

The Scrap Recycling Industry: Plastics

The manufacture and distribution of plastics is everywhere. Between 1950 and 2012, the global production of plastics grew at an average rate of 8.7 percent annually and all indications point to continued growth. From 2004-2014, global plastics production increased from 225 million metric tons to 311 million metric tons. With the explosive growth in the manufacture of plastics comes the need to ensure that these materials are recycled in an environmentally-responsible manner once they reach the end of their useful lives.

From an environmental perspective, recycled plastic can provide enormous benefits over the use of its virgin counterparts. For example, plastic lumber made with scrap plastic bags, and other materials, conserves trees and eliminates the need to use hazardous chemicals to treat wood that will be used outdoors. According to the U.S. Environmental Protection Agency (EPA) plastic recycling results in significant energy savings (an estimated 50–75 MBtus/ton of material recycled) compared with production of new plastics using virgin materials.

While most people are familiar with the “blue bin” they place at their curbside, plastic recycling is far “Bigger than the Bin.” While it is important that consumers recycle the plastic containers that hold food, beverages, and household cleaners as well as other plastics that arise in the home, recycling of engineered and industrial plastics is where it is really at! Engineered and industrial plastics are typically high grade materials used as components in all types of equipment. They may be the sprocket wheel in an electric motor or the imitation wood that adorns your vehicle interior. Engineered and industrial plastics are used as internal and external component of everything from refrigerators to computers, automobiles to boats, and medical equipment to sheet materials used in construction.

Despite the ubiquity of plastics, plastic recycling is still a young industry because no one really thought about recycling when plastics were first put into use. The technology to cost effectively sort and recycle plastics has been developed only over the past 25 years. While one can picture so much opportunity for growth in plastics recycling, there are many challenges that confront this nascent segment of the recycling industry, ranging from the false perception by many that recycled materials are somehow inferior to virgin materials to archaic laws and regulations that never contemplated the possibility of recycling plastics.

It is incumbent upon all of us to educate manufacturers about the merits of using plastics made from scrap and for those same manufacturers to Design for Recycling®, giving due consideration during the design stage to their products end-of-life. In addition to these operational challenges, a patchwork of state laws and a lack of direction from industry stakeholders make the collection and recycling of scrap plastic difficult. These challenges are not insurmountable and plastic recyclers are providing leadership to overcome them



**In the U.S.
alone, more
than 3.5 million
tons of post-
industrial and
post-consumer
plastics were
recycled in
2013.**



Institute of
Scrap Recycling
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Voice of the Recycling Industry™

THE PLASTICS INDUSTRY

In 2012, more than 1 billion lbs. of post-consumer non-bottle rigid plastics were recovered - more than double the amount recycled in 2009.

Fifty-seven percent of the non-bottle rigid plastic was used to manufacture products in North America. The remainder was exported to manufacturing facilities across the globe.

In 2012, an estimated 1 billion lbs. of post-consumer plastic film were collected for recycling, a 55 percent increase since 2005.

In 2013, the U.S. processed enough scrap plastic to power 10 thousand homes for a year.

In 2015, the U.S. exported more than 2 million tons in plastic scrap.

In 2012, 4.6 billion lbs. of post-consumer plastic including bottles, bags, film, and non-bottled rigid plastics were recycled in the U.S.

There is up to 87 percent reduction in energy consumption when producing recycled plastic compared to producing plastic from virgin materials.

