As much as half of all the food produced in the world - two billion tonnes worth - ends up being thrown away, a new report claims.

The waste is caused by poor infrastructure and storage facilities, over-strict sell-by dates, "get-one-free" offers, and consumer fussiness, according to the Institution of Mechanical Engineers.

Each year countries around the world produce some four billion tonnes of food.

But between 30% and 50% of this total, amounting to 1.2 to two billion tonnes, never gets eaten, says the report Global Food; Waste Not, Want Not.

In the UK, up to 30% of vegetable crops are not harvested because their physical appearance fails to meet the exacting demands of consumers.

Half the food purchased in Europe and the US is thrown away after it is bought, the report adds.

Vast quantities of water are also wasted in global food production, it is claimed.

Around 550 billion cubic metres of water is used to grow crops that never reach the consumer, according to the report. Producing one kilogram of meat is also said to take 20 to 50 times more water than producing the same weight of vegetables.

The demand for water in food production could reach 10 to 13 trillion cubic metres a year by 2050, the institution said. This is up to 3.5 times greater than the total amount of fresh water used by humans today, raising the spectre of dangerous water shortages.

Dr Tim Fox, head of energy and environment at the Institution of Mechanical Engineers, said:

"The amount of food wasted and lost around the world is staggering. This is food that could be used to feed the world's growing population - as well as those in hunger today. It is also an unnecessary waste of the land, water and energy resources that were used in the production, processing and distribution of this food.

"The reasons for this situation range from poor engineering and agricultural practices, inadequate transport and storage infrastructure through to supermarkets demanding cosmetically perfect foodstuffs and encouraging consumers to overbuy through buy-one-get-one free offers."

By 2075 the United Nations predicts that the world's population will reach around 9.5 billion, resulting in an extra three billion mouths to feed.

Added stresses on the ability of the world to feed itself include global warming and the growing
popularity of meat, which requires around 10 times more resources than staple plant foods such as rice or potatoes.

Dr Fox added: "As water, land and energy resources come under increasing pressure from competing human demands, engineers have a crucial role to play in preventing food loss and waste by developing more efficient ways of growing, transporting and storing foods.

"But in order for this to happen governments, development agencies and organisation like the UN must work together to help change people's mindsets on waste and discourage wasteful practices by farmers, food producers, supermarkets and consumers."

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