

A combined carbon and sugar tax could have environmental and health benefits

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A combination of a carbon tax on food and a tax on sugary drinks in the UK could lead to health benefits, reduce greenhouse gas emissions and raise up to GB£3.6 billion revenue, according to research published in the open access journal *BMC Public Health*.

Lead researcher, Adam Briggs from the University of Oxford, said: "Agriculture is responsible for up to 30% of global greenhouse [gas emissions](#) and those arising from [food](#) production have negative effects that aren't borne by the individual buying the food, but by society as a whole. Examples include the [health](#) effects of global warming from extreme weather, changing global disease patterns, and airborne pollution, as well as changes to food production patterns and overall availability of energy resources.

"Some studies have found that diets low in greenhouse gases are also better for health, mainly arising from people eating less meat and more plants. However, some foods buck this trend, for example sugar is low in greenhouse gas emissions yet bad for health. To counter this problem, we modelled the effects of a food carbon-tax alongside a 20% tax on sugary soft drinks. We estimated the effect on food purchases"

Researchers from the University of Oxford and the University of Reading modeled four different tax scenarios to investigate the environmental, health and economic effects they these scenarios could have in the UK. The first scenario was a model that involved a carbon tax of GB£2.86 per tonne of carbon dioxide on all foods that produced emissions higher than the average for all food groups. The second model had the same carbon tax on all foods that produced emissions higher than the average and subsidies for foods that were below the average. Both these scenarios were then tested with an additional 20% tax on all [sugary drinks](#). Using modelled data allows for predictions to be made about cause and effect.

The results of modeling all tax scenarios predicted a decrease in the purchase of beef, lamb and other meats. There was, however, a predicted increase in purchases of pork and poultry. All scenarios also predicted delayed or averted deaths mostly from heart disease and cancer. The researchers attribute this to increased fiber intake and changes to fat consumption.

The scenarios that included subsidies on low greenhouse gas emission foods predicted an increase in consumption of fresh fruits and vegetables and a decrease in purchases of cream, cheese and eggs. The researchers suggest the increased purchase of fruits and vegetables in these scenarios would result in more deaths being delayed or averted.

All scenarios predicted a reduction in greenhouse gas emissions of

between 16.5 and 18.9 million tonnes of carbon dioxide per year. The two scenarios that did not include subsidies for low emission food generated revenues of GB£3 billion and GB£3.4 billion, the higher figure being due to the additional sugary drink tax. However, sales taxes are regressive so the two scenarios with subsidies were designed to be revenue neutral and militate against this.

Adam Briggs said: "Our study demonstrates that a food carbon tax could have meaningful effects on [greenhouse gas](#) emissions without harming health. Small tweaks to the design of the tax, such as a tax on soft drinks, can result in significant improvements to population health without dramatically reducing the effect on emission reductions. A well designed [carbon tax](#) could be an important addition to policies aimed at reducing UK [greenhouse gas emissions](#)."

More information: Adam D. M. Briggs et al. Simulating the impact on health of internalising the cost of carbon in food prices combined with a tax on sugar-sweetened beverages, *BMC Public Health* (2016). [DOI: 10.1186/s12889-016-2723-8](https://doi.org/10.1186/s12889-016-2723-8)

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