

# A new report reveals that half of all food ends up in the bin

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The [Institution of Mechanical Engineers](#) launched (10 Jan 2013) a new report addressing the negative consequences of food waste for global food security.

The report '[Global Food; Waste Not, Want Not](#)' has found that 1.2 – 2 billion tonnes of all food worldwide never ends up in our stomach, nearly 50% of our entire food production. The Institution identified inefficient storage facilities and poor infrastructure as a reason but blames also overly strict sell-by dates, sales offers (buy-one-get-one free) and consumers demanding cosmetically perfect food.

Excessive food waste will become more of an issue as worldwide food security cannot be guaranteed in the next 50 years. The United Nations' (UN) projection for global population growth predicts an increase of 2.5 billion people by 2075. This will cause increasing pressure on already limited natural resources (land, water and energy), which are required for large-scale food production.

The report of the *Institution of Mechanical Engineers* highlights that:

- around 30% of UK vegetable crops are not harvested due to them failing to meet exacting standards based on their physical appearance;
- half of the food that's bought in Europe and the USA is thrown away by the consumer;
- it takes 20-50 times as much water to produce 1 kilogram of meat as 1 kilogram of vegetables;
- the demand for water in food production could reach 10–13 trillion m<sup>3</sup> a year by 2050. This is 2.5 to 3.5 times greater than the total human use of fresh water today and could lead to more dangerous water shortages around the world;
- there is the potential to provide 60-100% more food by eliminating losses and waste while at the same time freeing up land, energy and water resources.

Interestingly, in 2010 the Institution identified three principal population groups who will need to address diverse issues in different ways to be able to feed all people in the future. Third World and Developing Nations face inefficient harvesting, inadequate local transportation and poor infrastructure. However, Developed Nations

struggle with a modern consumer culture where food is wasted through retail and customer behaviour. Supermarkets often reject edible fruit and vegetables, as they do not meet consumer expectations, such as size or appearance.

This report points to the fact that wasting food is not just a problem of Developed Nations; it also compromises globally limited resources, including water, land and energy of Third World and Developing Nations. In 2009, consumers in UK spent per year around £480 per household on food that never ended up on the plate (ref 1). It is estimated that eliminating household food waste could deliver greenhouse gas benefits equivalent to taking one in five cars off the road, reducing 18M tonnes of CO2 (ref 1).

Tackling food waste would contribute to more effective land, water and energy usage. In this context, the Institution of Mechanical Engineers recommends that Governments in Developed Nations create and apply policy that changes consumer expectations. These should discourage retailers from wasteful practices that lead to the rejection of food on the basis of cosmetic characteristics, and losses in the home due to excessive purchasing by consumers.

Dr Mark Downs, Chief Executive of the Society of Biology, said *“Food security is a global challenge that must be addressed. Reducing food waste has a key role to play and I welcome this report’s focus on the scale of the challenge”*

A Commissioning group made up of key agriculture stakeholders have developed a set of Strategic Research & Innovation Priorities for Primary Food production in the UK. Their draft report [‘Feeding the Future – Innovation Requirements for Primary Food Production in the UK to 2030’](#) is now open for consultation, and the Commissioning Group are seeking feedback to enable them to validate their findings and recommendations prior to completion and presentation of the final report, on behalf of the industry, to the major funders of UK Agricultural & Horticultural R&D in March 2013.

The Society of Biology will be responding to this consultation on the draft report. If you would like to contribute to our response, please send any comments to [Jackiecaine@societyofbiology.org](mailto:Jackiecaine@societyofbiology.org).

Ref 1: Food Matters: Towards a Strategy for the 21st Century, Cabinet Office, 8 Dec 2009