

GHG Emissions Accounting 2023

Report made by CEMAsys, April 2023



swix

Ulvang

Lundhags

Helsport

roko

Skisporet



Table of Contents

1. Introduction & Methodology
2. Summary of main results
3. Brav AS
4. Swix
5. Lundhags
6. Helsport
7. Ulvang
8. Toko
9. Sources



Introduction

This report provides an overview of the estimated greenhouse gas (GHG) emissions related to Brav's entire product portfolio produced and sold in 2023. GHG emissions accounting is a fundamental tool for identifying, measuring, and taking tangible measures to reduce GHG emissions for a company. Annual GHG emissions accounting enables Brav to benchmark performance indicators and evaluate progress over time.

The GHG emissions accounting covers Brav's offices, stores, warehouses, and production facilities, including the brands: Swix, Lundhags, Helsport, Ulvang, and Toko. Please note that Brav Teamwear, which was reported separately in 2022, is now reported under Swix.

The data included in this year's GHG emissions accounting consist of GHG emissions from Scope 1 (consumption of fossil fuels from company-leased vehicles and owned forklifts), Scope 2 (purchased electricity and district heating), and relevant Scope 3 categories (purchased goods and services, transportation from logistics, generated waste, business travel, employee commuting, use of sold products from textiles, and end-of-life treatment of sold products from textiles). The reported numbers are based on consumption data from internal and external sources and are converted into tonnes of carbon dioxide equivalents (tCO₂e) using relevant emission factors. The tCO₂e emissions for Brav are presented both as a total of Brav's operations and broken down for each brand owned by Brav.

Brav wants to signal that, in its role as a manufacturer and importer of products, it is aware of its influence on climate and the environment and is taking measures as a company to reduce its greenhouse gas emissions.



Methodology: Greenhouse Gas Protocol

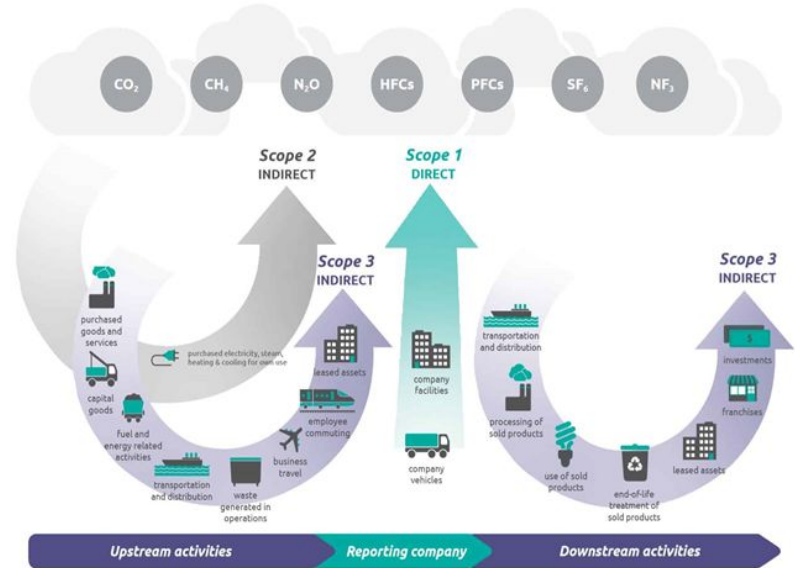
The Greenhouse Gas Protocol Initiative (GHG Protocol) was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Carbon footprint measurements and analysis are based on the international standard: "A Corporate Accounting and Reporting Standard Revised Edition," currently one of four GHG Protocol accounting standards for calculating and reporting GHG emissions. The report considers the following greenhouse gases, all converted into CO₂-equivalents: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and nitrogen trifluoride (NF₃).

The carbon inventory is divided into three main scopes of direct and indirect emissions.

Scope 1 includes all direct emission sources. It is mandatory to report on Scope 1, which includes the use of fossil fuels for stationary combustion or transportation in owned assets and, depending on the consolidation approach selected, leased or rented assets. It also includes any process emissions from chemical processes, industrial gases, direct methane emissions, etc.

Scope 2 is also mandatory to report on and includes indirect emissions related to purchased energy: electricity and heating/cooling where the organization has operational control. The electricity emission factors used in CEMAsys are based on national gross electricity production mixes over a 3-year rolling average from the International Energy Agency's statistics (IEA Stat). Emission factors per fuel type are based on assumptions in the IEA methodological framework. Factors for district heating/cooling are either based on actual (local) production mixes or average IEA statistics.

Scope 3 reporting is voluntary and includes indirect emissions resulting from value chain activities. These emissions are a result of the company's upstream and downstream activities, which are not directly controlled by the company. Examples include business travel, goods transportation, waste handling, consumption of products, etc. Carbon accounting should generally include information that users, both internal and external to the company, need for their decision-making. An important aspect of relevance is the selection of an appropriate inventory boundary that reflects the substance and economic reality of the company's business relationships.



Methodology: Emission factors

The 2023 GHG emissions accounting is developed using emission factors calculated based on methodologies recognized by CEMAsys as credible. CEMAsys has a dedicated emission factor team that continuously identifies and updates emission factors. However, it's acknowledged that other emission factors exist, and there is no consensus on which factors should be used. CEMAsys utilizes emission factors from well-known, internationally recognized sources, including the Department for Environment, Food & Rural Affairs (DEFRA), The International Energy Agency (IEA), Ecoinvent, and other academic sources. CEMAsys is transparent about the sources and calculation methodology used in the emission factors and strives for consistency throughout reporting periods. In cases where there is a change in methodology, the company communicates this in the reporting.

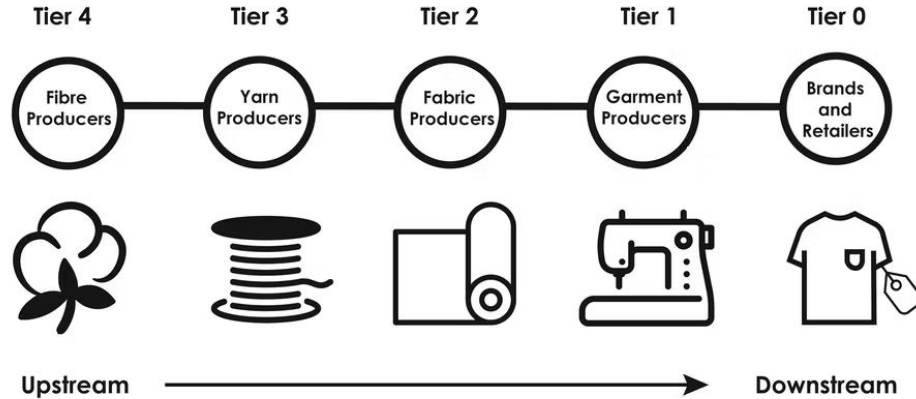
In 2023, some of the sources of the emission factors for textiles were updated. They now also include 5% waste material and transport between each tier (as recommended by STICA), which was not included previously. These changes have collectively resulted in an increase in most of the emission factors for textiles.

Additionally, the emission factor for Diesel (NO)* increased by 9.2% in 2023 due to a lower biofuel mandate in Norway in 2023, which is one reason why the Scope 1 emissions increased significantly.

*Information based on DEFRA 2023 and Norwegian Environmental Agency 2023



Context: carbon footprint in the textile industry



- Supply chains in the textile industry are often long, complex, and interconnected, underscoring the importance of capturing the entire manufacturing process in GHG emissions accounting.
- Within the textile industry, the manufacturing process is divided into different tiers, with each tier representing a different manufacturer specializing in a specific aspect of the process. These tiers range from Tier 4 to Tier 1.
- In the case of Brav, we have ensured to select emission factors covering the entirety of the manufacturing process for different garments, spanning from Tier 4 to Tier 1. This comprehensive approach ensures that the carbon footprint is complete, encompassing all relevant emissions.



Assumptions & Uncertainties

For the purpose of this analysis, we have made assumptions about some of the materials used in production for Brav hard goods. In cases where the materials could not be identified, we have assumed material compositions and excluded materials that did not have proper emission factors.

Emissions from employee commuting have been estimated based on the results and assumptions derived from an internal online survey conducted among Brav employees.

Emissions from the use of sold products have been estimated based on consumer treatment and washing of the garments. We assumed that consumers wash all clothes at 30°C and 40°C, in accordance with the washing instructions provided per product.



Summary of main results

In 2023, Brav's greenhouse gas emissions were 17,557.1 tons of CO₂ equivalents (tCO₂e), representing a decrease of 13,840 tCO₂e, or -44%, compared to 2022. An important reason for the overall decrease is the significant reduction in Scope 3 emissions, which is closely related to the decrease in overall purchases in 2023 compared to 2022.

The greenhouse gas emissions in 2023 had the following distribution:

- 1 765.3 tCO₂e in Scope 1 (9.5% of total emissions)
- 179.7 tCO₂e in Scope 2 (5.7% of total emissions)
- 15 612 tCO₂e in Scope 3 (84.8% of total emissions)

Scope 1:

In 2023, total Scope 1 emissions from company-leased vehicles and company-owned forklifts were 1,765.3 tCO₂e, representing an increase of 4,477.46% from 2022. The consumption of 663,011.4 liters of diesel accounted for 1,758.4 tCO₂e, 2,916.3 liters of petrol accounted for 6.8 tCO₂e, and 352 liters of Bioethanol (E85) accounted for 0.1 tCO₂e. The increase can be explained by two factors: Brav reported numbers from two more offices, which accounted for an additional 658,021 liters of diesel, and the emission factor for Diesel (NO) increased by 9.2% from 2022 to 2023.

Scope 2:

Scope 2 emissions were 179 tCO₂e. Electricity was calculated using the location-based emission factor for Electricity Norway and Electricity Lithuania. Emissions from Scope 2 increased by 147.9% compared to 2022. This increase is attributed to the increase in electricity and district heating consumption, which rose from 2,938,992.3 kWh in 2022 to 5,531,700 kWh in 2023 due to the addition of six offices, seven stores, and one warehouse in the US to Brav's GHG emissions accounting.

Scope 3:

The largest share of Brav's emissions is in Scope 3 from the value chain. Total Scope 3 emissions were 15,612 tCO₂e in 2023, representing a decrease of 15,674.3 tCO₂e, or a reduction of 50.1%, compared to 2022. The main reason for this significant decrease was Brav's substantial reduction in purchases: Brav reduced its product purchases by 65% in 2023 compared to 2022. The change in purchasing was due to overproduction that exceeded initial projections, leading to exceptionally high tCO₂e in the purchased goods and services category. Additionally, in 2023, the entire industry experienced a slowdown, resulting in Brav's warehouses and those of its customers being at full capacity.

There was a decrease in all product-related Scope 3 categories: Purchased goods and services (-51%), Upstream transportation and distribution (-92.3%), Use of sold products (-44%), and End-of-life treatment of sold products (-58%)*. In the other Scope 3 categories, we saw an increase which can be explained by the additional offices, stores, and warehouses added by Brav to this accounting: Waste (6.81%), Business Travel (91.8%), Employee Commuting (113.4%), and Fuel-and-energy-related activities (2224.7%).

* In 2023, Brav did not include all relevant emissions in the category End-of-life Treatment of Sold Products due to lack of data which has resulted in a decrease in emissions in this category. Brav will strive to include relevant emissions in this category in the future.



Additional explanation for changes in result from 2022 to 2023

Due to the inclusion of six offices, seven stores, and one warehouse in the US, the results for Scope 1 and 2 emissions in 2023 are not directly comparable to those of 2022. Brav would like to emphasize a like-for-like comparison between 2022 and 2023, excluding the impact of these additional facilities:

Scope 1 2022: 39 tCO₂e

Scope 1 2023: 18.4 tCO₂e

→ reduction of 53%

Scope 2 2022: 72.2 tCO₂e

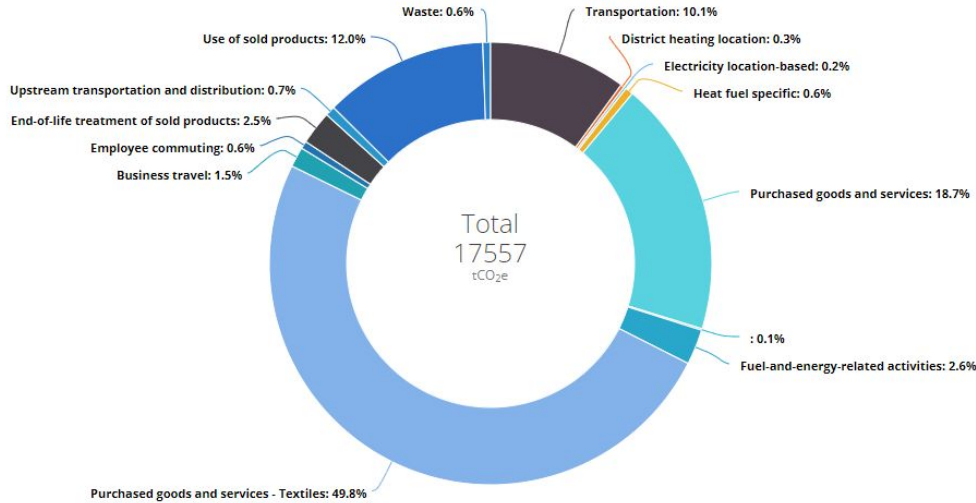
Scope 2 2023: 62.2 tCO₂e

→ reduction of 14%

Given the addition of these new facilities, we will adjust our baseline year from 2021 in 2024 for accurate comparison.



Brav AS

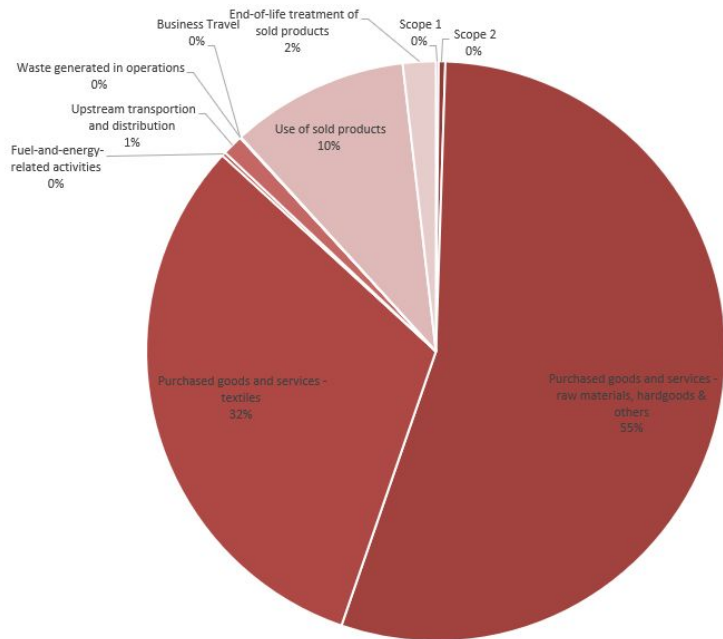


Scope 1, 2, 3 2023 per GHG source of emissions

Scope Categories	tCO _{2e}
Scope 1	1,765.3
Scope 2	179.7
Scope 3 Total	15,612.1
Scope 3 - Purchased goods and services - other	3,302.2
Scope 3 - Purchased goods and services - textiles	8,745.7
Scope 3 - Fuel-and-energy-related activities	451.0
Scope 3 - Upstream transportation and distribution	125.1
Scope 3 - Waste generated in operations	97.1
Scope 3 - Business Travel	256.4
Scope 3 - Employee Commuting	97.8
Scope 3 - Use of sold products	2,104.9
Scope 3 - End-of-life treatment of sold textile products	431.9
Total emissions	17,557.1



Scope 1, 2, 3 2023 per GHG source of emissions

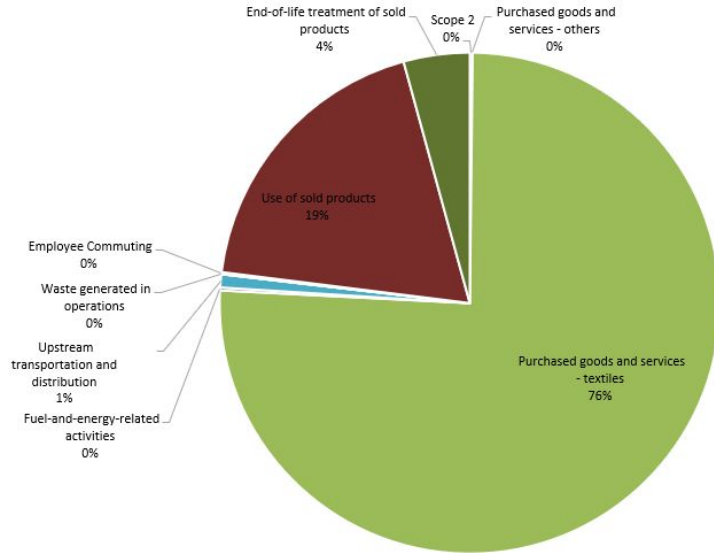


Scope Categories	tCO2e
Scope 1	7.1
Scope 2	18.1
Scope 3 Total	4,822.3
Scope 3 - Purchased goods and services - raw materials, hardgoods & others	2,655.0
Scope 3 - Purchased goods and services - textiles	1,527.6
Scope 3 - Fuel-and-energy-related activities	10.5
Scope 3 - Upstream transportation and distribution	56.3
Scope 3 - Waste generated in operations	0.8
Scope 3 - Business Travel	1.8
Scope 3 - Use of sold products	481.2
Scope 3 - End-of-life treatment of sold products	89.1
Total emissions	4,847.5



Lundhags

Scope 2, 3 2023 per GHG source of emissions

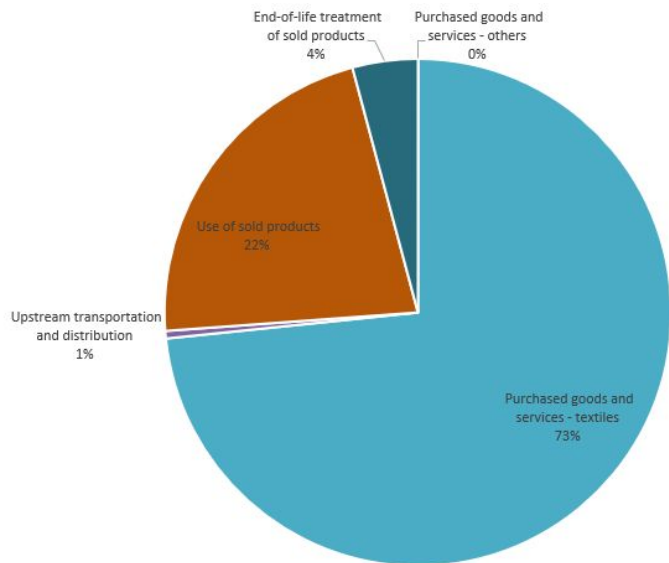


Scope Categories	tCO2e
Scope 2	5.8
Scope 3 Total	3,760.8
Scope 3 - Purchased goods and services - others	1.1
Scope 3 - Purchased goods and services - textiles	2,848.5
Scope 3 - Fuel-and-energy-related activities	7.1
Scope 3 - Upstream transportation and distribution	32.0
Scope 3 - Waste generated in operations	0.1
Scope 3 - Employee Commuting	4.8
Scope 3 - Use of sold products	706.4
Scope 3 - End-of-life treatment of sold products	160.8
Total emissions	3,766.5



Helsport

Scope 3 2023 per GHG source of emissions

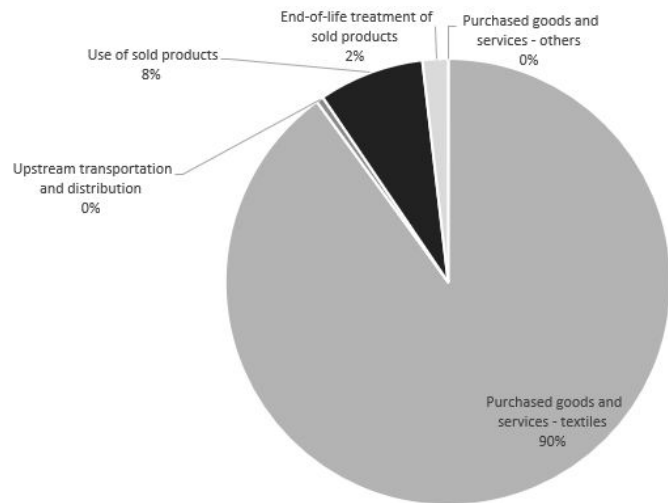


Scope Categories	tCO2e
Purchased goods and services - others	0.6
Purchased goods and services - textiles	2,540.0
Upstream transportation and distribution	16.6
Use of sold products	761.7
End-of-life treatment of sold products	144.3
Total emissions	3,463.3



Ulvang

Scope 3 2023 per GHG source of emissions

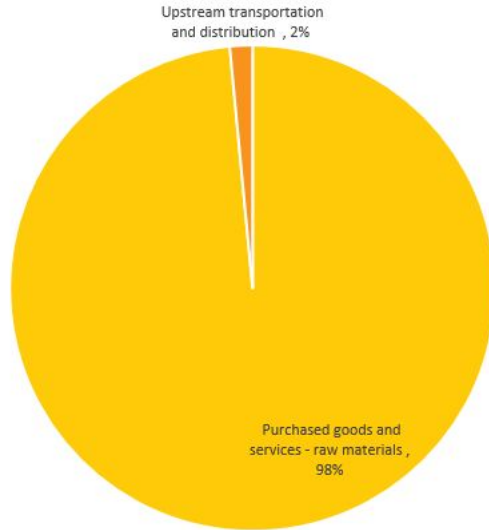


Scope Categories	tCO2e
Purchased goods and services - others	0.4
Purchased goods and services - textiles	1,829.6
Upstream transportation and distribution	10.7
Use of sold products	155.6
End-of-life treatment of sold products	37.7
Total emissions	2,033.9



Toko

Scope 3 2023 per GHG source of emissions



Scope 3	tCO2e
Purchased goods and services - raw materials	622.0
Upstream transportation and distribution	9.5
Total emissions	631.5



Sources

Department for Business, Energy & Industrial Strategy (2022). Government emission conversion factors for greenhouse gas company reporting (DEFRA)

IEA (2022). Emission Factors database, International Energy Agency (IEA), Paris.

IEA (2022). Electricity information, International Energy Agency (IEA), Paris.

EcoInvent 3.8 and 3.9.1. Wernet, G., Bauer, C., Steubing, B., Reinhard, J., Moreno-Ruiz, E., and Weidema, B., 2016. The ecoinvent database version 3 (part I): overview and methodology. The International Journal of Life Cycle Assessment.

IMO (2020). Reduction of GHG emissions from ships - Third IMO GHG Study 2014 (Final report). International Maritime Organisation, <http://www.iadc.org/wp-content/uploads/2014/02/MEPC-67-6-INF3-2014-Final-Reportcomplete.pdf>

IPCC (2014). IPCC fifth assessment report: Climate change 2013 (AR5 updated version November 2014). <http://www.ipcc.ch/report/ar5/>

AIB, RE-DISS (2022). Reliable disclosure systems for Europe – Phase 2: European residual mixes.

WBCSD/WRI (2004). The greenhouse gas protocol. A corporate accounting and reporting standard (revised edition). World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 116 pp.

WBCSD/WRI (2011). Corporate value chain (Scope 3) accounting and reporting standard: Supplement to the GHG Protocol corporate accounting and reporting standard. World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 149 pp.

WBCSD/WRI (2015). GHG protocol Scope 2 guidance: An amendment to the GHG protocol corporate standard. World Business Council on Sustainable Development (WBCSD), Geneva, Switzerland /World Resource Institute (WRI), Washington DC, USA, 117 pp.

The reference list above is incomplete but contains the essential references used in CEMAsys. In addition, several local/national sources may be relevant, depending on which emission factors are used.

