

Cargo

Units, load carriers, accuracy

Colophon

Guideline 2 - Cargo

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Carbon Footprint in logistics

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Cargo

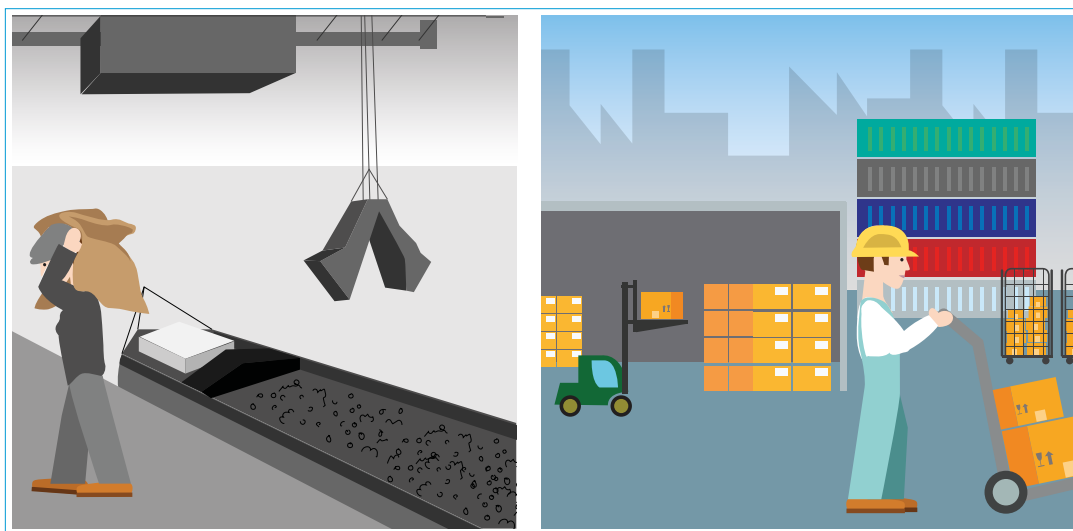
Units, load carriers, accuracy

This guideline deals with the question of supplying data on the cargo transported. In practice, making use of existing cargo data is a helpful approach, as this allows data from the company's own IT systems to be utilized immediately.

In recent decades the use of all kinds of load carriers, such as (temperaturecontrolled) containers, pallets, crates, roll cages and parcels, has increased dramatically.

Globalization has resulted in long supply chains in which semi-finished and finished products are also transported.

Previously, virtually all cargo was transported in bulk and as general cargo, which was counted in tons. Now there is much greater diversity and each segment uses its own practical unit of cargo.



This unit often also forms the basis for invoicing. For some goods a unit of measurement is used that indicates how much capacity is taken up: the volumetric weight.

In this case, the aim is to allocate emissions in a justifiable way. The cargo's own 'natura' unit, such as pallets or containers or units or volume, can be used perfectly well in many cases for allocation purposes without being converted into a weight.¹

For some reports it may, however, be useful to convert everything to a single measure (tons) afterwards.

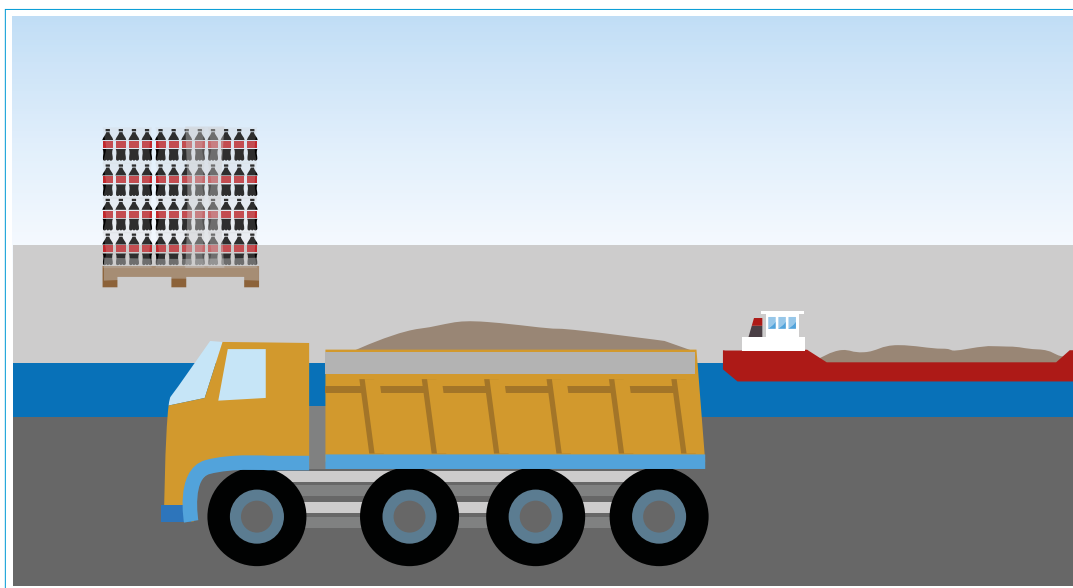
This guideline covers working with many different types of cargo units. Firstly, we discuss the principle, before turning our attention to various specific situations. Finally, we look at accuracy. Sometimes highly detailed data are available, while in other cases there are only totals for a particular period and for several orders.

¹ Sometimes weight has a significant impact on consumption, e.g. in the case of air freight and the transport of bulk goods or containers by inland shipping: here the weight of the load carrier (sea container) is important.

The principle of allocation (see 1. Allocation) makes use of the extent to which cargo takes up the capacity of a vehicle.

In the examples, we assume in the first instance that we are dealing with an ideal situation in which all details are known. We then look at a situation in which only the totals are available.

In the case of a cargo where the maximum load weight of the vehicle is limited, the unit used is tons or kilos.



When it comes to cargo for which weight is not the limiting factor, we can use the usual unit for that cargo.

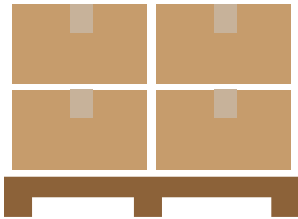


Post: units.



Parcels: volume.

Weight and volume are increasingly being used for invoicing, but volume is sufficient for allocation purposes.



Pallets: number per type.



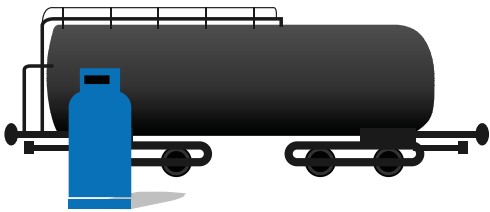
Roll cages: number per type.



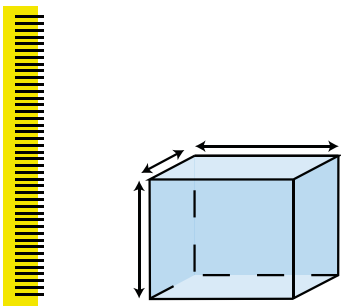
Crates: number per type (standardized sizes).



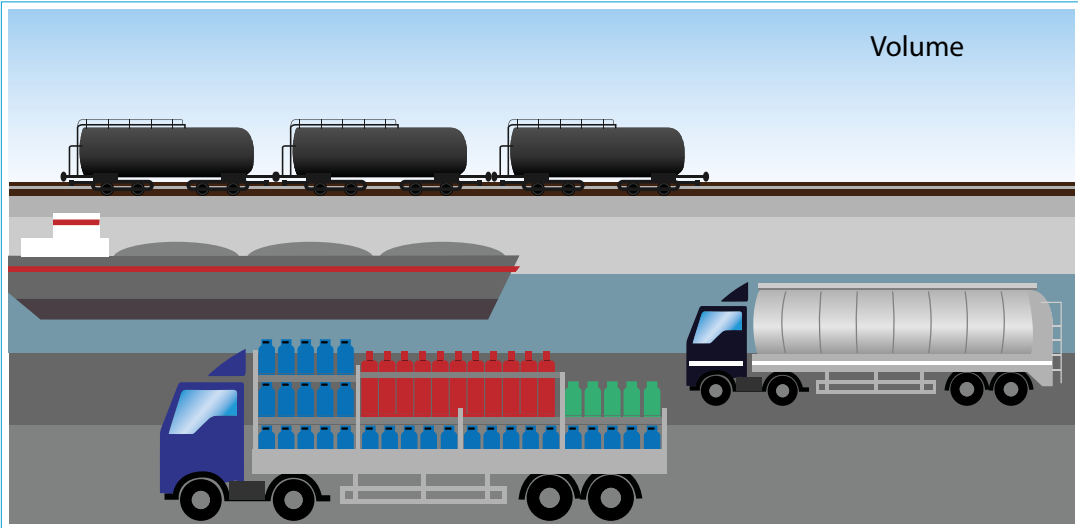
Sea containers: number and weight per container, number of TEUs (twenty-foot equivalent units) per container.



Gas bottles/liquid containers: number per type.



General cargo: loading meter or volumetric weight.

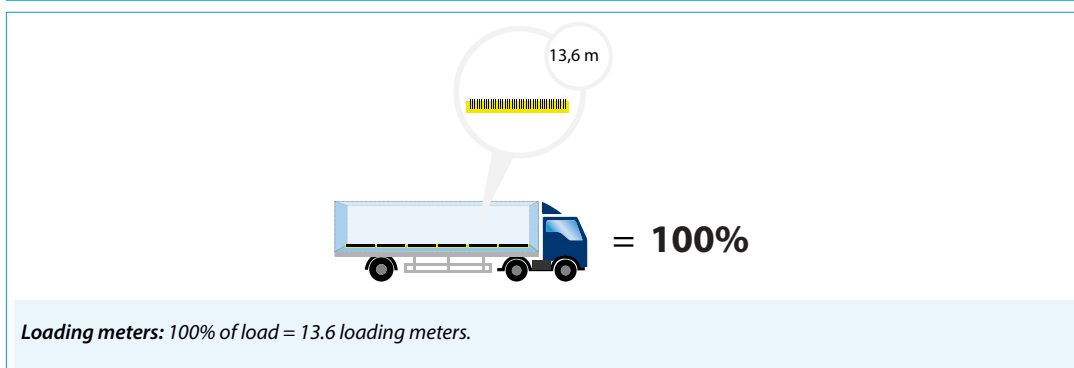
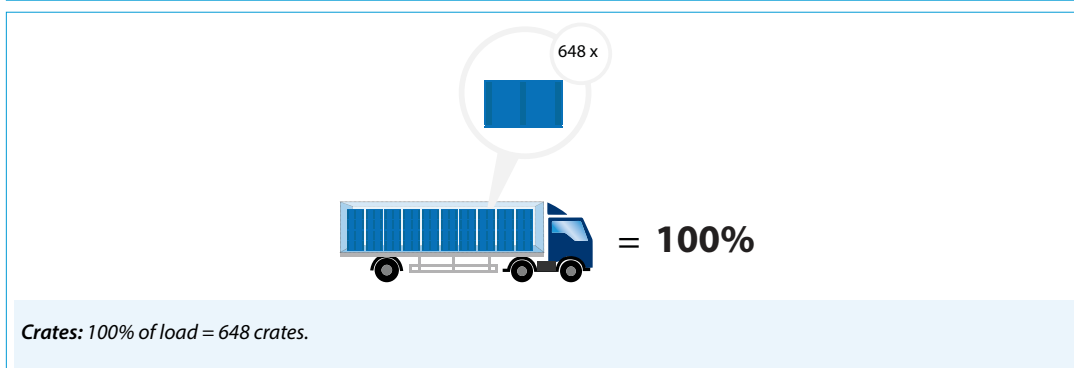
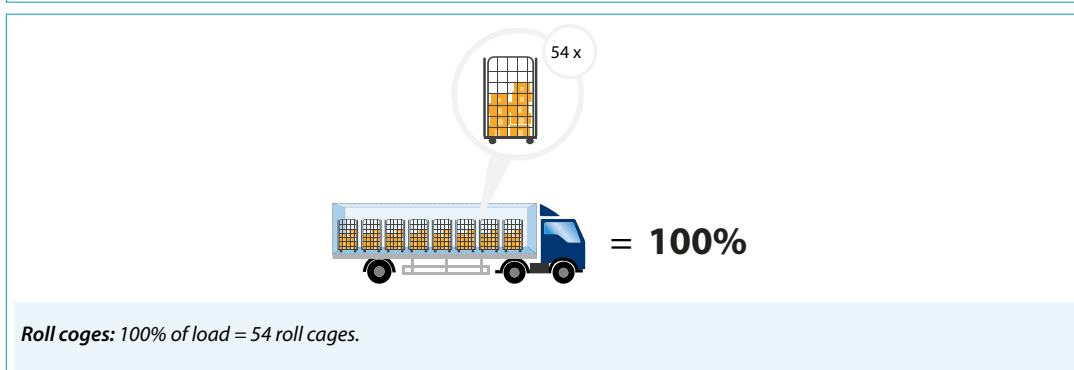
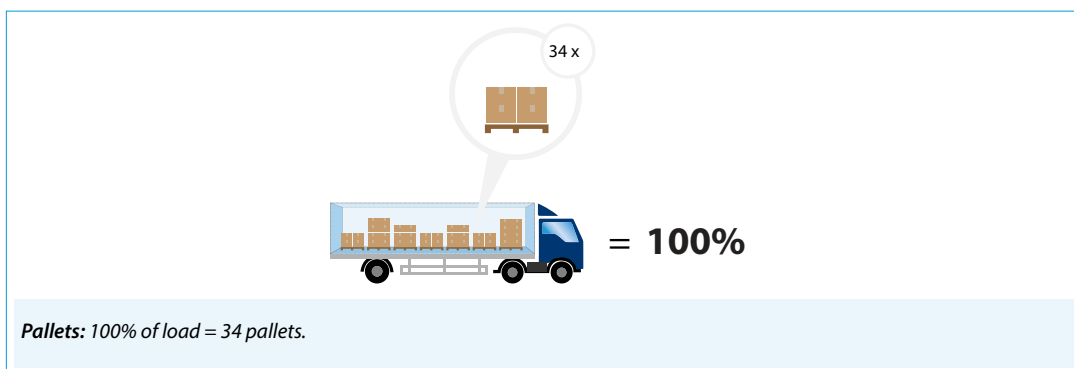


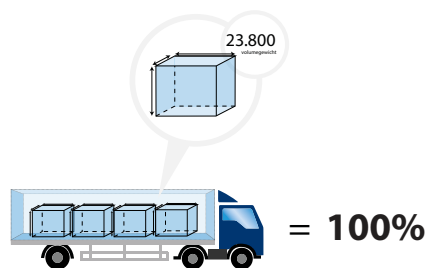
In the case of liquid bulk, sometimes weight is used and sometimes volume. Volume is counted in the case of gases, or the load carrier (gas bottle, for example).

How does it work if a vehicle transports different types of cargo at the same time?

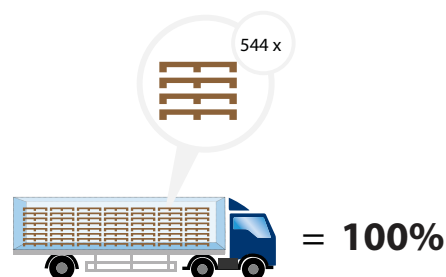
Imagine that a truck is transporting roll cages, pallets and crates. One load carrier takes up more space than another and therefore has a higher weighting in the allocation.

The standard ratios are as follows, based on a euro trailer:

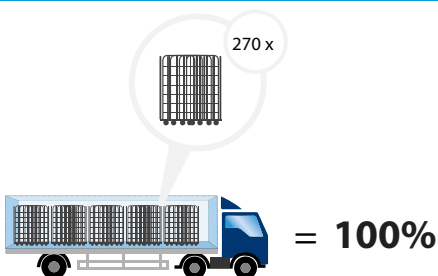




Volumetric weight: 100% of load = 23,800 volumetric weight.



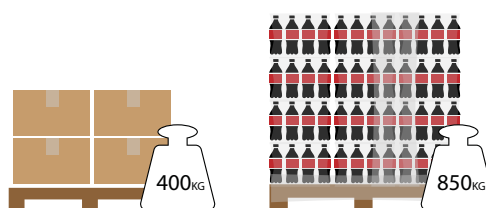
Return pallets (stacked): 100% of load = 544 return pallets.



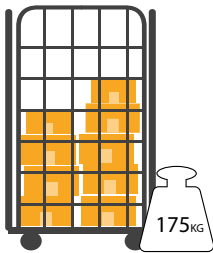
Return roll cages (nested together): 100% of load = 270 return roll cages.

If a company applies different ratios in practice, these must be stated. Otherwise these ratios are taken as a basis for the allocation. The same applies for ratios between other load carriers used in combination.

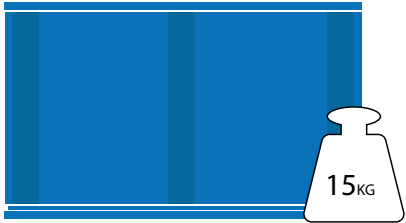
For reporting or statistical (CBS) purposes it may be necessary to convert these units into weight. The standard conversion factors are:



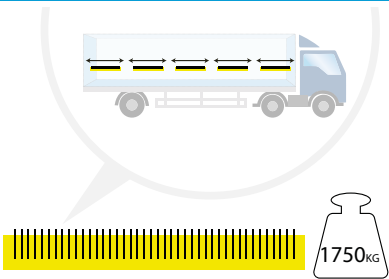
Pallets: 400 kg general cargo, 850 kg drink.



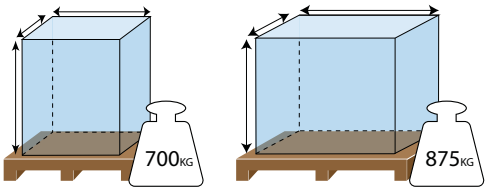
Roll cage: 175 kg (for supermarket deliveries 350 kg).



Crate: 15 kg.



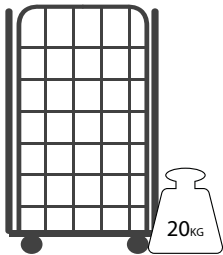
Loading meters: 1750 kg.



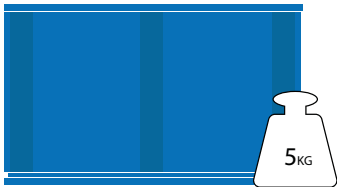
Volumetric weight: Europallet 700 kg, Blok pallet 875 kg.



Return pallet: 25 kg.



Return roll cage: 20 kg.



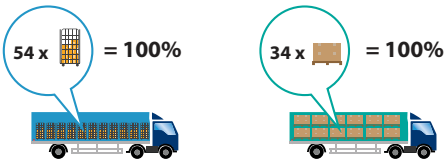
Return crate: 5kg.

If a company uses conversion factors other than the standard, that is not a problem. However, they need to be indicated explicitly.

Conversion for mixed units is usually performed using software

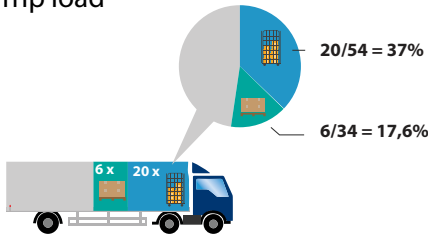
A simple example is as follows:

Max. load

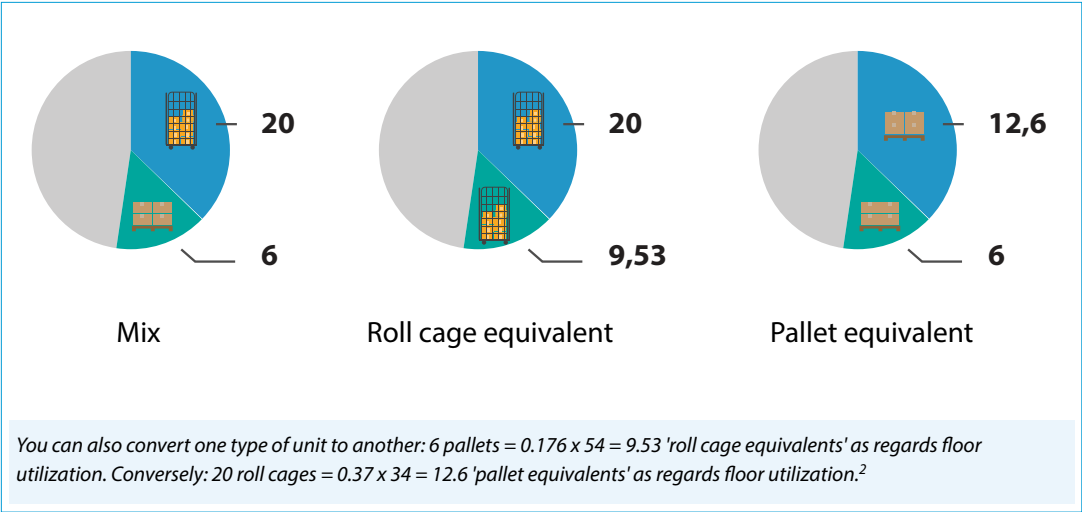


This truck can carry a maximum of 54 roll cages or a maximum of 34 pallets.

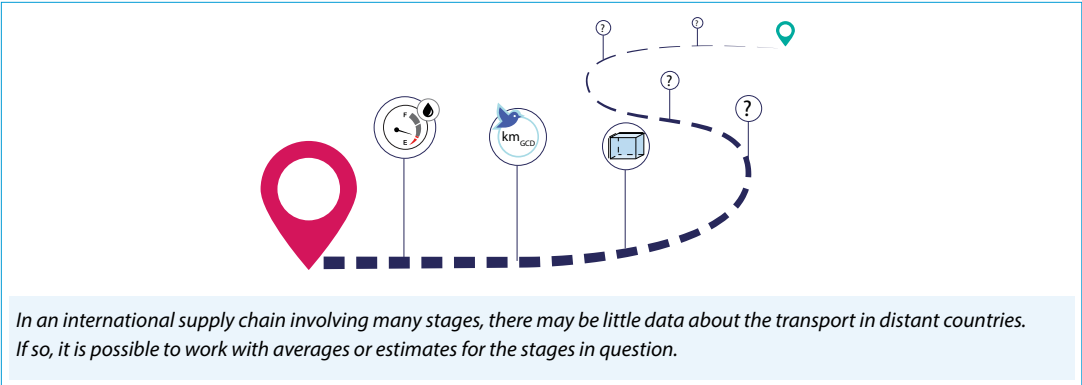
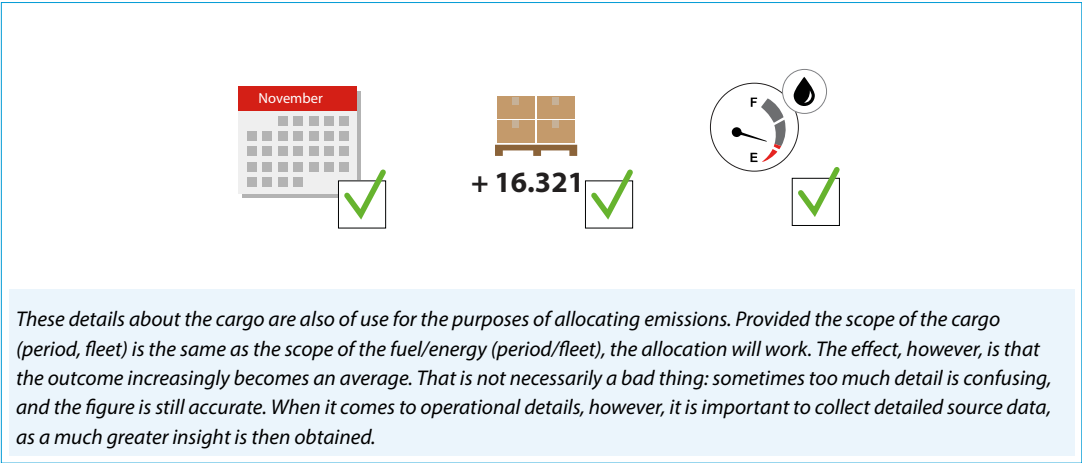
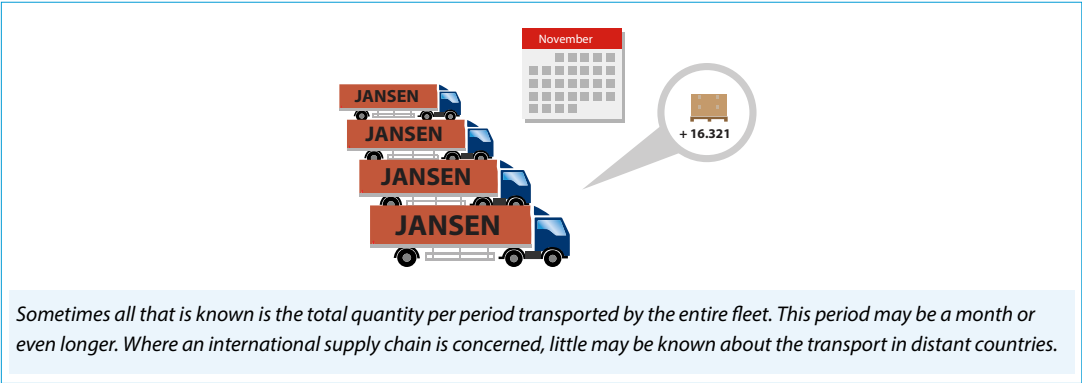
Trip load



*20 roll cages require 20/54 = 37.3% of the truck's capacity.
6 pallets require 6/34 = 17.6% of the truck's capacity.*



In practice, all the details are not always known



2 Provided we use the same measure for the weighting of emissions it is fine.

Carbon Footprint guidelines

0. Measuring, calculating, allocating and reducing



1. Allocating



2. Cargo



3. Origin and destination



4. Fuel



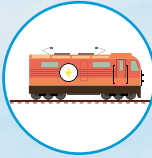
5. Inland shipping - containers



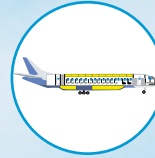
6. Inland shipping - bulk



7. Freight transport by rail



8. Air freight



9. Maritime and short sea shipping



10. Transshipment



11. Storage



12. Parcel transport and post



13. General road transport



14. Perishable and temperature controlled



15. Outsourced transport



16. Repositioning and empty kilometers



17. (Inter)national supply chains



18. Benchmarking



19. Intermediaries and platforms



20. Auditors and accountants



21. Data quality



22. The relationship between social goals and corporate goals

