European paper industry - Sustainability Facts
Advancing the Bioeconomy
About the report

- Sixth biennial report
- Global reporting initiative: B+
- Data from 2010-2012
- Summary print version
- Full report available at www.cepi-sustainability.eu
- Links to videos and relevant websites
Commitment to a sustainable bio-based future

• European Declaration on Paper Recycling
• Aspirational target of zero accidents
• Zero landfill for recyclable waste
• CEPI 2050 Roadmap
• Supporting the bioeconomy ambitions of the EU
• EMAS certification of mills in Europe
Our motivations

• Remain financially sustainable and strategic industry
• Deliver sustainable product solutions
• Combat climate change and minimise our impact on the environment
• Care for the forests and promote certification
• Increase bioenergy production
• Utilise raw materials efficiently
• Continue to explore industrial symbiosis
1. European paper industry’s contribution to the GDP.
2. ROCE: Return On Capital Employed.

European Paper Industry

- **Employees**: 185,000
- **Companies**: + Few Multinationals + About 2/3 of SME’s
- **Investments**: 3 Billion
- **4% of Turnover Invested in Europe**

**Turnover**
- 75.3 Billion

**Added to the European Economy**
- 75.3 Billion

**Millions**
- Market Pulp: 13.6 Million
- Mills: 959

**Added Value**
- €15 Billion

**Million Tonnes**
- Paper & Board: 92.1 Million

**Many in Rural Areas**
- 23% Share of Global Paper Production

**EBITDA**
- 11.4%

**2011: 78 Billion**

**2011: 13.0**

**2011: 943**

**2011: 16**
Leading the way

“The factories of the near-future will use highly energy and material efficient processes, employ renewable materials, and adopt business models such as industrial symbiosis that allow the recovery of dissipated heat and energy.”

European Commission, industrial policy communication
“A contribution to growth and economic recovery”
A global player made in Europe
Doing well

INVESTMENT RATE IN THE PAPER INDUSTRY

2 TIMES HIGHER THAN IN THE WHOLE MANUFACTURING INDUSTRY

Source: Eurostat 2009

GROSS OPERATING RATE IN EU27 (GROSS OPERATING SURPLUS/TURNOVER)

EUROPEAN PULP & PAPER INDUSTRY

8.0% → 9.7%
2009 2010

WHOLE MANUFACTURING INDUSTRY

7.0% → 9.0%
2009 2010

Source: Eurostat

#epw13 @EUPaperWeek
Producing original bio-based products
Responsible material supply

• 82% of raw material is sourced in Europe

CEPI RAW MATERIALS CONSUMPTION 1991-2012

- Woodpulp
- Pulp other than Wood
- Paper for Recycling
- Non-Fibrous Materials
Responsible material supply

- 64.6% of wood, chips and sawmilling by-products delivered to European mills are certified

- Video guideline on the EU Timber Regulation

- 1m3 of wood used for papermaking is 2.38 times more resource efficient, than simple energy creation
Responsible material supply

- **NEW** – information about minerals and chemicals used in papermaking

**MINERALS**

**CALCIUM CARBONATE** – This is the most widely used mineral in papermaking. It’s used as a filler and coating pigment and helps produce papers with high whiteness and gloss, and good printing properties.

**BENTONITE** – This mineral is used in pitch control, i.e. absorption of wood resins that tend to obstruct the machines, to make the conversion of pulp into paper more efficient as well as to improve paper quality. Bentonite also offers useful de-inking properties for paper recycling.

**TALC** – Talc is used with both uncoated and coated rotogravure papers to enhance printability and reduce surface friction, improving productivity at the paper mill and print house. It also improves flatness and reduces ink scuff in offset papers. Used as a pitch control agent as well, talc “cleans” the papermaking process by adsorbing any sticky resins in the pulp.

**KAOLIN** – This is used as a filler to bulk up paper and coat its surface. Use of kaolin reduces the amount of wood pulp needed, enhances the optical properties of paper and improves its printing characteristics.
Reducing emissions and energy needs
Reducing emissions and energy needs

- 43% CO2 per tonne of product since 1990
- 56% biomass-based energy use
- Two Team Project to guide the industry to -80% CO2 emissions and +50% value
Working with the environment

Paper Production: Decoupled Growth Levels and Environmental Impacts

- Production of Market Pulp and Paper
- Electricity consumption
- Total Primary Energy Consumption
- NOX
- CO₂
- Water intake
- COD
- SO₂
- BOD
- AOX
## Working with the environment

<table>
<thead>
<tr>
<th></th>
<th>% 2012/1990</th>
<th>% 2012/2002</th>
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<tbody>
<tr>
<td>Specific Electricity Consumption (MWh/t)</td>
<td>-18.7%</td>
<td>-8.6%</td>
</tr>
<tr>
<td>Specific Direct CO₂ (kt CO₂ / kt of product)</td>
<td>-42.7%</td>
<td>-23.0%</td>
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<tr>
<td>Specific Indirect CO₂ (kt CO₂ / kt of product)</td>
<td>-49.8%</td>
<td>-30.9%</td>
</tr>
<tr>
<td>Specific Amount of Residues Landfilled (kg / t of product)</td>
<td>-81.4%</td>
<td>-56.3%</td>
</tr>
<tr>
<td>Specific BOD (kg / t of product)</td>
<td>-82.8%</td>
<td>-41.7%</td>
</tr>
<tr>
<td>Specific COD (kg / t of product)</td>
<td>-76.8%</td>
<td>-25.8%</td>
</tr>
<tr>
<td>Specific AOX (kg / t of product)</td>
<td>-94.9%</td>
<td>-36.3%</td>
</tr>
<tr>
<td>Specific SO₂ Emissions (kg SO₂ / t of product)</td>
<td>-88.8%</td>
<td>-52.4%</td>
</tr>
<tr>
<td>Specific NOₓ Emissions (kg NOₓ / t of product)</td>
<td>-38.4%</td>
<td>-13.0%</td>
</tr>
</tbody>
</table>
Working with the environment
Maintaining a safe workplace

• Social Dialogue
• -60% accidents since 2002

ACCIDENT RATE (ABSENCE OF MORE THAN 3 DAYS)
Maintaining a safe workplace

- Guidelines for load safety
Engaging Stakeholders

GLOBAL PULP AND PAPER INDUSTRY

EUROPEAN PULP AND PAPER INDUSTRY

PLAN
ORGANIZE
MEASURE
CONTROL

FACILITATE
CO-OPERATION
EXCHANGE

REPRESENT
REPORT

VALUE CHAIN
UP AND DOWN-STREAM

OTHER INDUSTRIES

EUROPEAN AND NATIONAL AUTHORITIES

NGO'S, TRADE UNIONS

GROWTH REINVENTED

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Data Quality

- Increase in amount of statistics collected
- New strategy 2013-2016 concentrates on data quality
- Key performance indicators checked through data quality assessment
- E&Y Belgium issues limited assurance on the data quality assessment
- Method by Joint Research Centre, EC
Key messages

- 43% CO2 emissions per tonne of product
- 92% of water used is returned to the environment
- 56% biomass-based energy production and use
- 82% European raw materials
- Investments 2x higher than average manufacturing
- Export of 21.6%
- 23% share of global paper production
- 71.7% European paper recycling rate
- 2.38 cascading factor of papermaking
- 64.4% certified wood and by-products used by paper mills
- 60% accidents since 2002
Thank you!