



## **THE STORY OF PLASTICS - PART 3: RECYCLED PLASTIC PRODUCTS**

*Brought to you by the Education Committee*

As we have learned, recycling plastic is challenging. Collecting and shipping a lightweight commodity with relatively low market value is often not cost effective. However, new methods of densifying plastic to make heavier bales continue to develop, and markets for recycled plastic are growing.

Products that use recycled plastic include: Apparel; automotive parts; bags; bins & containers; building & construction supplies; carpet; fabric & fiber; farming & agriculture products; film & sheet plastic; furniture – indoor and out; house wares; shipping containers; janitorial supplies; landscape & design applications; marine products; office supplies; packaging; promotional items; recreational products; road & parking products; and signage.

Most recycled PET (56% as of 2002) is used in fiber for carpets and clothing, with Mohawk Carpets as one of the largest users in the country. PET is also used for strapping (16%) and new containers (24%). The amount of recycled plastic used in food containers has increased, due to the amount of reclaimed PET used by Coke and Pepsi in their bottles. Despite increasing markets, the PET container recycling rate has decreased to 19.8%.

The recycling rate for HDPE (milk and juice jugs, etc.) is on the rise, with 24% of HDPE bottles being recycled. A much higher percentage of recycled HDPE (45%) is used for making new containers — primarily soap and detergent bottles, which do not have to meet the same cleanliness requirements as food containers. Recycled HDPE is also used to make pipes (14%), lawn and garden products (10%), film and sheet plastic (11%), and plastic lumber (8%). LDPE is also commonly recycled – mostly from commercial sources like businesses that generate shrink-wrap, as well as many agricultural activities. Plastic shopping bags, which are made from LDPE, are frequently collected by grocery and drug stores for recycling.

However, one estimate claims that only 1% of plastic bags are actually being collected for recycling. LDPE is commonly recycled into more film and bags, as well as plastic lumber products, such as the popular Trex decking. The demand for LDPE is growing as the plastic lumber markets grows.

Most other recycled plastics are not used domestically, but are sent overseas and made into a wide variety of plastic products, with most being consumed in China.

The collection of Polypropylene (#5 PP) in the form of dairy tubs, is growing, particularly in western Washington. PP can be made into include auto parts, bird feeders, pails and recycling containers!

There is some effort to reuse some # 6 PS (polystyrene) products such as packing peanuts. Polystyrene can be recycled into more packaging, as well as insulation board and videotape cassettes. Until EPS is densified, transportation poses challenges that may impede collection and reclamation.

Some plastic bottles are being recycled into similar types of new plastic bottles, as are some plastic bags. Although the technology exists for this “closed loop recycling”, the economics are still shaky.

Reclaimed plastic is more frequently used for other kinds of products – such as fiber or plastic lumber. Plastic lumber has a longer life span and theoretically, the plastic lumber can be recycled back into plastic lumber. There are many remaining challenges to the recyclability of plastics and reducing the use of virgin resin.

Another area for a significant increase in plastic recovery is with plastic film. It is the biggest portion by material type of plastic produced in this country and has a lot of potential. You can read more about efforts to recover and use plastic film in Washington in the WSRA’s education committee’s fourth article on “The Story of Recycling: Plastics”. It will focus on Washington State, what communities are collecting and recycling plastics and what local markets exist.

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