

# **eco@work**

Sustainable reading from the Oeko-Institut



**Repair,  
Share,  
Reuse**

**Strategies for  
Waste Prevention**

## Waste Prevention – Old Wine in New Bottles?

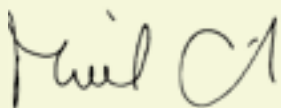
In this issue of eco@work, we look at waste prevention. An age-old problem, I hear you say. And you're quite right – it has been an ongoing topic for us since the Oeko-Institut was founded more than 35 years ago. Whether it's household, industrial or radioactive waste: the possible consequences of poor waste management are only too clear. The Asse nuclear waste storage facility and other major clean-up projects at landfill sites are the latest examples of what can happen if waste is mishandled. And mistakes in planning are difficult to rectify later, as we see from these and many other examples, not only in Germany. Some waste never goes away – such as radioactive or highly toxic waste stored at poorly secured sites, or waste that doesn't biodegrade: the plastic garbage circulating in the world's oceans is a case in point. These are just some of the reasons why, starting today, we should produce less waste and find environmentally compatible solutions when storage or landfill is the only option.

### Rubbish or resource?

The lesson to be learned from the debate about waste and its prevention is that now more than ever, it is also a resource issue. We have relied for far too longer on our ever-increasing consumption of primary resources. But these are finite – we know that. So preventing waste is mainly about conserving resources. If material inputs are reduced, less needs to be recycled, and this in turn reduces primary resource losses. At the Oeko-Institut, we want this substance cycle – the theme of our two main "In Focus" articles – to be seen as an opportunity for efficient resource management.

### A new look for eco@work

You may have noticed that our magazine has had a facelift! To make it even more readable, we have simplified the column headings, given a fresh new look to the layout and are making more use of graphics to enhance the clarity of the texts. But when it comes to content, you'll find some familiar features – as usual, we present a key topic and offer some insights into our work. We hope that you will continue to read and enjoy this and future issues of eco@work in its new format and look forward to your feedback, questions and ideas.



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## “We are serious about binning the problem of waste”

Every consumer has a set of fundamental expectations of the products they buy. They should be attractive and affordable, with plenty of choice. This should apply to second-hand goods as well, says Claudio Vendramin from Arbeitskreis Recycling e.V. in Herford. His working group runs seven second-hand stores, known as Recyclingbörsen (Recycling Exchanges), in Westphalia. But why does selling used goods present many specific challenges, and how can linkage be created between recycling and art? The project director provides answers in this interview with eco@work.

### Mr Vendramin, which goals are you pursuing with the working group?

We have two objectives: firstly, we want our project to support waste prevention and thus help protect the environment. And secondly, we offer training and employment for jobless people, including the long-term unemployed. That's why we receive staffing cost subsidies from the employment services.

### How do you source the goods that you sell in your recycling exchanges?

They are donated by private citizens and businesses. For example, we often accept remainder goods that retailers aren't able to sell. And we are willing to collect, which is a great help to people. It means that they don't have to dispose of unwanted heavy items themselves or pay for disposal, so they save costs. We're just a phone call away. That doesn't mean that we'll take everything, of course. Part of our job is to examine the goods very carefully to see whether they are good enough to sell.

### How are customers responding to the used-goods stores?

Very positively! Not all of our stores were successful straight away. But we can't complain about a lack of consumer interest. Our stores are always very busy; furniture and textiles are particularly popular. Personally, I believe that every town should have one of these stores for every 30,000 residents.

### How have you managed to generate such a high level of consumer interest?

I think it's partly because we are constantly renewing our product ranges. Every item sold in our shops has a sell-by date. Of course, some of them are quite short, while others are longer. Our product range generally sells out completely within three weeks. We have also adopted quality standards to determine what we include in our product range and what we leave out. Naturally, we keep a close eye on the market to see which items are currently in demand.

### What happens to the items you don't manage to sell?

They pass through a multi-stage process. First, the price is reduced; we also have a 50 cent "bargain corner". Then we see whether any of these goods could be useful to other projects. And the rest is sorted by material and sent for recycling.

### Which projects do you supply with materials?

We have commissioned a re-design bag which is manufactured from old textiles that we can't sell. The designer Oliver Schübbe, Werkstatt Hagen and Volkverein Mönchengladbach have also created the "Frank" wall unit system, which

is manufactured from old records and furniture that cannot be sold. This creates positive synergies. So some of the items that we can't sell are turned into new goods, in this case a new shelving unit.

### You launched the Recycling Design Award in 2007.


That's right. We are serious about binning the problem of waste. But that is only possible if we change mindsets. The Recycling Design Award shows that there is always something of value in the things we throw away. It conveys this message creatively, through art. And it's very successful. Last year, we had 700 participants – one-third of them from abroad.

### And who won?

Two Swiss designers: Lea Gerber and Samuel Coendet. They give soft-toys a second life. They call their product range "Outsiders".

### Thank you for talking to eco@work.

The interviewer was Christiane Weihe.

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Claudio Vendramin, Director of Arbeitskreis Recycling e.V., talks to eco@work.



# More than one way

## Sound approaches to waste prevention

Recovery is better than disposal, and prevention is better than recycling, according to the waste hierarchy introduced in Germany's new Closed Substance Cycle and Waste Management Act (Kreislaufwirtschaftsgesetz – KrWG). For a long time, recycling was at the heart of more sustainable waste management, but in 2012, new provisions were introduced with a specific focus on waste prevention. Prevention has been the top tier of waste management for years, and yet it has rarely been taken seriously. Under the new Act, clear priority is given to waste prevention, but there is also scope for flexibility: in the treatment of waste, the method which minimises adverse environmental impacts always has priority. And in some cases, final disposal may be the best option.

In 2008, the EU-27 generated more than 2.6 billion tonnes of waste, according to Eurostat. In the Waste Framework Directive adopted the same year, the EU obliged its Member States to establish waste prevention programmes not later than 2013. This is the background to the new Closed Substance Cycle and Waste Management Act, which transposes

these provisions into German law. "The aim of this national waste prevention programme is, of course, to protect people and the environment," explains Günter Dehoust, a researcher at the Oeko-Institut. "However, economic factors must be considered as well."

In a project commissioned by the Federal Environment Agency (UBA) and completed in 2011, the Oeko-Institut and the Wuppertal Institute for Climate, Environment and Energy defined some 300 measures for preventing waste, laying the foundations for the German waste prevention programme. In a further project, the Oeko-Institut worked with the Institute for Energy and Environmental Research (IFEU) in Heidelberg, the Institute for Environmental Strategies (Ökopol), Ressource Abfall GmbH and the Office for Environmental Science, Berlin, to develop

waste prevention targets, indicators for measuring progress, and viable waste prevention measures. "We looked first at qualitative targets, such as extending the products' useful life, because conclusions about potential quantitative targets can only be drawn in individual cases nowadays, unfortunately," says project manager Günter Dehoust. That's because although the potential for specific waste prevention measures can be identified for individual products, it may vary considerably, and the multitude of products makes it impossible to identify the overall potential. "It's hardly surprising that no reliable data are available about the real potential for prevention," says Günter Dehoust. A similar difficulty arises with the indicators – such as the amount of waste generated by households – that are supposed to provide information about progress on waste prevention. "As a rule, these

**Targets and  
indicators**

indicators don't tell us much about the actual outcomes of a specific measure, and, of course, they are influenced by other factors as well, such as the economy," explains the Oeko-Institut expert. "Nonetheless, these indicators can tell us whether waste prevention genuinely has top priority and whether effective action is being taken to prevent waste." But despite, or perhaps because of these difficult starting conditions, Günter Dehoust is not giving up on targets and indicators. "Developing policy goals is useful and necessary to increase people's motivation to prevent waste," he says. "For example, at present, only 0.5 per cent of all the old electronic appliances that are collected are reused. Why not set a target of 10 per cent?"

## Share – and use!

Just like the waste itself, waste prevention can take many different forms. And everyone can play their part – commerce and industry, policy-makers, and consumers themselves. The Oeko-Institut and its research partners have selected, described and evaluated a total of 58 sample measures for the national waste prevention programme. "We need schemes that inform, sensitise and advise consumers, producers and retailers," says Günter Dehoust. "But government agencies also have a role to play: they should be setting a good example in their procurement policies and involving the public at an early stage." Improving the data situation, integrating waste prevention into training and education, and promoting stakeholder exchange are other key instruments.

From Günter Dehoust's perspective, however, schemes that facilitate more intensive product use and extend their useful life are especially important. And as always with waste prevention, one instrument is not enough – it is the inter-

play between them that counts. More conducive frameworks are also important, such as the EU-wide introduction of a resource tax or a more stringent Ecodesign Directive and longer warranty periods. "We don't just need low-waste production: we also need to impose obligations on manufacturers to make longer-lasting products," Günter Dehoust explains.

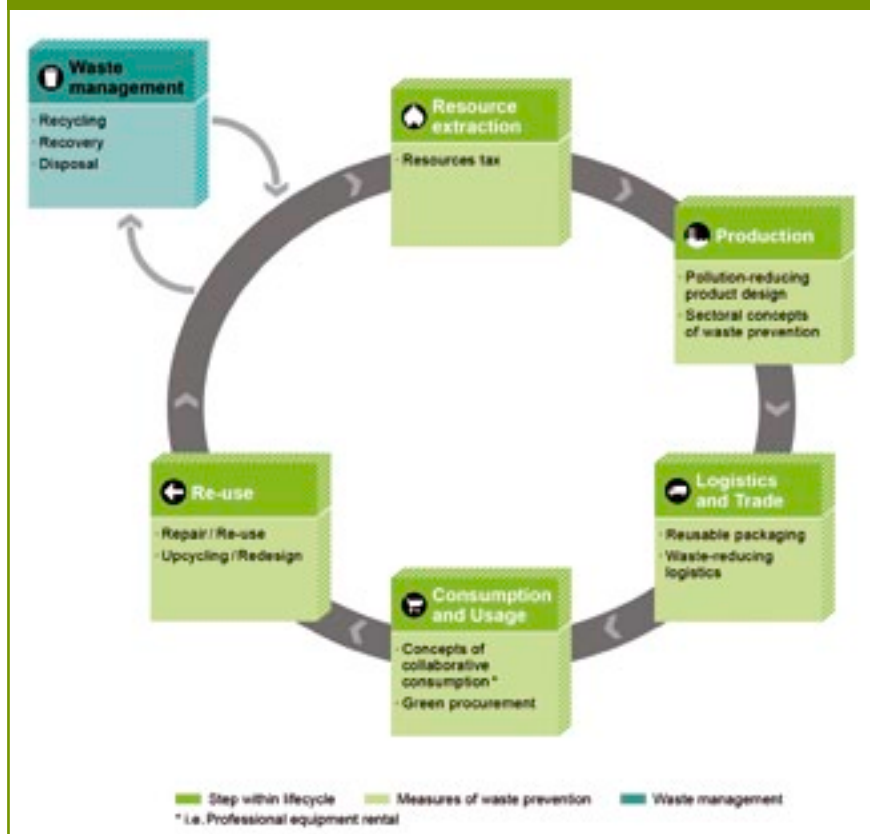
Consumers also have an important role to play. "Why do so many households have a lawnmower in the garden shed and an electric drill in the basement when they only use them for a few hours a year?" asks Günter Dehoust. "Sharing these appliances would be a much more sustainable and practical option. Consumers could then buy a high-quality product which lasts longer." But he points out that anyone considering this approach should take account of the additional transport costs. Sharing a lawnmower only makes sense within a maximum 5-km radius. None-

theless, he is a fervent champion of borrowing, renting, swapping and sharing. "Manufacturers probably won't be very enthusiastic about these ideas at first," he says, "but it points them in the right direction – towards more efficient products with a longer useful life – offering them the chance to develop new fields of business." Some companies have already taken the first step: DIY stores now hire out electric drills, for example, and printer manufacturers run rental schemes for office equipment. And domestic users are embracing these new ideas as well, giving away unwanted and unused items free on the Internet or in "giveboxes", or throwing clothes-swapping parties for their friends.

The second element in increasing usage intensity and product lifespan are initiatives that focus on the reuse of second-hand goods. There are already some trailblazing projects in some regions of Germany (as Claudio Vendramin from Arbeitskreis Recycling e.V.

## Steps of Waste Prevention

Creation of value and usage within the product-lifecycle



The schematic shows the life cycle of a product. Different waste prevention measures can be effective at the various points within the value creation process and the utilisation phase – some examples are illustrated here.

explains in the interview on p. 3), but most are found in neighbouring Belgium, Austria and the Netherlands. In Flanders, for example, more than 90 per cent of smaller used-good companies have joined forces and formed the “de Kringwinkel” brand – and it is hugely successful, with four million customers and an annual turnover of 19 million euros. “Reuse rates in Germany are much lower than in other countries, unfortunately,” says Günter Dehoust. “This sector needs to expand and the used-goods projects need to join forces in order to raise consumers’ awareness and acceptance.”


## Sensible – or not?

These projects are making a difference, but one point must be borne in mind: waste prevention is not always the answer and reusing goods does not always make sense. “Some products contain pollutants and there is a risk that these could be released. In these cases, reuse or recycling is not an option,” explains the Oeko-Institut expert. “Products such as refrigerators containing CFCs or thermometers containing mercury should not be reused.”

But harmful chemicals are not the only argument against reuse in some cases. High energy consumption can also rule out the option of waste prevention. “We need life-cycle analyses for all the major electrical appliances,” says Günter Dehoust. “This is essential for sound decision-making on whether energy consumption is low enough to justify further use.” For appliances with very high energy consumption, a better option, from an environmental perspective, may well be to buy a new appliance with an outstanding energy efficiency rating and send the old one for recycling or other forms of recovery.

In the case of electronic notebooks, however, an extended useful life, followed by secondary use, is the option recommended in a study by the Oeko-Institut and Fraunhofer IZM on behalf of the Federal Environment Agency. If the life-time of a notebook is assumed to be five years, 214 kg of CO<sub>2</sub> equivalents arise from its production and 138 kg from use. These portable computers also contain a number of scarce raw materials, the primary extraction of which entails substantial environmental and social impacts in some cases, and which are often lost during recycling. So where notebooks are concerned, waste prevention certainly makes sense. This example not only shows that reliable product information is essential in deciding whether reuse is the right approach. It also demonstrates why waste prevention is rightly the top priority. What’s more, an initial analysis of the available data reveals that this positive assessment applies to the vast majority of other goods as well.

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# Sustainable consumption?

## The ifs and buts

### Changing consumer behaviour

So you've finished your book, but it's really too good to recycle? Then put it in the givebox! Time for some new cutlery? Let's see what's on offer at the used-goods store – go for retro! Your potatoes are still good, but you're off on holiday? Give them to your neighbours! The Internet can help! Many consumers are already taking the plunge and trying out new approaches to sustainable consumption: they're buying furniture made from recycled materials, or exchanging their old vacuum cleaner for their new favourite model via online swapshops. They are helping to prevent waste, based on a growing awareness of the need to protect the environment and the climate. But there's still a major challenge ahead: mainstreaming this awareness and translating it into regular and active behaviour by all consumers. Here, the right incentives and frameworks must be put in place.

Protecting the climate and the environment is extremely important to the Germans. According to a 2010 survey on environmental awareness conducted by the Federal Environment Ministry (BMU) and the Federal Environment Agency (UBA), protecting the environment ranks third on the general public's list of current political priorities. When it comes to the individual fields of action, however, consumers' personal environmental awareness varies considerably. For example, the GfK Global Green Index 2012 revealed that consumers show a far greater awareness of environmental issues in their energy supply choices than in consumption and production. "Individual consumption offers major scope for protecting the environment, climate and resources as there is so much waste in this sector," says Martin Gsell, a researcher at the Oeko-Institut. "This potential needs to be leveraged at last. We need to help people to take action. We should be assisting them to prevent waste effectively and reduce the environmental burdens resulting from new product manufacturing."

The GfK Index points to a high level of environmental awareness on waste and recycling issues as well. Indeed, Germany tops the European leaderboard here, recycling around 50 per cent of its waste. "But of course, the starting point for recycling is different than for waste prevention," says Martin Gsell. "There is

a very high level of awareness in many areas, such as paper and glass recycling, and the infrastructure is in place and is easy to use." But when it comes to waste prevention, he says, it's a very different story. "Consumers need better information about well-functioning ideas, strategies and schemes, and should be actively encouraged to use them," he continues.

Some alternative models that can help to conserve resources and thus prevent waste are already proving popular – such as car-sharing. The number of people making use of car-sharing schemes has steadily increased over the last few years, with 222,000 people using these schemes at the start of 2012, according to the German CarSharing Association (Bundesverband CarSharing). The 2010 survey on environmental awareness also found that 26 per cent of car drivers find the idea of car-sharing appealing.

But what about other projects – how can environmental awareness be translated into sustainable consumption patterns? How can we mainstream the innovative models, which currently have very few participants, across the public at large – such as projects based on the notion of "use without ownership"? Only 12 per cent of respondents in the BMU/UBA survey found the idea of borrowing or hiring – rather than owning – irregular-use garden or household appliances "very appealing". 39 per cent thought

this was "quite appealing". How can far more people be reached than this 51 per cent? And how can we inspire them to take action? "Consumer decisions are influenced by many different factors," says Martin Gsell. "They include cost, personal preference, and mindsets." He is convinced that in many areas where there is scope for waste prevention, there are not enough incentives for consumers to adopt more sustainable behaviour. "For example, if it is very difficult to find a trustworthy used-goods outlet, we can't blame consumers if they go for a new product instead," he says. "And if mobile phone companies constantly offer consumers new handsets, it's hardly surprising if the consumer snaps them up."

The survey found that well-educated people on higher incomes are more likely to find the idea of borrowing and swapping appealing. Martin Gsell believes that this is partly due to a lack of information about the advantages and opportunities afforded by these schemes. "We must be much more proactive and provide every consumer with much better information about the benefits," says Martin Gsell. "Advisory services are needed to show which high-quality appliances are available for use for the same or even a lower budget and how this can improve people's quality of life." But to make hiring or borrowing financially attractive, more people need to use the schemes.





As Martin Gsell emphasises, waste prevention – and not only the “use without ownership” projects – offers countless advantages for numerous people. “For example, the reuse schemes often provide wider social benefits, such as lower prices or training for the long-term unemployed in used-goods initiatives.”



Adequate information is important, as a glance at the labelling of energy-efficient household appliances reveals. “Buying a high-quality appliance with an outstanding energy efficiency rating


prevents waste, because the product will generally last much longer,” says Jens Gröger, product labelling expert at the Oeko-Institut. “Taking a whole-life-cycle view, it may even be cheaper for the consumer to buy a higher-quality and more expensive product as it will consume less electricity, water or resources over the course of its useful life than a cheaper product.”

Ecolabels such as “Blue Angel” and market surveys like EcoTopTen provide guidance for consumers buying new appliances. As part of the Oeko-Institut’s Top 100 project, the leading “Blue Angel” ecolabel has now been expanded to include product groups that are particularly relevant to the climate, such as washing machines, computers and televisions. The researchers began by identifying the 100 most important products and then went on to develop criteria for distinguishing particularly climate-friendly products. “Besides power consumption, other important aspects are covered, including the absence of harmful substances and how

easy they are to repair or recycle,” says Jens Gröger. The Oeko-Institut’s EcoTop-Ten initiative also shows which products offer good value when measured against environmental and cost criteria. It publishes regular market surveys in 10 separate consumption categories, such as clothing, ICT and mobility, along with information about recommended products.

If projects like these are successful in supporting sustainable consumption by providing consumers with information and advice, this will be a major step forward towards waste prevention. But that’s not enough for Martin Gsell. “There are many different approaches and countless ideas about how we can actively promote resource conservation,” he says. He is firmly convinced that there is something for everyone – offering not only environmental but also social benefits.

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