



Intensifying focus on **carbon footprint** of consumer goods

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Until now, greenhouse gas emissions from car exhausts and factory chimneys have been under greater scrutiny than from the production, use and disposal of consumer goods. This focus is changing rapidly with the introduction of carbon footprint calculation and labelling schemes, and the development of ISO 14067, Carbon footprint of products.



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Climate change is perhaps the greatest challenge facing governments, organizations and citizens over the next few decades. Carbon dioxide (CO₂) and other greenhouse gas (GHG) emissions caused by human activity, such as industrial processes and combustion of fossil fuels, are widely seen to be having a

damaging effect on the global climate.

The focus on GHG emissions is very much at a global, national and organizational level. However, less attention has been given to indirect emissions originating from the production, use and disposal of the consumer goods.

Such less obvious emissions are also part of the global problem and must be tackled by a multi-level approach. In addition to existing measures, e.g. restrictions on emissions from automobiles and the energy sector, and extensions to the emission trading system – it is also essential to change the behaviour of human consumption.

To make consumers conscious of the significance of their purchase choices, we must first evaluate and communicate the effect of the “carbon footprint” of goods and services on the climate. Calculating a carbon foot-

print means conducting a Life Cycle Assessment (LCA) to identify the climatic impact of each phase of the product life cycle, from cradle to grave.

LCA analyses can help producers understand which phases offer the greatest potential for reducing GHG emissions and offer consumers a means to select products with minimal impact on the climate.

European approaches

Several new approaches to quantifying and communicating the carbon footprint of products have emerged recently, particularly in Europe. International interest is growing strongly, with the aim of determining a common method of measurement to avoid misinforming and confusing consumers.

The United Kingdom is in the vanguard with the recently published BSI British Standards

Publicly Available Specification PAS 2050 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services (see "British project on measuring carbon footprint of products", *ISO Management Systems*, November-December 2008), enabling consumers to compare the first carbon footprint-labelled products on the shelves of a major UK retailer.

Walkers Snack Foods Ltd, one of the world's largest manufacturers of potato crisps, was the first company to apply the UK Carbon Trust's Carbon Reduction Label. According to Walkers, since working with the Carbon Trust in 2007, its CO₂ emissions have fallen from 85g per standard crisp pack to 80g, equal to almost 6g of CO₂ per bag of crisps, and to overall savings of 4 800 tonnes of CO₂.

By making changes "from seed to store" in its potato sourcing, crisp production and distribution, Walkers claims a 7% reduction in its carbon footprint in two years and in energy use by 32%, water use by 42% per pack, and reports savings of over 700 million litres of water at its Leicester, England, factory.

Although the labelling system is still at the pilot phase, the basis for calculation is now public and gives companies guidance in quantifying the carbon footprint of their products. The BSI British Standards specification is the most advanced at the moment, but other countries have also been developing applications of the carbon footprint assessment.



In Switzerland, a special label called *climatop* has been created, which is conferred only on the best climate performer in each product category.

In the European Union, the EU Eco-label Scheme covers the global environmental performance of a product, but should be extended to include a carbon footprint measurement toolkit to calculate climate impact.

Despite the interest in carbon footprinting of products, not all European countries have adopted a labelling scheme, although Germany aims to harmonize the different approaches and devise a unique quantification method.

Many prominent companies, primarily retailers and members of the food chain industry, have joined forces to decide how to tackle this challenge. They point to the need for an international

Walkers Crisps, the United Kingdom brand of potato chips, displays the Carbon Trust Carbon Reduction Label on all its crisp packs. Since implementing carbon reduction measures in 2007, the company claims a 7% reduction in its carbon footprint.

exchange of experiences and progress achieved.

A recent initiative was the formation of the Dialogue Forum Low Carbon Society, which met in Berlin, Germany, in February, 2009 for its first international Product Carbon Footprinting and Carbon Labelling Summit.

The Forum acts as a platform for stakeholders to share experiences and build synergies in the development of low carbon market tools to accelerate the transition to a low carbon society. Currently, it is focusing on identifying suitable instruments to empower the consumer to take carbon-conscious decisions.

A common method needed

Together with rising awareness of the carbon footprint concept is an increasing requirement for a standardized method of calculation.

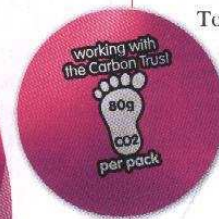
From the quantification point of view, several relevant ISO International Standards already exist:

- ISO 14040:2006, *Environmental management – Life cycle assessment – Principles and framework*
- ISO 14044:2006, *Environmental management – Life cycle assessment – Requirements and guidelines*
- ISO 14064:2006, *Greenhouse gases – Part 1 and Part 2, including specifications with guidance for GHG quantification, monitoring and reporting.*

Related standards are the ISO 14020 series of environmental labelling and declaration standards, and ISO 14063 guidelines for environmental communication.

The widely applied GHG Protocol – the result of collaboration between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) – currently only refers to GHG emissions assessment at an organizational level.

But in addition to PAS 2050 there are now several important approaches, such as a new GHG Protocol guideline, the Product and Supply Chain GHG Accounting and Reporting



Standard, that could make a valid contribution to the development of the new ISO International Standard ISO 14067, *Carbon footprint of products*, (see "Nobel Laureate leads work on ISO carbon footprint standard" in this issue of *ISO Management Systems*).

ISO 14067

Work on the development of ISO 14067, approved last November, is being carried out by working group WG 2, of ISO technical committee ISO/TC 207, *Environmental management*, subcommittee SC 7, *Greenhouse gas management and related activities*.

Canada and other countries in favour of the new standard commented that, since labels and claims are already available on the European market and similar systems are being implemented elsewhere, e.g. Japan, speed to market of ISO 14067 is critical. It is considered important to have an International Standard in order to be able to put in place systems of data collection as soon as possible.

For that reason, and due to significant market interest, publication of ISO 14067 has been targeted for March 2011.

The purpose of ISO 14067 is to provide requirements for the quantification and communication of GHGs associated with goods and services. It is intended to promote the monitoring, reporting and tracking of progress in the mitigation of GHG emissions,

In doing so it will fulfil a need for uniformity, comparability, reliability and transparency, and provide information that is not misleading in the interpretation, use and communication of information on the carbon footprint of products.

ISO 14067 will comprise two parts to be published simultaneously. Part 1 will quantify the carbon footprint and harmonize methodologies for communicating carbon footprint information, while Part 2 will provide guidance for this communication.

It will be of value to any entity involved in the life cycle of products at the local, national, regional and global level, including industry, consumers, governments and society generally, and is expected to contribute significantly to the goal of reducing GHG emissions.

Benefits to implementers

The new standard will build on, and add value to, existing ISO standards including ISO 14020, ISO 14040 and ISO 14064, and the experience gained to date in their implementation will only strengthen the quantification and communication of product carbon footprint information.

Any organization implementing ISO 14067 is likely to benefit in several ways:

- By satisfying the requests of customers, consumers and stakeholders for carbon footprinting of products
- Via an efficient and consistent procedure to provide carbon footprint information to interested parties
- Through greater understanding of GHG emissions associated with products, which can lead to GHG reductions
- From implementation of an International Standard that can help reduce the cost of data management
- By providing consumers with the information they need for decision-making in buying products
- By avoiding costs of market distortion, misleading information and lost opportunities (e.g. being excluded from procurement opportunities)
- From opportunities to decrease the costs of information and validation/verification.
- The ultimate intention of ISO 14067 is to support low carbon-intensity products which will, in turn, contribute to low carbon economies in the future.
- There will be increased pressure to reduce the carbon intensity of products.

At the moment, standardization of carbon footprinting is not subject to regulation. However, it is expected that standardization will focus attention on the desirability of regulation and thus enhance trade by providing the key to GHG reduction through the evolving global carbon market.

ISO 14067 is also expected to streamline quantification and communication procedures and encourage policy makers to harmonize the language of any potential regulation covering the carbon footprinting of products.

Future expectations

We believe ISO 14067 will prove to be a particularly significant standard, going beyond PAS 2050 in providing guidance on carbon footprint communication. Clearly, raising consumer awareness about the impact of their behaviour on the climate is as important as quantification.

During our studies on the subject at the Ca' Foscari University in Venice, Italy, we were aware of the increasing interest in establishing a reliable international method of calculating the carbon footprint of products, and the need for standardization in carbon labelling schemes. With the advent of PAS 2050, the Dialogue Forum and ISO 14067, we have the feeling of being in the middle of a rapidly evolving process to tackle climate change.

Benefits to society

Reflecting the gains to implementers, society is also expected to benefit from the new standard because:

- The carbon footprint-related requests of customers, consumers, and stakeholders will be met
- Costs of market distortion will be avoided
- There will be an increase in understanding of product emissions, which can then lead to GHG reductions