

## How small daily choices play a huge role in climate change: The disposable paper cup environmental bane

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### Abstract

Disposable paper cups comprise typical single-use plastic items, as they are lined internally with a thin plastic coating for waterproofing. They are consumed at a staggering rate worldwide, with the UK alone consuming around 7 million cups daily, thus annually producing around 30,000 tonnes of paper cup waste. Contrary to popular belief, less than 1 in 400 paper cups is currently recycled in the UK, which is in stark contrast to the waste hierarchy and the European Commission's ambitious Circular Economy Action Plan. Paper cups typically end up in landfill sites or even improperly disposed of, contributing to (micro)plastic waste and potentially polluting the world's oceans. The implications of the latter are not fully known yet and cannot be quantified by existing life cycle impact assessment methods. By employing the life cycle assessment methodology, UK's annual carbon footprint from paper cup consumption was found to be 75 kt of carbon dioxide equivalents, which is similar to that of manufacturing 11,500 mid-size passenger cars. Globally, their environmental footprint was found to be comparable to that of some 1.5 M average European inhabitants, indicating the nature and extent of the single-use plastics problem, which paper cups are just a typical example of. Paper cup recycling could reduce this environmental footprint by up to 40%, whereas switching to reusable cups appears to be more environmentally sustainable, achieving a threefold reduction in carbon emissions, which at global scale is more than twice Malta's annual carbon footprint. Results indicate that consumerism along with small daily choices, such as using reusable cups or bags instead of their disposable counterparts, could play a huge role in climate change. At policy level, no concrete measures to curb the superfluous consumption of paper cups, as well as of other single-use plastic items that are becoming increasingly ubiquitous, have materialised. Furthermore, it appears that decision- and policy-makers tend to step in to curtail wasteful and polluting practices only when environmental problems have started to generate widespread concern, instead of undertaking preventative policy measures.