

Consignment-Level Carbon Reporting Guidelines



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The objective of this document is to provide a set of principles or guidelines to promote consistency across the logistics and transport industry in reporting carbon emissions at the consignment or customer level. The guidelines are intended to complement upcoming and existing product-level carbon reporting standards.



The following companies contributed to the preparation of the guidelines for consignment-level carbon reporting:

- **As Partners of the World Economic Forum:**
 - Agility
 - Deutsche Post DHL
 - DP World
 - FedEx Corporation
 - TNT
 - UPS

- **As Associates of the World Economic Forum:**
 - Geopost Intercontinental
 - Stena
 - Transnet

The following organisations contributed to the review of the guidelines for consignment-level reporting:

- World Business Council for Sustainable Development
- The Carbon Trust

This document was prepared with the support of Accenture.

The views expressed herein represent a collation of various viewpoints emerging from a series of discussions amongst the participants in the Logistics & Transport Environmental Working Group. Although the observations and proposals in this document enjoy broad support, they do not necessarily reflect the views of every individual participant nor do they necessarily reflect the individual institutional viewpoints of any of the companies or institutions that took part, or of the World Economic Forum.

The Consignment-Level Carbon Reporting Guidelines are structured around the following five areas:

1. **Applicability**
2. **Data Standards**
3. **Summation to a whole**
4. **Allocation**
5. **Scope**

The following sections present the guidelines associated with each of the five areas.

1. Applicability

1.1 Complementarity

The Logistics and transport industry specific guidelines presented in this document are intended to complement product lifecycle carbon reporting standards including the GHG Protocol Product Life Cycle and Scope 3 Standards (expected to be released in 2010), the ISO lifecycle accounting standards (reference ISO 14040 and 14044) and additional widely accepted product-level reporting standard such as the PAS 2050.

The guidelines presented in this document focus only on operational processes specific to the logistics and transport industry and do not provide any additional guidance on more general carbon measurement and reporting principles (e.g. representative sample size for emissions measurements, etc).

1.2 Application

Organisations may self-certify or audit compliance with these guidelines. Reporting should indicate if only a portion of the emissions estimated was produced in compliance with the logistics and transport industry-specific guidelines.

2. Data Standards

Emissions measurements, time averaging decisions and other general principles for emissions reporting should be made in line with the product-level reporting standard followed.

3. Summation to a whole

Calculation systems must be designed so that the sum of all emissions allocated to consignments equals the total of in-scope organization emissions plus all in-scope emissions from subcontracted logistics and transport operations.

4. Allocation

4.1 Avoidance of marginal-costing for allocation

All consignments should be treated on the basis of physical characteristics and processing except in the case of backhaul allocation, where economic value is to be considered as described in section 4.4.

4.2 Relative use of capacity as allocation basis

Emissions should be divided among consignments on the basis of the latter's contribution to the limiting capacity of the logistics or transport operation. Default limiting dimensions should be as below unless another dimension is determined to more accurately reflect limiting capacity.

Logistics Operation	Recommended Allocation unit	Main Alternative Allocation Unit
Sea freight	tonne.km for raw material shipment	m ³ .km for goods shipments
Long haul road freight	tonne.km	dimensional weight
Local delivery or pick-up road freight	tonne.km	number of consignments OR dimensional weight*
Rail freight	tonne.km for raw material shipment	m ³ .km for goods shipments
Air freight - (incl. belly cargo**)	tonne.km	dimensional weight*
Packaging / Sorting / Warehousing	m ³ .hours	number of consignments

* Company's own dimensional factor

**Emissions allocation between passengers and belly cargo should be done on a weight basis, using data provided by the carrier or standard conversion factors from an official authority (e.g. JAA, FAA, ICAO)

Figure 1: Allocation unit per type of operation

Raw material shipments are implicitly defined as shipments which do not rely on the use of containers. Emissions from central corporate functions are likely to be negligible and no allocation unit has been defined for this purpose.

4.3 Transport Route Specificities

4.3.1 Regular or Pre-defined Routes

For regular routes (e.g. long haul ocean, air or ground routes), average emissions from the route should be divided among consignments on the basis of the allocation unit.

4.3.2 Highly variable local Routes

For highly variable local routes (e.g. urban pickup and delivery routes), total emissions associated to the freight volume in the local network may be divided among consignments based on the allocation unit. Broader network

averages may be appropriate if regional variation is not significant.

4.4 Backhaul allocation

Emissions from each leg of a regular route (e.g. long haul ocean, air or ground routes) should be pooled and shared between legs, on the basis of relative economic value if there is on average a significant difference between the values of the legs (i.e. more than 50%).

5. Scope

Direct emissions from fuel combustion (GHG Protocol Scope 1) and indirect emissions from electricity generation (GHG Protocol Scope 2) should be included in reporting.

5.1 Subcontracted logistics and transport operations

Emissions from subcontracted logistics and transport operations should be included.

Companies should try to obtain consignment-level emissions data from subcontractors, derived in line with these guidelines. Where this is not possible, estimates should be made based on secondary data.

5.2 Associated indirect activities

If the carbon reporting standard followed requires the inclusion of emissions from a broad range of lifecycle activities associated to goods used in L&T operations, the following potentially major sources of emissions should at least be assessed and included if significant. This should be done by applying a standard emissions factor from a credible source (e.g. environment or energy agency) if available.

- **Upstream fuel and electricity emissions (i.e. well to tank or well to power plant emissions)**
(e.g. extraction, transportation, transformation and distribution of combustibles)
- **Upstream and downstream emissions from added or disposed packaging during logistics and transport operations and other major non-fuel consumables***
(e.g. added packaging production and disposal)

* *“Consumables differ from capital goods in that they have an expected life of one year or less, or a need to replenish on a one year or less basis” (PAS 2050)*



Below is an illustration of a simple reporting form which can support carbon reporting information transfer between a logistics and transport provider and a shipper or end-customer.

Consignment-level GHG emissions report (illustrative)			
Service provided description		Reporting parameters	
<ul style="list-style-type: none"> Transporting of 10,000 consignments from customer facility in Seoul to customer facility in San Francisco Activities including in emissions reporting include: Intermodal operations, sea freight shipping and Repackaging of all consignments and road freight delivery to San Francisco facility 		Calculation method	<i>Averaging – 1 year</i>
		Associated indirect activities reported	<i>Upstream fuel emissions</i>
			<i>Embedded Lifecycle emissions in packaging</i>
	Emissions from subcontractors	<i>Included in calculations Reported using secondary data</i>	
Emissions reported		Total Emissions per consignment	
Direct	18,500 kg CO ₂ e	2.85 kg CO ₂ e / consignment	
Indirect	10,000 kg CO ₂ e		
Reporting Standards Followed			
GHG Protocol – Product and Supply Chain Protocol		Fully Compliant	
Logistics and Transport Industry Specific Reporting Guidelines		Fully Compliant	



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