

## Study Gives Reusable Cups Thumbs Up

Studies in Denmark show that using reusable plastic cups at major events such as football matches is more environment-friendly than using disposable cups. Trials conducted at Lyngby Stadium, Tivoli and the Roskilde Festival showed that although financially the two cups were even, recyclable cups only need to be reused five times to outscore disposables.



A substantial number of disposable cups are used to serve beverages at football matches and other events. Using reusable cups that circulate a mere five times can save a total of approximately 100-tons of plastics a year at major outdoor events and reduce the need to transport and incinerate large volumes of garbage.

In Germany, the use of recyclable cup has already become an accepted practice among stadium administrations, concessionaires and spectators at many stadiums. Financially, the scheme also looks to be sound, especially if a sponsor is willing to contribute by paying to put its logo and slogan on the cups.

Funded by the Danish EPA, the environmental assessment was carried out by Dansk Flaskegenbrug A/S over three matches at Lyngby Stadium and was supervised by representatives of organizations including the Danish Brewers Association, the Danish Plastics Federation, and the Danish Sports Confederation.

Two disposable 40-cl cups (a polystyrene beer cup and a transparent plastic cup) and two reusable 40-cl cups (one made of polypropylene (PP) and one of polycarbonate (PC)) were used in the study. The reusable cups featured the club and sponsors' logos, and were used in the same manner as the disposable cups at the beer and soft-drink stalls. A further four stalls were set up where the spectators could return their empty cups and collect their deposits of DKK 5 (less than 1 US Dollar).

The initial game showed a 75-percent return rate (some spectators wanted to keep the cups as souvenirs) but this trend diminished in subsequent games. The "trippage" rate (the number of times a given cup circulates in the recycling system- this figure depending on both how many cups the consumer returns and how many cups the distributor discards due to wear) showed an average of 5.5 returns per cup, although based on earlier studies at other venues, including Germany, both these figures could be expected to rise with continued use to as much as 89-percent, with a trippage rate of 9.

The total environmental assessment (covering the environmental impact of the cup over its lifecycle) showed that within two trips the PP recyclable cup was already more environment-friendly than the disposable beer cup, even when the distance to

the cleaning plant is relatively far. At the fifth trip the PP recyclable cup outdoes both of the two disposable cups used in the test. The transparent PC recyclable cup has to make five trips before becoming more environment-friendly than the beer cup and must make five to ten trips to beat the transparent disposable cup.

For the concessionaires serving beverages at the stadiums, there seems to be little difference between using disposable or recyclable cups. Recyclable cups are more expensive to purchase, but can be used several times. Collecting and cleaning recyclable cups costs more, but these expenditures are offset by the lower costs of purchasing and printing a club name, etc., on the cups as well as fewer expenses for cleaning and disposal of waste. A high souvenir effect naturally depletes the stock of cups, but then concessionaires get to keep the uncollected deposit, so they still break even.

For more information on studies by the Danish Environmental Protection Agency see <http://www.mst.dk/homepage/>

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