

# Scope 3 Methodology

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# 1. Preamble

Scope 3 emissions for business at Henkel are calculated using methodologies consistent with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Scope 3 Standard) [1], and with reference to the additional guidance provided in the GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (Scope 3 Guidance) [2].

This document describes the boundaries and the GHG Scope 3 reporting categories relevant for the Henkel scope 3 reporting. It further outlines the methodology behind the relevant reporting categories.

# 2. Accounting & Reporting Principles

The Corporate Value Chain (Scope 3) Accounting and Reporting Standard requires that five principles be adhered to (see below). The Henkel methodology for accounting and reporting the Scope 3 emissions follows these principles.

*GHG accounting and reporting of a scope 3 inventory shall be based on the following principles: relevance, completeness, consistency, transparency, and accuracy.*

GHG accounting and reporting of a scope 3 inventory shall be based on the following principles:

- Relevance:** Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.
- Completeness:** Account for and report on all GHG emission sources and activities within the inventory boundary. Disclose and justify any specific exclusions.
- Consistency:** Use consistent methodologies to allow for meaningful performance tracking of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- Transparency:** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- Accuracy:** Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable confidence as to the integrity of the reported information.

## 1. Relevance

The following categories are considered relevant for the Henkel GHG accounting and reporting: The rationale for in/excluding individual categories is provided in the section 'Setting the boundaries'. Purchased goods and Services, Upstream Transportation and Distribution, Waste generated in Operations, Business Travel, Use of sold products, and End of life of sold products.

## 2. Completeness

Activity data: All sales, all purchased raw materials (chemicals, packaging), all logistic movements are considered. These are complemented with data on the upstream and downstream transport processes and the use and disposal processes of the Henkel products.

Footprint: All activity data are complemented with footprint data.

## 3. Consistency

Activity data: The activity data are consistent with the Henkel business activities because they reflect the production waste, the business travel, the entire purchasing spend (purchased goods and services) and the sales (sold products). The end of life of

sold products is addressed based on the activity data obtained for purchased goods and services and for sold products.

Emissions data: To base the reporting on a consistent set of footprint data, the Defra emission factors were used whenever possible. An exception are the emission factors for purchased goods and services (i.e. for chemicals and packaging materials), for upstream transport and distribution, and for wastewater treatment.

#### 4. Transparency

Transparency of accounting and reporting is warranted by subjecting all data and calculations to limited assurance verification by a third party and by publishing the results in the Henkel sustainability report. The Henkel Sustainability Report is publicly available online. Data and calculations have been shared with the third party review. To that end, spreadsheet calculations were made available to the auditor. These allow for tracing all steps of the calculation.

#### 5. Accuracy

The activity data used for reporting can be classified as high, intermediate and low accuracy. High accuracy data are the amounts of chemicals purchased, the amounts of waste and wastewater generated in production, and the amounts of products sold. The respective data are taken from the Henkel systems. Approximations are used on an exceptional basis, e.g. when accounting for the activities not yet reflected in the Henkel systems (e.g. the Sun raw materials and sales).

Intermediate accuracy data are activity data which result from combining SAP data with a certain degree of approximation. This is true for the upstream transportation and distribution and the amounts of packaging materials.

Low accuracy data are activity data which require the combination of average / assumed values for energy and water consumption during of products and disposal modes with data on amounts of raw materials and products.

## 3. Boundaries of Henkel Scope 3 Greenhouse Gas Emission Reporting

### 2.1. Basis of Consolidation

The scope 3 accounting and reporting covers all major activities under operational control of Henkel. Subject of the reporting are the materially relevant categories, the inclusion and exclusion of which will be explained in the next chapter. Hence, emissions of acquisitions and divestments are accounted for based on activity data from the Henkel systems or on a pro rata basis. For the future it is planned to add more categories to complete the reporting.

### 2.2. Time boundaries

The Henkel Scope 3 reporting includes purchasing, sales, logistics, production, business travel and ... company car data covering the full breadth of Henkel activities in an accounting year. This implies that actual emissions may have occurred earlier in time, as may be the case for purchased goods and services, upstream transport and distribution, chemicals and packaging materials, or will occur in the future, e.g. from the use and disposal of Henkel products, disposal of waste generated in operations.

### 2.3. Emissions coverage

The reporting addresses the emissions related to the immediate activities related to production, distribution and use of Henkel products. Emissions in the pre-chains are not considered. An exception is made for the purchased raw materials in the reporting category 'Purchased Goods and Services'. For the raw materials (chemicals and packaging materials) life cycle data are used, because this is the only type of data available. Emissions are expressed in CO<sub>2</sub> equivalents to address the climate impact of the emissions.

# 3.Scope 3 – Setting the Boundaries for Henkel

The Scope 3 GHG categories are shown below. The Henkel Scope 3 emissions report reflects the relevant emissions along the Henkel value chain.

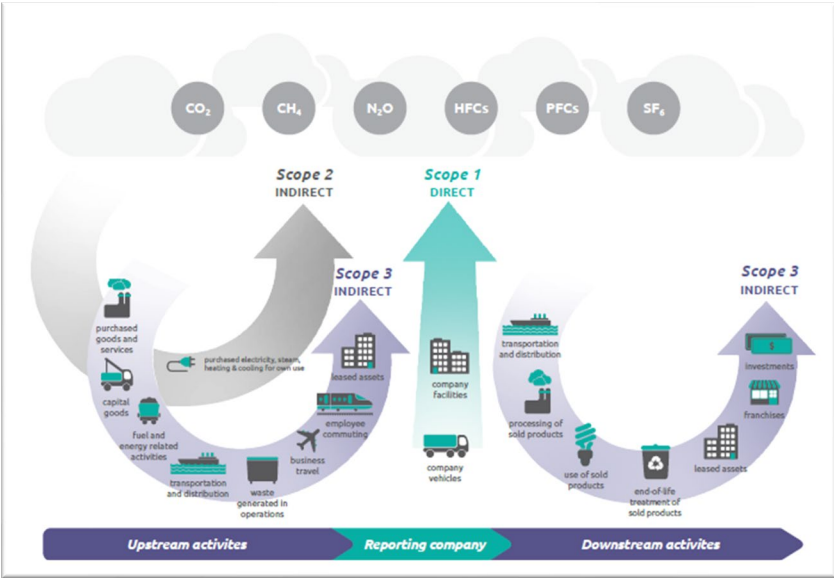


Figure 1: Scope 3 GHG categories [1]

Subject of the reporting are the materially relevant categories. The following table outlines the Scope 3 categories according to their relevance for the Henkel footprint, along with a relevance statement.

Scope 3 Category	Scope In/Out	Relevance Statement
<b>Upstream</b>		
1.Purchased goods and Services	<b>In scope</b>	Purchased raw materials such as chemicals and packaging materials are included in the reporting. It is known from life-cycle assessments that these are an important contributor to the overall emissions along the Henkel value chain. All the other purchasing categories are not included. However, contract manufacturing, traded goods and IT

		services materially analyzed and classified as relevant for reporting.
2.Capital goods	Out of scope	In view of the current quality and availability of the emission factors for capital goods, the calculation of emissions is highly uncertain. For that reason, Henkel does not manage these emissions and currently abstains from reporting them.
3.Fuel and energy related activities	Out of scope	The emissions from our fuel and energy related activities originate from Henkel acting as operator of a multi company chemical site. They are not related to our core business, therefore they are not relevant for the reporting.
4.Transportation and Distribution	<b>In scope</b>	The emissions related to transportation of purchased goods to the production sites are included into the reporting. Emissions of warehouses are out of scope. The emissions related to transportation of goods to the distribution centers of Henkel retail customers and to Henkel industrial customers is included into the reporting, as Henkel pays for that. These emissions are a managed element of the Henkel business model.
5.Waste generated in Operations	<b>In scope</b>	The emissions related to the disposal of solid waste and wastewater generated in Henkel production sites are included into the reporting. Disposal of solid waste and wastewater generated in Henkel production sites is a managed element of the Henkel business activities.
6.Business Travel	<b>In scope</b>	The emissions related to business travel (air and rail) and company cars (typically long-term lease) are included into the reporting. Business



		travel and company cars are managed elements of the Henkel business activities.
7.Employee Commuting	Out of scope	Not relevant according to size of emissions and influence.
8.Leased assets	Out of scope	Not relevant according to size of emissions and influence.
<b>Downstream</b>		
9.Transportation and Distribution	<b>In scope</b>	The emissions related to transportation of goods to the distribution centers of Henkel retail customers and to Henkel industrial customers is included in category Upstream Transportation and Distribution. Excepted are the emissions generated during transportation from the distribution centers to the retail stores and during the 'shopping tour' from the retail stores to the customers' home. These activities are not managed by Henkel.
10.Processing of sold products	Out of scope	For the sake of simplicity and consistency of the overall reporting, the use of Henkel products by industrial and professional customers is addressed in the category 'Use of sold products'.
11.Use of sold products	<b>In scope</b>	The emissions related to the use of sold products are included into the reporting. <i>Indirect use-phase emissions</i> There are the emissions related to the use of sold products which indirectly consume energy or water. <ul style="list-style-type: none"> <li>▪ The detergents and soaps (laundry products) used energy to heat water – domestic heating from different sources – as well as water</li> <li>▪ Beauty care products, such as soaps, require heated water –</li> </ul>

		<p>domestic heating from different sources – and water</p> <ul style="list-style-type: none"> <li>▪ A range of the products of Adhesives Technologies requires energy for drying, melting, and curing of adhesives or for operating industrial cleaning and surface treatment processes.</li> </ul> <p><i>Direct use-phase emissions</i> Some products emitted greenhouse gases during the use (propellants and PF 5052) For the sake of simplicity and consistency, the use of Henkel products by industrial and professional customers is addressed in this category.</p>
12.End of life of sold products	<b>In scope</b>	The end-of-life emissions from all sold products, including the packaging.
13.Leased Assets	Out of scope	Not relevant according to the norm of active management, direct emissions, and size of emissions.
14.Franchises	Out of scope	Not relevant according to the norm of active management, direct emissions, and size of emissions.
15.Investments	Out of scope	Not relevant according to the norm of active management, direct emissions, and size of emissions.

## 4.Scope 3 – Methodology

The Scope 3 emissions are quantified by calculation following the equation in the standard. The application of this equation for the specific categories is outlined below.

Quantification of GHG emissions by multiplying activity data by an emission factor

**GHG = Activity Data x Emission Factor x GWP**

<b>Category</b>	<b>Methodology</b>
Purchased Goods and Services	Hybrid method: Supplier specific method and average-data method (specific data)
	Spend-based method (non-specific data)
Upstream transportation and distribution	Distance-based method
Waste generated in Operations	Average-data method
Business Travel	Distance-based method
Downstream transportation and distribution	Distance-based method
Use of sold products	Indirect use-phase emissions method
	Direct use-phase emissions method
End of life of sold products	Waste-type-specific method (solid waste)
	Average-data method (wastewater)

#### 4.1. Activity Data

For certain categories, the activity data from Henkel systems needs processing before the plausibility check and before they are combined with the respective emission factors to yield the Henkel GHG emissions. Besides, here some assumptions are established and filled the data gaps.

The activity data processor is responsible for this step which is different for each category. It is relevant to mention the automatization of the data preparation for some categories.

The data preparation also applies for several emission factors when the data is not received directly from the source and some assumptions need to be taken. The Table below provides an overview of the activity data used per category.

<b>Category</b>	<b>Activity Data</b>
Purchased Goods and Services – Chemicals	Purchasing data for chemical raw materials including their quantities and total spend
Purchased Goods and Services – Packaging	Amount of packaging materials
Purchased Goods and Services – Contract Manufacturing	Purchasing data including their total spend plus quantities of sold product for contract manufacturing
Purchased Goods and Services – Traded Goods	Purchasing data for traded goods including total spend

Purchased Goods and Services – IT services	Purchasing data for IT services including total spend
Upstream transportation and distribution	Assumption that all inbound transport is via trucks, the distance per transportation is 500 km and the actual amounts of chemicals and packaging materials purchased. These are transport services which are not paid by Henkel, all other outbound transport (for which Henkel pays for) is included in 3.9
Waste generated in Operations	Amount of waste from Henkel operations, assuming that tertiary wastewater treatment occurs globally
Business Travel	Traveled distances by company cars, air and train travel. Hotels and rental cars are not included.
Downstream transportation and distribution	Actually delivered product amounts and transport modes along trajectories modelled by GPS
Use of sold products	Amount of sold products
	Resource consumption (energy and water) per unit use
	Domestic heating of water (e.g. for showering) occurs with a mix of energies consisting of 30% electricity, 50% gas, and 5% each of renewable energy, heating oil, biomass and district heating.
End of life of sold products	Amount of packaging material used
	amount of wastewater generated with the use of the sold amounts of products
	solid waste generated with the use of adhesive products

#### 4.2. Emission Factors

The Table below provides an overview of the emission factors used per category.

Category	Emission factors (CO <sub>2</sub> e)	Source
Purchased Goods and Services – Chemicals	Cradle-to-gate emission factors and average data	Information from Ecoinvent, associations, suppliers and expert judgment (i.e. assigning emission factors based on chemical similarities)

Purchased Goods and Services – Packaging	Average data	Association data, suppliers, EcolInvent
Upstream transportation and distribution	Emission factor for the type transport	Weighted average of TTW emission factor for mode of transport for downstream transport and distribution.
Waste generated in Operations	Emission factors for different disposal routes.	DEFRA - current reporting year
Business Travel	Emission factors for car rail, and air excluding radiative forcing.	DEFRA - current reporting year
Downstream transportation and distribution	Emission factors	EcoTransIT World (ETW)
Use of sold products	Emission factors for combustion of energy mix for heating water (excl. Electricity)	DEFRA - current reporting year
	CO <sub>2</sub> , methane and nitrous oxide emissions for electricity for world countries	IEA – Most recent available (previous year)
	CO <sub>2</sub> emission factors for water supply	ECOINVENT
End of life of sold products	Packaging and solid waste from Adhesive products: Emission factors for different type of waste	DEFRA - current reporting year
	Wastewater	Calculated based on literature data, accounting for Henkel’s contribution to the wastewater BOD load

## 5. References:

- [1] „Corporate Value Chain,” [Online]. Available:  
[https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard\\_041613\\_2.pdf](https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf).
- [2] „Scope 3 Guidance,” [Online]. Available:  
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