

Elopak AS

Scope 3 inventory 2020

Summary report on calculation of Scope 3 categories 1, 4, 9, 11 & 13.

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Introduction

The calculations detailed here were developed to support Elopak’s development of, and commitment to, a Science-Based Target. The calculation period is the calendar year 2020.

The emissions categories detailed in this report are:

- Category 4: Upstream transportation and distribution
- Category 9: Downstream transportation and distribution
- Category 1: Purchased goods and services
- Category 11: Use of sold products
- Category 13: Downstream leased assets

For detail about other calculations relating to Elopak’s Science Based Target, or Scope 3 emissions, please refer to Elopak’s Sustainability Report 2020.

Table 1. Summary of emissions included in this statement

Scope 3 category	tonnes CO ₂ e
Category 1: Purchased goods and services	350 028
Category 4: Upstream transportation and distribution	21 494
Category 9: Downstream transportation and distribution	22 350
Category 11: Use of sold products	54 585
Category 13: Downstream leased assets	9 876

Context and methodology

Reporting Standards

The calculations detailed here were developed to support Elopak’s development of, and commitment to, a Science-Based Target, and follow the Science Based Targets initiative (SBTi) criteria and recommendations for Scope 3, as well as the Greenhouse Gas Protocol (GHG protocol) - Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The GHG Protocol is developed in a partnership of the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) and is the most well-known standard for corporate greenhouse gas emissions.

Raw materials calculations also follow the ISO standards for Life Cycle Assessments (ISO 14040 and 14044), and the Product Category Rules for beverage cartons where relevant to the carbon footprint calculation methodology (PCR Beverage Cartons 2011:04 Version 1.0, developed in accordance with ISO 14025:2006).

CarbonNeutral Protocol

Emissions for raw materials (Category 1: Purchased goods and services) are included in Elopak's product CarbonNeutral certification, alongside other Scope 3 calculations not included in this report. The CarbonNeutral Protocol developed by Natural Capital Partners (NCP) is an additional quality layer on top of the WRI/WBCSD GHG Protocol and describes the requirements for achieving specific CarbonNeutral® compliant certifications.

GHG Accounting Principles

The Anthesis approach to carbon accounting is to follow the GHG Protocol's core principles where possible:

- **Relevance:** selecting an appropriate inventory boundary that reflects the GHG activities of the company and serves decision-making needs of users;
- **Completeness:** accounting for all emission sources within the chosen inventory boundary, with any specific exclusions disclosed and justified;
- **Consistency:** aim to collect meaningful and consistent data over time and transparently document any significant changes to data quality and/or format;
- **Transparency:** address all relevant issues in a coherent and clear manner; and
- **Accuracy:** minimize uncertainty and avoid systematic over or under quantification of emissions, and ensure any necessary estimates or assumptions required are conservative and guided by best practice.

Quality Assurance

Throughout the assessments, quality assurance has been conducted to review all activity data provided by the client, with conservative assumptions proposed where necessary to ensure a best practice approach has been followed.

Methodology per category

Category 1: Purchased goods and services

Table 1 Category 1: Purchased goods and services

GHG protocol category	Definition	Scope
Category 1: Purchased goods and services	Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 - 8	All upstream (cradle-to-gate) emissions of purchased goods and services

This category includes all upstream (cradle-to-gate) emissions of purchased goods and services. The below describes how Elopak calculates this for their raw materials, a process which is validated by Anthesis. Products are described as blanks (cartons without lids) and caps. These are produced by Elopak's 5 European converting plants: Aarhus, Fastiv, Speyer, St Petersburg and Terneuzen, or in Elopak's Canada operations.

Emissions calculations for cartons and caps are run using Elopak's DEEP tool (Dynamic Elopak Environmental Performance), based on a methodology in line with the ISO standards for Life Cycle Assessments (ISO 14040 and 14044). The Product Category Rules for beverage cartons are followed where relevant to the carbon footprint calculation methodology (PCR Beverage Cartons 2011:04 Version 1.0, developed in accordance with ISO 14025:2006).

Primary data is used for Elopak's own operations and the production of some raw materials. Internal production and transport data is taken from Elopak's reporting tool Footprinter, and other internally collected data.

Secondary data is sourced from LCA databases such as Ecoinvent and studies for some of the raw materials such as PlasticsEurope and the European Aluminium Association, as specified in the beverage carton PCR.

The DEEP tool covers the European market (incl Russia and Ukraine)' DEEP Americas covers the Canadian and US market. Further details on the methodology (process map, system boundary, inclusions, cut-offs, allocation rules) are available upon request.

Emissions for total Elopak sales of blanks and caps for the reporting year are modelled according to the raw material components and processing steps described in the tool. These are updated annually. The reporting includes:

- Cradle-to-grave or cradle-to-customer embedded emissions of raw materials and inputs to production (Blanks)
- Cradle-to-grave or cradle-to-customer embedded emissions of raw materials and inputs to production (caps)
- Cradle-to-grave or cradle-to-customer embedded emissions of raw materials and inputs to production (coated board sold by elocoat)

Key assumptions applied in the product modelling in the DEEP tool include the following:

- 12% of carton sales for 2020 used renewable PE. The renewable PE is made using Naphtha which is derived from a forestry co-product. The emissions factor used assumes global landfilling rates (49%) to apportion biogenic carbon uptake which is considered to be stored for 100 years.
- The coating process of the three coating types PE, EVOH and Alu is split based on the assumption that it takes more energy to coat multiple layers, therefore converting requires approximately the same energy for all product types.

Category 4: Upstream transportation and distribution and Category 9: Downstream transportation and distribution

Table 2 Category 4: Upstream transportation and distribution and Category 9: Downstream transportation and distribution

GHG protocol category	Definition	Scope	Key assumptions
Category 4: Upstream transportation and distribution	Transportation and distribution of products purchased by the Elopak in the reporting year from tier 1 suppliers, own operations (in vehicles and facilities not owned or controlled by the reporting company, inbound logistics, and internal logistics between Elopak’s own facilities.	Scope 1 and scope 2 emissions of transportation and distribution providers that occur during use of vehicles (e.g., from energy use.	Emissions are calculated based on Elopak’s transportation reports.

Category 9: Downstream transportation and distribution	Operation of assets owned by the Elopak (lessor) and leased to other entities in the reporting year	Scope 1 and scope 2 emissions of transportation providers, distributors, and retailers that occur during use of vehicles and facilities (e.g., from energy use).	Assumption: Data for outward storage and transportation to retail is estimated based on Elopak's owned outbound transport.
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This involves the transport of products to Elopak, internal transport of products around the business and transport of products to their first customer.

- All of transport in this category is done by third party organisations. Where Elopak pays for the transportation, this is considered within their control and therefore included within the scope of the organisational footprint assured by SGS. Additional transportation where Elopak does not pay is included in the full Scope 3 assessment.
- Elopak keep detailed logs of the transport of their raw materials and their finished products. The volume in tonnes, transport mode and total distance of product transported is recorded for each stage. Operational data is then multiplied by the appropriate emissions factor.
- Data for outward storage and transportation to retail is estimated based on Elopak's owned outbound transport.

Category 11: Use of sold products and Category 12: Downstream leased assets

This category includes emissions estimated from the use of juice or milk filling machines sold in the reporting year by Elopak, and filling machines leased by Elopak during the reporting year.

Table 3 Category 11: Use of sold products and Category 12: Downstream leased assets

GHG protocol category	Definition	Scope	Key assumptions
Category 11: Use of sold products	End use of filling machines sold by Elopak in the reporting year	The <i>direct</i> (scope 1 and scope 2) use-phase emissions of sold products <i>over their expected lifetime</i>	Assumption: lifetime of all filling machines is 20 years. Assumption: current-year electricity factors are applied to the lifetime electricity consumption. i.e. no provision is made to estimate future reduction in grid electricity emissions.

Category 12: Downstream leased assets	Operation of assets owned by the Elopak (lessor) and leased to other entities in the reporting year	The scope 1 and scope 2 emissions of lessees that occur during operation of leased assets.	Assumption: lifetime of all filling machines is 20 years. Machines are assumed to be leased for the duration of 20 years where actual lease dates are unavailable.

For machines sold, the total lifetime emissions are calculated and included in the reporting year; for leased machines the emissions are allocated to each year for the lease duration. Filling machines are categorized as leased or sold according to their reported commercial status, and categorised as in scope for the year or not according to their reported installation date. Here we assume that the machine begins operation on its installation date. Several machines are also excluded by Elopak as in stock or warehouses (hence not in production).

A model developed by Elopak, the Total Cost of Ownership model, has been verified by Anthesis. This provides estimates of in-operation utilities consumption, cleaning and sterilization cycles for a range of machine types. The machine types in our sample that are not modelled have been mapped to a representative machine type from the list with the help of Elopak. Final time in operation = annual production – time out to clean. This is different for dairy/NCSD. Emissions are calculated per machine, starting with summarising the operation and cleaning consumption and applying emissions factors.

International Energy Agency per-country electricity consumption factors are applied according to the country of the customer. Factors for chemicals and transport are taken from Ecoinvent 3.4. For leased machines, consumptions and emissions are calculated for one year, and for machines sold in 2019-2020 the emissions are calculated for 20 years.