

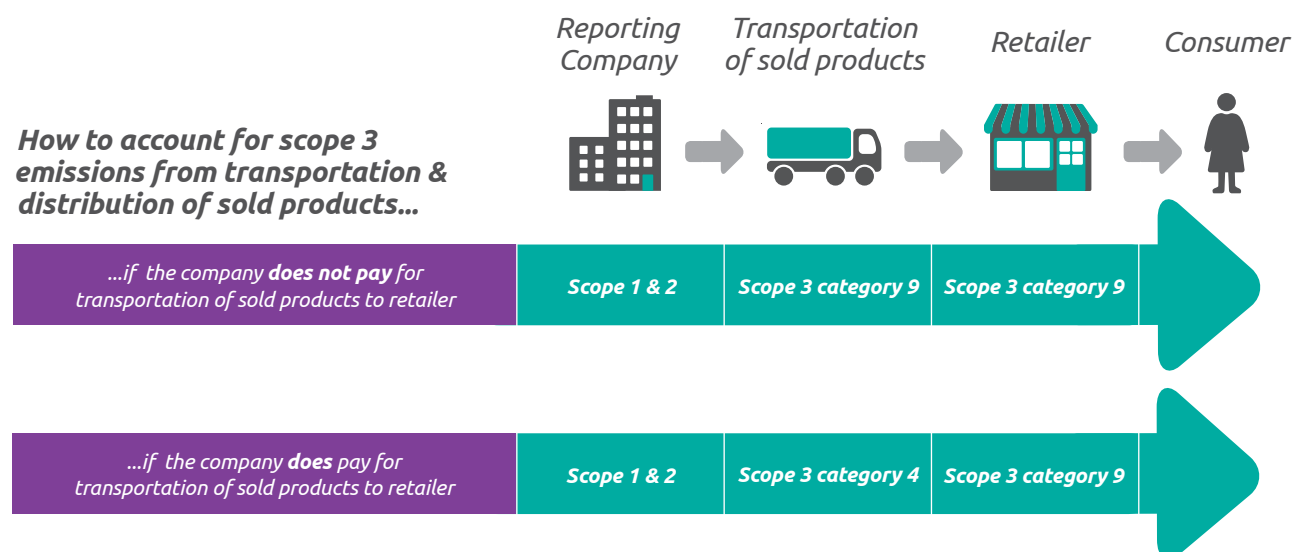
Category 9: Downstream Transportation and Distribution

Category description

This category includes emissions that occur in the reporting year from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the reporting company.

This category also includes emissions from retail and storage. Outbound transportation and distribution services that are purchased by the reporting company are excluded from category 9 and included in category 4 (Upstream transportation and distribution) because the reporting company purchases the service. Category 9 includes only emissions from transportation and distribution of products after the point of sale. See table 5.7 in the *Scope 3 Standard* for guidance in accounting for emissions from transportation and distribution in the value chain.

Figure [9.1] Accounting for emissions from transportation and distribution of sold products



Emissions from downstream transportation and distribution can arise from transportation/storage of sold products in vehicles/facilities not owned by the reporting company. For example:

- Warehouses and distribution centers
- Retail facilities
- Air transport
- Rail transport
- Road transport
- Marine transport.

In this category, companies may include emissions from customers traveling to and from retail stores, which can be significant for companies that own or operate retail facilities. See chapter 5.6 of the *Scope 3 Standard* for guidance on the applicability of category 9 to final products and intermediate products sold by the reporting company. A reporting company's scope 3 emissions from downstream transportation and distribution include the scope 1 and scope 2 emissions of transportation companies, distribution companies, retailers, and (optionally) customers.

If the reporting company sells an intermediate product, the company should report emissions from transportation and distribution of this intermediate product between the point of sale by the reporting company and either (1) the end consumer (if the eventual end use of the intermediate product is known) or (2) business customers (if the eventual end use of the intermediate product is unknown).

Calculating emissions from transportation (downstream)

The emissions from downstream transportation should follow the calculation methods described in category 4 (Upstream transportation and distribution). Figure 9.1 shows how to determine how to account for emissions from transportation and distribution of sold products. Companies may use either the fuel-based, distance-based or spend-based method.

Activity data needed

The major difference between calculating upstream and downstream emissions of transportation is likely to be the availability and quality of activity data. Transportation data may be easier to obtain from upstream suppliers than from downstream customers and transportation companies. Therefore, companies may need to use the distance-based method to calculate downstream transportation emissions.

If the actual transportation distances are not known, the reporting company may estimate downstream distances by using a combination of:

- Government, academic, or industry publications
- Online maps and calculators
- Published port-to-port travel distances.

Emission factors needed

- See emission factors guidance for category 4 (Upstream transportation and distribution).

Data collection guidance

The UK government produces average freight distances for the economy's main categories of goods (see <http://www.dft.gov.uk/pgr/statistics/datatablespublications/freight/>). This database may be used in the absence of purchaser-specific or region-specific data.

A list of life cycle databases is provided on the GHG Protocol website (<http://www.ghgprotocol.org/Third-Party-Databases>). Additional databases may be added periodically, so continue to check the website.

Calculating emissions from distribution (downstream)

The emissions from downstream distribution should follow the calculation methods described in category 4 (Upstream transportation and distribution). Companies may use either the site-specific method or the average-data method. For the reasons outlined above, companies are more likely to apply the average-data method.

Example [9.1] Calculating emissions from downstream transportation

Company A sells timber to furniture Company B, which manufactures the timber into furniture, which it sells retail. Company A collects information on the mass of timber sold to Company B and estimates the downstream transport distances of the following:

- From point of sale to Company B (if not paid for by Company A)
- From Company B's manufacturing facility to retail distribution centers
- From retail distribution centers to retail outlets.

The data is summarized in the table below:

<i>Purchaser</i>	<i>Mass of goods sold (tonnes)</i>	<i>Total downstream distance transported (km)</i>	<i>Transport mode or vehicle type</i>	<i>Emission factor (kg CO₂e/tonne-km)</i>
B	4	2,000	Truck (rigid, >3.5-7.5t)	0.2

Note: the activity data and emissions factors are illustrative only, and do not refer to actual data.

emissions from downstream transport:

$$\begin{aligned}
 &\Sigma (\text{quantity of goods sold (tonnes)} \times \text{distance travelled in transport legs (km)} \\
 &\quad \times \text{emission factor of transport mode or vehicle type (kg CO}_2\text{e/tonne-km)}) \\
 &= 4 \times 2,000 \times 0.2 = 1,600 \text{ kg CO}_2\text{e}
 \end{aligned}$$