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RECYCLING OF BEVERAGE CARTONS IN THE NETHERLANDS

THE CONTEXT

Worldwide, beverage cartons are recycled in over 100 paper mills. In the EU, around 40% of all beverage cartons put on the market are recycled and used as secondary materials in a number of different applications. These range from new consumer products to industrial raw materials, the latter including recycled paper board with high value applications such as new paper products and new packaging for food and consumer goods.

While there is still ground to be made up in the more recent EU members from Eastern Europe, recycling rates in the EU's earlier 15-country membership are between 40% and 80%. One exception is The Netherlands where, unlike the case in most European markets, beverage cartons are being recovered for energy.

Growing public pressure to increase beverage carton recycling has led to a pilot project, carried out over a 6-month period in 2013 and covering about 10% of the Dutch population, to assess the feasibility of beverage carton recycling.

This beverage carton recycling project was launched as part of the 10-year Packaging Framework Agreement between the Dutch Ministry of the Environment, municipalities and consumer goods industry signed in 2012. It was carried out by the Knowledge Institute for Sustainable Packaging KIDV (Kennisinstituut Duurzaam Verpakken) and sponsored by the Dutch Waste Fund (Afvalfonds Verpakkingen). For all packaging placed on the market, the Fund collects fees from consumer goods companies and finances the implementation of the Packaging Framework Agreement's objectives (achievement of recycling targets, prevention of litter and the sustainability agenda).

The findings of the KIDV project are to be used to inform government policies and regulation on beverage carton recycling in the Netherlands.

THE DUTCH PILOT PROJECT

The pilot project assessed in particular: consumer acceptance; quantities and quality of the collected materials using different collection methods - separation at source by consumers (curbside collection and 'bring banks'), and automatic sorting from household waste at energy recovery incinerators; costs and the environmental benefits of the tested collection and treatment routes compared to energy recovery.



The pilot was accompanied with four studies which resulted in following major findings:

1. **Environmental benefits** of beverage carton recycling over energy recovery were clearly demonstrated for all scenarios in a peer-reviewed LCA study by TNO (Toegepast Natuurwetenschappelijk Onderzoek)
2. **Consumer acceptance:** Consumers show high willingness to sort beverage cartons for recycling, preferably together with plastic packaging (study by Motivaction)
3. **Cost** comparisons between recycling and energy recovery for the different collection and sorting scenarios carried out by PricewaterhouseCoopers (PWC) show that the cost for the different collection scenarios tested vary greatly.
4. **Material quality** of the collected beverage cartons was jointly assessed by the University of Wageningen (WUR) and RWTH Aachen University. Their technical report suggests further study of the potential for food residues in used cartons to lead to microbiological contamination of the recycled fibers and 'cross-contamination' of the paper or plastic packaging with which beverage cartons would be collected.

In its summary report to the Dutch State Secretary of the Environment (December 2013), KIDV recommends further studies before mandating beverage carton recycling.

ACE Comments

ACE welcomes the fact that stakeholders in The Netherlands are considering beverage carton recycling. The environmental benefits of carton recycling and its contribution to resource efficiency in Europe are unchallenged and manifest. Over the years, as collection and sorting infrastructures have improved along with popular awareness of recycling's contribution to resource efficiency, costs have become proportionate to the benefit achieved and thus sustainable, particularly in western EU member states.

Cost: The absolute costs identified in the Dutch study relate to sub-optimal collection and sorting situations; no simulations were conducted using more optimized schemes.

Experience in other countries suggests that a time frame of 6 months is too short to draw meaningful conclusions on costs. A pilot would need 12-24 months duration and to factor in effective consumer communications. We therefore welcome the KIDV intentions in its further study to look at the vast range of experience and evidence from packaging recovery organizations in neighboring countries, e.g. Belgium and Germany, where similar conditions prevail.

Food and beverage companies pay about €7 million in annual waste management fees for beverage cartons to the Dutch Waste Fund (Afvalfonds Verpakkingen). If this money would actually be used for beverage carton recycling, significant recycling rates could be achieved.

Material quality: The suggestion of a 'potential cross-contamination of other materials leading to a loss of value of secondary plastics and paper' is made in the study. This suggestion not only contradicts existing feedback we have received from operators involved in the pilot project, but it also contradicts practical experience in other European countries. Cartons and plastics packaging have been collected in large



quantities in the same containers for over 20 years, with both materials thereafter being used in high quality/food-grade paper and plastics applications.

Also, paper products made of recovered beverage cartons are authorized for food contact applications.

In our view, there is no indication that nationwide collection of beverage cartons with plastic packaging in the Netherlands would lead to significantly different results to those in neighboring countries such as Belgium (80% carton recycling rate in 2012) or Germany (70% recycling rate in 2012).

In the EU, 40% of beverage cartons are collected, predominantly together with plastic packaging, and recycled into high quality products. We are confident that The Netherlands can contribute to an increase in this rate in the near term, particularly if there is a commitment to broaden Dutch recycling schemes to include more types of consumer packaging, including beverage cartons. We are confident that the further studies will confirm this, in line with the already available relevant information and experience from stakeholders who have been involved in the recycling of beverage cartons over the last 20 years.