

# SUSTAINABLE FILMS AND SUBSTRATES: DEGRADABLE OR RECYCLABLE?



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**S**ustainability and bioplastics, once considered a fad by many in the packaging industry, has quickly emerged as a main driver for research and development (R&D) investment and innovation.

According to recent studies by Ceresana Research and The Freedonia Group, the global bioplastics market will expand 17.8 percent annually and reach nearly \$2.9 billion million by 2015.

## Bioplastics' Outlook

Bioplastics can be defined as a plastic that is either biodegradable, composed of biological materials or both. The most common bioplastics today are starch-based followed by polylactic acid (PLA). Several companies already produce PLA films that are synthesized from processed corn. These films come from renewable resources and may biodegrade under certain conditions. Furthermore, making PLA requires 30 percent to 50 percent less fossil fuel than polymers synthesized from hydrocarbons, thus reducing carbon

dioxide emissions. Other bio-based plastics (PHA/PHB, cellulose, PBS) as well as fossil-based biodegradable plastics accounted for just less than 17 percent of global demand.

Bioplastics are supposed to contribute to protecting the environment, reduce waste issues, minimize the dependence on non-renewable raw materials, and improve the image of plastic products. Freedonia's study notes that price considerations will be the primary determinant of bioplastic market success, and that rising petroleum costs will allow certain bioplastics to achieve price parity with conventional plastics by 2020. As a result, the demand for bioplastics will increase to 1.1 million tons by 2015.

Biodegradable plastics are currently dominating the market with roughly a 92 percent share. Despite the strong advances for biodegradables, non-biodegradable bio-based resins will be the primary driver of bioplastics demand through 2015 and beyond, Freedonia's report notes.

One such bioplastic, produced by India's Uflex Ltd, is GreenPET. The

polyethylene terephthalate (PET) is made from oxidized paraxylene PTA and a 30 percent ethanol based MEG resin. The film maintains the same properties as conventional PET.

In addition, last August, Cortec Corporation launched its new EcoOcean bioplastic. The film, which according to Cortec, is anaerobic and marine biodegradable, is one of several new advances in the sphere of sustainable plastics.

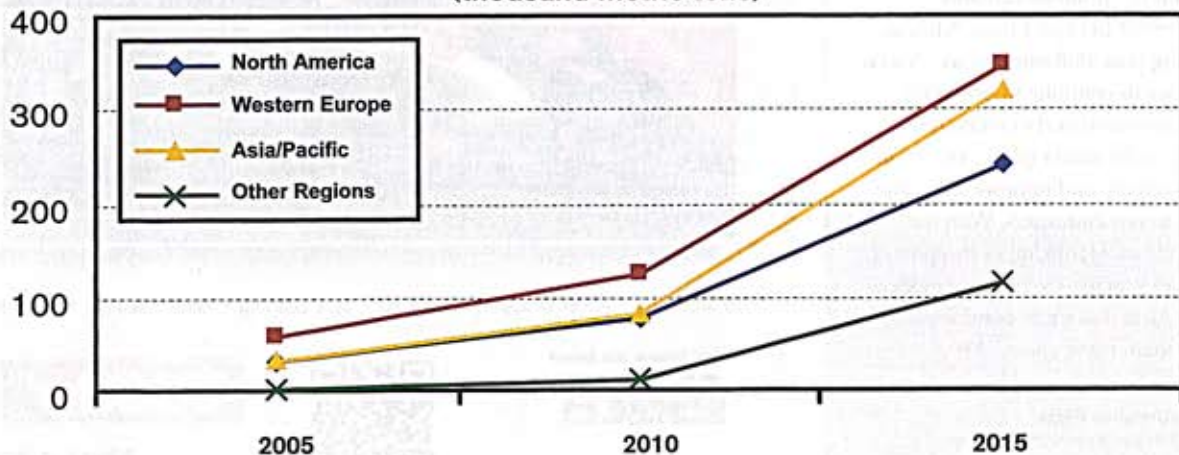
Another resin additive that can help reduce carbon footprints, Oshenite, produced by U.S. Aragonite, is a naturally occurring form of purified calcium carbonate that can be used for film and sheet extruding and thermoforming.

## Recyclable Plastics

According to Freedonia's study recycled packaging makes up almost 90 percent of sustainable green packaging in the United States. In fact, by 2014, the market will climb to \$37.25 billion.

Many companies, including Uflex,

**WORLD BIOPLASTICS DEMAND**  
(thousand metric tons)



Source: The Freedonia Group, Inc.