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A collaboration between C&EN and
Andy Brunning, author of the popular
graphics blog **Compound Interest**

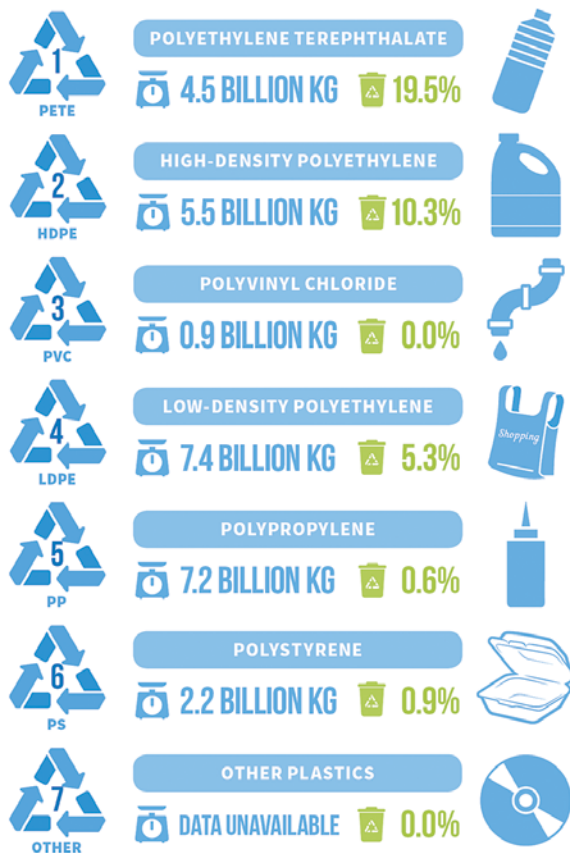
HOW IS PLASTIC RECYCLED?

This year's Earth Day is focused on mobilizing the world to end plastic pollution. Here, we examine plastics recycling, which plays a big part in these efforts, and the recycling process.

PLASTICS AND U.S. RECYCLING RATES

KEY: **MASS PRODUCED** **PERCENTAGE RECYCLED**

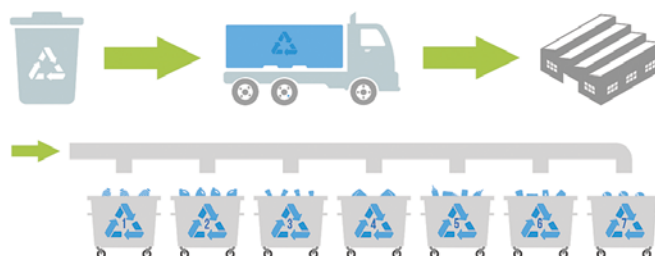
Figures for 2012; Source: U.S. EPA 2014



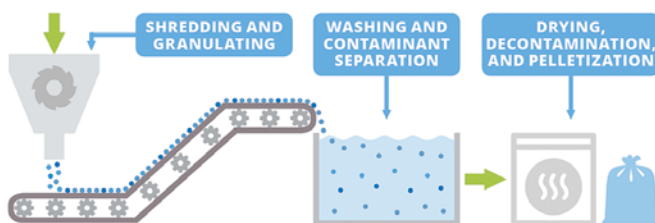
THE RECYCLING PROCESS

6,300 BILLION KG **567 BILLION KG**
PLASTIC WASTE GENERATED **PLASTIC WASTE RECYCLED**

Worldwide 1950–2015; Source: *Sci. Adv.* 2017, DOI: 10.1126/sciadv.1700782



Plastic must be sorted by type before it can be recycled. This is done by hand, by selectively dissolving mixtures, or with techniques such as near-infrared spectroscopy and electrostatic separation.



Washing removes dirt and labels, and density separation removes contaminants. During drying, recyclers separate plastics by color using fluorescent or UV light. The pellets produced at the end of the process can be redistributed to make new plastic products.