

Research investigates impact of carbon footprint label

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New research suggests that an initiative to show consumers which products are more environmentally friendly needs to be easy to understand to be effective.

The study involving the University of East Anglia (UEA) investigated the impact of a carbon footprint label on detergents and whether products with the label commanded a higher price or generated more demand than those without.

The label showed a footprint with the approximate number of grams of carbon dioxide a product generates during its life cycle, for example as it is grown or manufactured, transported, stored and used. It also included a commitment to reduce the detergent's carbon footprint, information on the footprint of a benchmark product and advice on how customers could reduce their footprint even further, such as reducing washing temperature.

The researchers found that having the carbon footprint on the detergent products had no impact on prices or demand. They suggest that the design of the label meant customers found it difficult to notice, understand and compare carbon footprints of different detergents and therefore did not reward carbon labelled or less carbon intensive products with a price premium or with higher demand.

Co-author Dr Jibonayan Raychaudhuri, of UEA's School of Economics, said if consumers are willing to pay more for carbon labelled, or low

carbon footprint, goods - and by doing so contribute to the public good - there is an incentive for firms to lower the carbon footprint of their products, label them accordingly and charge a higher price.

"Our results are somewhat surprising, since we would expect that the presence of a label should lead to an increase in price when consumers value the environmental aspect," said Dr Raychaudhuri, who conducted the research with Dr Mika Kortelainen from the VATT Institute for Economic Research in Finland and Dr Beatrice Roussillon of Université Grenoble Alpes in France.

"However, we believe the specific design of this carbon label was responsible for its lack of success in generating an increase in price for the labelled products. A simple label of approval or a traffic light system on the front of the packaging is more likely to be noticed and to influence the purchasing decision, and therefore more likely to generate higher revenues for the firm. Making labels easy to understand could increase the likelihood of customers buying the product and would also achieve the goal of educating consumers."

The study, published today in the journal *Economic Inquiry*, is one of the first to examine the effects of a carbon label using real market data. It analysed the purchase behaviour of 60,000 customers from a major UK supermarket chain.

As part of efforts to reduce household greenhouse gas emissions the carbon footprint label scheme was launched by the Carbon Trust. The label studied was introduced in 2008 and appeared on more than 27,000 common household products in the UK. Today the trust offers two different labels - 'Reducing CO₂' and 'CO₂ Measured' - which appear on products worth €3.8 billion (Euros) in annual sales across 21 countries.

Commenting on the current labels, the authors say they are "a step in the

right direction". Dr Raychaudhuri said: "The Reducing CO2 label shows consumers at a glance that the firms have measured its product [carbon footprint](#) and are committed to reducing it. In this sense it looks more like a seal of approval. Therefore when consumers are buying products labelled with this, they know that the firm is making an effort to reduce CO2 emissions. This is a much clearer signal to households which makes it easier for them to understand and to choose 'greener' products.

"However, we feel that having two labels instead of one, with only one sentence to differentiate them, may lead to some confusion among consumers and may reduce consumer understanding. Firms might also strategically decide to go for the CO2 Measured label, which is less stringent in terms of what they are required to do in order to use it, and hence less costly to the firm, in the hope that they get the reward associated with the more stringent Reducing CO2 label."

The authors also felt that since the labels no longer mention the exact level of CO2 emissions, they were not as educational as the previous label.

The data used for the study included detailed information on product sales and daily transaction prices of 339 products, of which 43 were detergents. Of these, only five were carbon labelled. All five were the supermarket's own-brand products.

'Effects of Carbon Reduction Labels: Evidence from Scanner Data', is published in *Economic Inquiry* on October 26, 2015.

More information: *Economic Inquiry*, [onlinelibrary.wiley.com/journal/1111/\(ISSN\)1465-7295](http://onlinelibrary.wiley.com/journal/1111/(ISSN)1465-7295)

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