Philips' Corporate Emission Accounting Methodology

Scope 3 – Category 4 & 9: Transportation & Distribution

PHILIPS

At Philips, while we focus on our purpose to improve people's health and well-being, we acknowledge that the healthcare industry is a major contributor to climate change and waste. As such we are committed to pave the way for a low-emission future by reducing not only our scope 1 and 2 emissions, but also our indirect scope 3 emissions. This effort is supported and overseen by the Executive Committee, which seeks increased transparency for its stakeholders to ensure accountability.

We account for 100% of scope 1 and 2 emissions from operations over which Philips or one of its subsidiaries has operational control, but not for emissions from operations in which Philips owns an interest but does not have operational control. By contrast, scope 3 emissions are derived from indirect activities outside Philips control, meaning calculations also include non-operated assets.

Of the 15 scope 3 subcategories, we account for Philips' five most material categories, which together make up 95% of our scope 3 emissions. These are: purchased goods and services (category 1), upstream transportation and distribution (category 4), business travel (category 6), downstream transportation and distribution (category 9), and use of sold products (category 11).

Each scope and scope 3 category is subject to its unique methodology elaborated on in its own document. All calculations are in line with the Greenhouse Gas Protocol; used for management purposes; in line with our Science Based Targets initiative submission; and subject to reasonable assurance by the external auditors of Philips.

Scope 3

Category 1
Purchased goods and services

Category 6
Business travel

Category 4 & 9
Upstream and downstream transportation and distribution

Category 11
Use of sold products

Scope 3 – Category 4 & 9: Transportation & Distribution

1 Introduction

Philips strives to align the methodology with ISO 14083, the GLEC standards and the GHG Protocol. We report emissions for both upstream and downstream transportation and distribution to accurately capture all logistic movements.

- Category 4 (Upstream Transportation and Distribution): Transportation of raw materials, components, or finished goods from suppliers to Philips or in between Philips facilities via a third party-owned transport mode.
- Category 9 (Downstream Transportation and Distribution): Transportation of finished products from Philips facilities to distribution centers, retailers, or end customers via a third party-owned transport mode.

Transportation modes include air, road, sea or parcel. Rail transport is rarely used by Philips and therefore has a negligible influence on total emissions.

2 Methodology

To calculate emissions (in tonnes CO_2-equivalent) associated with our transportation and distribution we use a distance-based methodology. Each shipment is divided into transportation legs based on the mode of transport.

- Leg 1: Distance from the origin to the (air)port of loading.
- Leg 2: Distance between (air)ports, typically the longest leg.
- Leg 3: Distance from the (air)port of discharge to the final destination.

- Road Freight: For shipments transported entirely by road, a single transportation leg is assumed, calculated based on the city-to-city road distance.

The proportions for Leg 1 and Leg 3 are derived from our internal investigation, which indicates that these two legs account for 5%, 1.66%, and 5% of the leg 2 distance of ocean freight, air freight, and parcel transport respectively.

	Leg 1	Leg 2	Leg 3
	2.5% of leg 2 distance	**Port-to-port distance**	2.5% of leg 2 distance
	0.83% of leg 2 distance	**Haversine distance including detour**	0.83% of leg 2 distance
	2.5% of city-to-city distance	**95% of city-to-city distance**	2.5% of city-to-city distance
	City-to-city road distance		

In case we are not able to determine the exact mode specific, (air)port to (air)port or city to city distances, a maximized country-to-country distance calculation is used. If this is also not available, the maximum distance per mode of transportation is used. This ensures our emission calculations are conservative.

Per shipment and leg, we then apply the appropriate mass-distance emission factor to derive the tonnes CO_2-equivalent. This is done in accordance with Greenhouse Gas protocol. The calculation formula per leg is as follows:

Tonnes CO_2-e per leg = Weight per shipment x Distance (km) x Mode specific emission factor

Sub-calculations associated with the distance per leg and emission factors are dependent on the mode of transportation and further explored below.

2.1 Ocean Freight

To calculate emissions associated with ocean freight, we distinguish between less than container load transports (LCL) and full container load transports (FCL).

An LCL shipment refers to the case in which Philips shares the available container space with one or more entities. This ensures the limited capacity of the cargo ship is utilized to the maximum. To calculate emissions, we leverage the chargeable weight and apply the average laden tonne.km emission factor for Container ships from Business, Energy & Industrial Strategy (BEIS).

An FCL shipment refers to the case in which Philips is the sole occupier of a container. To account for this volumetric change, we apply twenty-foot equivalent units' kilometers (TEU.km) emission factors from the Clean Cargo Working Group (CCWG). These emission factors are also carrier and trade lane specific, adding a further level of granularity.

Regardless of whether the shipment is a LCL or FCL shipment we determine the emissions for leg 1 and leg 3 by applying a distance factor of 5% and multiplying this with the chargeable weight (in tonnes) and an average emission factor of BEIS that includes Heavy-Goods Vehicles (HGV), inland container, and rail transport.

All emission calculations are based on 100% data captured via our internal transport analytics system.

2.2 Air Freight

Air freight emissions are determined using the haversine (Great Circle) distance between the origin and destination airport and an additional uplift factor for any unexpected detours. This distance is used to classify each flight as either short haul, medium haul, or long haul. Short-haul includes any route shorter than 1,500 km, medium-haul between 1,500 and 4,000 km and long-haul routes being longer than 4,000 km. The reason for doing so is because the fuel consumption of airplanes is not linear. During take-off airplanes require significantly more fuel compared to the rest of the journey.

Haul specific and average laden emission factors from BEIS are applied for air freight. Although this excludes the type of aircraft, and occupation rate it is still deemed accurate. Cross-sector usage and frequent updates secure high degree of comparability and accuracy. Please note it was also decided to exclude radiative forcing caused by airplanes due to the uncertainty surrounding the topic.

Emissions for leg 1 and 3 are determined by applying the road weighted average of 1.66%, and multiplying this with the chargeable weight (in tonnes) and the average HGV emission factor of BEIS.

Air freight shipments are 54% based on data collected via our internal transport analytics system and 46% via supplier specific data (based number of shipments). To factor in that we might not capture all air freights shipments we apply a 2% correction factor to each shipment therefore ensuring a conservative reporting estimate

2.3 Parcel Freight

Parcel Freight can be completed using a mix of different transportation modes. This generally depends on the total transport distance, level of service and urgency. To accurately estimate emissions linked to parcel freight we classify all shipments with city-to-city road kilometers below 1,000 km as road freight. Else if the road distance is above 1,000 km, it is assumed that air freight is used for the delivery.

For all parcel shipments completed via road we assume that 95% of the city-to-city distance is completed using an HGV while the remaining 5% are completed using a city van. In contrast for parcel shipments completed via air we assume that 95% of the distance is completed by air and the remaining 5% using an HGV. In both cases the emission factors from BEIS are applied. For air shipments the same haul logic as explained in the air freight section is being used.

Parcel shipments are 31% based on data collected via our internal transport analytics system and 69% via supplier specific data (based number of shipments).

2.4 Road Freight

Road freight emissions are calculated using the city-to-city road distance. Contrary to the other modes of transportation only one leg of transportation is assumed. The distance of this leg is then multiplied with the average laden HGV emission factor of BEIS. This overstates emissions as commonly more fuel-efficient city vans are used for the last mile.

Road Freight shipments are 88% based on data collected via our internal transport analytics system and 12% via supplier specific data (based number of shipments).

3 Global Warming Potentials

In accordance with international reporting requirements, emissions from each of the gases are weighted by its Global Warming Potential (GWP), so that total Greenhouse Gas emissions can be reported on a consistent basis. For all of our emissions derived from the emission factors of BEIS, the GWPs are used from the IPCC Fifth Assessment Report. For Clean Cargo emission factors, the GWPs are used from the IPCC sixth Assessment Report.

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