

Air freight

Cargo aircraft and combination of passengers/freight

Colophon

Guideline 8 - Air freight

Cargo aircraft and combination of passengers/freight

Carbon Footprint in logistics

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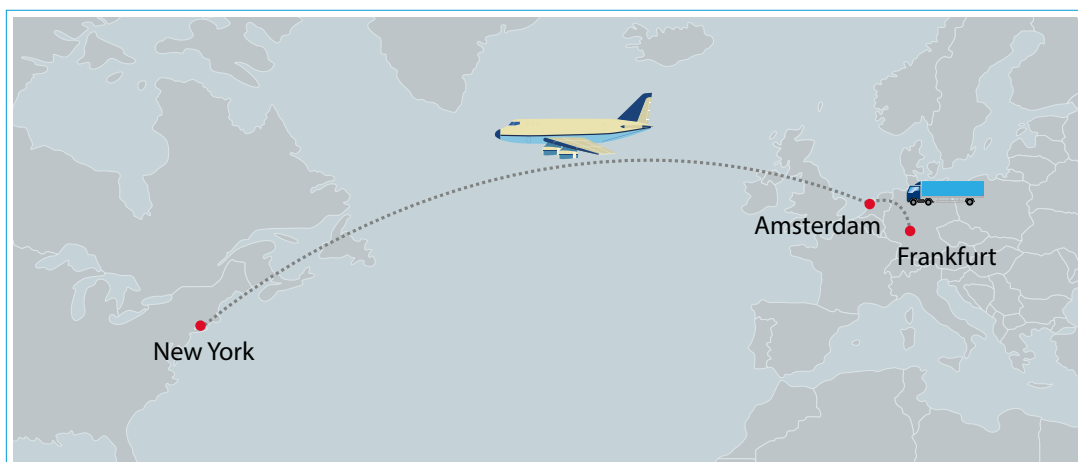
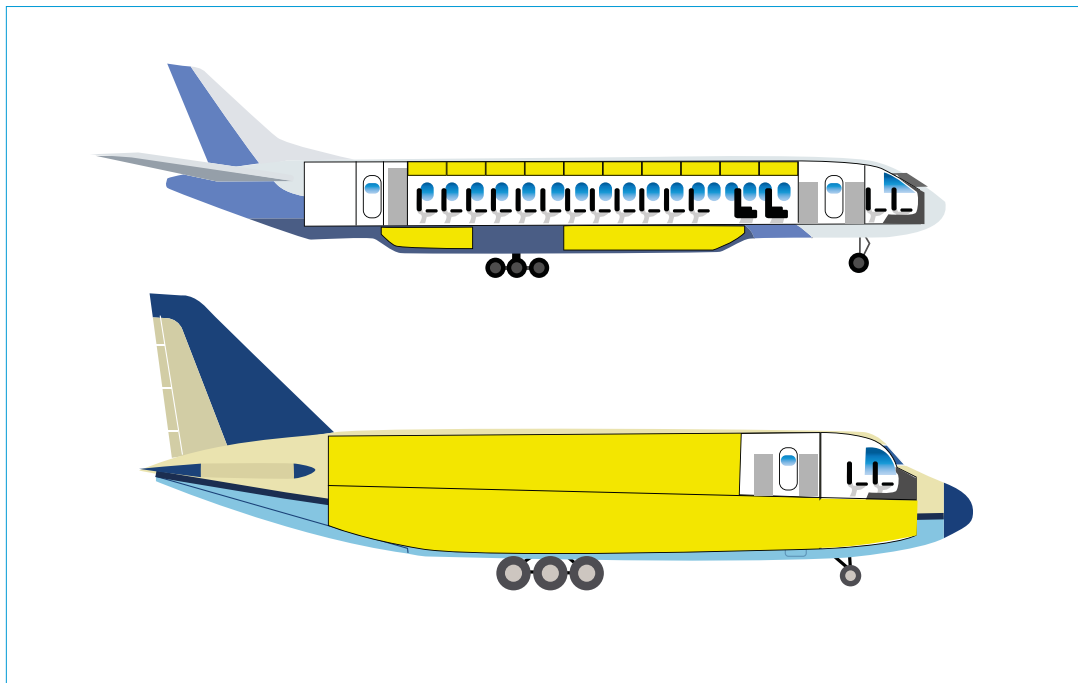
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Air freight

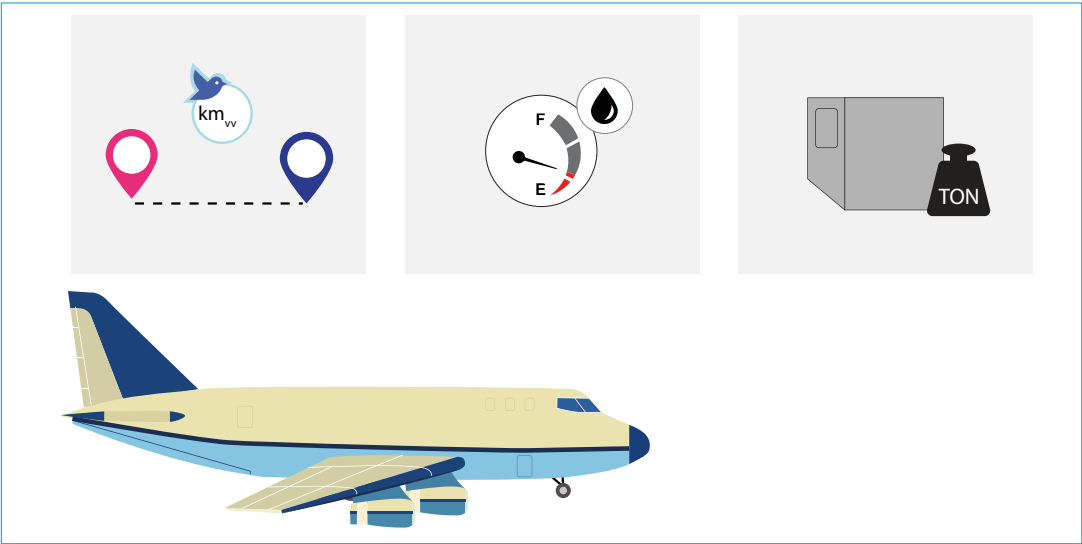
Cargo aircraft and combination of passengers/freight

This guideline deals with the allocation of emissions in the area of air freight. Air freight is transported using special cargo aircraft and is also carried on passenger flights.



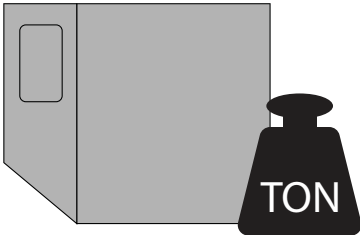
Not all of the kilometers covered are actually flown. For example, a filled air-freight container may be presented at Frankfurt airport with New York as the destination. If it makes more sense to combine this cargo with a flight departing from Schiphol, the container is first transported to Schiphol by truck. In such a case the emissions have to be allocated in two legs and added together, as in the case of road transport (see guideline 13).

Cargo aircraft

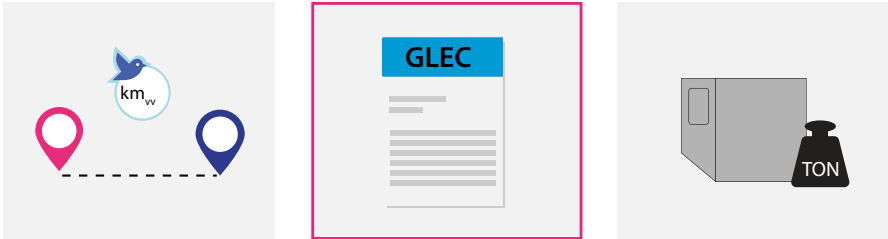


In principle, allocating CO₂e emissions to cargo is relatively simple in the case of a cargo aircraft: the great circle distance between the airport of departure and airport of destination is known, as are the aircraft's consumption and the weight of each component of the cargo.

However, it does not make sense to allocate emissions on the basis of individual flights, as a fully laden flight from Asia may be followed by a flight back to Asia with a less full load. It is advisable to select a good aggregation level, e.g. per period and (part of the) fleet, or per aircraft and round trip. The minimum aggregation level starts with departure from the home base and ends with the return to this home base.

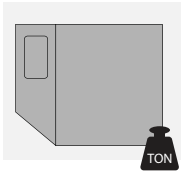

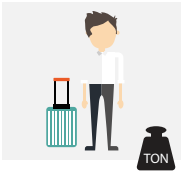


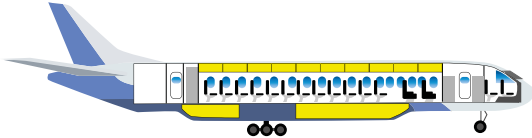
Allocation is performed on the basis of weight. Weight has the greatest influence on the aircraft's consumption.



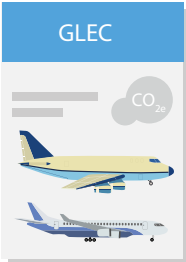
If measured fuel consumption is not available, an emission intensity factor can be used to estimate emissions. This can be found in the GLEC V2.0 report, for example. Multiplying this factor by the weight and distance allows the emissions to be estimated.

Passenger aircraft carrying freight





If freight is carried on a passenger aircraft, the calculation is less straightforward. What share do you allocate to passengers and their luggage? And what about the consumption resulting from the extra crew, snacks and drinks, seats/pantry/toilet, etc.?



	Kg kerosene (Jet A1 or Jet A)/tkm
Air freight only	
Up to 1000km	0.691
1000 to 4000km	0.500
4000 to 7000km	0.211
Over 7000km	0.172
Combined (Belly Freight)	
Up to 1000km	0.610
1000 to 4000km	0.526
4000 to 7000km	0.350
Over 7000km	0.306

Using these factors to estimate emissions has been the most commonly employed method to date. Research is being carried out to try to find a better approach.

Carbon Footprint guidelines

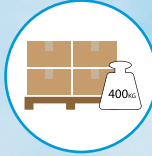
0. Measuring, calculating, allocating and reducing



1. Allocating



2. Cargo



3. Origin and destination



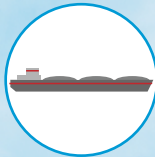
4. Fuel



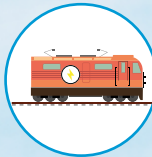
5. Inland shipping - containers



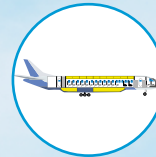
6. Inland shipping - bulk



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

