of Bergvik Skog, from indirect share of 936 thousand hectares to direct ownership of 1.4 million hectares of forest, of which 1.14 million hectares are productive forest land with standing stock of 143 million m³. The transaction increased Stora Enso's net debt by about EUR 1.0 billion, and the Group issued its first green bond of EUR 600 million dedicated to finance the acquisition.

With direct ownership, we can increase the security and flexibility of wood supply. This gives us better opportunities to further develop sustainable forest management, thus strengthening our competitiveness. We strongly believe in the bioeconomy and want to secure our competitive raw material supply for the long term.

Our wood supply was substantially strengthened after the Bergvik Skog acquisition

Total biological asset value in balance sheet EUR ~4.4 billion



Montes del Plata, Uruguay

Stora Enso's share
131 000 ha
of forest land
Fair value: EUR 222 million
(31 Dec 2019)

Veracel, Brazil

Stora Enso's share
112 000 ha
of forest land
Fair value: EUR 86 million
(31 Dec 2019)

Swedish forests
1 408 000 ha
of forest land
Fair value: EUR 3 133 million
(31 Dec 2019)

Tornator
Stora Enso's share
255 000 ha
in Finland,
27 000 ha
in Estonia, and
5 000 ha
in Romania
Fair value: EUR 740 million
(31 Dec 2019)

Guangxi, Southern China (leased)
81 000 ha
of forest land
Fair value: EUR 181 million
(31 Dec 2019)

In addition:
Laos: trial plantation, 3 900 ha (leased land)
Russia: 369 500 ha (long-term harvesting rights)

In addition land book value totals EUR 548 million in the balance sheet at the end of 2019.

Attractive valuation for the Bergvik Skog acquisition

	Hectares	Price per ha (EUR)	Value (EUR billion)
Productive forest holdings in Sweden	1 139 853	3 020	3.4
Forest value based on BillerudKorsnäs/AMF	1 408 245	3 700*	5.2
Forest value based on LRF Konsult	1 139 853	5 700**	6.5

* Swedish packaging materials company BillerudKorsnäs sold 89.9% of Bergvik Skog Öst AB to Swedish pension insurance company AMF in June 2019 for an enterprise value of EUR 1.2 billion on a debt free basis. The valuation corresponds a price of approximately EUR 3 700 per hectare of forestland.

** The average price for forest land in Central Sweden based on LRF Konsult statistics generally for smaller forest deals.

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Focus on sustainable forestry

We established the Forest division to add transparency and visibility of our forest operations.

The new Forest division, which started operations in the beginning of 2020, includes Stora Enso's Swedish forest assets and the 41% share of Tornator with the majority of its forest assets located in Finland. The division also includes wood supply operations in Finland, Sweden, Russia, and Baltic countries. Tree plantations in South America and Asia, linked to local pulp mills, continue to be reported in the Biomaterials and Packaging Materials divisions. Forest division provides support to management and development of tree plantations in South America and Asia.

As a major player in the bioeconomy, access to wood is critical for us. Wood is the single most important raw material and the biggest share of our costs, as well as a large part of the balance sheet. Forest operations are an integrated part of our value chain.

Creating additional value through forests

1. **Competitive wood supply:** Sources wood to Stora Enso mills, in a competitive and sustainable way
2. **Innovation:** A platform for innovations and development. There are several opportunities with innovation to improve our forestry operations. Examples include remote sensing techniques, including laser scanning; digital images of the forest simulating e.g. the impact of our operations to the forest.
3. **Sustainable forest management:** The climate benefits and economic values from growing forests are reached without compromising biodiversity and other environmental aspects.

Forest growth represents an important component of the annual operative return for long-term rotation forest assets, where the typical annual wood sales and related costs do not reflect the total profitability of the forest assets. The long-term value change of the standing forests is an important component of the forestry business's profitability.

Our aim is to increase long term yield of our forests and plantations without compromising biodiversity. We can further increase the yield by accurate and professional forest management utilising new digital technologies, with tree breeding as well as with R&D especially in the field of biotechnology.

See also:

- › **Financial Report:** Note 12 Biological assets
- › **Sustainability Report:** Forests, plantations, and land use



Key figures

Stora Enso regenerated forest by planting

65.5 million

seedlings in 2019.

The total amount of wood (including roundwood and wood chips) delivered to Stora Enso's mills was

37.1 million m³

sub in 2019.

Stora Enso invested

EUR 72 million

in 2019 in future growth through silviculture and fertilisation.

98%

of the lands Stora Enso owns or manages were covered by forest certification schemes.

Share of fiber costs of Group's total costs:

34%

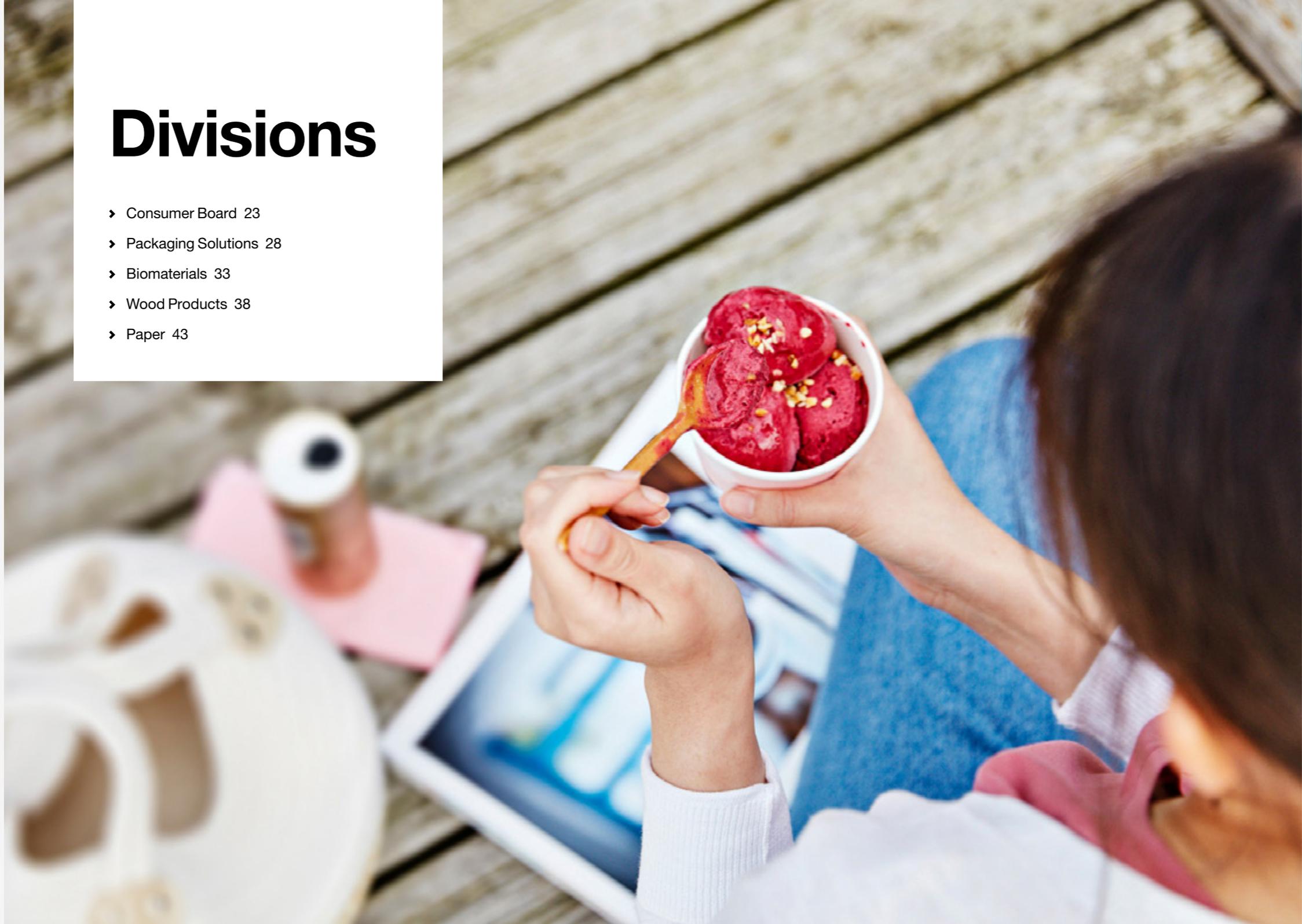


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Consumer Board

- Packaging Solutions
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Consumer Board

The ambition of the Consumer Board division is to be the global leader in high-quality virgin fiber cartonboard. We aim to be the preferred global partner for customers in premium consumer board segments. Our wide board and barrier coating selection is suitable for consumer packaging for liquid, food, pharmaceutical and luxury goods. Our products enable fossil-based materials in packaging to be replaced by renewable and recyclable alternatives.



“The new Packaging Materials division has an industry leading product portfolio of virgin and recycled packaging materials. This combined with our innovation and sustainability capabilities will create a very attractive total offering and allow us to take advantage of the call of consumers, customers and legislators for a transition to a circular economy. As the requirements for packaging renewability and recyclability are increasing, we see significant opportunities to replace other packaging materials with low carbon footprint, fiber-based solutions. We are focusing our innovation efforts on constantly improving the recyclability of our products and, together with our partners, developing solutions able to replace fossil-based packaging.”

Hannu Kasurinen
Executive Vice President
Consumer Board Division
As of 1 January 2020 EVP Packaging Materials Division

As of 1 January 2020, Stora Enso merged its containerboard business in the Packaging Solutions division with the Consumer Board division, creating a new Packaging Materials division.



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Offering in 2019

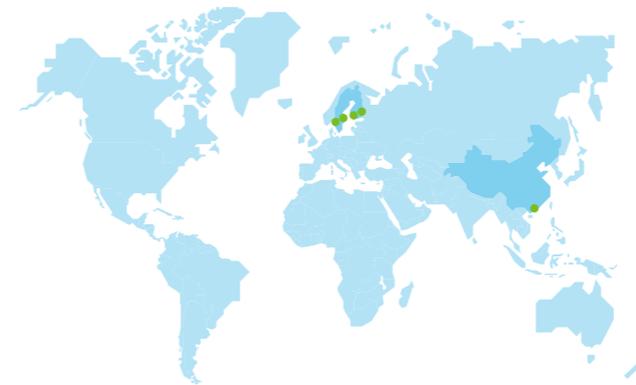
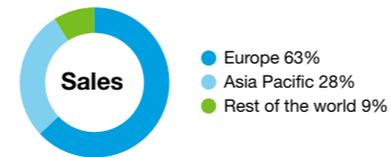
- **Liquid packaging board** for milk, yogurt, juice, soups, wine, soft drinks, water, etc.
- **Food service board** for hot and cold drinking cups, fast food, ice cream, catering, etc.
- **Carton board** for dry, frozen and chilled food, beverages, chocolate and confectionery, pharmaceuticals, cosmetics, luxury goods, cigarettes, etc.
- **Graphical board** for book and notepad covers, greeting cards, tickets, tags, etc.
- **Speciality paper** for bags, pouches, labels, banderols, etc.

Business environment

The premium consumer board market is expanding globally, providing growth opportunities for us in CUK (Coated Unbleached Kraft), FBB (Folding Boxboard), FSB (Food Service Board) and LPB (Liquid Packaging Board). Our SBS (Solid Bleached Sulphate) board serves the demanding niche of cosmetics and luxury packaging. Our growth is faster than the global packaging market, accelerated by our renewable materials and innovations that can replace fossil-based packaging materials.

Our strategy is built on three pillars: being the global leader in attractive end-use segments; customer-driven innovations based on renewable materials; and competitive assets well positioned in our key markets.

Leading market position in core segments



● Consumer Board mills

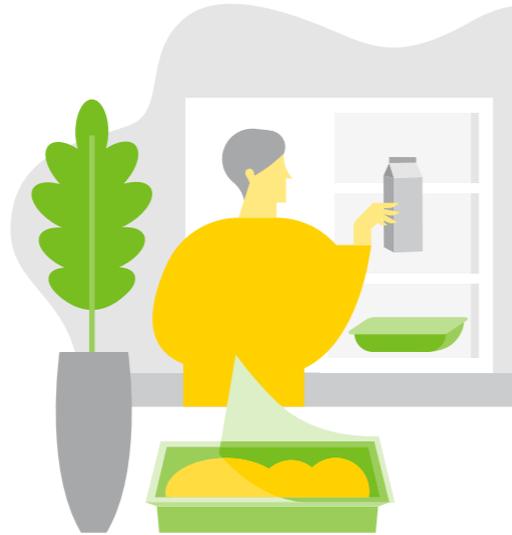
Stora Enso is one of the largest producers of virgin fiber board in the world. We are the global leader in liquid packaging and the biggest producer of food service board and carton board in our strategic segments in Europe.

Consumer Board division has a strong foundation in European markets, where our main competitors are BillerudKorsnäs, Metsä Board and Holmen. The main competitors outside Europe include Klabin, Evergreen, Georgia-Pacific and International Paper. Apart from other paperboard manufacturers, one of our biggest competitors is the plastic packaging industry. EU legislation around single-use plastics is driving up demand for fiber-based materials. Substituting plastic packaging with fiber can make a substantial contribution to meeting the EU's CO₂ targets. Even with the existing packaging technologies, 25% of European plastic packaging could be replaced with renewable solutions.

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Advantages



Our innovation efforts are targeted to develop packaging materials and business models that can replace fossil-based non-renewable materials and meet the demands of the circular bioeconomy.



Wide portfolio based on renewable and recyclable materials

Consumer Board offers the widest portfolio of premium, virgin fiber board in Europe. Thanks to our wide selection of barrier coatings, paperboard can be used in far more end-use applications compared with paperboard as such. We also offer plant-based coating for fully renewable barrier packaging.



Strong assets with further development potential

Our asset base is strong, with cost-competitive integrated mills in Imatra and Skoghall, specialised mills in Fors and Ingeröis, and a state-of-the-art mill in Beihai. We also are the industry leader in micro-fibrillated cellulose (MFC).



Global footprint geared for growth

Our mill in Beihai, China, allows us to expand our offering to new customers and geographical markets. It continues to be a key growth initiative for the division because the most significant growth in virgin fiber-based consumer board is taking place in China and the Asia Pacific region.



Innovations to replace plastics and improve circularity

Our innovation efforts are targeted to develop packaging materials and business models that can replace fossil-based non-renewable materials and meet the demands of the circular bioeconomy. The key focus areas of our innovation work are: bio-barriers based on MFC; source reduction by adding MFC to the board; and sustainable biocomposite packaging components such as screwcaps and straws with less plastic.

Strong customer relations and a leading position in attractive segments

We work throughout our value chain with external partners, customers and start-ups to accelerate innovation. Together we find new solutions to improve the quality, efficiency, functionality and recyclability of packaging by using renewable materials. We have a strong market position in all our product segments, and we collaborate with our long-term customers to understand the drivers behind consumer needs to create the packaging of the future.



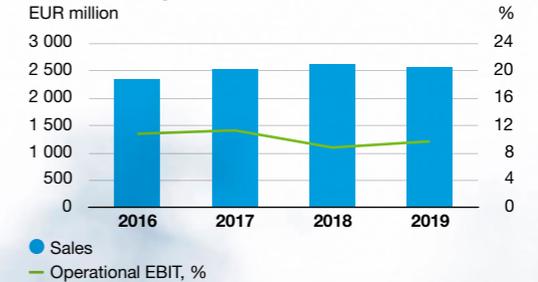
Financial performance

Operational ROOC

12.3%

(Target >20%)

Sales and operational EBIT



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Accelerating MFC product development

Production and commercialisation of MFC was further enhanced following the completion of an investment at Imatra Mills in Finland.



New 2019

New cosmetics tube to replace plastic

A paperboard tube to reduce plastic in the primary packaging of cosmetics is a new application area for our paperboard. The body of the tube is made of Natura Shape™ by Stora Enso, which is 70% based on renewable raw material and thus reduces the need to use fossil-based raw material.

At the forefront of innovation

New products' share of Consumer Board division's total sales was 17% in 2019, which already exceeds the group's target level of 15% and is expected to grow in the coming years.



New 2019

Serving our customers with a number of new products launched in 2019

In 2019, we launched several new products to meet our customers' increasing demands for product safety, functionality, sustainability and recyclability. Our materials increase the opportunities for renewable packaging and for replacing fossil-based materials:

- Stora Enso and Sulapac launched a renewable and biodegradable straw to combat the global problem of plastic waste. The straw has strong usability and works just like a traditional straw. The new straws entered the market in late 2019 and are available to brands and consumers looking for more eco-friendly solutions.
- A premium quality board, Arctic Deer™ by Stora Enso, was launched in China. Produced at Beihai Mill, Arctic Deer is suitable for applications in food and pharmaceutical packaging, as well as in publications.
- A strong kraft board, CKB Jade™ by Stora Enso, was launched in China to meet the packaging requirements of the growing online food business.
- Cupforma Natura™ by Stora Enso with dispersion coating is a new material for hot and cold drinking cups, and for ice cream packaging. It is produced without a traditional plastic coating layer and designed for full fiber recovery in a recycling process.
- Wood-based biocomposites, DuraSense™ by Stora Enso, were introduced to new customer segments including premium cosmetics, food and luxury brands seeking alternatives to plastic packaging.

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Driving the change towards more efficient recycling of packaging

Stora Enso enhances the circularity of its products through innovative material solutions. In addition to this, the Consumer Board division develops partnerships for the collection and recycling of paperboard packaging.

We work with our value chain partners, participate in industry collaboration and co-create with our customers for circular design. One example of this is the aim to start recycling used paper cups on a large scale at Langerbrugge paper mill in Belgium. Bringing paper cups into the recycling scheme represents a new business opportunity as cups are such an underutilised source of quality recyclable fiber.

Today, Stora Enso is one of the world-leading suppliers of food service board to cup makers. We are now looking into partnerships for the collection and sorting of used paper cups to ensure that this high-quality fiber material is captured and given a second life. The plan strengthens Stora Enso's role as a driver of circular business.

In a trial run at the Langerbrugge mill, half a million baled post-consumer paper cups collected from fast food restaurants and coffee houses were recycled into magazine paper.

The result confirmed that the fibers from the paper cups are well suited for other paper applications. The paper board for cups is made of high-quality, renewable fibers which can have several lives due to recycling. Recycling a paper cup can reduce its life-cycle carbon footprint by half.

› [Read more about the trial at Langerbrugge Mill](#)

Main focus and targets for 2020



Safety – aiming at zero accidents



Grow faster than the global packaging market and leverage the potential of joint packaging materials portfolio



Develop new business through customer- and consumer-driven innovation



Increase sales generated by new products and services



Maintain market position for our core segments in Europe, and grow in the Chinese and South East Asian market



Leverage the potential of our existing assets



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Packaging Solutions

The Packaging Solutions division provides fiber-based board materials and corrugated packaging products and services that are designed for a wide range of applications. Our renewable high-end packaging solutions serve leading converters, brand owners and retailers – including those in e-commerce – that are looking to optimise performance, drive innovation and improve their environmental footprint.

In 2019, our strategy focused on growing significantly in containerboard and expanding selectively in corrugated packaging. The global trends of sustainability and e-commerce favoured market growth and our current footprint included markets with high growth rates, attractive profitability and low risk level. Moreover, we continue to focus on growing through product innovation, design and operational excellence whilst leveraging digitalisation to create competitive advantages.

As of 1 January 2020, Stora Enso is merging its container board business in the Packaging Solutions division with the Consumer Board division, creating a new Packaging Materials division. The remaining business in Packaging Solutions together with Stora Enso's recently created Formed Fiber unit, will constitute a more focused Packaging Solutions division.



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Offering in 2019

- **Kraftliner:** corrugated box liner, e.g. for food, fruit, vegetables and consumer electronics
- **Recycled liner:** corrugated box liner, e.g. for furniture, electronics and e-commerce boxes
- **Semi-chemical fluting:** corrugated box fluting, e.g. for fruit, vegetables and heavy-duty goods
- **Recycled fluting:** corrugated box fluting, e.g. for industrial and consumer goods
- **Corrugated packaging:** corrugated boxes, e.g. for food, retail, e-commerce and industrial goods
- **Packaging automation:** packaging machines, such as box formers, case packers and palletising robots
- **Design services:** packaging design development services
- **Technical services:** equipment optimisation services
- **Intelligent packaging:** RFID-based packaging solutions for track-and-trace possibilities, including plastic-free RFID tags
- **Kraft papers:** high-strength paper, e.g. for bags for grocery and construction materials

Business environment

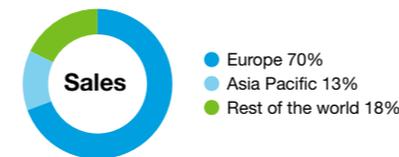
The customer base in containerboards and corrugated packaging is fragmented as it encompasses converters, brand owners, retailers, industrial and e-commerce companies. This offers opportunities for differentiation as customer expectations evolve and for leveraging packaging as a tool for brand building and engaging with end-consumers.

Total retail e-commerce sales are forecast to grow by

15% annually.

This is driving growth in corrugated packaging, which accounts for most of the e-commerce packaging.

Leading market position in core segments



- Containerboard
- Corrugated packaging

As an industry leader in renewable packaging, the Packaging Solutions division holds a strong position in the corrugated packaging focus markets: a leading status in the Nordics, second in the Baltics and Poland, third in China and fifth in Russia. The main competitors are Smurfit Kappa, Mondi, DS Smith and International Paper.

In containerboard, we have world-class assets and provide high-end products. The market is fragmented in both containerboard and corrugated packaging with many larger and smaller players.

In 2019, the Packaging Solutions division operated three containerboard mills, four rigid box plants, 17 corrugated box plants, 10 design studios and one innovation centre.

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Advantages

Positive growth trends

In containerboard, we see continued demand and growth for kraftliner for use in the areas of fresh produce and food and demanding industrial and retail applications. Our focus is to be a strategic supplier and deliver high-performing products and services within these segments.

In corrugated packaging, we strive to build partnership positions with larger brand owners and retailers, helping them add value to their offerings through innovation and sustainability advantages. The e-commerce segment is especially attractive due to its anticipated fast market growth (15% CAGR 2018–2022). Corrugated packaging is fossil-free, renewable, recyclable and compostable and therefore well positioned in versatile application areas.



Integrated supply chains

Packaging Solutions maintains a vertically integrated position in the supply chain. In 2019, our operations ranged from paper collection for recycling to the purchase of wood, to the production of lightweight containerboards and versatile solutions for corrugated packaging.



Access to virgin fiber

Stora Enso has, partly through direct forest holdings, good access to the wood necessary for producing virgin containerboard.



Sustainable packaging

We offer low material weight, optimised transport and a fully recyclable product made from a renewable raw material, so that our customers can reduce their environmental footprint.

Innovation and design capabilities

We bring added value to our customers through experienced packaging designers in our design studios for the development of innovative packaging, for example for traditional retail and e-commerce, high-quality printing facilities, market-leading containerboard products and intelligent packaging. This includes e-commerce packaging to replace plastics, as well as RFID (Radio Frequency Identification) enabled boxes that allow digital interactions with end-consumers.



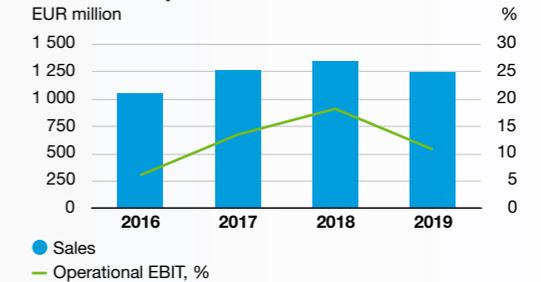
Financial performance

Operational ROOC

14.4%

(Target >20%)

Sales and operational EBIT



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Biofuels through energy-efficient technology

An industrial-scale pilot plant built at the Heinola fluting mill in Finland will turn sludge from the mill's water treatment plant into renewable fuel. The plant will test new energy-efficient technology. The new biofuels will reduce the carbon dioxide emissions at the mill's power plant, and support Stora Enso's goal of further reducing its dependence on fossil fuels.



Award-winning packaging for knitting equipment

Our innovative packaging design "Wool locker" was awarded the German Packaging Award 2019. Wool locker is a packaging designed for knitting equipment, keeping the yarn and needles organised. It can later be used for storing knitting tools, giving it a second life. The packaging is made of 100% renewable corrugated board and is well suited for e-commerce.



New capacity for packaging at Oulu Mill in a cost-efficient way

The Oulu paper mill will be converted for kraftliner production in 2020 to strengthen the Group's position in the growing packaging business. The longer-term market outlook for kraftliner products is positive – with a structural growth of roughly 2% per annum. This is largely driven by the growing demand for sustainable packaging in retail and foods as well as the growth of e-commerce and industrial applications. At Oulu Mill, we plan to produce virgin fiber-based linerboards. The product will have many advantages over standard kraftliner boards, namely higher strength, improved printability and food safety due to being made of 100% virgin fibers.

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Awarded corrugated ice cream packaging

In 2019, a packaging solution developed by Stora Enso in Lahti for the Finnish artisan ice cream manufacturer Vanhan Porvoon Jäätelötehdas was given two awards; the ScanStar 2019 by the Scandinavian Packaging Association and the WorldStar 2020 by the World Packaging Organisation.

The corrugated packaging replaces plastic and metal containers and is aimed at bulk sales from fixed and mobile sales points.

“The idea came up when I saw the EcoFishBox by Stora Enso. After DesignStudio workshops, we settled on the final version. A corrugated bulk package works very well for ice cream as a sales package and in logistics, and it also has an insulating effect which helps keep the ice cream frozen,” says **Samuli Wirgentius**, Ice Cream Specialist and Managing Director at Vanhan Porvoon Jäätelötehdas.

The new packaging solution also saves on storage and time. Previously the containers had to be returned and washed. The new packaging is delivered as flat sheets and assembled on site and can be sent for material recycling after use. It is made of 95% renewable material with a PET film barrier approved for food contact.

The ice cream package is a good example of how Packaging Solutions division's design studios work closely with customers to co-create new and innovative product packaging.

› Read more about the awarded package

Main focus and targets for 2020



Safety – aiming at zero accidents



Expand the corrugated business in selected markets



Commercialise innovations that contribute to profitable growth



Leverage digitalisation for better customer experience and operational efficiencies



Capitalise on completed investments and upgrades

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Biomaterials

The Biomaterials division offers a wide variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers. We maximise the business potential of the side streams of our processes, such as tall oil and turpentine from biomass. Based on our strong innovation approach, all fractions of biomass, like lignin and sugars, hold substantial potential for use in various applications.



“Biomaterials aspires to meet the growing demand for replacing products made from fossil-based and hazardous materials with bio-based solutions. Through our world-class innovation work, we aim at building and developing viable businesses from new opportunities. As a strong and specialised chemical pulp producer, we focus on maximising the value of hardwood eucalyptus pulp in Latin America, differentiating our Nordic mills’ softwood pulp production to grow existing business, and generating profitable growth from emerging businesses.”

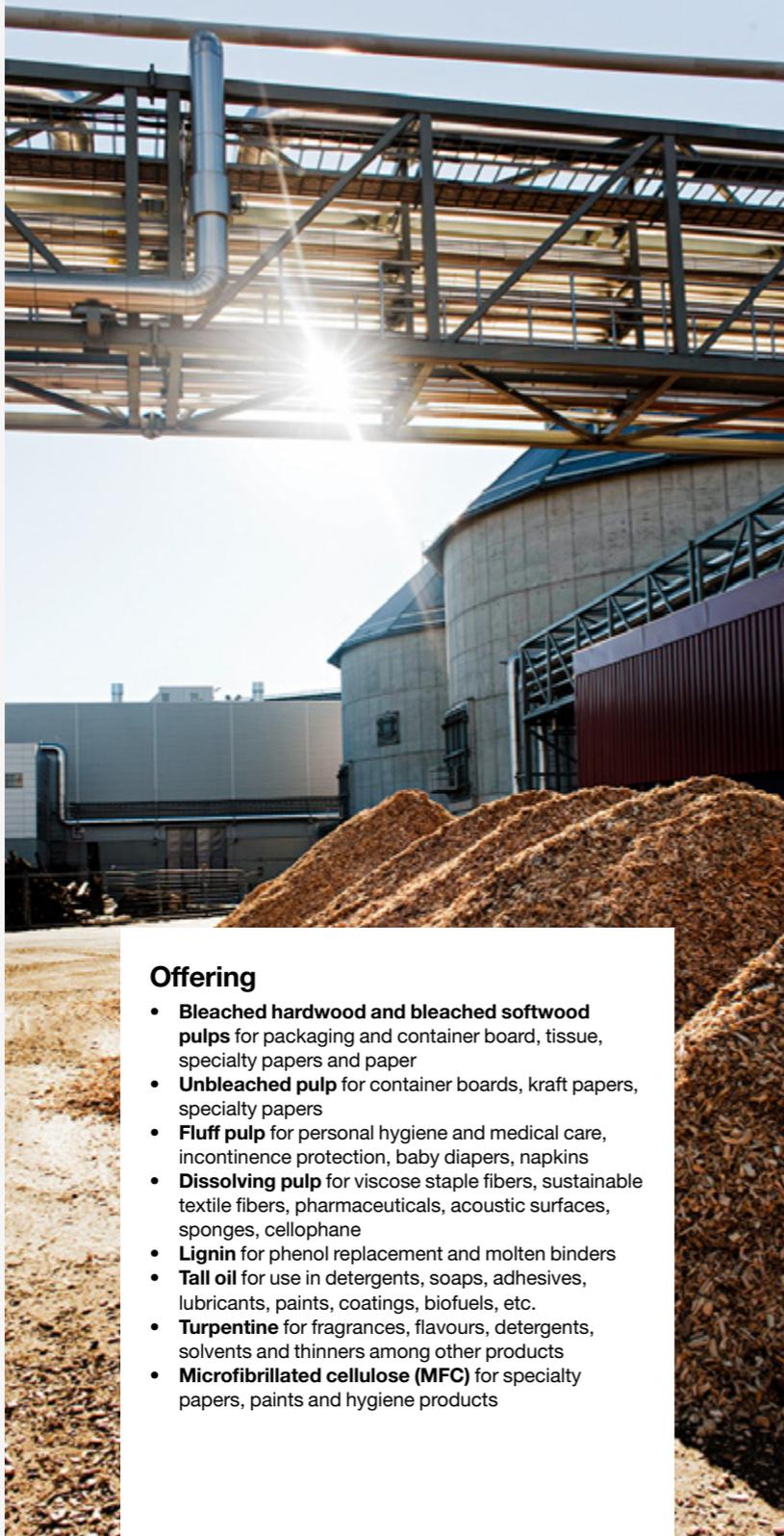
Markus Mannström
Executive Vice President
Biomaterials Division



Our dissolving pulp, Pure by Stora Enso, can be used in production of cellophane – a true renewable alternative to plastics.

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Offering

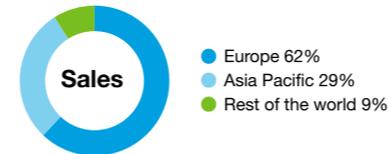
- **Bleached hardwood and bleached softwood pulps** for packaging and container board, tissue, specialty papers and paper
- **Unbleached pulp** for container boards, kraft papers, specialty papers
- **Fluff pulp** for personal hygiene and medical care, incontinence protection, baby diapers, napkins
- **Dissolving pulp** for viscose staple fibers, sustainable textile fibers, pharmaceuticals, acoustic surfaces, sponges, cellophane
- **Lignin** for phenol replacement and molten binders
- **Tall oil** for use in detergents, soaps, adhesives, lubricants, paints, coatings, biofuels, etc.
- **Turpentine** for fragrances, flavours, detergents, solvents and thinners among other products
- **Microfibrillated cellulose (MFC)** for specialty papers, paints and hygiene products

Business environment

The nature of the global pulp business continues to remain cyclic. However, its long-term growth is strongly supported by megatrends such as growth of the middle class in developing countries and progress in digitalisation, urbanisation, eco-awareness, and changing lifestyles. The market for renewable textiles, nonwoven materials, carton boards for packaging, hygiene products, and specialty and tissue papers continues to grow. This in turn generates demand for our various pulp grades, particularly with the aging population driving demand for fluff pulp.

Our aim is to maintain our competitive position through differentiation and innovation, and to extract the maximum value from our joint operations at Veracel and Montes del Plata in Latin America.

Leading market position in core segments



- Biomaterials pulp mills
- R&D facilities and/or pilot plants
- Plantations

The Biomaterials division has own operations in Finland and Sweden and the United States, and joint operations in Brazil and Uruguay.

In our Nordic mills, the aim is to increase the share of specialised pulp, i.e. fluff and dissolving pulps, to address the changing paper pulp demand and to ensure the right product mix and customer base. This responds to the increasing demand for sustainable fibers in the textile industry and for renewable hygiene products, for example. We are also exploring areas where digitalisation can help us improve efficiency and safety in our value chain while reducing cost.

Other major pulp makers on the market include, for example, Metsä Fibre, International Paper, Sappi, and Suzano (our partner in Veracel).

In terms of new potential markets for renewable solutions, the Biomaterials division faces competition from biochemical companies and the chemical industry.

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Advantages



In addition to pulp products, the Biomaterials division develops a strong business portfolio for lignin, regenerated cellulose in textiles, MFC and bio-based chemicals.



Largest portfolio of pulp grades with the right pulp mix for customer needs

Unlike many other suppliers that are focused on one specific pulp grade, we offer the widest pulp portfolio on the market. Our customers value the ease of having access to a broad selection of products of stable quality.



Superior customer service and strong customer relations

We have been working closely with our customers to understand their business challenges and to identify and develop unique or innovative value offerings that respond to those challenges. Our technical experts advise customers on the best usage of our pulp in order to achieve the desired functionality and quality of their products. The foundation for our customer relations is our aim to be involved downstream in the value chain, thus making optimal use of our fibers. This allows us to build solid, regular and long-term relationships with our customers.



Fiber knowledge and innovation

World-class experts in fibers and chemistry work for the Biomaterials division and continually advance our know-how of what wood as a raw material can make possible. Their daily mission is to transform biomass into renewable solutions on our selected emerging and existing business growth platforms. We are proud to work with top scientists who link us to global research and thus also add value to our customers' businesses. Biomaterials innovation sites are located in Finland, Sweden and the US.

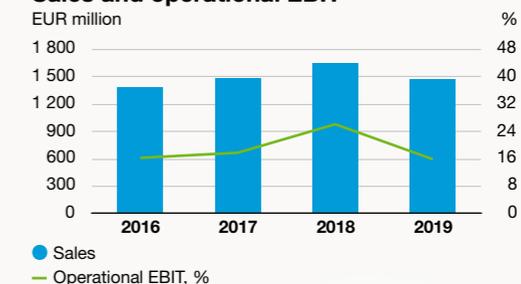
Financial performance

Operational ROOC

9.4%

(Target >15%)

Sales and operational EBIT

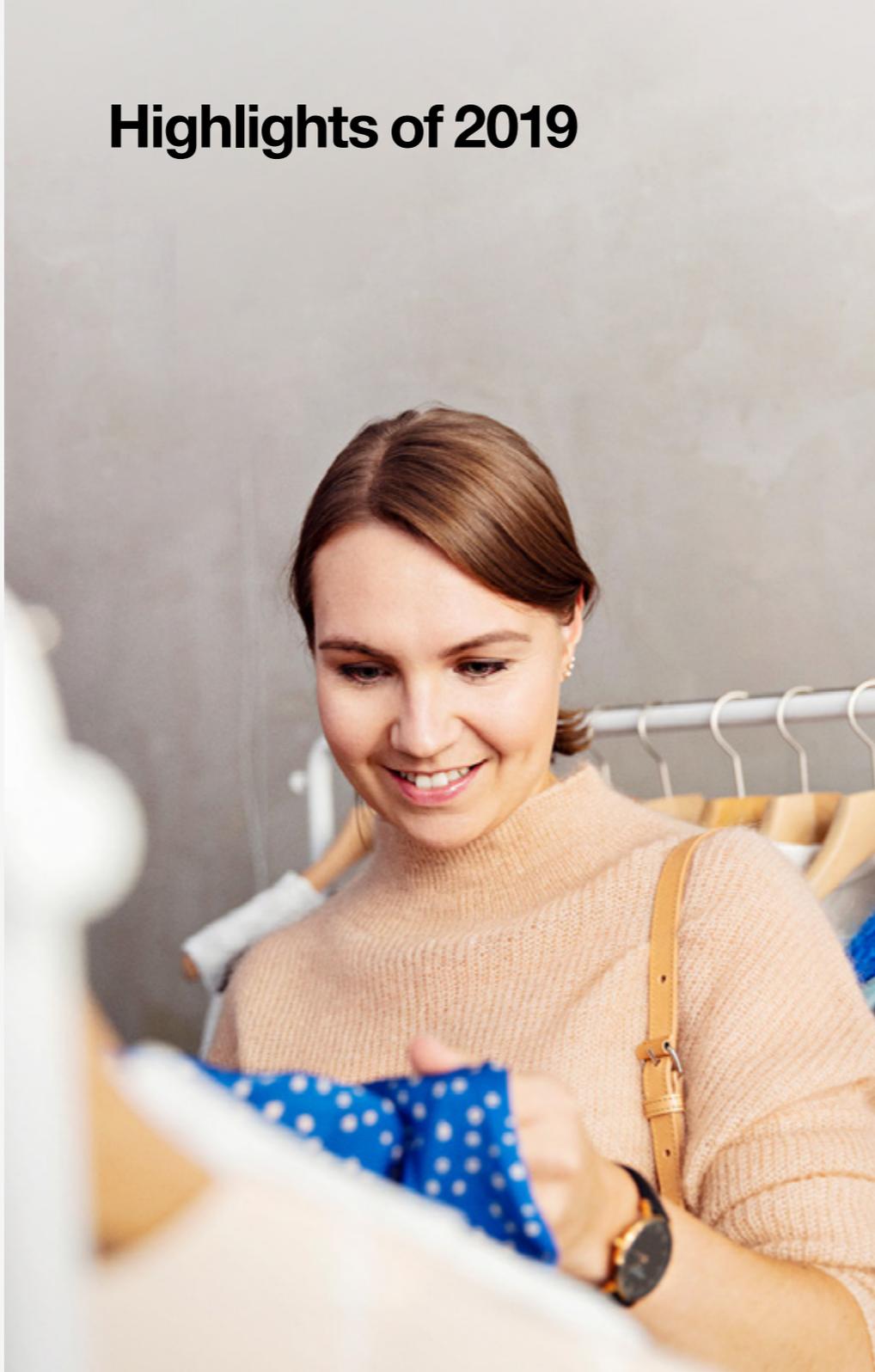




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Replacing fossil-based packaging materials with renewable alternatives

Stora Enso has decided to invest EUR 9 million in a pilot facility for producing renewable material (FDCA) for enabling bio-based plastic packaging. The facility will convert plant-based sugars into FDCA, the renewable building block required to make PEF. PEF is a bio-based alternative suitable for different packaging applications in the food and beverage industry, in pharmaceuticals and for aerosol bottle and can manufacturers, for instance. With the investment, Stora Enso continues to build its long-term R&D work while targeting new markets with innovative, renewable materials that replace fossil-based materials. The pilot plant will be located at Stora Enso's Langerbrugge Mill in Belgium and run by the company's Biomaterials division. The plant is estimated to be ready in the first quarter of 2021.



Bio-based carbon materials for energy storage

Stora Enso is investing EUR 10 million to build a pilot facility for producing bio-based carbon materials based on lignin. Wood-based carbon can be utilised as a crucial component in the batteries typically used in consumer electronics, the automotive industry and large-scale energy storage systems. The investment further strengthens Stora Enso's opportunities to replace fossil-based and mined raw materials as well as to connect sustainable materials with ongoing technology innovations.



More dissolving pulp capacity to fulfil market demand

Enocell Mill in Finland has been converted to focus entirely on the production of dissolving pulp, used as a raw material in the textile industry, for example, to replace cotton and fossil-based materials, such as polyester. Demand for dissolving pulp is growing at above the industrial average, driven by increased demand for viscose-type fabrics in the textile industry and non-woven applications. The production of softwood pulp, used mainly for papers and boards, will gradually be discontinued at Enocell Mill.

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NaturaFluff by Stora Enso for disposable hygiene products

Fluff pulp, made from long fiber softwood, is used as a raw material in disposable hygiene products and as the main component in air-laid nonwoven materials such as table-tops and napkins.

Disposable hygiene products can be divided into the sub-segments of Baby, Adult, and Feminine Care products. While producers try to meet the specific needs of each sub-segment, generally consumers want products that are highly absorbent, do not leak, are comfortable, thin and flexible, and that also come at an attractive price. The natural and organic segment for hygiene products is growing strongly – all major brands have launched products in recent years with some sort of natural claim.

Stora Enso has been producing fluff pulp for the past 50 years at Skutskär Mill in Sweden and is today the largest producer of fluff pulp in Europe. At full capacity, the mill will be able to produce some 415 000 tons of fluff pulp annually.

We believe the trend towards more sustainable, environmentally friendly, disposable hygiene products will continue. Many of our customers have set ambitious targets to reduce the carbon footprint of their products in the years to come. Currently, we are running innovation projects to help our customers further reduce their carbon footprint by using our raw material, without sacrificing the performance of the end-product.

› [Read more about fluff pulp](#)



Main focus and targets for 2020



Safety is our priority number one, aiming at zero accidents



Creating a customer-centric operational and business culture



Accelerating market entry for new products and services



Continuous production, output and operational efficiency improvement



Helping our customers to become more sustainable



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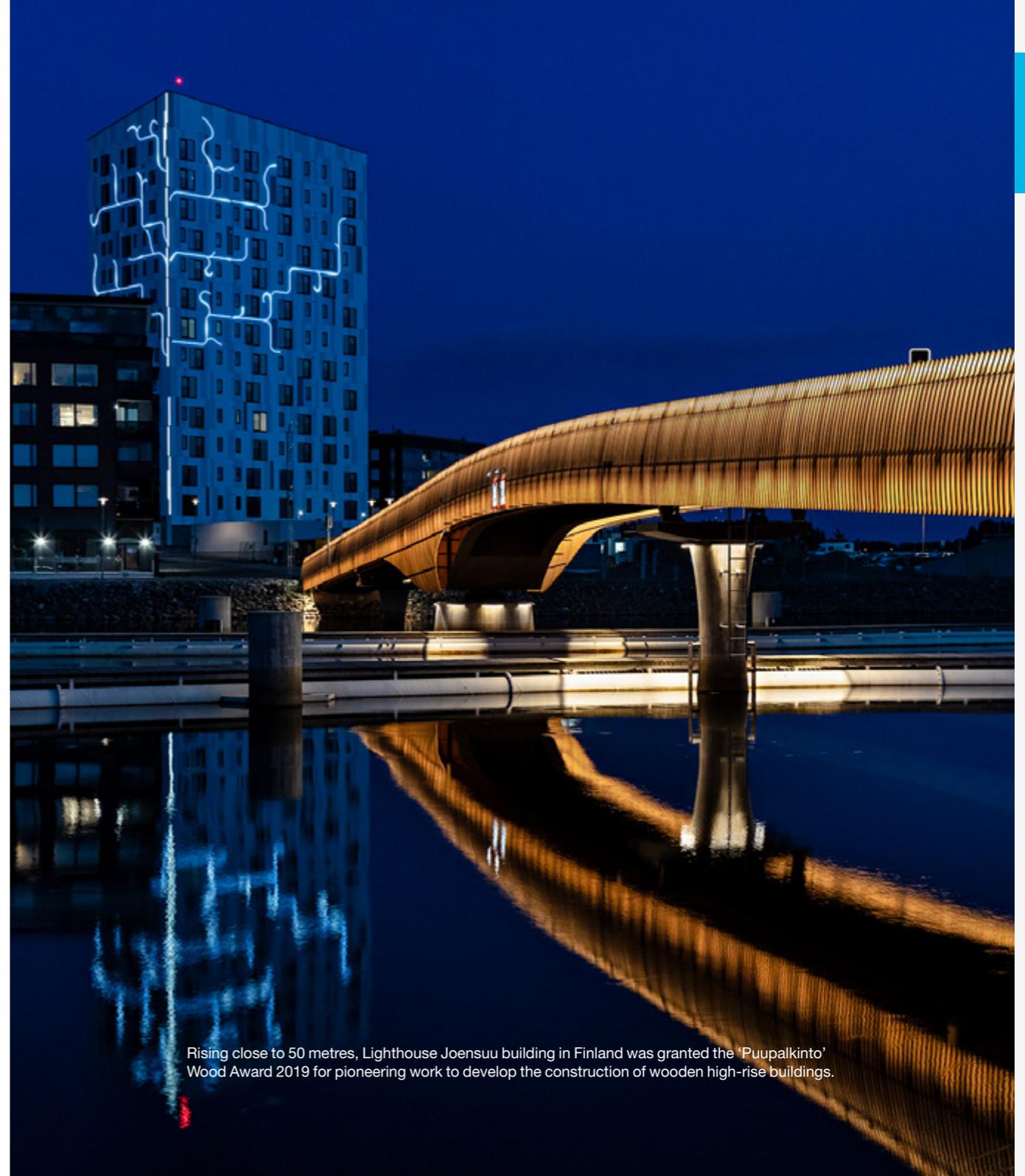
Wood Products

The Wood Products division is a leading provider of innovative wood-based solutions. The product range covers applications for construction, the window and door industry, and wood processing industries, as well as for the packaging and interior or exterior decoration industries. Accelerated development of biocomposites addresses plastic replacement opportunities in segments ranging from consumer goods to industrial components, cosmetics and packaging in a cost-competitive way. Pellets provide a sustainable solution for heating. The offering includes service concepts that complement each other, such as Building Solutions, integrated distribution operations and e-business. Our solutions meet strict requirements regarding safety, quality, design and sustainability.



“Our accelerated growth is based on new, innovative building solutions as well as a successful expansion of biocomposites. We are well positioned for growth due to our strong focus on building the right capabilities in the organisation. This enables us to develop new applications and services as well as to maximise the benefits of our investments in automation and digitalisation.”

Jari Suominen
Executive Vice President
Wood Products Division



Rising close to 50 metres, Lighthouse Joensuu building in Finland was granted the 'Puupalkinto' Wood Award 2019 for pioneering work to develop the construction of wooden high-rise buildings.

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Offering

- Building solutions
- Building components
- Digital tools: Calculatis, CLT360, Prodlib and Track&Trace
- Cross laminated timber (CLT)
- Laminated veneer lumber (LVL)
- Window and door components
- Construction beams
- ThermoWood
- Classic sawn and classic planed
- Pellets
- Biocomposites
- Digital R&D lab HEAL

Business environment

Wood Products division has close to 2 500 customers in 60 countries. The customer and supplier market is highly fragmented, competitive and volatile because it is mainly connected to the construction market. For a developed player like Stora Enso, this means opportunities to bring agile solutions to the otherwise traditional commodity market. It also enables us to steer, automate and digitalise the total value chain: from the forest to end-use segments such as construction, packaging, furniture, pellets and bioenergy.

The world needs a new approach to materials, and wood is part of the solution.

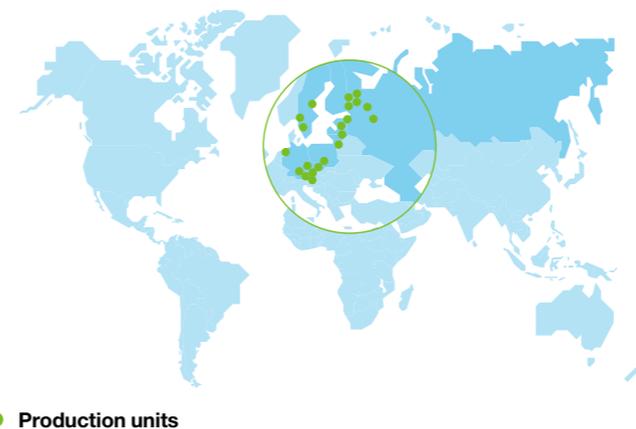
Stora Enso is the largest supplier of wooden construction material in Europe and the fourth largest in the world with 21 production units in 11 different countries.

Most of Wood Products division's sales go directly to industrial manufacturers, merchants or retailers, with the remaining channels being wholesalers and trading houses. Our aim is to increase the share of value-added products and services while also developing our distribution centres. This means that the share of direct sales will grow in the future. The global market growth for sawn softwood is estimated to be 2–3% annually.

Competition is varied and strong, ranging from other sawmills to manufacturers of construction and interior materials. Wood pellets face competition from other heating systems, whereas for biocomposites the main competitor is conventional plastic. In the construction market the new end-uses of wood are increasing their market share and offering alternatives to replace non-renewable materials.

Other significant sawmilling and wooden material providers include: Binderholz, Pfeiffer, SCA Timber, Metsä Fibre and Holzindustrie Schweighofer.

Leading market position in core segments



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Advantages

Competitiveness through digitalisation

We are developing digital solutions throughout the complete value chain. We see significant opportunities in digitalisation and automation, from identifying and harvesting the right tree in the forest to adding digital solutions such as scanners, robotics and automation to our production process for optimal quality and efficiency. We are also developing intelligent attributes to the products to enable utilisation and analysis of the data that is collected.

Building Information Modelling (BIM) tools and digital solutions enable improved transparency and communication between all players in the construction process. Our digital tools make the construction process smoother. For example, structural designs for CLT and LVL buildings can be created online with Calculatis, and the CLT360 mobile app shows where individual CLT components should be located on a construction site.

Digitalisation and automation will take our wood-based solutions to the next level.



Renewable wood as a raw material

Wood is the only construction material suitable for large-scale construction that is both fully renewable and recyclable. Wood stores carbon for its entire lifetime, while sustainable forest management guarantees the growth of new trees. Trees grow by absorbing carbon dioxide from the atmosphere and the longer the carbon is stored, the greater the environmental benefit. Building with wood can help reduce embodied fossil carbon dioxide emissions up to 50% during the building life cycle compared with other, non-renewable materials.

European-wide sawmill network

Our 21 production units are well positioned close to a high-quality raw material supply in 11 different European countries. Our sawmill network gives us a unique opportunity to optimise the wood sourcing and production efficiency and continuously develop our product range. It also enables us to utilise the benefit of efficient logistics and harmonise ways of working to further enhance Stora Enso's position as a global provider of wood-based solutions.

Broad product and service offering

Our high-quality wood-based products and services target the end-user segments of construction, packaging, furniture and bioenergy. We utilise our wooden materials to the fullest for our high-quality products. The parts not utilised for production are used to produce energy. On average, the utilisation rate of wooden raw material is over 99%.

Global sales network combined with local presence

Our global know-how and broad product portfolio are our competitive advantages. We are close to our customers and serve them locally through our extensive sales network. We also differentiate through innovative services such as integrated distribution centres, building applications and building concepts, as well as through eBusiness solutions.

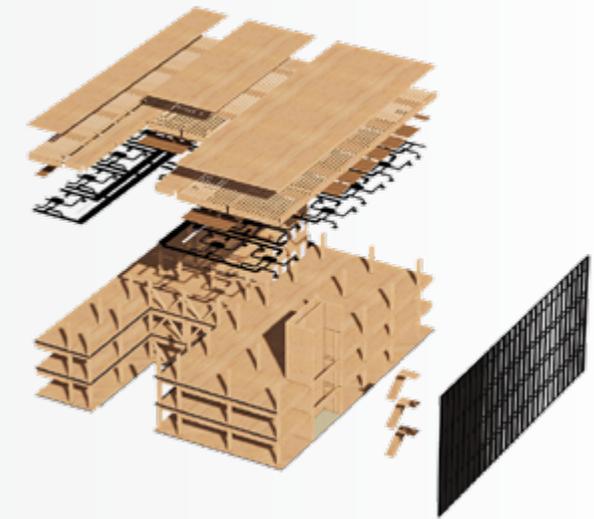
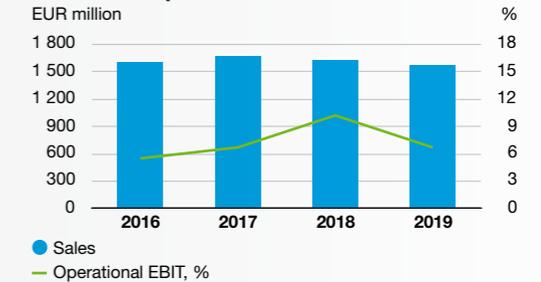
Financial performance

Operational ROOC

16.6%

(Target >20%)

Sales and operational EBIT



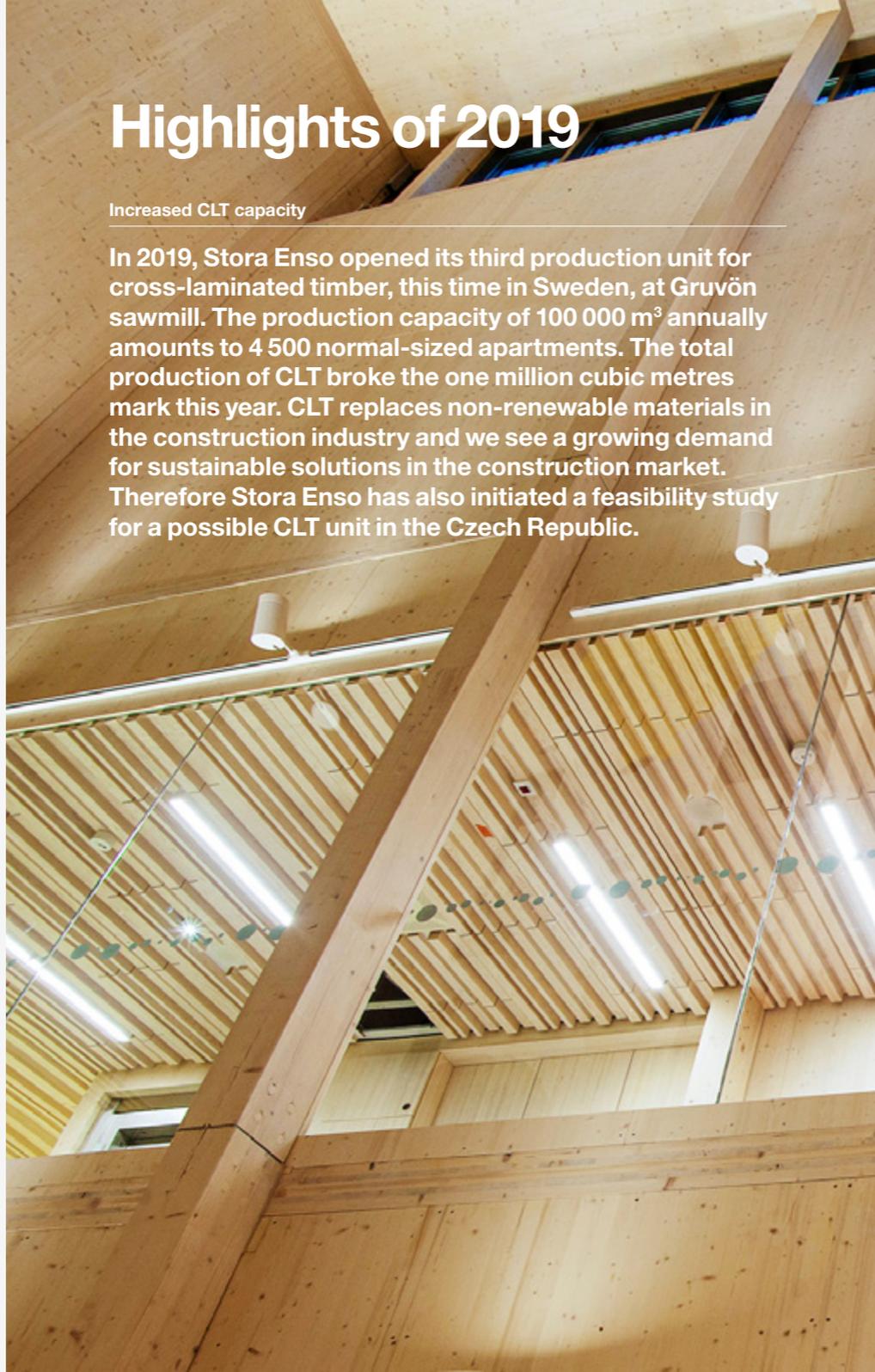
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Highlights of 2019

Increased CLT capacity

In 2019, Stora Enso opened its third production unit for cross-laminated timber, this time in Sweden, at Gruvön sawmill. The production capacity of 100 000 m³ annually amounts to 4 500 normal-sized apartments. The total production of CLT broke the one million cubic metres mark this year. CLT replaces non-renewable materials in the construction industry and we see a growing demand for sustainable solutions in the construction market. Therefore Stora Enso has also initiated a feasibility study for a possible CLT unit in the Czech Republic.



Building Concepts – construction solutions with all the benefits of wood

Building Concepts by Stora Enso are basic guidelines and tools for building a modern construction with wood. The Concepts are intended for all players in the construction value chain, i.e. architects, structural engineers, developers, landowners, city planners, etc. Building Concepts by Stora Enso allow the creation of cost-competitive buildings based on the best-performing combination of our prefabricated building components and wood products. The concepts cover residential buildings, eco-schools and offices. In November 2019, the building concept for offices was launched and Stora Enso announced its plan to move its headquarters in Helsinki into a new wooden building – following this very office concept.



Consolidation of Finnish spruce production at Varkaus sawmill

Aligned with the strategy to focus on cost-competitive and integrated production, Stora Enso will consolidate its Finnish spruce timber production at Varkaus Mill. This is to create synergies with the existing LVL (laminated veneer timber), pulp and paperboard mills. Using the full potential of the sawmill gives a wider range of products, enhanced R&D and innovation work, and increased efficiency in production. As a result of this consolidation, the Kitee sawmill in Finland was closed by the year end.



Biocomposites offer an affordable way to go green

The growing market for bio-based products creates opportunities for both raw material suppliers and product manufacturers alike, as sustainability and the environment rise up on consumer agendas.

DuraSense® by Stora Enso is a blend of wood fibers and polymers, offering our customers an affordable way to go green. The DuraSense® product family is suitable for a wide range of applications, from consumer goods to industrial applications for manufacturing by injection moulding, extrusion and 3D printing.

The re-usable and durable cutlery made from our biocomposites has a significantly lower carbon footprint than conventional plastic cutlery.

Building with wood

Stora Enso was selected as the provider of wooden raw material for several new buildings around the world, including:

- SMU (Singapore Management University), a five-floor teaching hub building completed with a hybrid solution of a steel frame and CLT floor structures.
- The new “Bo” student campus for the University i Sorøst-Norge in Telemark, Norway: CLT and glulam were used to build two new five-floor houses including 290 apartments, together with our partner Woodcon A/S.
- Astor in Geel, Belgium: The highest hybrid timber and concrete structure in Belgium for a senior housing project consisting 2 buildings 4 and 11 floors completed with our partner CLT-S.
- A vertical and horizontal extension of an old Victorian-era worker's cottage, House Windsor, in Melbourne, Australia, with large CNC processed re-glued LVL elements delivered by Stora Enso.
- Lapinmäki kindergarten, the first kindergarten in Helsinki, Finland completed with CLT by Stora Enso. Use of the CLT360 scanning service for the correct order of panel installation enabled the smooth construction process with our partner Puurakentajat.

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Digitalisation and sustainability go together in a wooden building for BOKU

“At the new BOKU seminar centre, sustainability, efficiency and digitalisation are perfectly integrated in the construction process. This makes this project a true showcase,” says **Hans-Peter Weiss**, Managing Director of the Austrian state real estate company (BIG).

The project benefits from the latest digital tools by Stora Enso, for example track-and-trace for on-time logistics and sensors reporting the condition of the wooden elements during the construction phase. The installers can locate the construction elements on-site with a 3D model tool and shorten the construction time with enhanced accuracy. The indoor air quality in the newly constructed building will also be measured digitally.

The sustainability proof of new seminar centre for Austrian University of Natural Resources and Life Sciences (BOKU) means that the wood used in this building has removed 596 tons of carbon dioxide from the atmosphere, equivalent to the annual emissions of 340 cars. The building was awarded the “klimaaktiv GOLD” timber construction certificate as early as during the construction process.

The four-storey building located in centre of Vienna and completed with CLT by Stora Enso contains 10 seminar rooms, one floor for the library, and the top two storeys provide shared office space for the institute. The building is expected to be completed in September 2020.

› Read more about BOKU

Main focus and targets for 2020



Safety – aiming at zero accidents



Increasing the CLT capacity by ramping up the new Gruvön CLT production line and finalising the feasibility study for a new CLT mill in Ždírec, Czech Republic



Finalise the establishment of a new building solutions beam production facility in Ybbs, Austria



Further develop biocomposites properties for different conversion types and increase the use of recycled plastics



Successfully launch building concepts for various building types and continuously develop new applications and components



Continue the successful implementation of the digital roadmap and increased automation in operations

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Paper

Stora Enso is the second largest paper producer in Europe with an established global customer base and a wide product portfolio for print and office use. Customers benefit from Stora Enso's broad selection of papers made from recycled and virgin fiber, as well as from our valuable industry experience, know-how and customer support.



"We believe that paper will continue to play an important role in media, advertising and the office in the future. We work closely with our customers to enhance value for their business. At the same time, we strengthen our competitiveness by further lowering costs and improving our efficiency and processes throughout our operations. Our paper products are inherently recyclable, and our processes are optimised for the highest level of resource-efficiency. Our fit-for purpose product offering and service concepts are designed to meet our customers' requirements regarding quality, reliability and sustainability."

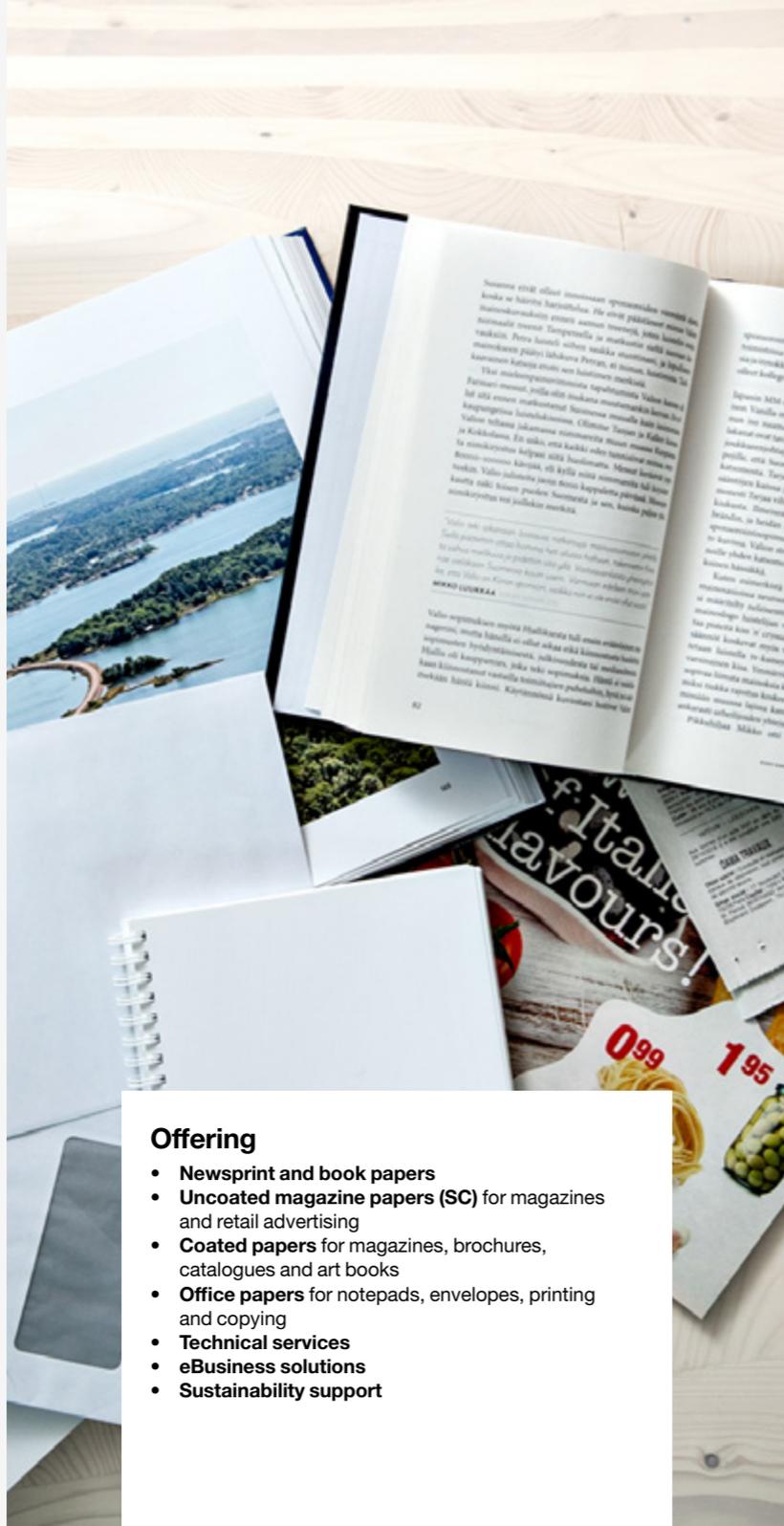
Kati ter Horst
Executive Vice President
Paper Division



More than 90% of our own paper brands have been awarded the European Ecolabel, the official EU recognition for greener products.

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Offering

- **Newsprint and book papers**
- **Uncoated magazine papers (SC)** for magazines and retail advertising
- **Coated papers** for magazines, brochures, catalogues and art books
- **Office papers** for notepads, envelopes, printing and copying
- **Technical services**
- **eBusiness solutions**
- **Sustainability support**

Business environment

During 2019, the decline in European demand for paper has accelerated and global trading conditions have been challenging. This has resulted in an unfavourable demand and supply balance for paper producers, as industry capacity reductions have been inadequate. One of the most challenged paper segments is woodfree coated (WFC), which Stora Enso will exit towards the end of 2020 after Oulu Mill is converted to produce new generation kraftliner. This will not impact Stora Enso's other paper businesses and will further contribute to reducing complexity and costs.

We provide our customers with a wide range of products and services for print and office use. By providing our customers with products with superior environmental performance, we also help them to improve their sustainability performance.

Leading market position in core segments



Print and digital media complement each other: flyers and folders are used in advertising, and online retailers publish printed magazines and catalogues and establish physical store locations to improve customer experience. Digital companies use direct mail to proactively promote subscriptions to online services.

Publishers still generate most of their revenue from print, and print media remains the most trusted source of information. Print advertising brings consumers into stores.

Book paper sales have remained quite stable as many people prefer reading books in the traditional paper format. Copy paper is performing relatively well as people continue to print in offices and at home.

With its comprehensive product range, Stora Enso's Paper division is the second biggest paper manufacturer in Europe where the main competitors are UPM, Sappi, Holmen, Norske Skog, Mondi and the Navigator company.

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Advantages



Strong assets serving global paper markets

The Paper division reviews and develops its key assets – pulp mills, paper machines, and energy set-ups – continuously. We ensure that asset and sales strategies are aligned to increase our competitiveness in changing market conditions. We thrive for operational excellence in everything we do and utilise digitalisation to improve customer experience, safety and efficiency throughout our operations.

Focused innovation

Operational excellence is about having competitive assets and a sound cost structure. Our process innovations improve the division's efficiency and ways of working. The investments in green energy solutions at our Maxau and Nymölla Mills are examples of improved competitiveness and reduced environmental impact.

New or improved paper grades aiming at higher product quality to fit customer needs. Many of our products have been developed together with our customers. For instance, our new thin printing paper LumiLeaf meets the demands of Optical Character Recognition (OCR), crucial for optical reading of bar codes.

Non-paper related new businesses utilising our knowhow and infrastructure. Our paper assets and professional expertise offer an excellent platform for innovation. Hylte Mill, for example, hosts the Wood Products division's biocomposite business and will also have a pilot plant for formed fiber.

Commercial excellence through long-term customer relationships

Key focus areas in our commercial excellence include optimising sales by product and mill through product management. In addition, we focus on pricing as well as solid business intelligence and the commercial competence of our global sales network.

Sustainability as a competitive advantage

We use our sustainability expertise to help our customers perform better on sustainability measures. Our performance in different areas of sustainability has been recognised by many stakeholders, for example WWF's Environmental Paper Company Index. More than 90% of our own paper brands have been awarded one or more ecolabels, providing independent third-party evidence of their superior environmental performance. The European

Ecolabel is the official EU recognition for greener products, and we are one of only a few companies that can claim this level of ecolabel performance. Further, to provide a common platform for sustainability information, Paper division has registered all its European mills in the Supplier Ethical Data Exchange (Sedex) online database, used by more than 50 000 members in over 150 countries.



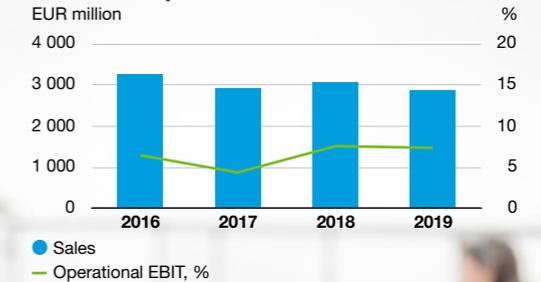
Financial performance

Cash flow after investing activities to sales

9.3%

(Target >7%)

Sales and operational EBIT



Our paper assets and professional expertise offer an excellent platform for innovation and development of renewable solutions.

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Highlights of 2019



A new life for take-away – exploring recycling of paper cups for magazine paper production

Stora Enso successfully tested recycling used paper cups at its Langerbrugge Mill in Belgium. Based on production trials, Stora Enso possesses the technical capability to recycle paper cups for use in other paper applications. Stora Enso is now looking into partnerships for the collection and sorting of used paper cups to ensure that this high-quality fiber material is captured and given a second life.

› Read more about the trial



New
2019

Light as a leaf, Stora Enso's LumiLeaf is a new thin printing paper

LumiLeaf is a thin printing paper for offset printing, launched in 2019. It is a premium paper grade tailored especially for pharmaceutical and cosmetic product information that requires good readability and a lot of information to be folded up in small packages. LumiLeaf is also great for making thick technical manuals and books lighter to transport.



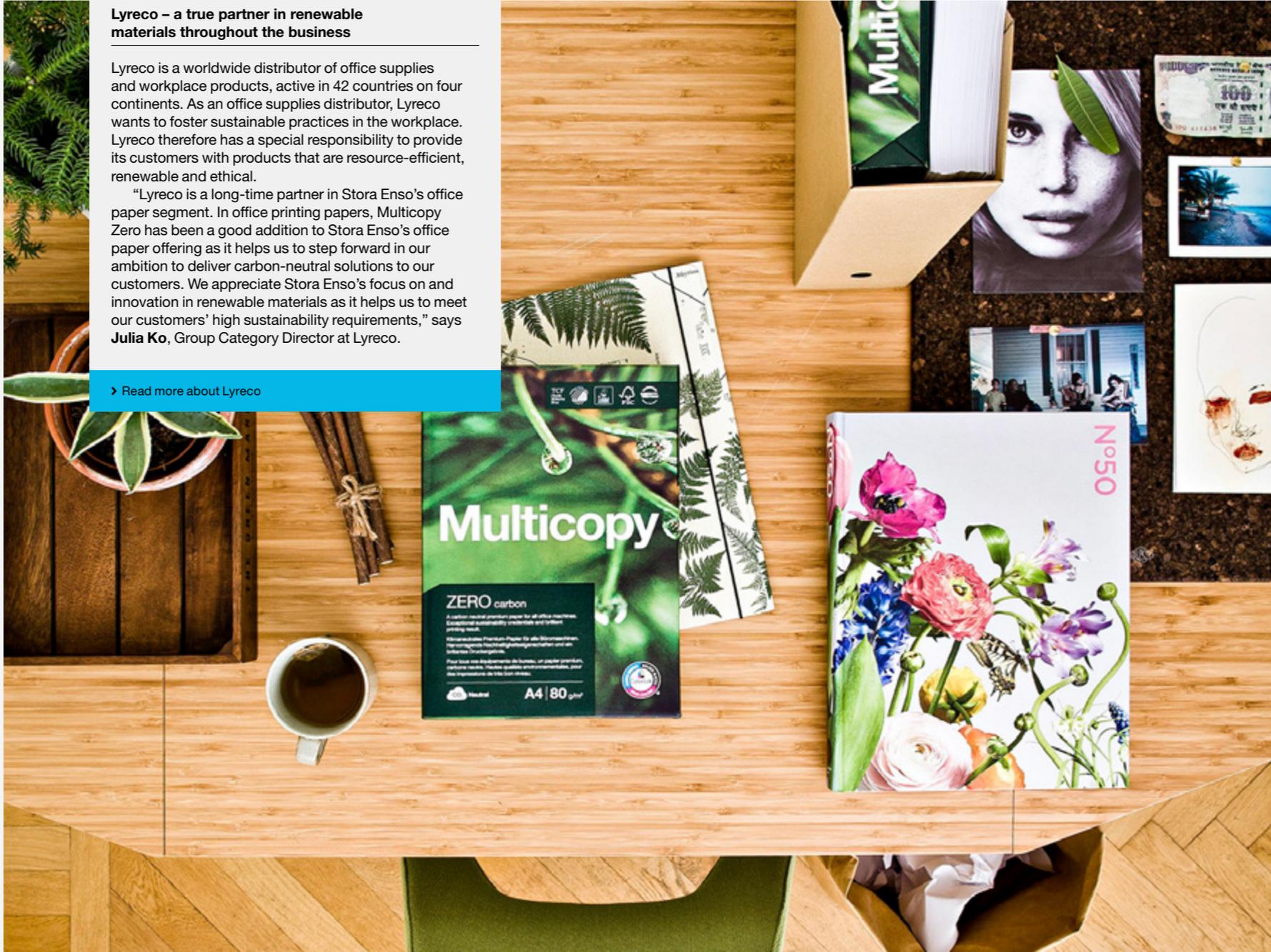
New
2019

PrimaPlus

Launched in 2019, PrimaPlus has already been received with enthusiasm. It is a lightweight uncoated paper that combines the gloss and brightness of PrimaPress, but is bulkier. It is an excellent alternative to lightweight coated papers, with a pleasant touch and feel.

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Lyreco – a true partner in renewable materials throughout the business

Lyreco is a worldwide distributor of office supplies and workplace products, active in 42 countries on four continents. As an office supplies distributor, Lyreco wants to foster sustainable practices in the workplace. Lyreco therefore has a special responsibility to provide its customers with products that are resource-efficient, renewable and ethical.

“Lyreco is a long-time partner in Stora Enso’s office paper segment. In office printing papers, Multicopy Zero has been a good addition to Stora Enso’s office paper offering as it helps us to step forward in our ambition to deliver carbon-neutral solutions to our customers. We appreciate Stora Enso’s focus on and innovation in renewable materials as it helps us to meet our customers’ high sustainability requirements,” says **Julia Ko**, Group Category Director at Lyreco.

[› Read more about Lyreco](#)

Main focus and targets for 2020



Safety – aiming at zero accidents



Delivering excellent customer experience – measured by net promoter score



Product mix and margin optimization



Continuous improvement in operational efficiency, fixed costs and variable costs, as well as working capital management to remain competitive



Focused innovation and digitalisation in customer service, supply chain and operations

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Group Leadership Team

- 1 **Johanna Hagelberg**
Executive Vice President, Sourcing and Logistics
- 2 **Hannu Kasurinen**
Executive Vice President, Consumer Board Division. Executive Vice President, Packaging Materials Division as of 1 January 2020.
- 3 **Markus Mannström**
Executive Vice President, Biomaterials Division
- 4 **Kati ter Horst**
Executive Vice President, Paper Division
- 5 **Jari Suominen**
Executive Vice President, Wood Products Division. Executive Vice President, Forest Division as of 1 January 2020.
- 6 **Seppo Parvi**
Chief Financial Officer (CFO), Deputy to the CEO, Country Manager Finland
- 7 **Noel Morrin**
Executive Vice President, Sustainability
- 8 **Ulrika Lilja**
Executive Vice President, Communications
- 9 **Annica Bresky**
President and Chief Executive Officer (CEO)
- 10 **Per Lyrvall**
Executive Vice President, Legal, General Counsel, Country Manager Sweden

Karl-Henrik Sundström, CEO, was a member of the Group Leadership Team until 30 November 2019.
Gilles van Nieuwenhuyzen, EVP, Packaging Solutions Division, was a member of the Group Leadership Team until 6 December 2019.
David Ekberg, acting Head of Packaging Solutions Division as of 6 December 2019. Not a member of GLT.
Seppo Toikka, acting Head of Wood Products Division as of 1 January 2020. Not a member of GLT.
Malin Bendz, EVP HR, was a member of the Group Leadership Team until 15 January 2020.

For more detailed information about the Group Leadership Team, see **Governance 2019**, or storaenso.com/investors/governance.



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It should be noted that Stora Enso and its business are exposed to various risks and uncertainties and certain statements herein which are not historical facts, including, without limitation those regarding expectations for market growth and developments; expectations for growth and profitability; and statements preceded by "believes", "expects", "anticipates", "foresees", or similar expressions, are forward-looking statements. Since these statements are based on current plans, estimates and projections, they involve risks and uncertainties, which may cause actual results to materially differ from those expressed in such forward-looking statements. Such factors include, but are not limited to: (1) operating factors such as continued success of manufacturing activities and the achievement of efficiencies therein, continued success of product development, acceptance of new products or services by the Group's targeted customers, success of the existing and future collaboration arrangements, changes in business strategy or development plans or targets, changes in the degree of protection created by the Group's patents and other intellectual property rights, the availability of capital on acceptable terms; (2) industry conditions, such as strength of product demand, intensity of competition, prevailing and future global market prices for the Group's products and the pricing pressures thereto, price fluctuations in raw materials, financial condition of the customers and the competitors of the Group, the potential introduction of competing products and technologies by competitors; and (3) general economic conditions, such as rates of economic growth in the Group's principal geographic markets or fluctuations in exchange and interest rates. All statements are based on management's best assumptions and beliefs in light of the information currently available to it and Stora Enso assumes no obligation to publicly update or revise any forward-looking statement except to the extent legally required.