

Science for Environment Policy

New food waste framework points to a fundamental rethink of food practices

To solve the problem of food waste we need to radically rethink how our food is produced and consumed, researchers argue in a recent study. They propose a new framework that considers how to reduce wastage throughout the supply chain. Preventing excess levels of food production and consumption in the first place is its most important step.

Food waste is seen by many governments as a priority. Globally, an estimated 1.3 billion tons of food is wasted each year, and 30-50% of all food supplies in North America and Europe is believed to be discarded. It represents a major environmental problem; substantial amounts of **resources**, such as water and phosphorus, are used to produce such food waste, which, when it reaches landfill, also emits greenhouse gases.

It is also a major economic issue. The **FAO** estimated that the cost of global food waste in 2007 was US\$ 750 billion (€553 billion). Economic losses are felt throughout the supply chain, from the farmer who suffers damaged crops, to the consumer who pays for food that they do not eat.

The new framework is based on the waste hierarchy, as used by the EU's **Waste Framework Directive**¹. This waste hierarchy outlines possible ways of dealing with waste in order of priority, starting with waste prevention, followed by re-use, recycling and recovery. Disposal is the last resort.

To inform the framework, the researchers interviewed 23 food-waste experts from the UK, where significant cuts in food waste have recently been made. The experts included government, NGO, academic and restaurant-industry representatives.

The framework prioritises reducing food surplus. The experts had stressed the importance of distinguishing between food surplus and food waste. The difference is subtle, but some surplus (beyond our needs) is considered necessary to guarantee food security and does not count as waste. Waste comes from food that exceeds food security needs. To illustrate, it has been calculated that a food supply of 2600 calories per person per day would cover our nutritional needs (of 2000 calories) while allowing a safety buffer. However, currently an average of 3500 calories is available for each EU citizen per day. This is an excessive amount of surplus and much of it goes to waste.

Surplus food can be prevented throughout the supply chain. Farmers could produce only enough to meet nutritional and food security needs, retailers could sell only what is required, and consumers could buy only what they really need. Surplus that cannot be prevented should be redistributed to people in food poverty, the framework advises.

Preventing waste will need a fundamental rethink of current food systems and practices. However, it could bring major environmental, social and economic benefits, the researchers argue.

Actual food *waste*, as opposed to surplus, should be categorised as either 'avoidable' or 'unavoidable'. This was another important distinction made by the experts. Avoidable waste is edible by humans - or was edible, before going mouldy, for example. Unavoidable waste, such as bones, cannot be eaten (although the study acknowledges that the concept of 'inedible' varies with culture and personal preference).

Ideally, avoidable waste should be prevented. If this is not possible, it can be recycled for animal feed or compost. Unavoidable waste should be recycled, again as either feed or compost and unrecyclable waste should undergo anaerobic digestion and then be used as a source of energy.



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1. <http://ec.europa.eu/environment/waste/framework/>

