

eco@work

Sustainable reading from the Öko-Institut



Climate labels under scrutiny Signposts for a low-carbon economy?

Green ideas:
Why top-ranking products will get
a special label

Dear Readers,

A fast food chain that advertises its carbon labels for burgers? The scheme in operation in Sweden hit the headlines last year. Whether it's blueberries, fish from the North Sea or beef – any food produced and sold in this part of Scandinavia will from now on carry the product's carbon footprint on the packaging. Worldwide many further labelling schemes are planning or implementing similar projects.

Climate change mitigation in the hands of consumers? It sounds a good idea – after all, 40 percent of greenhouse gas emissions are attributable to private consumption. And among consumers awareness is growing of their role in tackling climate change: according to a Eurobarometer survey of 2009, 80 percent of consumers in the EU say that environmental criteria play an important part in their purchasing decision. The survey found that 40 percent of those questioned „always“ take energy efficiency into account when making a purchase while 37 percent do so „usually“ or „frequently“. And 72 percent of the EU respondents

were in favour of the introduction of carbon labelling.

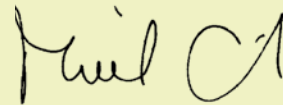
Our major article in this issue of eco@work explains why, nevertheless, the Öko-Institut does not regard pure CO₂ labels as particularly useful (page 4). It would be better to use existing environmental labels (such as the Blue Angel) to help consumers reduce their impact on the climate and environment when they shop. These labels provide information about other environmental aspects as well as climate factors. And they are already known and accepted among consumers and businesses (page 3).

In many areas calculating the carbon footprint of products is a good way of driving climate protection forward. For example, it helps companies identify the points in their product chain at which there is greatest potential for reducing greenhouse gas emissions. This is why at international level we are calling for special attention to be paid to both climate protection and other environmental criteria when the new ISO

standard on carbon footprint calculation is developed. Our „Memorandum Product Carbon Footprint“ (page 7), drawn up on behalf of the German Environment Ministry, sets out our position in more detail.

It is more important than ever for action on climate change to target the consumption habits of individuals and the actions of businesses: the climate summit in Copenhagen with its meagre outcomes has demonstrated that the problems cannot be solved in the political sphere alone. Consumers and businesses must take action themselves...

Happy reading!



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In 1985 Gerd Billen, 55, was one of the founders of the consumer association Verbraucher Initiative e.V. and became its national chairman. From 1993 to 2005 he was CEO of the German nature conservation association NABU. He then moved to the Otto Group as head of its environmental and social policy department and played a key part in setting up the „Cotton made in Africa“ project. He is qualified in social and nutritional sciences and is a member of the council of Consumers International, the German UNESCO Commission, the advisory council of the German Energy Agency and the European Economic and Social Committee (EESC).

“The carbon footprint is not a valid sales argument on its own”

It can be difficult for consumers to get hold of the information they need if they want to buy climate-friendly products. But would quoting the carbon footprint on all products and services really help them? The information would have to be provided on very different products in ways that would make it easy for non-experts to compare them. One must also ask whether the information would really be useful for consumers or whether it would simply serve to increase confusion.

In the interview: Gerd Billen, President of the Federation of German Consumer Organisations

Mr Billen, do consumers want a carbon footprint label on products?

Last year we published a study of consumers' views on climate issues in connection with transport and food. Eighty-three per cent of people surveyed were in favour of carbon footprint labelling for food.

For example, do consumers take in the information about CO₂ emissions per kilometre which the EU directive says must be specified for new vehicles?

I think they do. But I'm not sure that they draw decisive conclusions from it. In Germany the information is provided in the form of bare figures, without comparisons or explanation – that's completely inadequate! We are calling for a clearer and more easily understood format, based on the label on household appliances.

From the consumer's point of view, does it make sense to have a separate carbon label?

One can't expect consumers to be familiar with all the labels currently found on the German market. For that reason it makes little sense to develop yet another seal. Especially as there are already labels that state how climate-friendly a product is in the production or use phase – for example, the energy efficiency class label on household appliances.

What do you think of the carbon labels that are already in use in other countries?

We are currently witnessing a growing trend for manufacturers and service providers to use the „climate argument“ as an advertising point – in other words to point out that their product is climate-friendly or even climate-neutral. In Great Britain and Sweden there are already companies that give details of the carbon footprint on their product. But they combine it with a reduction commitment or a ranking within the product group. At present the carbon footprint cannot and must not be used as a sales argument, because there is no standard method of calculating it. It cannot be taken seriously when used for marketing purposes.

From the consumer's point of view it makes more sense for businesses and service providers to optimise their processes. Consumers can't be expected to take responsibility for choosing which product to buy for climate-related reasons. It is more important to explain to them how to use the product in ways that help protect the climate. Considerable quantities of emissions are still produced during a product's „use phase“; consumers can influence these through their behaviour.

How can consumers assess the climate change impact of food – is an organic label enough for this?

Organic production is one factor among many that consumers can take into account when buying climate-friendly food. The majority of products from certified or-

ganic sources have a better carbon footprint. But there are also other ways of making one's shopping climate-friendly: buying seasonal and regional products, avoiding food that is brought in by air, and buying low-fat milk products and meat.

What do you think of the Blue Angel environmental label?

It offers consumers reliability, because it sets high standards – both with regard to climate performance and energy efficiency and in terms of all the other factors that are important for protecting the environment and health. Now there is the additional label „Protects the climate“. Products that are awarded the Blue Angel are very energy-efficient and particularly energy-saving. The Blue Angel for climate protection will be awarded within product groups that play a particularly important part in climate change mitigation – such as netbooks, washing machines and espresso machines – and not just electrical appliances but other things such as gas cookers, car tyres and even services such as car-sharing.

Thank you very much.

The interviewer was Katharina Hien.

"CO₂ 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 CO₂ 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 CO₂ 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! CO₂ 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. Consider-

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 CO₂ 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 CO₂ 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 CO₂ 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 CO₂-equivalent per wash cycle. But if the consumer chooses a washing temperature of 30°C instead of the usual average of 46°C, the CO₂ emissions of the use phase fall from 510 to 240 grams.

A further criticism of CO₂ 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 CO₂ 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. „CO₂ 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 CO₂ 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 CO₂ 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."

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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 „CO₂ 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.

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Download the Memorandum Carbon Footprint: www.bmu.de

New candidates for the German blue climate angel

For 100 product groups that are particularly relevant to climate protection, the Öko-Institut is specifying criteria for classifying the top-ranking models as energy-saving and environmentally friendly. The results are used as a basis for awarding the Blue Angel environmental label.

If we are to achieve our climate protection targets, radical changes must be made to products and consumption habits. Some product groups have a particularly important part to play; this includes those that make a major contribution to greenhouse gas emissions in Germany and at the same time have significant energy-saving potential (for example boilers, washing machines, refrigerators, freezers etc.). Equally important for climate protection are products that significantly reduce energy consumption, such as heat insulation products for buildings, insulating windows and master/slave power sockets that automatically switch off devices that are unnecessarily on stand-by.

Provided that they meet all the climate-related and environmental criteria, the most

energy-efficient products in these product categories can now be awarded a Blue Angel with the accompanying tag „Protects the climate“. The new additional information is intended to position the environmental label as a key climate label and thus help consumers make purchases that are good for the environment and the climate. For more than 30 product groups the rules specifying when they can bear the blue climate angel have already been defined; criteria for 100 product groups are due to be drawn up over the next few years.

As part of this process the Öko-Institut is engaged in a multi-year research project in cooperation with IFEU and ÖKOPOL; the study aims to identify the product groups for which the awarding of a label is most appropriate from a climate protection perspective and to assess the reduction potentials that might be achieved in each group in the coming years. To achieve this the Öko-Institut is working closely with the Federal Environment Agency UBA, the environmental label jury and RAL, which is responsible for awarding the Blue Angel. The research results are also relevant to the choice of criteria for possible subsidy programs and to other environmental labels. In addition, they play a part in the ongoing EU negotiations on the EuP Directive – for example, with regard to espresso machines or, as at present, televisions – and they provide an important general basis for environ-

mental advice services and the Öko-Institut's EcoTopTen market surveys.

Ten project groups were covered in the first phase of the project: espresso machines (including capsule machines), netbooks, master/slave power sockets, electric kettles, DVD players (including DVD recorders and Blu-ray disk players), gas cookers and cooking ranges, washing machines, tumble dryers, refrigerators and freezers, and televisions. The remaining products that are particularly important in climate terms are being dealt with in the ongoing project.

The products are selected in a multi-stage process, because it is likely that the significance of individual product groups for climate protection will change over the course of time and because new products come onto the market. To ensure that not only climate protection criteria but also all other key environmental aspects are taken into account, the products are evaluated using the Öko-Institut's PROSA (Product Sustainability Assessment) method. This covers the lifecycle assessment, the lifecycle cost assessment, the benefit analysis and – where possible – social factors too. The lifecycle assessment takes account of all the relevant environmental and health-related factors and so includes resource consumption, over-fertilisation potential, noise, toxicity etc. in addition to the greenhouse gas potential.



High savings potential – even for small appliances.



The initial research results show that, by comparison with typically purchased products, the potential candidates for the Blue Angel have high greenhouse gas reduction potentials. These potentials range between 20 and 56 percent, with an average of 45 percent. In absolute terms the electricity-saving potential in the ten product groups studied amounts to around 900 kilowatt-hours per year, while the greenhouse gas reduction potential is 667 kilograms CO₂-equivalent annually. If only the top-ranking energy-saving models were used in the ten product groups considered, the average household would save between 30 and 40 percent of its electricity. Surprising, even the smaller appliances have high absolute savings potentials; for example, the savings potential of espresso machines is around 100 kilowatt-hours per year and hence roughly the same as that of an energy-efficient refrigerator (Class A++ instead of A).

For the products studied it is the use phase that gives rise to the majority of greenhouse

gas emissions. With only a few exceptions (such as netbooks) this phase accounts for between 80 and 90 percent of emissions, while manufacture and disposal combined are responsible only for between ten and 20 percent. This means on the one hand that the consumer has an influence on energy consumption through the way the product is used, and on the other that the emissions level is determined in advance by the manufacturers, who take decisions on consumption values at the design stage.

Convenience functions may also significantly increase the power consumption of a device by comparison with more basic models. An example is the „quick start“ mode of DVD recorders and Blu-ray players, which significantly increases the machine's annual power consumption – in the case of hard-disk DVD recorders by around 170 percent or 70 kilowatt-hours per year, and in the case of Blu-ray disk players by around 286 percent or 72 kilowatt-hours per year.




The research project also shows that the most energy-saving products do not cost consumers more than traditional models: the life-cycle costs of the energy-efficient products that are candidates for the environmental label are comparable to those of conventional products or in some cases significantly less.

By the end of 2012 criteria for awarding the environmental label should be available for all the 100 product groups that have the greatest impact on the climate, including vacuum cleaners, windows, heat insulation materials, electric bicycles, telephone and WLAN systems, green computers and servers.
Dr. Rainer Griesshammer

Boosting environmental performance in China

The Blue Angel and the Chinese environmental label scheme have for a long time been cooperating with each other. This makes it easier for manufacturers of environmentally friendly products in one country to apply for and use the other country's environmental label, thus putting them in a better position to engage in Sino-German trade relations. The Chinese environment ministry now plans to supplement its environmental label with a climate label for low-carbon products and is hoping to draw on the experience of the blue climate angel to enable it to do so.

As part of this process China signed an agreement with GTZ at the end of 2009 in which the two countries declared that they would cooperate on developing criteria for energy-using products. For two specimen product groups rules will be laid down defining when products can carry the environmental label with climate information. One of these product groups will utilise the climate and environmental protection criteria that have been drawn up jointly in the two countries. The Öko-Institut is advising GTZ and the Chinese environment ministry on the planning and implementation of the overall project. *ds*

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