



Are Consumers Willing to Pay for Industrial Decarbonisation? Evidence from a Discrete Choice Experiment on Green Plastics

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Abstract

Plastics is one of the hardest sectors to decarbonise but there are concerns over the willingness of consumers to pay higher prices to shift away from reliance on unabated fossil energy. Moreover, widespread concerns over single-use plastics have redoubled efforts to reformulate plastics used in consumer products, so we analyze heterogeneity in consumer preferences and willingness to pay for environmentally friendly attributes of plastic bottles. Our study employs stated preference data from a discrete choice experiment conducted using a representative sample of 3085 British consumers. We estimate different mixed logit models in preference and willingness to pay space and also examine the preference heterogeneity to infer consumers' sensitivity to price. We find that British consumers are willing to pay a £1.10 premium for a £1 plastic bottle if 100% of the CO₂ were to be captured during the production process. To a lesser extent, we also find differential willingness to pay depends on other characteristics such as the national origins of the materials and the type of certification employed. Preferences are driven by specific characteristics, such as involvement in environmental organisations or knowledge of bioplastics, both of which are associated with higher willingness to pay for green plastics.

Keywords Bio-based plastics, mixed logit, discrete choice experiment, willingness to pay, industrial decarbonisation, carbon capture

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