Consultation on the Introduction of a standardised carbon footprint methodology

Background document

Introduction

The 2011 White Paper on transport has put forward the challenge of significant greenhouse gas (GHG) reduction in the transport sector for the next decades. A list of objectives has been announced, including carbon free city distribution, reduction of vehicle fuel consumption and a modal shift towards rail transport on lager distances. One of the Initiatives (29) illustrated in the White Paper to realise these objectives is aimed at harmonising carbon footprinting practices in the EU:

"Encourage business-based GHG certification schemes and develop common EU standards in order to estimate the carbon footprint of each passenger and freight journey with versions adapted to different users such as companies and individuals. This will allow better choices and easier marketing of cleaner transport solutions."

Why carbon footprinting?

Carbon footprinting is a method to generate data about the GHG emissions of transport operations on an aggregated level of company or more detailed, on the level of a trip or a service like the delivery of a parcel or a private trip. As such carbon footprinting can help to reduce the carbon intensity of both passenger and freight transport. In cases where undisputable information is available about the GHG performance of a service, transport users may be able to evaluate and change their behaviour. Also, a service provider may be encouraged to reduce the carbon intensity of its services offered. Additionally, the level playing field between the different transport modes and the different transport services may be improved. In this respect, carbon footprinting calculators may contribute to the broader objective of the European Union on reducing the GHG emissions of transport.

Consequently, carbon footprinting may become an integral part of a framework focused on improving the sustainability of the transport sector. Several incentives for more efficient transport exist already, such as the fuel price, excise duties, vehicle taxes and distance related charges.

It should be noted however, that today there is a multiplication of schemes and methodologies to calculate the carbon footprint of transport services, which negatively influences reliability, accuracy, comparability and consistency of calculations, thus hampering common and harmonized application of carbon footprint measures and reducing possibility to benchmark transport services between operators.

Project objectives and scope of the study

Taking into consideration potential benefits of carbon footprint reporting at the service level in the transport and logistical operations, the Commission has started a study to investigate possible actions to be undertaken at the EU scale in order to harmonise carbon footprinting approaches and improve their application in passenger and freight transport.

More specifically, the objectives of the study are:

- To provide an overview of the state of the art of carbon footprint calculators and methodologies and related concepts and to carry out a comparative analysis of these tools.
- To define minimum requirements and guidelines carbon footprint calculators should meet to be reliable and consistent.
- To define and validate the main problem and underlying problem elements with respect to the wide variety of carbon footprint calculators available.
- To define and validate the general, specific and operational objectives with respect to the Commission's initiative to promote the harmonisation of carbon footprint calculators. Additionally, a clear description of potential schemes to monitor and evaluate the fulfilment of these objectives should be presented.
- To develop concrete policy options to meet these objectives.
- To assess the mobility/logistic, economic, social, environmental and other impacts of these policy options.
- To provide a clear comparison between the various policy options and to provide the Commission clear policy recommendations.

Definition of carbon footprinting for this study

Carbon footprinting is done on different levels of detail. Companies, products and services are all subject to carbon footprinting. Within the transport sector, carbon footprinting is used several objectives and purposes. Table 1 provides and overview of the different objectives and levels of details that are used.

Table 1 Different objective (horizontal) and scope (vertical) for carbon footprinting

	Internal use	Annual report	(potential) client information
Company level			
Product group, business unit or market segment			
Client level			X
Delivery level			X

For this stakeholder consultation, carbon footprinting refers to the GHG emissions at the level of passenger trips or logistic delivery services (grey parts in the table above).

GHG emissions at the service level can be calculated with different levels of accuracy:

- On the basis of average default values per unit of performance (e.g. GHG emissions per passenger-km)
- On the basis of average default values per vehicle km (e.g. emissions per vkm)
- On the basis of real world measured emissions

Problems

The main problem identified is the lack of possibility to benchmark transport services between operators. This is an information failure that makes it difficult for the users of transport services to choose the most optimal

transport mode, transport service or service supplier. It may result in suboptimal choices and consequently in higher greenhouse gas (GHG) emissions, higher fuel consumption and higher fuels costs.

The lack of a possibility to benchmark is due to *a)* many transport operators do not report their GHG performance at all, and *b)* companies that do report use different non-aligned methodologies making that GHG performance data reported can not be compared.

Transport operators do generally not publish information on the GHG performance of their services and only a minority of the market asks for this type of information. However, this may differ between Member States and market segment. In France, operators are obliged to report on the GHG emission of each transport service. However, comparison of the emission reported by different operators is yet still difficult, due to the differences in methodologies and (default)data used.

There are significant differences between the tools and methodologies that are currently available for carbon footprinting. Important differences with a potentially large impact on the reported GHG performance are for example:

- The coverage of phases of the energy life cycle (well-to-wheekl versus tank-to-wheel) and
- The scope of activities included (railway stations, warehousing, empty running, etc.).
- The way allocation is done in case of groupage transport.
- Type of fuel consumption data: use of real world data vs. average default data.
- …

At the moment, calculations made on the basis of the available tools and methodologies are difficult to compare and not consistent, due to the different assumptions made. At the same time, the reliability and accuracy of tools (the degree of conformity with real world emissions) is also limited in many cases, because of the simplified approach used.

Objectives

The overall policy objective of the Commission initiative is to increase the GHG efficiency of both passenger and freight transport . This objective can be achieved if companies report GHG emissions at the one hand, and reported carbon footprints are *comparable* and *reliable* at the other hand.

Carbon footprinting needs to be simple in the business practise to keep administrative burden low and make carbon footprinting attractive to operators. Furthermore, carbon footprinting needs to become part of the business practise.

Policy options

Several types of policy interventions have been identified. Interventions that contribute to increased harmonization, and policy interventions that contributes to increased use of carbon footprinting by the transport industry. The two main variables are:

- Policy interventions that contribute to improved *harmonization of calculations*. Within the options of standardisation, different levels of accuracy and reliability can be identified:
  - Calculation on the basis of default performance based emission factors (e.g. grammes GHG/tkm from database)

- Calculation on the basis of default vehicle emission factors (grammes GHG/vkm)
- Calculation on the basis of real world consumption. Fuel consumption figures can be based on real world fuel consumption as well as on vehicle fuel consumption from a database (grammes GHG/vkm).

- Policy interventions that provide incentives for *increased reporting* of carbon footprints of services by industry to make benchmarking possible.

The Commission can have different roles on both policy interventions. The Commission can initiate voluntary policy interventions, with the Commission having a supporting role for the industry and the Commission can make a certain standard mandatory for carbon footprinting, including its use by operators.

Structure

The questionnaire is structured as follows:

- Respondent's profile
- Current status of carbon footprinting
- Problem definition
- Objective
- Policy measures