

**UPM**

ENVIRONMENTAL PRODUCT DECLARATION - PULP

Company **UPM-Kymmene Corporation****Site** **Pietarsaari**Information gathered from **1.1. 2010** to **31.12.2010**

Environmental Management

- Certified environmental management system at the mill: **ISO 14001** (1995), **EMAS** (1999)
- Company systems ensure traceability of the origin of wood by **FSC and PEFC Chain of custody**
- **80% PEFC and 17% FSC** certified wood raw material and the rest from non-controversial sources. Copies of certificates are available from www.upm.com.

Environmental parameters

The figures are calculated according to the requirements of the national environmental authorities. Figures are average data of the total chemical pulp production of the site.

Water	Parameter	Value	Unit
	COD	16.4	Kg/ADt
	AOX	0.12	Kg/ADt
	N _{Tot}	0.188	Kg/ADt
	P _{Tot}	0.008	Kg/ADt
	TSS	0.72	Kg/ADt
	Effluent flow	42.5	m ³ /ADt

Solid waste landfilled	16.8	BDKg/ADt
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Air	Parameter	Value	Unit
	SO ₂	0.12	Kg/ADt
	TRS	0.08	KgS/ADt
	NO _x	1.25	Kg/ADt
	CO ₂ (fossil)	16	Kg/ADt

Contact information

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Product features

Product: Bleached chemical pulp (ECF and TCF).**Raw material:** Soft- and hardwood from sustainably managed forests.**Other certificates:**

- ISO 9001 Quality Management
- OHSAS 18001 Health and Safety

Energy management

Pietarsaari is an integrated pulp and paper mill. Steam and electricity for the pulp mill is produced in the mill's own recovery boiler. Surplus heat and electricity is used for paper production.

Surplus heat	757	kWh/ADt
Surplus electricity	220	kWh/ADt

UPM CARBON FOOTPRINT INFORMATION - PULP

Company UPM-Kymmene Corporation

Site Pietarsaari

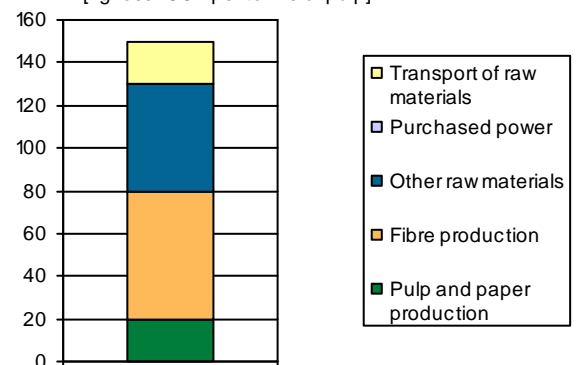
Information gathered from 1.1. 2010 to 31.12.2010

Carbon Footprint

- UPM calculates the Carbon Footprint of its pulp products based on the ten elements of the Carbon Footprint Framework for Paper and Board Products developed by CEPI (the Confederation of European Paper Industries). Detailed information on the CEPI Framework can be found at www.cepi.org.
- The data used in the calculation are based on annual averages for the pulp mill, including bleaching chemicals production in-site.
- GHG = greenhouse gas. UPM figures refer only to emissions of fossil CO₂.

Carbon footprint of Pietarsaari mill

[kg fossil CO₂ per tonne of pulp]



Ten elements of the CEPI Framework (See next page for remarks and explanations)	Fossil CO ₂ (kg/ADT of pulp)	Biogenic CO ₂ (kg/ADt of pulp)
1. Carbon sequestration in the forest		0
2. Carbon stored in the product		1670
Net sequestration of biomass carbon		
3. GHG emissions from pulp production	20	
4. GHG emissions associated with producing virgin or recovered fibre	60	
5. GHG emissions associated with producing other raw materials	50	
6. GHG emissions associated with purchased electricity and steam	0	
7. Transport-related GHG emissions (excl. delivery to customer)	20	
Total fossil CO₂ emissions	150	
8. GHG emissions attributable to product use (e.g. printing)	-	
9. GHG emissions attributable to end-of-life-management of products	-	
10. Avoided emissions	-	

Remarks and explanations to the ten elements of CEPI Framework

1. Carbon sequestration in the forest

- Carbon sequestration is currently not included in the product level carbon footprint calculations.
- For UPM, forest certification and traceability of fibre supply using certified Chain of Custodies ensures the sustainable management of forests, and the long-term sequestration of carbon in them via the process of photosynthesis.

2. Carbon stored in the product

- Biogenic carbon is stored in products produced from wood fibre. The IPCC (International Panel on Climate Change) formula is used to determine the amount of CO₂ that is stored in the pulp product.

3. GHG emissions from pulp production

- UPM includes data on fossil CO₂ emissions from combustion of fossil fuels at pulp manufacturing facilities.

4. GHG emissions associated with generating the supply of wood or recovered fibre

- This includes fossil CO₂ emissions from all forestry operation, including nursery, silviculture and harvesting, and the production of purchased chips.

5. GHG emissions associated with producing other raw materials

- Includes fossil CO₂ emissions generated during the manufacturing of non-wood-based raw materials: chemicals which are used in an amount above 10 kg per tonne of pulp.

6. GHG emissions associated with purchased electricity and steam

- Includes fossil CO₂ emissions associated with purchased electricity, steam and heat used for pulp and paper production.
- Usually pulp mills are more than self-sufficient in energy generation, thus this toe is zero.

7. Transport-related GHG emissions

- Includes fossil CO₂ emissions associated with inbound transports of main raw materials and final products from the pulp mill to the export harbour.
- CO₂ emissions from transportation of pulp from export harbour to the customer is not included since this depends on the transportation modes used and distances to specific customer locations. This part of the element can be calculated for a specific case on request.

8. GHG emissions attributable to product use (e.g. printing)

- This element is not included within UPM's scope as a pulp manufacturer.

9. GHG emissions attributable to end-of-life-management of products

- This element is not included within UPM's scope as a pulp manufacturer.

10. Avoided emissions (e.g. superior energy efficiency or carbon offsetting measures)

- This element includes avoided emissions from the pulp mill surplus electricity sold to the grid, according to the country specific emission conversion factor. If the surplus electricity is used on-site for the production of paper, we have not considered this as a carbon offset.