

PLASTIC RECYCLING IN BERKSHIRE

The Forum for the Future committee members wrote to the Unitary councils in Berkshire under the Freedom of Information Act asking how they dealt with their plastic recycling. The replies were interesting.

WEST BERKSHIRE: Cleantech UK Ltd (Plastipak.eu)

A brief summary of the reprocessing process is as follows:

- Once bottles are collected from the kerbside, they are taken to a materials recovery facility (MRF) where all of the different materials are sorted into streams. Plastics are sorted into their different types: HDPE is the plastic used for milk bottles and some home / personal care products, PET is the clear plastic commonly used for beverages and also some home and personal care as well as food / meat trays and punnets, polypropylene is used for home and personal care, polystyrene often for yogurt, margarine and ice-cream containers.
- The PET bottles and trays are compressed into large bales and sent to a PET reprocessing plant.
- The bales are resorted, and any non-PET materials are taken out and sent on to the relevant recycling plants.
- The PET bottles are sorted in to clear / light blue stream, and coloured stream. The 2 streams are treated separately but follow a recycling similar process until pellet stage.
- The bottles are then shredded in to flakes and hot-washed.
- The flakes then enter the separation tank. Plastics have different molecular densities. PET flakes are heavier, and so sink to the bottom of the chamber. Caps and labels (usually HDPE or PP) have a lighter density and so float to the top. Thus, the bottles and caps are very easily separated. The caps and labels are sent on to other recyclers and are commonly made into garden furniture and construction materials such as pipes.
- The PET flakes are then washed again and sorted, and any coloured flakes (not clear or light blue) are removed and go into the coloured stream.
- The flakes are then melted, extruded in to long 'spaghetti' style strands, which are then cut into pellets.
- The pellets are then put through a solid stating process (SSP). The pellets are held in a vacuum at a high temperature for around 8 hours. During this process, remaining impurities are removed, and the chemical chains in the PET are rebuilt so they are strong enough to be used in bottle making again. Only pellets that have been through this SSP process can be used for new food-contact packaging (we include beverages in food)
- With regards to the coloured flakes, then are extruded in to pellets and are used in the production of items such as pallet strapping, textiles and fibres.
- The process is high speed and highly automated - there is no manual sorting of bottles. Around 20 tonnes of post-consumer material is reprocessed each hour at our plant

Pellets converted in to Bottles

- The food-grade pellets that have been through the SPP process are then sent to our preform manufacturing site. At the preform manufacturing plant, the recycled pellets are blended with virgin (non-recycled) pellets in the proportion specified by the brand owner (so in your example of tonic water, 50% of the pellets would be recycled, 50% would be virgin). Bottles made out of 100% recycled material are possible and are used by some brands.
- The blended pellets are then melted, and injection moulded into preforms.

- Preforms are the first stage of bottle manufacture and look like a test tube with a screw neck. The preforms are then sent to the customer's filling plants and then blown into the final bottle shape there at the beginning of the beverage filling line. Shipping preforms instead of bottles saves significantly on space, and therefore the amount of trucks needed.

Recycling

- Once the beverage has been consumed, the consumer (hopefully) puts the bottle back in to the kerbside collection and the whole cycle starts again.

With recycling plants in UK, France and Luxembourg, Plastipak (owner of Clean Tech) is the largest producer and user of food-grade recycled PET in Europe and has been recycling for over 30 years. It is frustrating that the media and others continue to spread disinformation about PET bottles and that consumer are sadly left misinformed.

Under the Freedom of Information Act, I also contacted the other Unitary Councils in Berkshire. Their answers to this question were:

Slough: "Plastic recyclers in the UK"

Windsor, Maidenhead and Ascot: "Plastics are reprocessed in Bedfordshire or Turkey where it is sorted, washed, melted down and reformed into plastic pellets and used in a variety of new plastics, such as packaging and piping."

Bracknell, Wokingham and Reading: "We are fortunate that our plastic is currently recycled in the UK, near Leicester."