Cutting food waste helps improve your 'foodprint'

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Credit: Institute of Physics

Around a third of the resources used to produce the US's food are wasted through food loss and waste (FLW), a new study has revealed.

The research from the University of Texas at Austin and Sustainable America, published today in the journal *Environmental Research Letters*, examined the environmental impacts of the average American's diet and FLW through an analysis of the energy, land, water and fertilizer required to produce the food, and greenhouse gas emissions from the production – which the researchers term a 'foodprint'.

The results showed that, in 2010, the average US adult discarded 35 per cent of available edible food, thereby wasting 35 per cent of energy use; 34 per cent of blue water (or groundwater and surface water) use; 31 per cent of land use; 35 per cent of fertilizer use; and 34 per cent of GHG emissions.

Birney et al. said: "Food waste is unique from other components of foodprint, because there is a significantly higher degree of control by the individual. The changes required to reduce each element are relatively less intrusive on consumer lifestyle, and do not require a significant shift in decision making at the point of purchase.

"The changes require relatively small shifts in shopping, meal prep, and dining habits, and are not subject to price sensitivity such as changes in where to shop or types of food to buy might be. While the potential environmental benefits are rather grand, there are also personal financial benefits, through cost savings to be reaped from reducing food waste and overconsumption, which are less prevalent in changes to other foodprint factors."

The study team also examined what the environmental impact would be of changing diets to meet US Department of Agriculture (USDA) guideline recommendations.

They found that if Americans shifted towards healthier and more nutritional diets – as recommended by the USDA – it would result in

further major increases in the use of many natural resources.

Senior author Dr Michael E Webber said: "The increase in resource use from a healthier diet is not a reason to continue eating poorly. Instead, the US can focus on an existing goal of reducing FLW to mitigate the consumption of resources related to the U.S. food system."

The team showed that if a shift in food consumption habits was married to meeting the USDA and Environmental Protection Agency (EPA) 2030 FLW targets, mitigation of many of the resource increases could be offset.

Dr Webber said: "Reducing FLW is crucial to this. If the USDA's aim of around a 50 per cent reduction in FLW by 2030 is met – at the same time as improving diets – then the resulting decrease in resource use could indeed mitigate against those same increases from moving towards healthier diets.

Birney et al said: "If these two things happened simultaneously, while we would see an increase in energy and fertilizer use of 12 per cent, there would be decreases in blue water consumption of four per cent; green water use by 23 per cent; GHG emissions from food production by 11 per cent; GHG emissions from landfills by 20 per cent; and land use by 32 per cent."

More information: Catherine I Birney et al. An assessment of individual foodprints attributed to diets and food waste in the United States, *Environmental Research Letters* (2017). DOI: 10.1088/1748-9326/aa8494

Provided by Institute of Physics