

**2006 Intel Environment Award****MBA Polymers, Inc.****Laureate Country:** United States**Project Country:** United States**Website:** [www.mbapolymers.com](http://www.mbapolymers.com)**Video:** [2006Videos/mba\\_polymers.mov](#)

## Project Overview:

MBA Polymers, Inc. started as a consulting and Research and Development company, literally in the garage of Michael Biddle in 1993. Before long, MBA became the leading technology authority on the recycling of plastics from end-of-life durable goods such as computers, electronics, appliances and automobiles. In 1998, MBA decided that it should consider commercializing its unique technology and raised its first outside investment. Since then, MBA has become the world's recognized leader in this new developing industry. From 2004 to 2006, MBA designed, built, started-up and is now operating the world's two most advanced large-scale commercial plastics recycling plants: one in China and one in Europe. MBA is now looking to expand into additional regions.

## Problem Addressed:

Hundreds of billions of kilograms of plastics are "wasted" each year around the world. Plastics are the last major material to be recovered because they

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are so complicated and so similar to one another (making separation a significant challenge). That is now changing, and rapidly, thanks in a large part to MBA Polymers.

These billions of kilograms of plastics, which are mostly land filled or incinerated, represent much more than the associated waste management and air and water pollution problems. This is the waste of a valuable natural resource that is growing in use more rapidly than any other major material category. Making new plastics to supply the world's growing appetite consumes significant amounts of natural resources (particularly water and various forms of energy) and generates significant pollution and greenhouse gases (especially CO<sub>2</sub>).

#### Technology Solution:

MBA developed a completely automated high-tech process using over 30 individual unit operations. This process starts with completely mixed waste streams ranging in size from whole computer or car parts, etc. to shredded bits of mixed plastics 10 mm in size (depending on how the initial recycler did their business) and separates this mixture into ferrous metal, nonferrous metal and different types of plastics (depending on the number of separation modules employed and the types of plastics and other materials in the incoming waste stream). MBA's technology employs a "mining" approach to first separate from this residue the plastics from the non-plastics, then the plastics from each other by type and even by grade. It then upgrades the plastics in a filtration and compounding step to a point where they can be reused for similar demanding applications from which they came.