



Stiftelsen Østfoldforskning

WORK REPORT

REPORTING ON ENVIRONMENTAL
LOAD OF ELOPAK PACKAGING TO
PEPSICO

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**Fredrikstad,
AR. 01.08**

Background notes – reporting of key environmental figures for Tropicana packaging to PepsiCo.

Introduction:

Ostfold Research has been commissioned by Elopak AS, to supply key figures requested by PepsiCo, producers of Tropicana juice. Data on raw materials, energy consumption, emissions to air and water and on waste were requested. The data was supposed to be used for making LCA of different alternative packaging alternatives for Elopak.

The numbers was supposed to be raw data and not calculated numbers, as far as possible. The assignment was complicated by the fact that the raw data was available in different formats and with different basic assumptions behind. Hence a thorough evaluation, and processing, of data was needed.

This document describes the procedure, tools and basic assumptions behind the figures. .

Products:

The following products were included:

0,5 litre

0,75 litre

1 litre

1,15 litre

1,75 litre

2 litre

No data was received regarding the 1,15 litre product (Information received from Ellen Enger, Elopak), hence this product was not included in the reporting. On the other hand, data was received from Elopak regarding 1,893 litre and 1,5 litre.

The following actual product were reported:

Tropicana	1 l	BU725120	Board 72	EvOH + PE
Tropicana	1.15 l	None		
Tropicana	1.75 l	DU543516	Board 54	PE + Al
Tropicana	0.5 l	BU725123	Board 72	EvOH + PE
Tropicana	0.75 l	DU725122	Board 72	EvOH+PE
Tropicana	2 l	DU543515	Board 54	PE + Al
		DU747115	Board 74	EvOH+PE

Scope

The study was limited to products on the European market. Hence, only the abovementioned products were included. The most sold product is the 1 litre variety.

The calculations are based on data from all life cycle stages, from production of raw materials to final producers gate. The life cycle of the products was assumed to be:

Production cardboard: Stora Enso at Imatra, Finland.

Transport to Elocoat at Terneuzen, the Netherlands.

Production coated board.

Transport to Elopak, also at Terneuzen.

Production of printed blanks.

Transport to nearest harbour.

Method:

The numbers have been calculated using simple techniques like Excel spreadsheets.

Description of data, assumptions and interpretations:

The basic data for the analysis were the same as those used for the EPDs compiled by Ostfold Research for Elopak in 2003 and revised in 2006.

A Life Cycle Inventory of all impacts (2005 data) from production of board, forest raw materials and production of externally purchased energy including all related transports was compiled by Stora Enso and used in this analysis. The numbers were given with mass as functional unit. Ostfold Research could not evaluate the sources of this data, nor the data quality. The carton was labelled BM4 and the board quality 285 g/m² was used as baseline data. This board is somewhat thinner than what was used in most board. Assuming that products with a higher surface to mass quotient (like thin products) gives higher impacts we can safely assume that the environmental effects have not been underestimated, rather slightly overestimated.

The data from the Inventory were clearly labelled as inventory data to distinguish from the other data. If this had not been made, the impacts from these early life stages would have been counted double.

Data from Elocoat were taken from reported numbers (2005), given with mass as functional unit.

Data from Elopak were taken from yearly environmental report (2005 figures), given with amount as functional unit (yearly production, number of blanks). This means that the impacts

allocated to small packaging will probably be overestimated whereas impacts from large packaging will be underestimated. Ostfold Research has not received data that would enable us to make more precise calculations.

Specifications of the boards were supplied by Elopak (Ellen Enger).

Erik Svanes, Ostfold Research

Fredrikstad, Norway. March 14, 2008