



Stiftelsen Østfoldforskning

WORK REPORT

REPORTING ON ENVIRONMENTAL
LOAD OF ELOPAK PACKAGING TO
MILK PRODUCERS MILKO AND
SKÅNEMEIERIENE

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**Fredrikstad,
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Background notes – reporting in Milko call for tender and to Skånemeieriene.

Introduction:

Ostfold Research has been commissioned by Elopak AS, to supply key figures requested by Swedish milk producer Milko and Skånemeieriene. Apart from qualitative data like packaging code, and origin (country/region) of raw material, the following numbers were included in the request:

Quantity of each raw material.

Energy consumption pr packaging unit.

Percentage fossile energy and renewable energy.

Greenhouse gas emissions pr packaging unit.

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

Products:

The following products were included for Milko:

BF054017

BF171120

BF281123

BF281126

BF281125

BU171120

BS054017

BS054020

BU075820 (med XE-kork)

BU725820 (med XE-kork)

BF054020

BF114017

BF114017 is not in production anymore (Information received from Ellen Enger, Elopak) and hence was not included in the study.

The following products were reported for Skånemeieriene:

BF171120 = 1lit PE (UE kork)

BF175820 = 1lit PE Diamond Curve (XE kork)

The products annotated (med XE-kork) was assumed to contain a large screw cap, weighing 3,8 g, consisting of spout (1,9 g) and the cap itself (1,9 g). The product annotated (UE kork) was assumed lto cotain a small screw cap, weighing 2,5 g, consisting of spout (1,25 g) and the cap itself (1,25 g). All other products were considered to be without screw cap. The decision was taken by Elopak Sweden (Martin Borg/Åke Stallberg).

The products annotated BU, BF and BS are printed with different flexoprint-techniques. The differences in environmental impact between these techniques have not been determined and is assumed (by Niels Verner Nielsen, Elopak Denmark) to be of little importance. Hence the products with identical number code but different letter code were reported together.

Scope

The calculations are based on data from all life cycle stages, from production of raw materials to final producers gate.

Method:

Standard LCA methodology has been applied but only impacts related to energy production and use and climate change have been studied. SimaPro-software was applied.

Specification of data:

A Life Cycle Inventory of all impacts (2005 data) from production of board, board raw materials, coating of boards and production of externally purchased energy including all related transports was compiled by Stora Enso and used in this analysis. Ostfold Research could not evaluate the sources of this data, nor the data quality.

Transport data from Imatra, Finland to the finishing plant in Aarhus, Denmark were calculated from database data and specified information about transport lengths and loading capacity.

Data on impacts from the Danish finishing plant were site-specific (from 2007) data.

As far as Ostfold Research know, the impact of infrastructure has been included in every process step.

Definitions:

The term “release of fossile CO₂ for production of one packaging unit” was interpreted as

“release of CO₂-equivalents for production, including all process steps from raw materials to final production, for one packaging unit”.

Fossile energy was defined as energy produced from coal, oil, natural gas and peat.

Renewable energy was defined as energy from wind, hydropower, sun, geothermal, waves.

Nuclear energy does not fit into any of these categories and was therefore left out.

Basic assumptions:

All calculations have been based on board quality called “Natura 2PE 325 gsm”, that weighs 325 g/m² and contains 40 g PE and 285 g board.

No data on EvOH production were available, hence data for PE were used.

Data from the finishing plant in Denmark is average data pr produced unit. More detailed data was not available, hence in the calculations the same number had to be used for all different board types and sizes.

Erik Svanes, Ostfold Research

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