OECD Workshop
New Innovation Ecosystems and Circular Solutions to Boost the Bioeconomy

CFO & Country Manager Finland
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Sales
EUR 9.8 billion
in 2016

Operational EBIT
EUR 884 million
in 2016

Some 25 000
employees in
35 countries

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

Stora Enso shares are listed on NASDAQ OMX Helsinki and
Stockholm. In addition, the shares are traded in the USA as ADRs
Majority of the portfolio is aimed at growth

**Stora Enso 2016**: Sales EUR 9 802 million/ Operational EBIT EUR 884 million/ Operational ROCE 10.3% / Operational ROCE excluding Beihai 13.0%

- **Consumer Board**: Expansion of relative market share in profitable niches
- **Packaging Solutions**: Selective profitable growth
- **Biomaterials**: Strengthening current business and creating new profitable growth
- **Wood Products**: Accelerating growth
- **Paper**: Strategy for maximum cash generation
Transformation journey
Growth businesses 70% of sales and 80% of operational EBIT

Sales 2006
-3% 21% 12%
70% 30%

Sales Q1/2017
2% 24% 12%
30% 70%

Operational EBIT 2006
-3% 35%
62% 38%

Operational EBIT Q1/2017
6% 28%
20% 80%

(1) In 2006 included in Consumer Board
(2) In 2006 includes merchants
Bio- and circular economy

Opportunities:
• Integrated mill concepts – Bio material business eco systems
• Onsite closed loop for energy and materials
• Renewable material solutions, lower carbon footprint
• Recycling & Re-Use

Challenges:
• Distance between biomass and centres of consumption
• Connecting virgin materials to rapidly evolving closed loop economies
• Economic competiveness versus fossil – scale of economy and supply chain integration
Bio- and circular economy in action
Stora Enso Biocomposites, example from Hylte, Sweden

- Addressing challenges of climate change and scarce resources
- Renewable-based composites to replace incumbent fossil-intensive products
- Utilisation of side-stream and recovered materials
- Targeted applications range from consumer goods to more industrial applications
- Direct substitution of oil-based plastics with renewable fibres and polymers
- Reducing total carbon footprint of final products
- Meeting increasing brand owner and consumer demands and regulations
- Utilisation of inherent strength of natural fibres to replace e.g. glass-fibre
Examples of biocomposite applications with related customer values

We offer value to our customers by:

- **Reducing the cost base for customer** - Provide cost-competitive alternative to virgin plastics with Bio Composite Granules
- **Reducing cycle time** - give the possibility to increase the productivity of existing injection molding equipment
- **Reducing CO2 footprint** – wood is more sustainable than fossil-based plastics
- **Customer Joint development** - together with customers to develop sustainable and competitive product
- **Improved price stability in raw material**
  - **Increased price stability** - reduce exposure to the volatile plastic soil conditions

Examples on how we support customers

- We develop product and its characteristics collaboratively with our customers to get the best results
- We support with **marketing material** that will contribute to increased sales for the entire value chain
An example of a final product by Stora Enso Biocomposites

Key Value Propositions
- High renewable content
- Natural durability
- Good appearance
- Cooler than plastic
- Maintenance free
- Cost competitive
- Strong and stable

Pine knot core
Patent: AU2011306833 (B2) — 2014-10-23

Novel wood fibre skin

Pine knot material*

Virgin+Recycled Plastics

Novel wood fibre*

* note: from side streams which currently are used for energy recovery