

# "CO<sub>2</sub> labels are not the way forward"

Climate labels are not suitable as climate protection signposts – that is one of the findings of the Product Carbon Footprint (PCF) pilot project coordinated scientifically by the Öko-Institut. But carbon footprinting does help businesses identify carbon-saving potential in their production chains.





Low-carbon products in high profile on supermarket shelves? The announcement in 2007 by the British supermarket chain Tesco that it would put carbon labels on 70,000 of its products was widely applauded. The idea originated from the British non-profit organisation the Carbon Trust: calculating the carbon footprint encourages companies to cut greenhouse gas emissions within their production chain and guide consumers towards environmentally friendly products.

The idea has proved popular: there is now a proliferation of climate labels that print a product's CO<sub>2</sub> rating on the packaging or use traffic lights, ranking or arrows to show how environmentally friendly it is. For example, such schemes exist in Sweden and Switzerland. In France the food chains Casino and E.Leclercq are planning similar projects. Product carbon footprint (PCF) schemes have also been launched in Holland, Austria, New Zealand, Korea, Thailand, Japan and the USA. In 2008 the international standards organisation ISO announced plans to develop a new international standard for calculating and communicating the PCF. But the initial enthusiasm has given way to sober reality and scepti-

cism. Tesco has limited PCF calculation to a few of its own-brand products; calculating the carbon footprint of all the products it sells was too expensive. And negotiations on the new ISO standard have taken longer than anticipated – results are not now expected until at least the end of 2010, or more probably late 2011.

## Signposts for businesses

The question of how product carbon footprints can be calculated and communicated was also one of the key questions addressed in Germany's PCF pilot project. With financial support from the Öko-Institut and other project partners, ten German companies (BASF, dm-Drogerie Markt, DSM, Frosta, Henkel, Rewe Group, Tchibo,

Tengelmann, Tetra Pak and T-Home) have calculated the CO<sub>2</sub> emissions of 15 selected specimen products (including strawberries, shower gel, drinks cartons and frozen ready-meals) over their entire lifecycle. The study also looked at the ways of calculating and communicating the PCF that are used in other countries. Dr. Rainer Griesshammer, a member of the Öko-Institut Executive Board, delivers a succinct summary of the research results „Carbon footprint? Yes! CO<sub>2</sub> label? No!“

„The PCF is a useful tool for businesses“, says Griesshammer, who has a doctorate in chemistry. „It helps identify the points in a product's lifecycle – from resource extraction to production and transport through to use, recycling and disposal – at which there is potential for cutting carbon emissions.“ And the carbon footprint often comes up with surprising results: for example, when the PCF pilot project looked at a type of coffee that is imported from Africa and roasted in Europe it found that transport, logistics and processing are responsible for only 12 percent of the carbon emissions. Growing the coffee accounts for the lion's share – 56 percent of emissions – mainly through the use of fertilisers and pesticides. Consid-

ring their carbon footprints is a worthwhile undertaking for businesses: it enables them to reduce their carbon emissions and at the same time increase their competitiveness, since customers and shareholders are increasingly tending to favour environmentally friendly products and companies.

## Pitfalls for consumers.

"It is right to make customers more aware of the fact that consumption produces greenhouse gases", says Christian Hochfeld, PCF expert at the Öko-Institut. "However, in the PCF pilot project we were all agreed that CO<sub>2</sub> labels are not the way forwards." The argument against them: "In the supermarket there are already more than 400 labels and markings. New labels simply create even more confusion", volunteers Christian Hochfeld. Dr. Griesshammer points out that CO<sub>2</sub> labels fail to provide important information. "Consumers can help cut carbon emissions both through their purchasing decision and by changing the way in which they use the product. But CO<sub>2</sub> labels don't provide information on either of these points: they fail to include on the one hand comparison scores or rankings in relation to best products, and on the other information on using the product

in a climate-friendly way." Yet calculations carried out in the PCF pilot project show that the way in which a product is used is an important factor. For example, the average PCF for a detergent was around 700 grams CO<sub>2</sub>-equivalent per wash cycle. But if the consumer chooses a washing temperature of 30°C instead of the usual average of 46°C, the CO<sub>2</sub> emissions of the use phase fall from 510 to 240 grams.

A further criticism of CO<sub>2</sub> labels, according to Christian Hochfeld, is that the information they provide is one-sided: "It is not in the interests of the environment for the customer to be informed about the product's carbon footprint but not about other environmental hazards such as pollution, nuclear power, or use of land and water resources."

## Problems with methods.

For companies, too, the use of CO<sub>2</sub> labels is beset with pitfalls: "Experience shows that for the majority of products it is too complicated and costly to calculate the carbon footprint", says Dr. Griesshammer. An additional problem is that there is still no standard and internationally accepted method of calculating the PCF. "CO<sub>2</sub> labels must if necessary be able to stand up in

court in the event of a dispute", he stresses, "and that means that we need a standard way of calculating them." But that is still a distant prospect (see box on the ISO standard). At present PCF results can vary widely, depending on the method of calculation used and other factors. The example of food illustrates this: enormous variation arises from differences between products, seasonal fluctuations in yields and transport routes and the influence of storage and chilling.

In place of CO<sub>2</sub> labels Dr. Griesshammer favours the use of existing alternatives: "We already have environmental labels that take account of both the carbon footprint and other environmental factors." For example, the Blue Angel is only awarded to products that meet strict environmental and climate protection standards. In a recent development for products of particular relevance to climate protection (such as refrigerators, gas cookers, washer dryers etc.), items that stand out as the most energy-saving models in their product group can now be awarded the Blue Angel symbol with the additional information "Protects the climate" (see article on page 3).

"The introduction of CO<sub>2</sub> labels has been shelved for the time being", is the scientist's comment as he sums up the research results. "However, it is still worth continuing the PCF project, because it can teach scientists and businesses a lot about cutting carbon emissions in production chains and about good communication."

David Siebert

r.griesshammer@oeko.de

www.oeko.de/102/knowledge1



www.pcf-projekt.de





## More than juggling with numbers

New ISO standard for carbon footprints: Öko-Institut's Memorandum Product Carbon Footprint stakes out the field

Calculating the carbon footprint of products, local authorities or companies is becoming increasingly popular. But it is impossible to compare results and draw conclusions about possible climate-related benefits unless an appropriate and standardised methodology is used. The basis for calculating carbon footprints is the lifecycle assessment (ISO standard 14040 ff.). However, in its present form this still permits different modes of interpretation; a new ISO standard is due to standardise the rules.

But what requirements will international standards for calculating carbon footprints need to meet in future? And how should carbon footprints be calculated and communicated while the new ISO standard is not yet in place? These and other questions relating to the carbon footprint were explored by the Öko-Institut in the project „CO<sub>2</sub> labelling of goods and services“. The study's key findings were summarised in a memorandum that has been published by BMU, UBA and the Öko-Institut (also in English). Around 50 national and international organisations and companies were interviewed for the research.

### Criticism of PAS 2050

The study makes reference to the British PAS 2050 standard, which is often quoted in the international debate as a possible model. The Öko-Institut, however, sees PAS 2050 as having methodological weak-

nesses that rule out its wider use in this situation. To take aviation as an example: PAS 2050 ignores the fact that aviation emissions are two and a half times more harmful to the climate than other emissions because the carbon is emitted at higher altitude and because aviation produces cirrus clouds, vapour trails, nitrous oxides and other pollutants.

**Indirect land use change is another example:** PAS 2050 does not measure it. This omission in the methodology has consequences, such as in the assessment of biofuels. When energy crops are grown, they often displace crops grown for food or other purposes. New land elsewhere is then used to replace the previous production. The resulting „hidden“ greenhouse gas emissions (for example from clearance of ancient forest or conversion of grassland) must be included in the lifecycle carbon footprint of biofuels.


**Another example is green electricity.** If a customer buys electricity from renewable energies, that does not automatically mean that less fossil fuel is used. The „green“ electricity is often simply taken from supplies that would have gone to other customers. The electricity in question comes from old, long-existing power plants (such as old hydroelectric plants). No new additional capacity is created. When calculating the carbon footprint (especially for company carbon inventories), this supposedly „green“ electricity is credi-

ted with „zero emissions“ – the emissions value thus falls, even though from the environmental perspective nothing has improved. Carbon footprints calculated in this way are meaningless and become a pointless juggling with numbers.

An alternative method of calculation, and one that is also used in PAS 2050, involves applying an average national emissions value for each kilowatt-hour used, irrespective of the electricity mix that is contractually supplied. However, this method ignores the fact that good green electricity products can actually promote the expansion of renewable energies and the replacement of fossil generation. It thus creates no incentive for consumers to purchase good green electricity.

In assessing green electricity the Öko-Institut can bring wide-ranging expertise to bear. In the debate on carbon footprints it therefore supports a compromise solution: the effect of „green“ electricity on the carbon footprint should depend on the actual environmental quality of the green electricity product. Such a system creates the right incentives.

*Dominik Seebach / ds*

 r.griesshammer@oeko.de  
d.seebach@oeko.de

Download the Memorandum Carbon Footprint: [www.bmu.de](http://www.bmu.de)