Stora Enso investor kit
strategy and market environment, and financial performance
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Stora Enso in brief

Leading global provider of renewable solutions in packaging, biomaterials, wooden constructions and paper

Sales
EUR 10.1 billion in 2019

Operational EBIT
EUR 1 003 million in 2019

Some 25 000 employees in 30 countries

Stora Enso shares are listed on NASDAQ OMX Helsinki and Stockholm. In addition, the shares are traded in the USA as ADRs.
Our divisions from 1 January 2020 onwards

Stora Enso group 2019: Sales 10 055 MEUR / Operational EBIT 1 003 MEUR / Operational ROCE 10.3%

Packaging Solutions
Packaging Solutions division provides fiber-based packaging products and services designed for a wide array of applications. Our renewable high-end packaging solutions serve leading converters, brand owners, and retailers across multiple industries looking to optimise performance and drive innovation.

Biomaterials
Biomaterials division offers a wide variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers. We also develop new ways to maximise the value extractable from the wood as well as other kinds of lignocellulosic biomasses. The extracted sugars and lignin hold potential for use in a range of applications.

Wood Products
Wood Products division provides versatile wood-based solutions for building and housing. Our product range covers all areas of construction, including massive wood elements, wood components and sawn goods. We also offer pellets for sustainable heating. Our customers are mainly merchants and retailers, industrial integrators and construction companies.

Forest
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 the Baltic countries. The division’s key focus areas are sustainable forest management, competitive wood supply to Stora Enso’s mills and innovation. As a major player in the bioeconomy, access to wood is critical for Stora Enso. Today, Stora Enso is one of the biggest private forest owners in the world.

Paper
Paper division provides best-in-class paper solutions for print media and office use. The wide selection covers papers made from virgin wood and recycled fibres. Our main customer groups include publishers, retailers, printing houses, merchants, converters, and office suppliers. We create value for our customers by providing competitive products and services that meet their quality and sustainability requirements.
Our road to success in the bioeconomy

Introducing new products and services

Addressing attractive end-use segments

Delivering sustainable profitable growth

Generating superior ROCE
Targeting sustainable profitable growth based on customer insight and innovation

Our transformation strategy continues… …delivering sustainable profitable growth

- **Customer insight**
  - Developing offerings according to customers’ requirements to create value and growth, with sales excellence.

- **Motivated employees**
  - Focus on inspiring leadership, good communication, performance management and target setting.

- **Innovation**
  - Focus on bio-based materials and chemicals, digitalisation, intelligent packaging and new packaging solutions.

- **Structured processes**
  - Clear roles and responsibilities, standardised and harmonised working methods, operational excellence.

- **Sustainable profitable growth**

- **Strategic growth investments**
  - Capex at or below depreciation and depletion* over the business cycle

- **Cash flow from operations**

- **Strong balance sheet**
  - Net debt to operational EBITDA target <2x

- **Dividend**
  - To distribute 50% of EPS over the cycle

- **Sustainable profitable growth**
  - Business and CAPEX driven by ROCE

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*Operational decrease in the value of biological assets

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20 October 2020
Stora Enso
These are our drivers for accelerating renewable growth

In 2019 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.

- High-quality container-boards
- Intelligent packaging
- Value added services in corrugated packaging
- Building components and systems
- Bio barriers
- Next generation liquid and food packaging
- Biocomposites
- Future bio-based chemicals
## Development of strategic financial targets

### Group strategic financial targets

<table>
<thead>
<tr>
<th></th>
<th>Q3 19</th>
<th>Q3 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dividend</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To distribute 50% of EPS over the cycle</td>
<td>0.50</td>
<td>0.15/0.35**</td>
</tr>
<tr>
<td><strong>Growth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To grow faster than the relevant market</td>
<td>-5.2% (YoY)</td>
<td>-6.0% (YoY)</td>
</tr>
<tr>
<td><strong>Net debt to operational EBITDA</strong></td>
<td>2.1</td>
<td>2.4</td>
</tr>
<tr>
<td>&lt;2.0x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed costs to sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20%</td>
<td>24.2%</td>
<td>26.8%</td>
</tr>
<tr>
<td>Net debt to equity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;60%</td>
<td>55%</td>
<td>42%</td>
</tr>
<tr>
<td>Operational ROCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;13%</td>
<td>9.2%</td>
<td>6.7%</td>
</tr>
<tr>
<td><strong>Operational ROCE excl. Forest</strong></td>
<td>11.7%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

### Divisional strategic financial targets

<table>
<thead>
<tr>
<th>Division</th>
<th>Q3 19</th>
<th>Q3 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging Materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROOC &gt; 20%</td>
<td>11.9%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Packaging Solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROOC &gt; 30%</td>
<td>23.1%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Biomaterials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROOC &gt; 15%</td>
<td>5.9%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Wood Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROOC &gt; 20%</td>
<td>15.8%</td>
<td>25.2%</td>
</tr>
<tr>
<td>Forest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROOC &gt; 5%</td>
<td>2.7%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash flow after investing activities to sales &gt; 7%</td>
<td>14.4%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

* Annual dividend. **Additional payment of a maximum of EUR 0.35 to be decided later *** Excluding Paper
# Capacities by grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>Capacity 1 000 t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Board</td>
<td>3 290</td>
</tr>
<tr>
<td>Containerboards*</td>
<td>1 410</td>
</tr>
<tr>
<td>Corrugated Packaging</td>
<td>1 370 (Mm²)</td>
</tr>
<tr>
<td>Sawn goods</td>
<td>5.7 Mm³</td>
</tr>
<tr>
<td>Short-fibre pulp</td>
<td>1 200</td>
</tr>
<tr>
<td>Long-fibre pulp</td>
<td>370</td>
</tr>
<tr>
<td>Fluff pulp</td>
<td>350</td>
</tr>
<tr>
<td>Dissolving pulp</td>
<td>350</td>
</tr>
<tr>
<td>Unbleached kraft pulp</td>
<td>80</td>
</tr>
<tr>
<td><strong>Net market pulp</strong></td>
<td><strong>2 350</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Capacity 1 000 t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newsprint and Book paper**</td>
<td>1 570</td>
</tr>
<tr>
<td>Uncoated Magazine (SC)</td>
<td>1 070</td>
</tr>
<tr>
<td>Coated Magazine</td>
<td>260</td>
</tr>
<tr>
<td>Total Magazine Paper</td>
<td>1 330</td>
</tr>
<tr>
<td>Uncoated Fine</td>
<td>1 000</td>
</tr>
<tr>
<td>Total Fine Paper</td>
<td>1 000</td>
</tr>
<tr>
<td><strong>Paper Total</strong></td>
<td><strong>3 900</strong></td>
</tr>
</tbody>
</table>

*Containerboards capacity to increase by 450 000 t/a after Oulu conversion. The production of the converted machine to start by end of 2020.

**Capacity after Hylte newsprint machine (PM3) shut down. Machine will be shut down by the end of 2020.
Global position
– capacity and biological asset allocation

- Board capacity by country 2020
- Paper capacity by country 2020
- Chemical Pulp capacity by country 2020
- Biological assets by country as at Dec 2019
- Total assets by country as at Dec 2019
We are perfectly positioned to benefit from the megatrends.

- Global warming
- Growing middle class
- Eco awareness
- Changing lifestyles
- Urbanisation
- Growing population
- Digitalisation

Increasing demand for raw material that is **renewable**, **reusable** and **fossil free**.
The renewable materials growth company

Everything that’s made with fossil-based materials today can be made from a tree tomorrow
Substituting materials from finite resources is our key competitive advantage

Our products substitute fossil-based products, saving 20 Mt CO₂

Resource efficient value chain, emissions:
11 Mt CO₂

Our forests are carbon neutral and absorb 3 Mt CO₂

Our total climate benefit: 12 Mt CO₂
We are one of the largest private forest owners in the world
Total forest assets fair value EUR 5.4 billion in the balance sheet

**Swedish forests**
- 1 400 000 ha of forest land
- Fair value: 3.3 BEUR (30 Sep 2020)

**Tornator**
- Stora Enso’s share 256 000 ha in Finland, 27 000 ha in Estonia and 5 000 ha in Romania
- Fair value: 763 MEUR (30 Sep 2020)

**Veracel plantations, Brazil**
- Stora Enso’s share 112 000 ha of forest land
- Fair value: 62 MEUR (30 Sep 2020)

**Guangxi, Southern China (leased)**
- 81 000 ha of forest land
- Fair value: 184 MEUR (30 Sep 2020)

**Montes del Plata, Uruguay**
- Stora Enso’s share 133 000 ha of forest land
- Fair value: 228 MEUR (30 Sep 2020)

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

Forest land value including leases was 761 MEUR in the balance sheet as at 30 September 2020

Stora Enso
Oulu paper mill is converting to packaging board as planned
Reducing our paper capacity by 20%

- 450 000 t/a high-quality virgin-fiber-based kraftliner
- 530 000 t/a unbleached softwood pulp
- Oulu Mill’s EBITDA margin expected to improve by 15–20 percentage points
- 350 MEUR investment in 2019–2022
- Paper production at Oulu Mill stopped in the end of September
- Kraftliner production is expected to start up around the New Year

Kraftliner global demand (mt)

Source: Pöyry February 2020
Stora Enso Group
2015–Q1-Q3 2020

Note: * Excluding paper and Barcelona Mill.
Historical figures before 2018 not restated

Stora Enso

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Stora Enso
Financial performance - divisions
Sales, EBITDA margins, EBIT margins and ROOC

<table>
<thead>
<tr>
<th>Division</th>
<th>Sales (MEUR)</th>
<th>Operational EBIT margin (%)</th>
<th>Operational EBITDA margin (%)</th>
<th>Operational ROOC, 4Q rolling (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging Materials</td>
<td>Q118 2600, Q318 2550, Q319 2500, Q320 2400</td>
<td>15%</td>
<td>20%</td>
<td>5%</td>
</tr>
<tr>
<td>Packaging Solutions</td>
<td>Q118 2000, Q318 1850, Q319 1800, Q320 1700</td>
<td>20%</td>
<td>25%</td>
<td>7%</td>
</tr>
<tr>
<td>Biomaterials</td>
<td>Q118 400, Q318 375, Q319 350, Q320 325</td>
<td>5%</td>
<td>10%</td>
<td>1%</td>
</tr>
<tr>
<td>Wood Products</td>
<td>Q118 450, Q318 425, Q319 400, Q320 375</td>
<td>15%</td>
<td>20%</td>
<td>2%</td>
</tr>
<tr>
<td>Forest</td>
<td>Q118 700, Q318 650, Q319 600, Q320 550</td>
<td>20%</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>Paper</td>
<td>Q118 900, Q318 850, Q319 800, Q320 750</td>
<td>10%</td>
<td>15%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Stora Enso
Divisions
Divisional structure as of 1 January 2020

**Packaging Solutions**
Corrugated packaging together with recently created formed fiber unit

**Packaging Materials**
Consumer board and containerboard business

**Biomaterials**
No changes

**Forest**
Nordic forest assets and wood supply operations in Nordics, Russia and Baltics

**Wood Products**
No changes

**Growth**

**Cash**

**Paper**
No changes
Packaging Materials division in brief

- Strong offering of renewable and recyclable materials with low carbon footprint for consumer and industrial packaging
- Serving demanding packaging end uses with premium materials based on both virgin and recycled fiber
- Customers are converters, brand owners and retailers
- We are targeting expansion of relative market share in profitable niches in consumer board business and growth on the fluting and kraftliner market
Packaging Materials key figures

<table>
<thead>
<tr>
<th>Divisional strategic target</th>
<th>Q3/19</th>
<th>Q3/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging Materials Operational ROOC &gt; 20%</td>
<td>11.9%</td>
<td>15.6%</td>
</tr>
</tbody>
</table>

![Graph showing sales and operational EBIT for Q3/19 and Q3/20]
Geographical exposure – Packaging Materials

Production Facilities
- Sweden
  - Fors Mill
  - Skoghall Mill
- Finland
  - Imatra Mill
  - Ingerois Mill
  - Varkaus Mill
  - Heinola Mill
- Poland
  - Ostroleka Mill
- China
  - Beihai Mill

Worldwide sales network
R&D: Karlstad, Sweden and Imatra, Finland

Grade | Capacity (1 000 t)
--- | ---
Consumer Board | 3 290
Containerboards | 1 410
Our target is 25% of sales from new products and services

Source: SmithersPira, internal analysis
We continue to grow our premium offering in Beihai

DEMAND AND CAPACITY IN CHINA
VIRGIN FIBER BOARD
(Million tons)

Source: Pöyry, RISI

PRICING OF PREMIUM AND COMMODITY GRADE
VIRGIN FIBER BOARD IN CHINA
(RMB/t)
Our strategy is supported by attractive market opportunities

GLOBAL PACKAGING MATERIALS MARKET

~400 Bn EUR

CONSUMER BOARD

27% Food & Dairy
8% Beverages
5% Healthcare & cosmetics
10% Other consumer goods

STORA ENSO

CONTAINER-BOARD

25% MAINLY INDUSTRIAL & TRANSPORT

Source: SmithersPira, Euromonitor

SEGMENT GROWTH (p.a. ~ 2022)

Food & Dairy +2.3%
Beverages +2.6%
Healthcare & Cosmetics +2.8%
Transport & Industrial +3.0%
Global demand growth for Packaging Material grades is 2.5% CAGR or ~6 Mt yearly

ANNUAL GROWTH IN DEMAND BY REGION TO 2030 (2019, MILLION TONS)

+1.2% (39 mt)
+1.8% (39 mt)
+2.5% (10 mt)
+3.3% (15 mt)
+4.3% (57 mt)
+3.4% (33 mt)

Containerboard grades:
- Recycled containerboard
- Unbleached Kraftliner
- White Top Kraftliner
- SC Fluting

Consumer board grades:
- Coated Unbleached Kraft (CUK)
- Solid Bleached Sulphate (SBS)
- Liquid Packaging Board (LPB)
- Folding Box Board (FBB)
- Food Service Boards (FSB)

Source: Pöyry, Stora Enso, McKinsey
Strong Stora Enso market position in all product lines

**Consumer Board’s global market position 2019**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Market share</th>
<th>Rel. market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5</td>
<td>6%</td>
<td>31%</td>
</tr>
<tr>
<td>#8</td>
<td>5%</td>
<td>23%</td>
</tr>
<tr>
<td>#1</td>
<td>28%</td>
<td>128%</td>
</tr>
<tr>
<td>#4</td>
<td>6%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Consumer Board’s European market position 2019**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Market share</th>
<th>Rel. market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>20%</td>
<td>60%</td>
</tr>
<tr>
<td>#1</td>
<td>33%</td>
<td>103%</td>
</tr>
<tr>
<td>#1</td>
<td>50%</td>
<td>110%</td>
</tr>
<tr>
<td>#1</td>
<td>54%</td>
<td>142%</td>
</tr>
</tbody>
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28 October 2020

Stora Enso

Blue = Stora Enso, Shades of grey indicate size of top producers. The darker, the higher capacity. Yellow = Others
Stora Enso targeting share of wallet rather than share of market in virgin premium segment

**Containerboard markets**

Kraftliner:
- Stora Enso’s kraftliner portfolio addresses the higher quality segment of the global kraftliner market
- Main competitors are other Nordic suppliers in EU and high quality US suppliers in overseas

SC Fluting:
- Stora Enso is small player globally but one of the three only premium Nordic quality producers

Testliner:
- Testliner is “local play” considering transport costs represent high share of total cost
- Stora Enso small player globally, however strongly positioned in Poland and befitting from integrated buyer
Global kraftliner demand in our markets is expected to grow 3% p.a. from 2020 to 2030

- Global kraftliner demand excl. North America is expected to grow 3% p.a. 2020-2030
- Global SC fluting demand excl. North America is estimated to grow 1.6% p.a. 2020-2030
- Recycled containerboard demand in Europe is expected to grow 2.0% p.a. 2020-2030

Source: Pöyry February 2020
Packaging Solutions in brief

- Packaging Solutions division focuses on growing new services and packaging solutions
- Innovation collaboration throughout the whole value chain for developing new renewable packaging
- Our high-end packaging solutions are used by leading customers and brands across multiple industries
- There are growth opportunities following the growing e-commerce sector as well as the trend to replace plastics with renewable materials
Formed fiber products replace plastic in packaging

- Plastic free, renewable and recyclable material that can be used for various applications in food and non-food use
- Moisture and grease resistant
- Can be used for instance in bowls, plates, coffee cup lids, as well as in agriculture, electronics and cosmetics packaging to replace plastic parts
- Products are made from various pulps by pressing it into a desired shape in a molding machine
Packaging Solutions key figures

<table>
<thead>
<tr>
<th>Divisional strategic target</th>
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<th>Q3/20</th>
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</thead>
<tbody>
<tr>
<td>Packaging Solutions</td>
<td>Operational ROOC &gt; 30%</td>
<td>23.1%</td>
</tr>
</tbody>
</table>
Geographical exposure – Packaging Solutions

<table>
<thead>
<tr>
<th>Production Facilities</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>Jönköping</td>
</tr>
<tr>
<td>Estonia</td>
<td>Tallinn</td>
</tr>
<tr>
<td>Latvia</td>
<td>Riga</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Kaunas</td>
</tr>
<tr>
<td>Poland</td>
<td>Lodz</td>
</tr>
<tr>
<td>Russia</td>
<td>Arzamas</td>
</tr>
<tr>
<td>Finland</td>
<td>Kristinankaupunki</td>
</tr>
</tbody>
</table>

**Grade**

- Corrugated packaging
  - **Capacity**: 1,000 t
  - **Capacity**: 1,370 (Mm²)

**THE RENEWABLE MATERIALS COMPANY**
Well-positioned to capture growth opportunities in fragmented markets

**Europe**
- **Nordics**
  - BEUR: 0.6
  - CAGR: 1-2%
  - #1
  - Relative market share: 102%*
- **Poland & Baltics**
  - BEUR: 1.5
  - CAGR: 3–5%
  - #2
  - Relative market share: 81%*
- **Russia**
  - BEUR: 2.4
  - CAGR: 3%
  - #6
  - Relative market share: 58%*

**China**
- **Corrugated packaging**
  - BEUR: 1.7
  - CAGR: 8%
  - #3
- **Rigid boxes market**
  - Using virgin fiber boards from Beihai and Europe

*Relative market share, measured as a share of largest competitor

Source: Stora Enso analysis

Note: CAGR 2019–2020, Market sizes in 2019
Strong position and growth in our home box markets

Key box segments:

- Food
- Retail
- Industrial goods
- E-commerce
- Consumer electronics

Key box markets:

<table>
<thead>
<tr>
<th>Market</th>
<th>Box Revenue</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordics (#1)</td>
<td>0.6 BEUR</td>
<td>1–2%</td>
</tr>
<tr>
<td>Poland &amp; Baltics (2)</td>
<td>1.5 BEUR</td>
<td>3–5%</td>
</tr>
<tr>
<td>Russia (#6)</td>
<td>2.4 BEUR</td>
<td>3%</td>
</tr>
<tr>
<td>China (#3)*</td>
<td>1.7 BEUR</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Position in rigid box market
Note: CAGR 2019–2020, Market sizes in 2019

20 October 2020
Stora Enso
E-commerce is driving growth in packaging

E-commerce packaging by materials
(Global market value share, 2019E)

- Corrugated: 80%
- Flexibles: 15%
- Secondary protective: 4%
- Mailers: 1%

Corrugated packaging growth in E-commerce

- ~13% CAGR (2019–2023)
- ~34 BEUR market value globally in 2019
- In 2023, estimated global market value 56 BEUR and in Europe 12 BEUR
- ~22 BEUR market value added in E-commerce segment globally until 2023

Note: Market values for Global and Europe (Western, Central and Eastern) in 2019E. 1.10 EUR/USD average exchange rate used in calculations.
Source: Sustainable ecommerce packaging 2019E
DuraSense® by Stora Enso – gradually replacing plastics with biocomposites

• Biocomposites enable the use of renewable wood in products typically produced from plastics, such as disposable cutlery, furniture, as well as storage and logistics goods

• Includes renewable materials and can reduce the consumption of fossil-based plastic by up to 60%

• Always a better alternative than fossil-based plastic
  - For example, with wood fiber we can reduce the carbon footprint of a product up to 80%
Biomaterials division in brief

• Biomaterials division offers a wide variety of pulp grades to meet the demands of paper, board, tissue, textile and hygiene product producers

• Fluff pulp primarily used in diapers and hygiene products

• Dissolving pulp for textiles

• We also develop new ways to maximise the value extractable from the wood as well as other kinds of lignocellulosic biomasses – the extracted sugars and lignin hold potential for use in a range of applications
Biomaterials key figures

Sample product categories:
• Paper, packaging and tissue production: Supreme by Stora Enso (Softwood), Perform by Stora Enso (Hardwood) and Select by Stora Enso (Hardwood).
• Fluff pulp for hygiene products; diapers, and feminine care products: Care by Stora Enso
• Dissolving pulp for viscose fabrics e.g. textiles, pharmaceuticals, sponges, cellophane: Pure by Stora Enso
• Lignin (adhesive for construction, carbon fibre and energy storage) Lineo™ by Stora Enso
• Xylose
• By-products: tall oil, turpentine
Main competitors include UPM, Metsä Fibre, Södra, Arauco and Suzano

<table>
<thead>
<tr>
<th></th>
<th>Divisional strategic target</th>
<th>Q3/19</th>
<th>Q3/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomaterials</td>
<td>Operational ROOC &gt; 15%</td>
<td>5.9%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
Biomaterials worldwide

<table>
<thead>
<tr>
<th>Grade</th>
<th>Capacity (kt/a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-fibre pulp</td>
<td>1,200</td>
</tr>
<tr>
<td>Long-fibre pulp</td>
<td>400</td>
</tr>
<tr>
<td>Fluff pulp</td>
<td>350</td>
</tr>
<tr>
<td>Dissolving pulp</td>
<td>350</td>
</tr>
<tr>
<td>Net market pulp</td>
<td>2,350</td>
</tr>
</tbody>
</table>

Montes del Plata
Capacity: 1.4Mt/a

Veracel
Capacity: 1.2Mt/a

Skutskär
Capacity: 540kt/a

Enocell
Capacity: 490kt/a

Sunila
Capacity: 375kt/a

Stora Enso

Shared Ownership (50%)
Despite of short-term challenges, demand for pulp is expected to grow 2% on long term

**Textiles, nonwovens**
- 107 Mt market, growing 3%/y
- 6.8 Mt market pulp (dissolving)

**Carton board**
- 48 Mt market, growing 2.0%/y
- 5.3 Mt market pulp

**Tissue**
- 36 Mt market, growing 4%/y
- 23 Mt market pulp

**Hygiene**
- 590 billions of converted unit, growing 3.5%/y
- 6.2 Mt market pulp (fluff)

**Paper**
- Specialty: 29 Mt market, growing 2.0%/y
- 9 Mt market pulp

- Graphic: 101 Mt market, declining -1.0%/y
- 16 Mt market pulp

**Pulp consumption increase (Mt)**

Source: Stora Enso, based on available external information from AFRY, Hawkins Wright, Smithers, FastmarketsRISI, Euromonitor in April 2020
We expect a balanced market in pulp to continue

Pulp (hardwood and softwood) demand grows 2% CAGR by 2023

2018 2023

65 72
89 90

Demand, Mt/a Market balance, %

Pulp average capacity growth

2007-2018 + 1.6 Mt/y (90% ratios)

2019-2023 + 0.9 Mt/y Unconfirmed capacity additions

Share in pulp demand growth

Source: Stora Enso, based on available external information from AFRY, Hawkins Wright, Smithers, FastmarketsRISI, Euromonitor in April 2020
Megatrends support the demand for virgin pulp in China

To 2030:

**Urbanisation**
- 58% (+200 million people)

**Growing middle class**
- 70%
- 5 trillion to 9.6 trillion (private consumption in USD)

**Changing lifestyles**
- 60% (safe sanitation services)
- 90%

**Eco awareness**
- 70% (+200 million people)
- 60% to 90%

**From 14 kg to 21 kg per capita consumption**

**+10 Mt of hardwood and softwood**

Ban on imported recovered fibre

Source: World Bank, UN Global Goals, Morgan Stanley Research, RISI, Stora Enso
Biomaterials strategic focus areas

**Maximise value from eucalyptus pulp**
- Constantly improve the cost competitiveness of Montes del Plata
- Improve understanding of customer value and develop most profitable sales mix
- Continue to improve production efficiency

**Grow in existing pulp business**
- Ramp up volume growth and achieve world class quality in fluff and dissolving pulp
- Continue to develop product qualities and new products for current customers
- Continue to improve production efficiency
- Differentiate in the softwood business

**Generate profitable growth from innovation platforms**
- Build and develop strong businesses and speed up the go-to-market for:
  - Biobinders
  - Bio-based carbons
  - Microfibrillated cellulose
  - Bio-based fibers and films
  - Biofoams
  - Biorefineries
  - Pulp innovation

20 October 2020
Stora Enso
Innovation is key for sustainable profitable growth

Product platforms

1. Improved pulp properties
2. Regenerated cellulose & MFC
3. Lignin
4. Bio-based chemicals

Technology platform for extraction & separation
Wood Products division in brief

• Innovative wood-based products for construction, interior usages and everyday living

• The product range covers all areas of construction, including massive wooden elements and wooden components

• It also includes a variety of sawn timber goods and pellets for sustainable heating

• High demands with regard to safety, quality, design and sustainability

• Customers are mainly merchants and retailers, industrial integrators and construction companies
This building grows back in 17 minutes.

We can cut construction emissions by up to 75% using renewable materials.

Geologen Trummen Strand
Växjö, Sweden

Picture: FOJAB architects
The wood used removed 5 700 tonnes of CO₂ from the atmosphere.

..and it equals 40 million car kilometres.

Üstra-Siedlung
Hannover, Germany
Head above Water
London, England

Strong and light without losing flexibility in design

Millimetre precision using latest technology
Wood Products key figures

Sample product categories:
- Classic sawn
- Classic planed
- CLT (Cross laminated timber)
- LVL (Laminated Veneer Lumber)
- Construction beams
- Window and door components
- Building Solutions
- Building Components
- ThermoWood
- Pellets

Main competitors include Binderholz, Holzindustrie Schweighofer, SCA Timber and Metsä Fibre

<table>
<thead>
<tr>
<th>Divisional strategic target</th>
<th>Q3/19</th>
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</thead>
<tbody>
<tr>
<td>Wood Products</td>
<td>Operational ROOC &gt; 20%</td>
<td>15.8%</td>
</tr>
</tbody>
</table>
Our operations well positioned in Europe

- Number of mills:
  - Austria: 3
  - Germany: 2
  - Czech Republic: 2
  - Poland: 1
  - Latvia: 1
  - Lithuania: 1
  - Sweden: 2
  - Finland: 4
  - Russia: 2

- Countries with sales:
  - Czech Republic
  - Poland
  - Germany
  - Netherlands
  - Austria
  - Switzerland

- Production units by country:
  - Austria: 4
  - Germany: 2
  - Czech Republic: 2
  - Poland: 1
  - Latvia: 1
  - Lithuania: 1
  - Sweden: 2
  - Finland: 4
  - Russia: 2

- Other data:
  - EUR 1.6 billion
  - 5.7 Mm³

- Grades and capacities:
  - Sawn goods: 5.7 Mm³
  - Further processing: 2.6 Mm³
  - CLT: 240 000 m³
  - LVL: 75 000 m³
  - Pellets: 500 000 t
Getting the right log is critical for profitability in Wood Products
Buildings of the future will be cheaper and more sustainable

Our solutions offer:

• Up to 70% faster construction time
• Up to 80% fewer truck deliveries on site
• Carbon emissions cut by up to 75% using wood
• Faster, safer and quieter construction
• Healthier indoor climate
• Good thermal resistance and insulating properties
New CLT investment to further enhance position as a global market leader in CLT

• 79 MEUR investment in a new production line for CLT at Ždírec sawmill in the Czech Republic

• Further improve out capabilities to offer a high-quality range of building solutions for our customers around the world

• Annual sales approximately 70 MEUR

• Expected to meet Wood Product division’s 20% operational ROOC target when run at full capacity

• Production to begin during Q3/2022

• Annual production capacity 120 000 m³

• Strengthens our global #1 position in CLT
Forest division in brief

- The new Forest division started operations as of 1 January 2020
- Includes Stora Enso’s Swedish forest assets and the 41% share of Tornator* as well as wood supply operations in Finland, Sweden, Russia and the Baltics
- The division’s key focus areas are sustainable forest management, competitive wood supply to Stora Enso’s mills and innovation
- We are one of the biggest private forest owners in the world

* Tornator owns more than 700,000 hectares of forest in Finland, Estonia and Romania
Forest key figures

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<th>Divisional strategic target</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Forest: Operational ROOC &gt; 5%</td>
<td>2.7%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

- Forest ROOC: Q3/19 518 MEUR, Q3/20 457 MEUR, -12%
- Forest Operational EBIT: Q3/19 25 MEUR, Q3/20 36 MEUR, +52%
Forest division creates value through supply, innovation and sustainable forest management

Competitive wood supply  Innovation  Sustainable forest management
Stora Enso’s forest assets fair value over 3 BEUR in Sweden

- Forest division’s biological assets at the end of Q3 2020:
  - Swedish forests 3.3 BEUR (biological assets)
  - Stora Enso’s share in Tornator 763 MEUR

- We are targeting to increase harvesting volumes by 10–15% in our Swedish forests

- Secured availability and reasonably priced wood for the Swedish mills

- Own Swedish forests represent:
  - 50% of raw material needs in Sweden
  - 70% of raw material needs in Central Sweden

- Own forests give tactical flexibility and additional synergies in wood supply

- Good forest growth due to location in Central Sweden
Sustainable forest management – we are not compromising biodiversity

Forest growth
Productivity

Growing forests good for the climate
Protecting biodiversity
Limit impact on soil and water

Sustainable forestry

Economical aspects

Environmental aspects

Social aspects

Jobs in rural areas
Dialogue with indigenous people
Recreation considerations

Stora Enso regenerated forest by planting
65.5 million
seedlings in 2019

98%
of the lands Stora Enso owns or manages were covered by forest certification schemes

Stora Enso invested
EUR 72 million
in future growth through silviculture and fertilisation in 2019
Controlling ~30% of wood supply and a #1 Nordic position are competitive advantages

Central Europe, China, Uruguay and Brazil are integrated to business divisions.
Strong relationships with private forest owners and digitalisation competitive advantages

• Strong relationships with private forest owners - representing 50% of our wood supply

• We offer harvesting, wood trade, planning, silviculture, management, digital toolbox, advisory and consulting services for forest owners

• Advanced CRM and sales force management

• Forest division continues to invest in digitalisation and new technologies
  – Big forest data and precision forestry
  – Digitalising forest owner service channel
  – Optimised supply chain
  – Maximising raw material value
Paper division in brief

- Renewable and best-in-class paper solutions for print media and office use from virgin wood and recycled fibers
- Customers include publishers, retailers, printing houses, merchants, converters and office suppliers
- The products and services meet the customers’ quality and sustainability requirements
- End uses: newspapers and supplements, books, magazines, advertising, note books, art books, office
- Focus on further developing the sustainability and efficiency of operations
Paper key figures

Sample product categories
- Paper selection for print media: Newsprint and book papers, Uncoated mechanical papers (SC), Coated magazine paper
- Paper selection for office use: transactional needs, office printing, writing and educational needs (Brands: e.g. 4CC, MultiCopy, Zoom)
Main competitors include UPM, Sappi, Norske Skog, Holmen and the Navigator company

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<th>Divisional strategic target</th>
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<th>Q3/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>Cash flow after investing activities to sales &gt;7%</td>
<td>14.4%</td>
</tr>
</tbody>
</table>
# Paper capacity

<table>
<thead>
<tr>
<th>Grade</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newsprint and book paper*</td>
<td>1 570 t</td>
</tr>
<tr>
<td>Uncoated Magazine (SC)</td>
<td>1 070 t</td>
</tr>
<tr>
<td>Coated Magazine</td>
<td>260 t</td>
</tr>
<tr>
<td>Total Magazine Paper</td>
<td>1 330 t</td>
</tr>
<tr>
<td>Uncoated Fine</td>
<td>1 000 t</td>
</tr>
<tr>
<td>Total Fine Paper</td>
<td>1 100 t</td>
</tr>
<tr>
<td><strong>Paper Total</strong></td>
<td>3 900 t</td>
</tr>
</tbody>
</table>

***Capacity after Hylte newsprint machine (PM3) shut down. Machine will be shut down by the end of 2020.
Lower cash flow due to difficult market conditions in all paper grades

Cash flow after investing activities

Division target: >7%
Since 2013 we have transformed significantly our Paper business

-24%  -39%  -37%  -66%  +17%

Paper demand in Europe  Our production capacity  Our deliveries  Our accidents  Customer satisfaction*

Optimising profitability and cash flow:
• Focus on the right product and customer segments
• Pricing excellence
• Variable and fixed cost control
• High operational efficiency and capacity utilisation
• Focused investments
• Working capital reduction
• Innovation and digitalisation

Change 2013−2019
*) Increase in percentage points from 45 in 2013 to 62 in 2019
Innovations
Innovations – a few snapshots
Focus on innovations

In 2019, Stora Enso’s expenditure on research and development was EUR 141 million, which was equivalent to 1.4% of sales.

65 priority founding patent applications filed and over 430 patents granted worldwide in 2019
We are investing in R&D more than competitors both absolute and relative terms

Source: Stora Enso and competitors annual reports 2019
Innovation projects with high potential impact to transformation

- Bio-barriers, MFC films
- Native and modified MFC
- Intelligent packaging
- Bio-based plastics
- Dissolving pulp to novel cellulose materials
- Liquid and food packaging
- Specialty papers, nonwovens, personal and home care, barrier materials
- Sophisticated applications to brand owners and supply chains
- Chemical intermediates
- Textiles and nonwovens
- Lignin for phenol replacement
- Carbon fibre
- Bio-based carbons for energy storage
- Biocomposites
- Reduction of fossil raw materials in adhesives
- Sports and leisure, wind energy, automotive, aviation
- Anode material for batteries, activated carbon for double layer capacitors
- Replacement of fossil-based plastics in composites
Innovation in packaging
Advancing the renewable packaging industry with innovations

- Microfibrillated cellulose (MFC)
- Biobarrier coatings
- Biocomposites
- Intelligent packaging
- Design driven innovation
We see many new opportunities to replace fossil-based materials...

Lignin-based products
- Lineo™ by Stora Enso
- Carbon fibre
- Carbon for energy storage

- Market size 1.2 BEUR
- Growth ~20%/a
- EBITDA 30–50%

Biocomposites
- DuraSense™ by Stora Enso for wood-based biocomposites
- Less fossil-based materials with higher share of fibre

- Market size 7 BEUR
- Growth ~15%/a
- EBITDA 20–30%

Liquid packaging MFC
- Source reduction

MFC films
- Functional barriers for paper and board packaging

- Market size 1.5 BEUR
- Growth ~5%/a
- EBITDA >20%
...Iceland Foods chooses our Trayforma to replace plastics

• Iceland Foods, the UK’s leading specialist retailer in the frozen food category, launched the first plastic-free pledge for its own brand products for a UK supermarket
  – Target is to be plastic-free by 2023 through an overhaul of their entire product range

• Ready meals packed in paperboard trays

• Trayforma™ by Stora Enso food-safe and suitable for cooking at high temperatures in ovens and microwaves food trays
Micro-fibrillated cellulose improves product properties and can replace fossil-based materials

**Today**

- MFC is used to make more durable, lighter, high-quality packaging products

**Future potential**

- Barrier coating solutions for grease and oxygen barriers
- Biodegradable replacement for aluminium foil
- Carrier for example in cosmetics
- 3D printing
Biocomposites – gradually replacing plastic

• Use in products, such as disposable cutlery, furniture, as well as storage and logistics goods

• Raw material for markets where plastics dominate

• Can reduce the consumption of fossil-based plastic by up to 60%

• Always a better alternative than fossil-based plastic – Reduce the carbon footprint of a product up to 80%

Target market
4.5 Mt
1-5 years
Stora Enso, Intelligent Packaging

- Digitalization of packaging and product flows using RFID technology
- Offering provided in three focus areas from tag products to retail and pulp & paper solutions
- Circa 40 people in Europe and Asia
- Milestones:
  - Started 10 years ago in Stora Enso, last 3-4 active commercialization.
  - 2017 - Inauguration of PackPerformance Center in: a dedicated RFID development and testing site in Tampere, Finland
  - 2018 – Establishment of Business Unit structure for Intelligent Packaging within Stora Enso group
  - 2018 – Launching ECO™ technology
Intelligent packaging
Connecting packages, products and value chains

Industrial manufacturing
New Retail / Retail

Radio-Frequency Identification (RFID)
Scope of Intelligent Packaging

- Complete offering for end-to-end execution
- Value driven approach to digitalisation projects
- Unique capabilities to connect products and embed identifiers
- Post sales support
- Software platform and supporting enterprise software integrations
Business success requires end-to-end solution
From tags and integration to cloud and applications

**Enterprise Applications**
- Asset Management
- Track & Trace
- Data Analytics

**Cloud Platform**
- Data Integration
- Data Collection
- Data Processing
- Data Analytics
- Open data and management Interfaces
  - Intelligent Packaging Cloud data platform (Microsoft Azure)

**Reader Infrastructure**
- RFID Gate
- RFID Cabinet
- RFID Forklift
- RFID Station
- RFID Tunnel
- RFID Truck Gate
- Handhelds

**Tag & Integration**
- Tags Design & Performance
  - Bracket
  - Bobbin
  - Bumper
  - Tail
  - Stripe
- Tag Manufacturing & Converting
  - Conventional
  - Sustainable ECO RFID Tech

**Integrations**
- ERP
- MES
- PDM
- CRM

**Professional Services**
- Business case evaluations
- Solution design
- Installation & Maintenance Services
- Application development

20 October 2020
Studies show significant benefits for RFID

<table>
<thead>
<tr>
<th>Metric</th>
<th>Before RFID</th>
<th>After RFID</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory Accuracy</td>
<td>67.4%</td>
<td>84.5%</td>
<td>25.4%</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>64.6%</td>
<td>71.7%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Store Out-of-Stocks</td>
<td>16.5%</td>
<td>9.8%</td>
<td>40.6%*</td>
</tr>
<tr>
<td>Shrinkage</td>
<td>17.8%</td>
<td>11.8%</td>
<td>33.7%*</td>
</tr>
<tr>
<td>Profit Margin</td>
<td>8.9%</td>
<td>14.3%</td>
<td>60.7%</td>
</tr>
<tr>
<td>Average Markdown</td>
<td>14.8%</td>
<td>11.9%</td>
<td>19.6%*</td>
</tr>
</tbody>
</table>

* Improvement is reflected by reduction

Source: EKN—Kurt Salmon RFID in Retail Survey, 2016

McKinsey study 2018 on Supply Chain potential of Intelligent Packaging in industrial goods

- Tied-in capital reduction: 3-11%
- Cost decrease in supply chain: 4-7%
- Improvement in service level and product availability: 1-2%
ECO RFID Tag Technology
Unique RFID technology launched in Nov 2018

Key benefits:
- Sustainable
- Reliable
- Performant
- Cost neutral

Available in several tag designs

Traditional RFID structure: 6 layers + release liner
ECO RFID structure: 3 layers + release liner
Digitizing Supply Chains for better visibility

1. Automated inventory management with RFID-gates that auto-register which RFID-tagged items enter the warehouse at inbound and leave the warehouse at outbound.

2. Automated counting and scanning as RFID reader scans contents of box with RFID-tagged items, useful in receiving and picking.

3. Automated cycle count with handheld RFID-reader (or even a drone with an RFID-reader) performs cycle count of items in floor storage.

4. Forklifts with RFID-scanners enable sensing of pick/put-away locations quality controls that correct packages are picked.

5. Stock location management with RFID readers on shelves sense which RFID-tagged items are placed on the shelves.

6. Shipping QC with RFID-reader gate verifies that correct RFID-tagged packages are loaded on the truck avoiding incorrect shipments.

7. Dispatch navigation with RFID-readers in the ceiling identify items in the dispatch area and lights guide workers to correct boxes.

8. Packaging validation with RFID-reader in pack stations verifies content of package being built – verifies pack completion and warns if line items are missing.

9. Smart container with RFID-readers at the door that register which RFID-tagged items enter and leave the container.

10. RFID-reader in trunk of van keeps automated inventory count and tracks RFID-tagged equipment.

11. Anti-tamper protection of goods with sealed tag and/or unique code to identify genuine product.

12. Returns management with RFID tags also on return flow from customers or other warehouses to enable full integration with other use cases.
Retail and RFID
RFID market development example – Macy’s

“Men’s and women’s undergarments, men’s slacks, denim apparel and women’s shoes”

“All lines of businesses at its stores, except for jewelry and cosmetics.”

“All items in every store tagged.”

Macy’s Inc. to Begin Item-Level Tagging in 850 Stores

The company plans to RFID-enable its Macy’s and Bloomingdale’s stores in 2012, and will tag garments most often replaced—accounting for about 30 percent of the retailer’s sales.

By Claire Swedberg

Tags: Apparel, Inventory, Warehouse Management, Manufacturing, Retail

Macy’s to RFID-Tag 100 Percent of Items

Speaking at last week’s RFID in Retail and Apparel conference, Bill Cohen, the company’s SVP of logistics and operations, said Macy’s aim is to have all items RFID-tagged at the source by the end of 2017.

By Mark Robert

Tags: Apparel, Retail, RFID Journal Source, Joseph Chen

30% 2012

60% 2016

100% 2017

Source: Stora Enso October 2016

Stora Enso

THE RENEWABLE MATERIALS COMPANY
Item Level Tagging Benefits in retail stores

Example in food category

- Waste reduction **up to 20%***
- Labour cost reduction **up to 50%***
  - Cut labour costs of shelf life management
  - Improve visibility of use-by dates
  - Simplify mark down process
  - Reduce net food waste in store
  - Improve stock rotation
  - Enhance recall management

*based on Avery Dennison pilots and retailer feedback
Innovative and award-winning design

• Leak-tight renewable and 100% recyclable packaging for fresh fish
• WorldStar packaging award
• Sustainability award by World Packaging Organisation

• Original design replacing traditional pressed pulp packaging for eggs
• Best packaging and label award for Food at ProdExtraPack
Stora Enso named Husqvarna’s most innovative supplier

Long term collaboration between Stora Enso and Husqvarna Group

Motivation for the award:

*Stora Enso invests for the long term in competence, resources and proactive involvement in order to understand its customers’ needs. Through this initiative, Stora Enso has enabled Husqvarna to sustainably achieve its ambitious goals concerning development and innovations in the supply chain.*

New packaging for chain saws reduces cost and CO₂ emissions

- 37% capacity fill
- 5,300 pallets/year
- 180 containers/year
- 190,000 kg CO₂/year
Innovation in Biomaterials

- Pulp applications
- Cellulose modification and pulp process by-products
- Developing the extraction technology
- Further development of sugars
From wood to renewable products

Extraction and separation technologies

- Cellulose and hemicellulose

- Sugars

- Lignin

Lignin, biochemicals, bioplastics, regenerated cellulose, pulp etc
Innovation is key for sustainable profitable growth

**Product platforms**

1. Improved pulp properties
2. Regenerated cellulose & MFC
3. Lignin
4. Bio-based chemicals

Technology platform for extraction & separation
Platform 1: improving pulp properties for existing products

Fluff pulp

- Hygiene and health, growing by 3.6% per year
- Life expectancy and increased disposable income in developing countries
- Improve fluff pulp properties to increase customer value

Dissolving pulp

- Dissolving pulp to textiles is a 6.1 Mt market, growing 6.8% per year
- The increase of cellulosic fibre in textiles is driven by global brand owners
- Improve quality to be able to differentiate in the value chain

Pulp for specialty papers

- Flexible packaging, labels, security, décor, among others
- 28 Mt market, growing 1.8% per year
- Fibre improvements, special additives, sustainable coatings & barriers, source reduction and other innovation opportunities

Source: Smithers Pira, Hawkins Wright
Platform 2: Developing new technologies for using wood fibre in textiles, non-woven and specialty papers

Regenerated cellulose

- Participate in the development of new technologies for using wood fibre in textile
- Growing interest from global brand owners increases demand for renewable fibres
- Opportunity to leverage on existing assets to enter this new market

MFC

- MFC has potential to be used in specialty papers and non-woven
- MFC is a versatile material with potential to work as strength enhancer, additive, binder and barrier material
- Stora Enso has a long history in the research of MFC and has a demonstration plant in Imatra, Finland

Source: Stora Enso
Platform 3: Lignin – big opportunities in many markets

Phenol replacement
- Phenolic resins is a 2.8 Mt market, growing at 4% CAGR
- It replaces phenol in adhesives for plywood, OSB (oriented strand board), laminates, LVL and other wood construction materials
- The carbon footprint for lignin is roughly 1/10 of the carbon footprint of phenol

Carbon fibre
- Light-weight high performance composites
- 70–80 Kt market, growing at 9–12% CAGR
- Low-carbon-footprint carbon fibre is unoccupied market space

Energy storage
- Substitution of conventional hard carbon anode materials in energy storage, namely Li-Ion Batteries and Supercapacitors
- Market growing on average by 20% CAGR
- Key applications: portable consumer electronics, power tools, electrical vehicles, stationary applications and back-up systems

Source: Stora Enso, Carbon Composites, IDTechEx, LuxResearch, Markets and Research, Zion Research
Renewable Lineo™ by Stora Enso can replace fossil-based materials

• Wood-based lignin is a renewable, non-toxic, traceable material

• Environment benefit, for example, in carbon fibres, energy storage and mechanical forest industry

• Today as a replacement for oil-based phenolic materials in glues for example in plywood and paper lamination

• Lignin makes up 20-30% of round wood
Platform 4: Bio-based chemicals replacing fossil-based materials

Bioplastics and intermediates
- Growing interest in packaging/bottling markets for renewable solutions
- Reduction on carbon footprint and enhanced properties are key target areas
- Market clearly favoring second generation biomass as the raw material source
- It is a very populated market place, thus, strategic alliances will be crucial to win in this industry

Xylose
- Key application is the xylitol (sweetener) market (approximately 120 Kt at 4–6% CAGR)
- Compared to C6 sugars it still is a rather undeveloped market, mainly due to lack of pure xylose availability. This is changing with the biorefinery concepts
- Growing interest and developments taking place in the market
- Stora Enso well positioned to be a frontrunner here

Source: PwC, Kline and Industry experts
Innovation in Wood Products

Product innovations
Building Systems
Digitalisation
From a classic sawn producer to a leading provider of innovative wood-based solutions

Classic sawn
Cross Laminated Timber (CLT)
Laminated Veneer Lumber (LVL)

Building Solutions

Industrial components
Construction beams
Pellets

Online services and e-business
Building Systems driving growth

Find the film from Stora Enso’s YouTube page (youtube.com/storaenso), or use a direct link youtube.com/watch?v=3El9hhp_T5k
New ways of improving efficiency through digitalisation – Forest categorisation & log value

- Buyer takes pictures
- Pictures to cloud service
- Cloud
- Calculation
- ProCalc data - Value of logs
- Results
- Quality class
- Value for sawmills
- Pricing proposal for buyer
Digitalisation in Wood Products

1. Market information
   - Product demand forecast based on market
   - Optimised raw material specification based on demand

2. Forest categorisation based on collected info

3. Trees cut based on profit optimisation

4. Individualisation of each log and digital data transfer to mill

5. Simulate production, based on demand and log info

6. Automate, robotise and mobilise production

7. Scan each single log

8. Product demand forecast based on market

9. Market information

10. Digital customer interaction

11. Intelligent products

12. Wood Products end-to-end Digitalisation

- Customers
- Competitors
- Supplier
- Industries
- Products
- Markets

Stora Enso
THE RENEWABLE MATERIALS COMPANY
Group’s financial performance, dividend policy, ownership and top management
Financial performance - Group

Historical figures before 2018 not restated
Growth businesses 78% of sales and 100% of operational EBIT

Packaging Materials
Packaging Solutions
Biomaterials
Wood Products
Paper
Other & eliminations

1 In 2006 included in Packaging Materials
2 In 2006 includes merchants
3 In 2006 includes Forest
Cost structure 2019

% of costs

- Logistics and commissions: 11%
- Fibre: 34%
- Chemicals and fillers: 14%
- Energy: 10%
- Material: 6%
- Personnel: 6%
- Depreciation: 6%
- Other: 13%
Capex raised temporarily above depreciation

Capex for 2019 and estimate for 2020 include the capitalised leasing contracts according to IFRS 16 Leases standard.
Year-on-year net debt/EBITDA

Net debt to operational EBITDA for periods before 2018 not restated
Continued focus on strong liquidity

- Actions to secure liquidity:
  - 1,356 MEUR cash and cash equivalents at the end of Q3 2020
  - 600 MEUR committed revolving credit facility fully undrawn
  - 250 MEUR additional committed funding facilities through bilateral arrangements signed and undrawn
  - 950 MEUR statutory pension premium loans available (requires bank guarantee)

- Limited debt maturities in 2020 and next bond maturity in Q3 2021

- No financial covenants on Stora Enso Oyj’s debt

- Net debt to operational EBITDA for the last 12 months at 2.4x and gearing at 45%
Committed credit facilities are fully undrawn and mature in October 2021 (150 MEUR), June 2022 (100 MEUR) and January 2023 (600 MEUR)
Sustainability in our funding and reporting

<table>
<thead>
<tr>
<th>Revolving Credit Facility with a green aspect</th>
<th>Green Bond Framework</th>
<th>Green Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing includes sustainability component based on ability to reduce greenhouse gas emissions.</td>
<td>A loan-format to support sustainability-focused fixed income investors and to report environmental impacts.</td>
<td>First green bonds issued in February in 2019 to finance Bergvik Skog forest acquisition.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainable Finance strategy</th>
<th>Climate-related financial disclosure</th>
<th>Integrated reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim is to influence and develop the financial markets and to secure funding partners with sustainability agenda.</td>
<td>CFO support for better disclosure of climate risks and opportunities based on recommendations by the Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD).</td>
<td>The World Business Council for Sustainable Development (WBCSD) Redefining Value Board and programme: work on international reporting frameworks, materiality assessment standards, and data assurance methodologies.</td>
</tr>
</tbody>
</table>
Stora Enso dividend policy

- Strive to pay stable dividends linked to the long-term performance
- Half of the EPS over the cycle

Earnings and dividend per share

*Additional payment of a maximum of up to EUR 0.35 per share to be decided later
### Ownership Distribution as of 30 September 2020

<table>
<thead>
<tr>
<th>Ownership Type</th>
<th>% of shares</th>
<th>% of votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solidium Oy*</td>
<td>10.7%</td>
<td>27.3%</td>
</tr>
<tr>
<td>FAM AB</td>
<td>10.2%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Social Insurance Institution of Finland (KELA)</td>
<td>3.1%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Finnish institutions (excl. Solidium and KELA)</td>
<td>11.7%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Swedish institutions (excl. FAM)</td>
<td>9.1%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Swedish private shareholders</td>
<td>4.3%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Finnish private shareholders</td>
<td>4.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td>ADR holders</td>
<td>2.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Under nominee names (non-Finnish/non-Swedish shareholders)</td>
<td>44.7%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

*Entirely owned by the Finnish State*
## Major Shareholders

as of 30 September 2020

<table>
<thead>
<tr>
<th>By voting power</th>
<th>A shares</th>
<th>R shares</th>
<th>% of shares</th>
<th>% of votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Solidium Oy*</td>
<td>62 655 036</td>
<td>21 792 540</td>
<td>11</td>
<td>27.3</td>
</tr>
<tr>
<td>2 FAM AB**</td>
<td>63 123 386</td>
<td>17 000 000</td>
<td>10</td>
<td>27.3</td>
</tr>
<tr>
<td>3 Social Insurance Institution of Finland (KELA)</td>
<td>23 825 086</td>
<td>973 982</td>
<td>3</td>
<td>10.1</td>
</tr>
<tr>
<td>4 Ilmarinen Mutual Pension Company</td>
<td>4 312 762</td>
<td>16 503 924</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>5 Varma Mutual Pension Insurance Company</td>
<td>5 163 018</td>
<td>1 140 874</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>6 MB-Bolangen i Vetlanda AB (incl. Stiftelsen Seydlitz Småland)</td>
<td>4 828 000</td>
<td>1 110 000</td>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>7 Elo Mutual Pension Insurance Company</td>
<td>2 000 000</td>
<td>8 411 225</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>8 Erik Johan Ljungberg's Education Foundation</td>
<td>1 780 540</td>
<td>2 336 224</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>9 Swedbank Robur Funds</td>
<td>0</td>
<td>15 217 055</td>
<td>2</td>
<td>0.6</td>
</tr>
<tr>
<td>10 SEB Investment Management</td>
<td>0</td>
<td>12 196 505</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>11 Bergslaget's Healthcare Foundation</td>
<td>626 269</td>
<td>1 609 483</td>
<td>0</td>
<td>0.3</td>
</tr>
<tr>
<td>12 The State Pension Fund</td>
<td>0</td>
<td>5 813 755</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>13 Nordea Investment Fund</td>
<td>0</td>
<td>5 805 784</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>14 Unionen (Swedish trade union)</td>
<td>0</td>
<td>3 782 750</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>15 The Society of Swedish Literature in Finland</td>
<td>0</td>
<td>3 000 000</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>16 Lannebo Funds</td>
<td>0</td>
<td>2 920 000</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>17 SEB AB, Luxembourg Branch</td>
<td>2 177</td>
<td>2 648 684</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>18 Keva (Local Government Pensions Institution)</td>
<td>0</td>
<td>2 493 208</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>16 OP-Suomi Investment Fund</td>
<td>0</td>
<td>2 355 163</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td>20 Schweizerische Nationalbank</td>
<td>0</td>
<td>2 345 166</td>
<td>0</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>20 largest total</strong></td>
<td><strong>168 316 274</strong></td>
<td><strong>129 456 322</strong></td>
<td><strong>38</strong></td>
<td><strong>76.1</strong></td>
</tr>
</tbody>
</table>

*Entirely owned by the Finnish State. **As confirmed to Stora Enso.

List has been compiled by the company, based upon shareholder information from Euroclear Finland Oy and Euroclear Sweden AB share registers and a database managed by Citibank, N.A. (as the company’s ADR agent bank). This information includes only direct registered holdings, thus certain holdings (which may be substantial) of ordinary shares and ADRs held in nominee or brokerage accounts can not be included. The list is therefore incomplete.
Group Leadership Team

President and CEO
Annica Bresky

CFO
Seppo Parvi

Packaging Materials
Hannu Kasurinen

Packaging Solutions
David Ekberg

Biomaterials
Markus Mannström

Wood Products
Lars Völkel

Forest
Jari Suominen

Paper
Kati ter Horst

Sourcing & Logistics
Johanna Hagelberg

Communication
Ulrika Lilja

HR
Katariina Kravi

Legal
Per Lyrvall

Sustainability
Annette Stube
Board of Directors

Jorma Eloranta
since April 2016
Chair

Hans Stråberg
since April 2009
Vice Chair

Håkan Buskhe
since June 2020

Elisabet Fleuriot
since April 2013

Hock Goh
since April 2012

Mikko Helander
since March 2019

Christiane Kuehne
since April 2017

Antti Mäkinen
since March 2018

Richard Nilsson
since April 2014

115   20 October 2020
Stora Enso
Stora Enso is listed in the Euronext Vigeo Europe, and Eurozone 120 indices as one of the 120 most advanced companies in terms of environmental, social, and governance performance.

Stora Enso is a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe. The ESI indices are composed of companies that display the best performance in the field of corporate social responsibility.

Stora Enso is included in the FTSE4Good Index Series. These indices measure the performance of companies that meet globally recognised corporate responsibility standards.

In 2019, Stora Enso received a rating of AA in the MSCI ESG Ratings assessment. Stora Enso is included in several MSCI’s ESG indices.

Stora Enso is included in the ECPI EMU Ethical Equity index, which covers environmental, social, and governance criteria.

Stora Enso was included in the top 1% (industry suppliers) of the Ecovadis ethical supplier rating system, and achieved the highest recognition level (Gold).

Stora Enso was included in the NASDAQ OMX Sustainability Finland index.

Stora Enso received a rating of AA in the MSCI ESG Ratings assessment. Stora Enso is included in several MSCI’s ESG indices.

Transition Pathway Initiative (TPI)
The TPI is a leading risk management tool for companies to assess their climate change risks and opportunities. Stora Enso has been selected as one of the 120 most advanced companies in terms of environmental, social, and governance performance.

CDP
Stora Enso is included in CDP’s Climate List, which identifies the global companies that are taking leadership in climate action.

STOXX ESG indices
Stora Enso is included in several STOXX ESG indices. These indices rate leading global companies according to environmental, social, and governance criteria.

Equileap
Ranked globally at number 29, Stora Enso was also rated the best performing Finnish company and best in its industry in gender balance and gender equality by Equileap.

Ecovadis
Stora Enso was included in the top 1% (industry suppliers) of the Ecovadis ethical supplier rating system, and achieved the highest recognition level (Gold).

OMX Sustainability Finland index
Stora Enso is included in the NASDAQ OMX Sustainability Finland index.

Euronext Vigeo
Stora Enso is listed in the Euronext Vigeo Europe, and Eurozone 120 indices as one of the 120 most advanced companies in terms of environmental, social, and governance performance.

Ethibel
Stora Enso is a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe. The ESI indices are composed of companies that display the best performance in the field of corporate social responsibility.

FTSE4Good Index
Stora Enso is included in the FTSE4Good Index Series. These indices measure the performance of companies that meet globally recognised corporate responsibility standards.

MSCI
In 2019, Stora Enso received a rating of AA in the MSCI ESG Ratings assessment. Stora Enso is included in several MSCI’s ESG indices.

ECPI Ethical Indices
Stora Enso is included in the ECPI Ethical Indices, which covers environmental, social, and governance criteria.

ECPI Ethical Indices
Stora Enso is included in the ECPI EMU Ethical Equity index, which covers environmental, social, and governance criteria.

WBCSD
Stora Enso’s Sustainability Report 2018 was included in the top ten sustainability reports globally according to the 2019 Reporting matters publication by the World Business Council for Sustainable Development (WBCSD).

Sustainability Reporting Awards Finland
Stora Enso’s Sustainability Report 2018 was chosen as the best in Finland in a competition organized by an independent group of expert organisations.

ReportWatch
Stora Enso’s Annual report 2018, including the Sustainability report, received the highest A+ ranking among more than 300 reports globally.

Stockholm School of Economics
Stora Enso received the highest score in the 2019 ‘Walking the talk’ study on sustainability communications by the Mistra Center for Sustainable Markets (Misum) at the Stockholm School of Economics. The study included 85 Large Cap companies at the Stockholm stock exchange.

Most sustainable company 2019
Stora Enso was ranked the most sustainable listed company in our sector in Sweden by Dagens Industri, Aktuell Hållbarhet, and Lund University School of Economics and Management. We were also ranked overall best in the category for “Climate and environment.”
Stora Enso has established a sponsored Level I ADR programme in the US. The ADRs trade on the premier tier of Over-The-Counter ("OTC") market in the US. Details are as follows:

<table>
<thead>
<tr>
<th>Ticker Symbol</th>
<th>SEOAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSIP</td>
<td>86210M106</td>
</tr>
<tr>
<td>Ratio</td>
<td>1 ADR : 1 Ordinary Shares</td>
</tr>
<tr>
<td>ADR depositary</td>
<td>Citibank</td>
</tr>
</tbody>
</table>

Share price information: www.citi.com/DR or www.otcqx.com

Please contact the Citibank’s dedicated ADR broker desks:

Scott Pollak (New York)          Mike Woods (London)  
Tel: +1 212 723 5676             Tel: +44 20 7500 2030  
Email: scott.h.pollak@citi.com    Email: michael.woods@citi.com
Financial results for Q3 2020
Solid performance continues in challenging business environment

President and CEO Annica Bresky
CFO Seppo Parvi

20 October 2020
Focus on cash flow and profit protection
Strong performance from Packaging Materials, Wood Products and Forest
Q3 2020 year-on-year

- Sales decreased by 13% and by 6% excl. Paper
- Operational EBIT decreased to 175 (245) MEUR, excl. Paper, 191 (195) MEUR, remained at the same level as a year ago
- Operational EBIT margin 8.4% (10.2%), excl. Paper 11.8% (11.3%)
- Cash flow from operations amounted to 399 (493) MEUR. Cash flow after investing activities was 250 (347) MEUR
- Net debt to operational EBITDA at 2.4x (2.1x), above the target <2.0x. Net debt was reduced by over 700 MEUR
- Strong liquidity at 2.2 BEUR, including cash and committed credit facilities and good access to funding sources
- Operational ROCE at 6.7% (9.2%), below the strategic target of 13%
- Increase of profit protection programme to 400 MEUR for continuous savings. Target for one-time savings remains at 85 MEUR
Active cost management continues
Operational EBIT Q3 y-o-y

- 245 (10.2%)
- 140
- 71
- 97
- 21
- 7
- 70
- 2
- 175 (8.4%)

Q3 2019  Sales prices and mix  Volume  Fiber  Other variable and fixed costs  Depreciation  Profit protection programme  Closed assets  Q3 2020
Mixed market conditions continue

• Health and safety of our employees continues to be a key priority

• Extensive precautions for the upcoming seven mill maintenance stops in Q4

• Divisional overview:
  − Consumer Board was strong, Containerboard remained weak
  − Clear recovery in corrugated volumes sequentially
  − Low market pulp prices and global high inventory levels persist. High deliveries for Biomaterials but division negatively impacted by prices and planned maintenance.
  − Strong US and European market for Wood Products
  − Solid and stable result continued for Forest, record low operating working capital supported cash flow
  − Paper returned to positive cash flow, capacity adjustments to adapt to demand decline
Forest asset value increase to reflect market value

• Natural time to review our valuation method
  - Forest as separate division was started in 2020
  - Increased significance of forest assets in the balance sheet
  - Market practice of valuating forest assets changing in the Nordics based on better transactional data

• As of Q4 2020, forest assets combined value will be determined using market transaction-based valuation method
  - Applies to Nordic forest assets
  - Nordic forest land, currently held at cost, will be revalued
  - Plantations, different asset class, excluded due to lack of sufficient market transaction data and shorter harvesting cycles (6–12 years vs 60–100 years)
  - Transparent and less subjective valuation method
6.5–7.0 BEUR of Forest asset value after revaluation
New target of 400 MEUR for profit protection programme
65 MEUR continuous and 5 MEUR one-time savings in Q3
Key events during Q3

• The conversion to packaging board has started in Oulu Mill. Paper production stopped end of September and packaging board production will start around the New Year.

• 79 MEUR investment in a new CLT production line at Ždírec sawmill in the Czech Republic, to capture growth in wooden construction market. Production will begin during Q3 2022

• Shut down of one newsprint paper machine by end of 2020 at Hylte Mill in Sweden and the deinking plant at latest in Q2 2021 to adjust for declining market demand

• 10 MEUR investment in dispersion barrier technology at Forshaga site in Sweden. Products with barriers adapted for a circular bio-economy will be commercially available during Q2 2021.

• PureFiber™ by Stora Enso, the next generation of eco-products to replace plastics in food service applications are now commercially available. To capture the growth, investments in capacity increases will continue in Hylte, Sweden and Qian’an, China.

• A pilot facility for producing biofoam will be built at Fors Mill in Sweden. Biofoam is a renewable and easily recyclable foam material for protective packaging and cushioning.

• The investment in saw, plane and pellet production in Launkalne sawmill, Latvia has been fully ramped up
Continued focus on cash flow and profit protection
Summary financials Q3 2020

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>2,079</td>
<td>2,402</td>
<td>-13.5%</td>
<td>2,114</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Operational EBITDA</td>
<td>330</td>
<td>397</td>
<td>-17.0%</td>
<td>332</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Operational EBITDA margin</td>
<td>15.9%</td>
<td>16.5%</td>
<td></td>
<td>15.7%</td>
<td></td>
</tr>
<tr>
<td>Operational EBIT</td>
<td>175</td>
<td>245</td>
<td>-28.6%</td>
<td>178</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Operational EBIT margin</td>
<td>8.4%</td>
<td>10.2%</td>
<td></td>
<td>8.4%</td>
<td></td>
</tr>
<tr>
<td>Profit before tax excl.</td>
<td>144</td>
<td>191</td>
<td>-24.3%</td>
<td>142</td>
<td>1.7%</td>
</tr>
<tr>
<td>IAC and FV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net profit for the period (IFRS)</td>
<td>86</td>
<td>59</td>
<td>46.9%</td>
<td>144</td>
<td>-40.1%</td>
</tr>
<tr>
<td>EPS excl. IAC and FV, EUR</td>
<td>0.14</td>
<td>0.18</td>
<td>-19.3%</td>
<td>0.14</td>
<td>2.2%</td>
</tr>
<tr>
<td>EPS (basic), EUR</td>
<td>0.11</td>
<td>0.09</td>
<td>26.1%</td>
<td>0.19</td>
<td>-40.3%</td>
</tr>
<tr>
<td>Operational ROCE</td>
<td>6.7%</td>
<td>9.2%</td>
<td>6.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational ROCE excluding Forest</td>
<td>8.0%</td>
<td>11.7%</td>
<td>7.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Flow from Operations</td>
<td>399</td>
<td>493</td>
<td>-19.2%</td>
<td>363</td>
<td>9.9%</td>
</tr>
<tr>
<td>Net debt/last 12 months’ operational EBITDA</td>
<td>2.4</td>
<td>2.1</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Packaging Materials
Good cost control resulting in improved profitability
Q3 y-o-y

- Sales decreased by 4% to 771 MEUR
  - Clearly lower containerboard prices
  - Closure of a small packaging paper machine at Imatra Mills in Finland
- Operational EBIT increased by 25 MEUR to 111 MEUR
  - Clearly lower variable costs especially pulp, chemicals and energy
  - Positive impact through profit protection programme actions
  - Clearly lower containerboard prices
- Operational ROOC improved to 15.6% (11.9%)
- Conversion of Oulu Mill to kraftliner production is according to plan
  - Production is planned to start around the New Year
  - Designed capacity is expected to be reached by end Q2 2021
  - Commercialisation of product portfolio is expected to be reached by end of 2021
  - Oulu Mill results included in Packaging Materials from Q4 2020 onwards
Packaging Solutions
Competitive market situation affecting sales and margins Q3 y-o-y

• Sales decreased by 13% to 145 MEUR from last year’s record high Q3 level
  - Lower box prices in Europe due to decreased raw material prices
  - Negative sales FX
  - Lower deliveries in China Packaging

• Operational EBIT decreased by 7 MEUR to 8 MEUR from last year’s record high Q3 level
  - Lower sales due to lower box prices, negative sales FX and lower deliveries in China Packaging
  - Accelerated efforts in new businesses impacted operational EBIT negatively (formed fiber, biocomposites and Box Inc.)
  - Lower variable costs due to low containerboard market prices
  - Lower fixed costs mainly due to profit protection programme actions

• Operational ROOC decreased to 13.2% (23.1%) mainly due to lower profitability
Biomaterials
Profitability affected by challenging markets and planned maintenance stops Q3 y-o-y

• Sales decreased by 8% to 305 MEUR
  - Significantly lower pulp prices
  - Negative sales FX
  - Higher pulp deliveries

• Operational EBIT decreased by 29 MEUR to 10 MEUR
  - Significantly lower pulp prices but high deliveries
  - Lower production impacted by increased maintenance activity and additional costs related to Covid-19 precautionary measures
  - Partly offset by clearly lower variable costs and positive net FX impact

• Operational ROOC decreased to 1.6% (5.9%) driven by clearly lower profitability
Wood Products
Second highest Q3 profitability
Q3 y-o-y

• Sales decreased by 10% to 341 MEUR
  – Covid-19 related delivery restrictions in Europe
  – Lower classic sawn prices
  – Partly offset by improved mix and especially very strong US market
  – Structural changes at Pfarrkirchen, Uimaharju and Kitee sawmills reduced sales by 32 MEUR

• Operational EBIT increased by 11 MEUR to 38 MEUR
  – Lower sales more than offset by improved margins especially in US
  – Lower net raw material costs and good fixed cost control

• Operational ROOC increased clearly above the long-term target to 25.2% (15.8%)
Forest
Expected efficiency improvements coming through Q3 y-o-y

• Sales decreased by 12% to 457 MEUR
  – Lower wood prices
  – Clearly lower deliveries in Finland as a result of lower production volumes. The reason is maintenance activity and Covid-19 pandemic market impact

• Operational EBIT increased by 13 MEUR to record high Q3 level of 38 MEUR
  – Improved profitability from own forest holdings and Tornator
  – Profitability in the Finnish and Swedish wood sourcing units improved due to increased efficiency and inventory management

• Operational ROOC increased to 3.6% (2.7%)
Paper
Positive cash flow in continuously difficult market conditions Q3 y-o-y

• Sales decreased by 32% to 468 MEUR
  − Covid-19 pandemic accelerated demand decline in all paper grades
  − Divestment of Dawang Mill, China and discontinuation of paper production in Oulu Mill, Finland, with a total impact of -21 MEUR

• Operational EBIT decreased by 66 MEUR to -16 MEUR
  − Lower sales partly offset by lower fiber costs and good fixed costs management

• Cash flow after investing activities to sales ratio decreased to 3.2% (14.4%) driven by lower profitability

• One newsprint machine at Hylte Mill, Sweden to be shut down by end of 2020 and the deinking plant latest in Q2 2021
  − Stora Enso is committed to support the employees who will be affected by the closure
Q4 key events
Guidance and outlook discontinued due to exceptional uncertainty caused by the Covid-19 pandemic

• Oulu Mill conversion planned to be completed by end of quarter
  – 30–40 MEUR negative impact to the operational EBIT of Packaging Materials in Q4 2020

• Extensive precautions to limit impact of Covid-19 in our operations and during annual maintenance shuts
  – Seven mills have maintenance shuts during quarter
  – Total negative impact of maintenance is estimated to be 10 MEUR less compared to Q3 2020 and 15 MEUR less compared to Q4 2019

• Oulu inventories sales result in 5–10 MEUR negative impact on operational EBIT for Paper division

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<th>Annual maintenance</th>
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Solid performance continues in challenging business environment

- Solid result for the quarter with focus on cash flow and profit protection
- Strong performance from Packaging Materials, Wood Products and Forest
- Paper division delivered positive cash flow
- Forest assets value of 6.5–7.0 BEUR
- Market conditions continue to be mixed
Welcome to Stora Enso virtual CMD on 11 November 2020
THE RENEWABLE MATERIALS COMPANY