

Scope 3 distribution and logistics GHG emissions report

Introduction

Diageo is committed to understanding and reducing carbon emissions along the total value chain, including Scope 3 indirect emissions. A key part of Diageo's Scope 3 profile is emissions from the transportation and distribution of finished goods by third parties. We continue to refine and improve the accuracy and completeness of data captured for this area. This has resulted in a comprehensive understanding of the extent of greenhouse gas emissions associated with the transport and distribution of finished goods, which has been subject to independent limited assurance by PricewaterhouseCoopers LLP (PwC). This document presents the data and methodologies associated with Diageo's scope 3 logistics CO₂e emissions.

Performance data for the year ended 30 June 2020, 2021 and 2022

Dataset	Region	2020 CO ₂ e emissions (tonnes)	2021 CO ₂ e emissions (tonnes)	2022 CO ₂ e emissions (tonnes)
Road and rail	North America	104,462	131,139	123,319
	Europe	45,835	52,963	62,435
	Asia Pacific	12,216	14,263	14,568
	Latin America and Caribbean	23,967	27,355	30,666
	Africa	51,231	50,540	52,907
Ocean	Global	48,486	67,720	73,045
Total		286,197*	343,980*	356,940*

▲ Within PwC's independent limited assurance scope. For further detail see pages 116-119.

*Restated to reflect updated emission factors from CCWG and TEU calculations for ocean freight and applying emission factors from Eco TransIT; European Standard EN16258 (Methodology for calculation and declaration of energy consumption and GHG emissions of transport services).

Reporting guidelines

The methodology used for the reporting of Diageo's Scope 3 logistics carbon emissions is based on the WRI/WBCSD Greenhouse Gas Reporting Protocol *Corporate Value Chain (Scope 3) Accounting and Reporting Standard* (the Protocol) and relates specifically to Category 4 of the Protocol (emissions from upstream transportation and distribution). The scope of our reporting and detailed methodology is presented below.

Data being reported	In scope	Out of scope
CO ₂ e emissions from transport and distribution of finished goods and the return of empty reusable packaging containers - that is, kegs and returnable glass bottles	<p>Distribution of finished goods owned by operationally controlled Diageo sites from point of production to point of sale to first paying customer.</p> <p>Transportation of empty reusable packaging containers from point of collection to operationally controlled Diageo site.</p> <p>Items in transit at the year end are included within the scope of reporting.</p>	<p>All other elements of WRI Scope 3 Category 4, and specifically:</p> <ul style="list-style-type: none"> • Transportation and distribution of finished goods by air freight • Transportation and distribution of products purchased by Diageo between tier one suppliers and our own operations • Transportation and distribution of products (unfinished goods) between Diageo facilities and/or between third-party producers and Diageo facilities • Transportation and distribution of Diageo-finished goods where ownership of the goods has transferred to the customer • Deliveries from joint ventures and associates • Logistics and distribution carbon emissions data, excludes USL (India) and Russia.

The methodology utilised by Diageo to aggregate and calculate carbon emissions of finished goods from Diageo's controlled logistics to the first paying customer reflects three distinct modes of transportation and geographic regions:

1. Emissions from ocean freight
2. Emissions from road and rail transport in North America
3. Emissions from road and rail transport in Rest-of-World.

Reporting boundaries and methodologies

1. Emissions from ocean freight

Emissions from ocean freight are calculated once a year using the following methodology:

- Diageo-controlled freight is captured through booking data maintained in SAP or local Enterprise Resource Planning (ERP) systems. Data on the number and size of actual deliveries is extracted from these systems for the manufacturing sites in the group.
- The size of deliveries is converted to twenty-foot equivalent (TEU), based on the type of container using Clean Cargo Working Group (CCWG)¹ guidance. TEU is a standardised unit of measure for container capacity. Where less than a container load is to be delivered, this is excluded from the ocean freight calculation and included instead within the Rest-of-World Road and Rail modelling as though it was transported by road.
- MarineTraffic's global vessels tracking tools are used to provide information on ocean freight routes from which distance travelled for the delivery can be calculated (TEU kilometre). For deliveries where generic routes are used and port-to-port points are not defined, the sea distances are obtained via CERDI Sea Distance (Centre d'Études et de Recherches sur le Développement International (CERDI), which is recommended as a source for sea distances in the GLEC Framework).
- CO₂e emissions are calculated by applying emission factors developed by the CCWG² in grams CO₂e per TEU kilometre. Emission factors are selected based on container type (refrigerated or non-refrigerated) and size, and the shipping lane used. For intra-Asia lanes, an average factor is applied, because intra-Asia lanes are a very modest contributor to the overall emissions.
- To determine total CO₂e emissions per year, the appropriate emission factor is multiplied by TEU kilometre travelled. This is then multiplied by the number of TEU containers shipped over that lane during the course of one year. The following figure summarises the calculation methodology for ocean:

Σ	Distance (km)	x	TEUs	x	CCWG ¹ emission factor (g CO ₂ e/TEU km)	÷ 1000 =	GHG emission (kg CO ₂ e)
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1. Clean Cargo Working Group Carbon Emissions Accounting Methodology, The Clean Cargo Working Group Standard Methodology for Credible and Comparable CO₂ Emissions Calculations and Benchmarking in the Ocean Container Shipping Sector, June 2015.

2. For CCWG 2021 Global Maritime Trade Lanes Emissions Factors, see www.clean-cargo.org/news-and-insights/2021/10/30/2021-clean-cargo-emissions-factors-report-published
<https://zenodo.org/record/46822#.ZAXeCXbMKUm>

2. Emissions from road and rail transport in North America

Emissions from road and rail in North America are calculated once a year using the following methodology:

- Diageo collects data from third-party logistics providers on road and rail deliveries made in North America, including carriers used, distance travelled, weight (excluding pallet weights) and mode of transportation.
- This carrier activity data is entered into the EPA SmartWay tool, which contains carrier-specific EPA emission factors based on logistics data submitted to the EPA by SmartWay-affiliated carriers and SmartWay-assigned modal types. Performance data for truck, multi-modal and logistics partners correspond to data submissions for the 2022 fiscal year. Conservative emission factors are applied to non-SmartWay-affiliated carriers based on the lowest-performing partners.
- The SmartWay tool calculates mass CO₂e emissions (US tons) per carrier by multiplying the total ton-miles (one ton moving one mile) per carrier by the carrier-specific emission factors in CO₂e grams per ton-mile. CO₂e emissions in US tons are then converted to metric tonnes for reporting purposes.
- Road and rail transport for North America includes final road and rail transport following ocean transport/global lanes.

Reporting boundaries and methodologies

3. Emissions from road and rail transport in Rest-of-World

Emissions from road and rail outside North America are calculated following the GHG protocol and encompass the following:

Primary emissions from transportation between (i) point of production and intermediary delivery centre – stock transfers, or (ii) point of production and port, or port and paying customer (supplementary to the ocean freight emissions).

Secondary emissions from transportation between point of production or Diageo-owned distribution centre to point of sale to first paying customer.

1. Delivery line-level data is collated based on the number and size of deliveries made during the year, captured from SAP systems for each country in which Diageo has an in-market presence.
2. All locations are geocoded using an API integrated with BingMaps called Geocode&Distance. To determine distance travelled by shipments, it is necessary to geocode (latitude and longitude) each shipment start point and destination as extracted from the SAP/ERP system. The same API used for geocoding is used to calculate the distance travelled, by using real routes mapped in BingMaps from point-to-point geocode-mapped latitude and longitude.
3. For road and rail, a web version tool called EcoTransIT¹ is applied to calculate the distance between terminals mapped in each delivery route. The EURO-standard lanes are used for each country (for road only).
4. Delivery profile data and vehicle type are collated from delivery number-derived information in SAP. Irrespective of where the delivery is taking place, it is assumed that vehicle type is one of six vehicle options. The selection of the vehicle type is based on the gross weight of the shipments. In certain limited instances, the vehicle type and load will be shared with goods and items from other producers, that is, non-Diageo product, to optimise load fill and routes. In these instances, Diageo accounts for the GHG emissions proportional to the gross weight of the Diageo products and assuming an 85% level of utilisation of the vehicle in total (including non-Diageo products in the utilisation assumption).
5. Applying the distances travelled, the conversion to CO₂e emissions is determined following the mode and the collated delivery profile information, summarised as follows:

a) Road:

Σ	Distance (km)	\times	Weight transported (tons)	\times	EcoTransIT ¹ emission factor (kg CO ₂ e/ton km)	=	GHG emission (kg CO ₂ e)
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b) Rail:

Σ	Distance (km)	\times	TEUs	\times	EcoTransIT ¹ emission factor (kg CO ₂ e/TEU km)	=	GHG emission (kg CO ₂ e)
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where:

- The emission factors are derived from EcoTransIT, consistent with European Standard EN16258 (Methodology for calculation and declaration of energy consumption and GHG emissions of transport services)
- The emission factors are captured from EcoTransIT based on the region where the delivery travelled, type of vehicle and truck utilisation, ensuring the most accurate emission factor for each delivery
- For rail, the TEUs calculation is applied as outlined in section 1 above for oceans.

1. For the EcoTransIT web version tool, see www.ecotransit.world/en/emissioncalculator/

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