

Recycling of Coffee Cups



Summary

The recyclability of paper cups continues to cause concern to the public, environmentalists and to politicians. A report published in 2018 by the UK parliament's Environmental Audit Committee estimated that of 2.5 billion cups used annually in the UK, amounting to 30,000 tonnes of potentially recyclable material, less than one in four hundred (0.25%) were recovered for reprocessing.¹

Since then, the supply chain has been energised, and a range of collaborative industry activities centred around the Paper Cup Recovery and Recycling Group (PCRRG) and the Paper Cup Alliance, have worked closely with reprocessors such as DS Smith, James Cropper and the ACE recycling facility near Halifax, to identify sufficient recycling capacity to reprocess all of the paper cups used in the UK. Moreover, the PCRRG annual report for 2020 states that over 4,800 paper cup recycling points have been created in the UK, with over 100 local authorities collecting cups alongside beverage cartons. In all, this has resulted in a sixteen-fold increase in paper cup recycling since 2018, with over 100 million cups now recycled, 4% of the total used.²

Paper Industry experience

Paper cups are a potential source of high-quality fibre and can be recycled. However, in order to capture the fibre efficiently they need to be collected and presented separately from other fibre-based recycle. Most conventional packaging and newsprint paper mills have a problem with cups because of the way they are constructed; a fibre-based substrate with a laminated or coated liner.

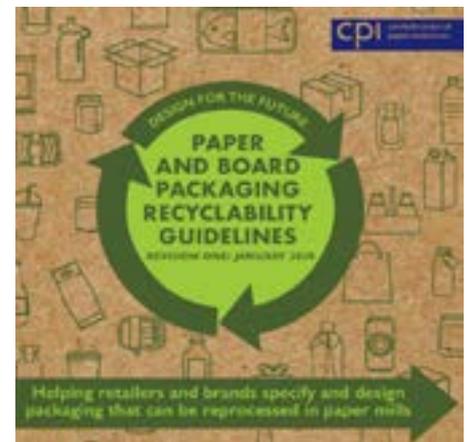
The recycling process involves immersing the paper cups in water in a pulper for a defined period, but the pulper dwell time required to separate liners and coatings from the fibre in cups is typically greater than normally required for other paper and board products. This results in a high percentage of the available fibre remaining unrecovered and the fibre and its plastic lining passing through the system and into the waste stream. For this reason, the majority of mills using paper collected from the public do not wish to receive cups because the plastic lining and associated fibre is not recovered and is filtered out by their cleansing systems, resulting in additional cost because it is then sent to incineration or landfill.

Paper mills are also aware that cups can be contaminated by food and/or drink. The presence of

excessive residue or other foodstuffs discarded in the paper cup is prohibited by BS EN643, the European list of standard grades of paper and board for recycling. In practice, mills may deal with this material but it is only done at a cost and with the associated risks of contamination by food waste.

CPI's *Paper and Board Packaging Recyclability Guidelines* offer advice on recyclability to designers and specifiers and can be found here:

https://thecpi.org.uk/library/PDF/Public/Publications/Guidance%20Documents/CPI%20Recyclability%20Guidelines%20Revision%201_Jan2020.pdf



Logistics of collection

A fundamental challenge to the recycling of cups is that they are often disposed of 'away from home'. For recycling to be viable, good volumes of clean material need to be collected, and for simplicity in transport

and handling, need to be baled before being delivered to a paper mill. In practice, paper cups are often either recovered from instore collections, or sorted from other collection points or refuse bins in public places. This creates the potential for cross contamination, so care needs to be taken in devising recovery systems to minimize this risk. Innovative closed loop systems are currently being developed and introduced in public places on an increasing scale, and they provide the facility for cleaner easier and more efficient collection.

The future

Paper cups and other laminated food packaging remains problematic for most high-volume paper mills with “standard” pulping technology. It is therefore important that they are collected separately and presented to paper mills with the technology to deal with them. The industry is supportive of the burgeoning number of paper cup recycling points around the UK. It is keen to work with all parties in the supply chain to help develop practical and technological solutions that can satisfy the requirements of all stakeholders and ensure that this valuable fibre is recovered in the future.

Paper Industry position

- Paper cups can be recycled if collected separately and presented to paper mills with the necessary reprocessing capability
- Paper has the highest recycling rate of any packaging material and we are proud of our superb environmental credentials.
- There is sufficient capacity to recycle all the paper coffee cups used in the UK
- Conventional paper mills have a problem with lined cups – they can remove some of the fibre but much remains attached to the liner and exits the system as waste, requiring disposal.

- Food and other contamination remains a risk for reprocessors.
- The Paper Industry acknowledges the work going on to improve the collection of paper cups and remains open and willing to work with all parties in the supply chain to increase the number of cups being recycled.

Further Information

Further information is available from Simon Weston, Director of Raw Materials on 01793 889605 or email sweston@paper.org.uk.

Confederation of Paper Industries

- The Confederation of Paper Industries (CPI) is the leading trade association representing the UK’s Paper-based Industries, comprising paper and board manufacturers and converters, corrugated packaging producers, makers of soft tissue papers and collectors of paper for recycling.
- CPI represents an industry with an aggregate annual turnover of £12 billion, 62,000 employees, which supports a further 100,000 jobs in the wider economy.
- For facts on the UK’s Paper-based Industries please visit: www.paper.org.uk.

¹House of Commons Environmental Audit Committee Report C657 published 5th January 2018

²PCRRG Annual Report: calculated from estimates of current 1:25 collection rate. See P19