

Measuring and reporting Greenhouse Gas (GHG) emissions from freight transport

Quick reference guide for transport operators



The advice in this guide and the full guidance is applicable to sea, rail and road transport.

The general principles are applicable to air freight, but calculating aviation emissions involves other issues that are not covered.

WHY MEASURE AND REPORT YOUR GHG EMISSIONS?



Corporate responsibility:

Understanding your transport GHG emissions is the first step towards controlling your impact on the environment.



Customers:

Your customers will increasingly be reporting the GHG emissions associated with their products. They will want to know the GHG emissions you generate in transporting them.



Compliance:

Reporting your transport GHG emissions is not mandatory, but it is regarded as best practice, and it may be mandatory in the future.

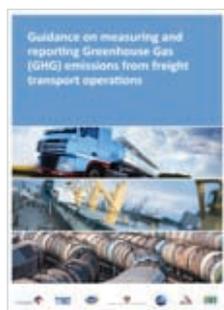


Cash:

Measuring your transport GHG emissions means measuring your fuel use, and that's the first step towards effective fuel management, and the cost savings it can deliver.

GHG emissions are those that contribute to climate change. Most (95%) of your GHG emissions are carbon dioxide (CO₂). If you use the latest Euro standard engines, this will reduce localised air pollution from things like particulates and oxides of nitrogen – however, these do nothing to reduce your GHG emissions.

USING THIS QUICK REFERENCE GUIDE:



This quick reference guide provides an overview of the key stages you'll need to go through in measuring and reporting the GHG emissions from your transport operations. You should always use it together with the 'full' transport emissions reporting guidance.



The transport GHG emissions reporting guidance is itself a supplement to Defra's 'Company Reporting Guidelines'. If you're reporting on all of your company's GHG emissions, and not just transport, then you should refer to this as well.

WHICH EMISSIONS DO I NEED TO CALCULATE?

For the purposes of reporting, an organisation's emissions are divided into three 'scopes', based on how much control the organisation has over them (see box). You will primarily be expected to report on those emissions over which you have the most control (Scope 1).

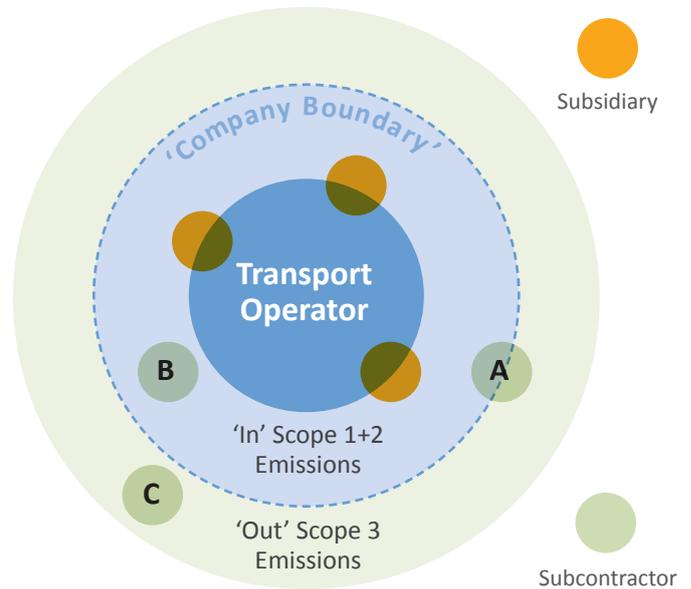
Scope 1, 2 & 3

For the purposes of reporting, GHG emissions are classified into 'scopes'.

Scope 1 (Direct emissions): Emissions from activities and sources you control – such as vehicles you own and operate.

Scope 2 (Energy indirect): Emissions associated with your consumption of purchased electricity, heat, steam and cooling, for heating your offices for example – they result from your use of energy, but take place somewhere else and are not under your direct control.

Scope 3 (Other indirect): Emissions that are a consequence of your actions, which occur at sources which you do not own or control (other than Scope 2), such as your suppliers' emissions



Before you start to calculate your emissions, you need to decide which aspects of your operation to include. This is referred to as defining your 'company boundary'.

As a transport operator, the key question is likely to be whether you include your subcontractors' emissions. This guidance recommends you base this on how you work with them operationally.



See chapter 3:
Understanding the scope
of emissions calculation

HOW DO I DO THE CALCULATION?



Work out how much fuel you used ... or make an estimate based on spend, or distances travelled

X



... look up the latest emission factor for your type of fuel (or look up a factor based on distance travelled by your vehicle type) ...

=



... multiply them together to calculate the total emissions.

Look up the full range of latest emission factors at:
www.defra.gov.uk

The best results will come from direct measurements of the fuel you use. The next best thing is to estimate fuel use, by fuel spend, or using distance travelled and fuel efficiency. If this is not possible, you can use numbers based on just the distance travelled and industry averages, but this will be less accurate and will not provide you with results that are useful for managing your fleet.

See chapter 4:
The calculation
itself recommended
methods



HOW DO I REPORT MY RESULT IN A MEANINGFUL WAY?

First of all, you'll need to report an absolute total emissions figure. This total is what ideally should be reduced in the end, but it may not reflect changes to your business - growth, longer routes, outsourcing etc.

As well as an absolute figure, you can report a measure of the 'carbon intensity' of your business – eg 3.5 kgCO₂eq per pallet you delivered (see right).

You could use a range of metrics to measure against – tonnes, pallets, cubic metres etc. Whatever you choose, ideally it should allow you to compare with different parts of your operation, and not require you to collect extra information.

Checklist – what to report:

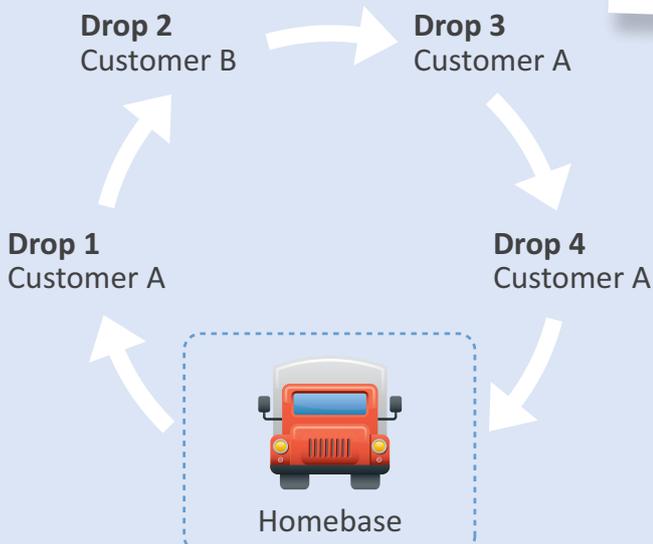
- Details of how you decided your 'company boundary'
- Your reporting period
- Absolute emissions
- Emissions intensity measurement
- Baseline year
- Changes to your company since baseline year

$$\frac{\text{GHG emissions (kgCO}_2\text{eq)}}{\text{Pallets delivered}} = \frac{700}{200} = 3.5 \text{ kgCO}_2\text{eq per pallet delivered}$$



See chapter 5: Reporting, and comparing, your result

HOW DO I WORK OUT GHG EMISSIONS FOR MY CUSTOMERS?



Data you'll need:

- Information on each vehicle type
- Total fuel used by each vehicle type (if possible)
- Total distance travelled by each vehicle type
- Number of drops for each customer
- Information on loads carried, volume, weight or both

Working out the right 'share' of emissions for different customers is not easy - especially where the same vehicle trip includes drops for multiple customers.

The DfT has produced a simple spreadsheet tool which will divide emissions fairly based on the number of drops carried out for each customer, and the loads carried.

www.defra.gov.uk/environment/business/reporting/pdf/lct-steering-group-carbon-em.xls



See chapter 8:
Allocating emissions,
internally and externally

HOW DO I MANAGE MY EMISSIONS?

When setting a target for GHG emissions reduction, you should set both an absolute target, and a target based on your intensity measurement. The target could be based on an internal or external benchmark, on what you think is achievable through identified measures, or in line with other policies.



See chapter 9:
Setting targets and
reducing emissions

WHAT ELSE IS IN THE GUIDANCE?

Assessing the accuracy of your result

Understanding the type of data you have, and what this means for the accuracy of your calculations.

Approaches to verifying your data

Do you need a process to verify your data, and should it be done externally? Understand the costs and benefits of verification.

Calculating emissions for alternative fuels and electric vehicles

Guidance on the use of different emission factors for different fuel types, and how to apply them correctly and consistently.

Working out your own Scope 3 emissions

Understand where your operation's Scope 3 emissions come from, and why and how you might start to estimate them.

Calculating and reporting emissions from international operations

Guidance on choosing what to report, and which emission factors to use when calculating emissions from overseas and cross-border operations.

Carbon reduction - areas to examine:

- Routing– reduce vehicle miles through better route planning
- Loading – reduce empty running
- Select the most appropriate vehicle/mode for each job
- Improve driver efficiency, through training and/or telematics
- Improve vehicle efficiency – eg through aerodynamics, or tyres
- Switch to more efficient vehicles/fuels

KEY TERMS:

Carbon dioxide equivalent (CO₂eq):

Unit used to indicate the global warming potential of a variety of GHG expressed in terms of the global warming potential of one unit of carbon dioxide.

Emissions Factor:

A factor allowing GHG emissions to be estimated from a unit of available activity data (e.g. litres of fuel consumed).

Greenhouse Gases (GHG):

Although carbon dioxide is the main gas contributing to climate change, there are a variety of other gases that have a similar effect, collectively known as 'greenhouse gases'. In this guidance, GHG is specifically used to refer to those gases covered by the Kyoto Protocol.



FREIGHT TRANSPORT ASSOCIATION

