Opportunities and challenges for forest products industries
Case Stora Enso Building and Living

Rovaniemi, 10 December 2013
Stora Enso in brief

Stora Enso is the global re thinker of the paper, biomaterials, wood products and packaging industry. We always rethink the old and expand to the new to offer our customers innovative solutions based on renewable materials.

• Approximately 28 000 employees in more than 35 countries worldwide
• Sales 2012 EUR 10.8 billion
Stora Enso Building and Living
# 1 wood products company in Europe

More than 20 production units in Europe

| Personnel | 4 400 |
| Sales     | EUR 1.7 billion |
| Capacity  |                 |
| Sawing capacity 5.8 Mm³ |
| Further processing 3.0 Mm³ |
| CLT 120 000 m³ |
| Pellets 265 000 t |
| Modules 1 000 |
| Elements 120 000 m² |

Opportunities and challenges – Stora Enso
Wood is the building material for the future
The only sustainable building material
Increasing demands on planet’s resources
Challenging our sustainability

People
Now 7 bn 2025 8 bn
Urban >50% 70%

If all want to have a Western lifestyle, we need resources of two planets by 2025

Heavy burden on all non-renewable resources
Construction a major user of natural resources
And a major cause for the CO2 emissions

If European homes were built out of wood

- Consumption of non-renewable resources: -70%
- Consumption of manufacturing energy: -40%
- Carbon dioxide emissions: -60%

Source: Building information environmental declarations

Opportunities and challenges - Stora Enso
Modern wood construction today
Technical solution

• The overall image of wood construction has rapidly changed – thanks to “engineered wood products”

• Engineered wood products have unique material properties compared to basic wood products
  – Large scale single components (CLT 4m x 20m)
  – Strength properties on a totally new level
  – Top level fire behaviour enabled by massive wood structures

• Several over 8 storey high wooden buildings – existing plans to go over 20 storey high
Wood challenging concrete in urban building

- Enormous potential in CLT based urban multi-story construction
  - already well established and growing in Europe
- Tested solution CLT
  - Technically reliable, large range of references
  - Competitive against other systems – high level of prefabrication, speed
  - Authority approvals in each target market

Bridport house in London
Wood construction

Wood industry is still struggling with the conceptual approach

One off projects
• Lacking focus and repetition
Lack of industrial solutions
• Prefabrication, work at the building site
Weak/unclear position in the value chain
• Still in many cases the material supplier
Mainly regional approach
• Difficulties in scaling the business

Often uncompetitive against other materials
Stora Enso Building and Living
Regional profitability comparison – selected companies

Note 1: EBIT margin for a selection of large publically traded companies. Finland and Sweden also include the results of Stora Enso Finnish and Swedish operations, respectively. Excluding non-recurring items.
Stora Enso approach

• Starting with individual projects
  > 1500 delivered projects

• Optimized building systems
  > optimized use of CLT
• High level of industrial prefabrication

• Single family houses through partners
• Focus on urban concepts
Building innovations

Stora Enso CLT based solution for a Public Library

Melbourne, Australia

Helsinki, Finland

London, UK

Modular construction BoKlok concept with IKEA & Skanska

Urban high-rise construction with Stora Enso CLT

Opportunities and challenges - Stora Enso
Residential buildings, offices and a hotel in Wood City, Helsinki, Finland
Ambition
Leading building material with innovative solutions

• Wood is the building material of the future
  – The only truly sustainable building material
  – By innovative moves becoming a winner

• A winner will be defined by:
  – Offering superior customer experience
  – Ability to differentiate, cost and service
  – Best people

• Authorities can help the wood working industry
  – Harmonization of the building codes and norms without forgetting the interpretation of the norms
  – Fair / same rules for all the materials
  – Encouragement for the change