

The food waste challenge: Increase sustainability and reduce costs.



Food waste in numbers.



Fig.1: Link between food waste and resource and climate protection. The graphic illustrates the situation in Germany. ²

Worldwide **1.3 billion tonnes** of food are thrown out every year. This wastes not only valuable resources, but also money. According to the Council of the European Union, food loss and food waste cost the world's economy 840 billion Euros (990 billion US dollars). ¹

According to the newest estimates, 88 million tonnes occur in the EU, which corresponds to a loss of 143 billion Euros. While a lack of infrastructure is mainly to blame for food spoilage in developing and threshold countries, the main cause in industrial nations is the end consumer. ¹

This is also demonstrated by the figures from Germany. The closer the value-added chain approaches the end customer, the more food is wasted. In concrete terms, this means the 61 % of loss occurs in transit from the producer to the wholesaler, whereas the end customer contributes 39 % to the total quantity of food waste. ²

Food waste in food distribution.

Food waste and food loss are also a problem in wholesale and retail. Studies have put the quantity of food lost in the German food trade at 2.575 million tonnes. 90 % of this is avoidable. ² Wholesale and retail, in particular supermarket chains, play an important role in contributing to a minimiza-

tion of food waste through centralized measures. In addition to this, as an interface to the end consumer, the trade can create awareness among customers for the problem of food waste by setting an example.

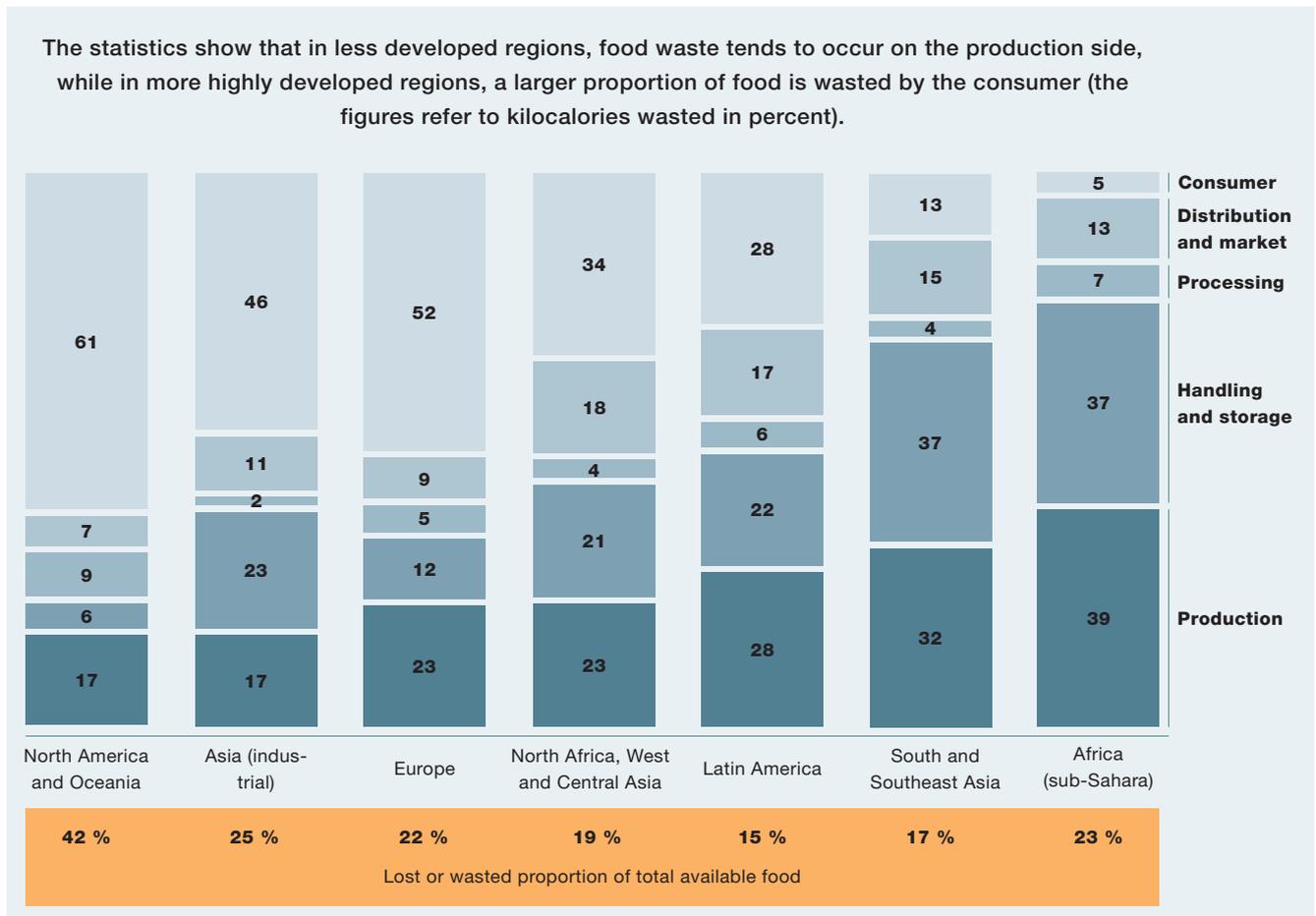


Abb.2: Distribution of food loss along the cold chain by region. Note: Due to rounding up and down, the figures may not add up to 100. Source: WIR analysis, based on FAO. 2011. Global Food Losses and Food Waste – Extent, Causes and Prevention. Rome: UNFAO.

Food waste and the causes.



Distribution losses are defined according to Gustavson et al. (2011) as losses of food during marketing. This happens primarily at the wholesale and retail level. No particular difference is made between vegetable and animal foods. ³

More differentiated figures for food retail are provided in Germany by the EHI Retail Institute (2011a, b). According to the institute's publications, the losses of fresh goods are, at 2.9 %, relatively high measured against the volume available for marketing, whereas for dry goods relatively low, at approx. 0.5 %. Bread and bakery items come out worst among fresh goods (6.5 to 10.4 %), fruit and vegetables are also high up in the scale (5.1 %), meat products are affected at 2.1 % and dairy goods at only 1.6 %. ^{4,5}

All in all an average loss of 1 % can be assumed for wholesale; together with retail, up to 7 % can be taken as a basis.



These distribution losses are nearly always avoidable, as almost all products are ready for consumption. The reasons for the loss are to be found less in technological restrictions than in the interplay of marketing and consumer expectations. This means that the consumers expect foods to meet a high standard of freshness, availability, optical appearance and texture, while certain marketing measures continue to intensify these expectations.

The situation presents itself entirely differently in China, for example. In this case, it is largely insufficient logistics and lack of infrastructure which are responsible for the huge distribution losses. Every year, 370 million tonnes of fruit and vegetables with a value of 75 billion Yuan (approx. 10 billion Euros / 11 billion US dollars) rot in storage or during transport because of a failure to store perishable products in a suitable environment or to deliver them on time. ⁶

Reducing food waste.

Reducing food losses is profitable from three points of view:

- **Saving costs**

Profitability is increased along the entire value-added chain from the producer via distribution to the end consumer, because the goods purchased and paid for are fully re-sold or consumed.

- **Protecting resources**

Avoiding food waste reduces pressure on climate, water and land resources – with considerable effects: A 50 % reduction of food waste already results in a lowering of greenhouse gases by around 37 %.⁷

- **Fighting hunger**

Minimizing distribution losses means there is a larger quantity of food available on the world market, i.e. more people can be fed from the goods produced.

An important possibility for increasing sustainability and making an important contribution to society is food dona-

tion. Foods which can no longer be sold are an integral part of aid projects, such as food banks, for people with low incomes. However, a donation to a social facility (e.g. kindergartens, nursing homes, sport clubs) benefits not only those who are happy about a tasty meal, it also supports the image of the donating company. For this reason, it is worthwhile for many operations (e.g. supermarket chains) to think about possibilities for a socially responsible distribution of food.

However, even products which are no longer fit for human consumption should be consigned to the refuse. In the context of responsible recycling, they can still be used as animal fodder, compost or for energy recovery.

The examples demonstrate: The reduction of food waste by fair distribution and conscious recycling makes a great difference to the sustainability and securement of sufficient food for a growing world population. Cost savings and image benefits make the targeted minimization of distribution losses a win-win situation.

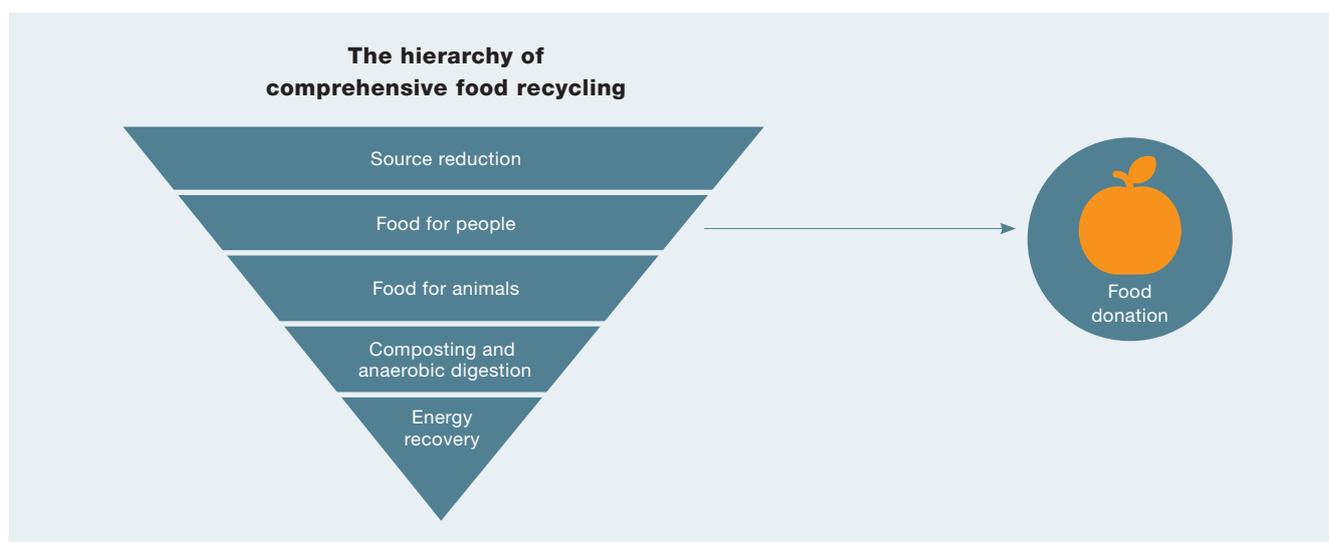


Fig. 3: Possibilities for the reduction of food waste by fair distribution and conscious recycling.

Reasons for minimizing food waste: What the stakeholders say.

What are really drives businesses, cities or countries to reduce food waste? Data collected clearly show that there are solid economic reasons providing the motivation to reduce food loss and waste. In a study, Hanson and Mitchell examined almost 1200 businesses in 17 countries, as well as over 700 companies as representatives of different sectors. They included food production, food retailers (z. B. grocery stores), the hospitality industry (e.g. hotels and leisure facilities) and food service (e.g. canteens and restaurants). The results speak volumes: After investing in the reduction of food waste, 99 % of businesses were able to make a positive return on investment. Hotels, food service businesses and food retailers even reached ratios of between 5:1 and 10:1. This means that for every Euro invested in the reduction of food loss and waste, up to 10 € came back. These numbers show that the reduction of food waste can also be regarded as a profitable investment.

However, there are not only economic reasons which motivate cutting down food waste. Listening to political and economic leaders shows that there is additionally a whole list of non-financial drivers. These include

- Responsibility for securing the food supply
- Refuse management regulations
- Increasing sustainability
- Strengthening the relationships to stakeholders
- Consciousness of an ethical responsibility
- Image benefit and advertizing

Although these aspects can only be quantified with great difficulty as regards their cash value, a qualitative analysis of the conversations reveals that they are crucial reasons and drivers for countries and businesses to initiate the reduction of food waste. ⁸

Comment by Dave Lewis (Group Chief Executive, Tesco and Chair, Champions 12.3):

“Reducing food loss and waste is a significant global challenge. That’s why it’s very important that business plays its part. At Tesco, we’re committed to tackling food waste not only in our own operations but also through strong and effective partnerships with our suppliers and by helping our customers reduce waste and save money. This is an opportunity for businesses to work together and make a real difference to Target 12.3.[referring to the UN Agenda for Sustainable Development].”⁹

Sources

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- ⁷ Brian Lipinski, Clementine O'Connor & Craig Hanson (2016), SDG Target 12.3 on Food Loss and Waste: 2016 Progress report, September 2016
- ⁸ Craig Hanson & Peter Mitchell (2017), The Business Case For Reducing Food Loss and Waste – A report on behalf of Champions 12.3, März 2017
- ⁹ <https://champions123.org/>, accessed on April 3rd 2017

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Testo, with its headquarters in Lenzkirch in the Black Forest, is a world market leader in the field of portable and stationary measurement solutions. In 33 subsidiary companies around the world, 2700 employees research, develop, produce and market for the high-tech company. Customers all over the world are impressed by the measuring technology expert's high-precision measuring instruments and innovative solutions for the measurement data management of the future. Testo products help save time and resources, protect the environment and human health and improve the quality of goods and services.

In the food sector, measuring instruments and monitoring systems from Testo have proven themselves for decades, and belong to the standard equipment of large kitchens, supermarkets and food producers.

An average annual growth of over 10% since the company's foundation in 1957 and a current turnover of over a quarter of a billion Euros clearly demonstrate that the Black Forest and high-tech systems are a perfect match. The above-average investments in the future of the company are also a part of Testo's recipe for success.

Testo invests about a tenth of annual global turnover in Research and Development.

For the food sector, Testo has developed specific solutions which combine precise sensors with intuitively operated software and comprehensive services, tailor-made for the requirements of the respective field.

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