



How Can We Recover More Plastics?

Part of the path runs through Boise, Idaho

By American Chemistry Council

For years, many U.S. communities collected plastics and sent substantial amounts to China for recycling. In turn, China remade those plastics into new products and sold them at home and throughout the world.

U.S. communities kept valuable materials out of landfills, and this helped plastics recycling in the U.S. grow year over year. All good.

New Roadblock to Growing Recycling Rates

China recently shifted gears and stopped accepting much of the plastics from the U.S. This has led those U.S. communities that relied on the Chinese market, particularly those in the western part of the country, to scramble for new markets for some of the plastics collected in their recycling programs.

Communities like Boise, Idaho.

Similar to other communities in the area, in response to China's actions Boise announced at the beginning of 2018 that residents no longer could recycle certain plastics for which the city had no immediate market. Instead, these formerly recyclable plastics needed to go in the trash.

But due to behind-the-scenes efforts that had been under way since mid-2017, Boise was soon able to reverse that announcement—and demonstrate a way to keep many of those materials out of landfills as part of the path toward advancing a circular economy for plastics.

*Note: This article continues the series of updates in **Plastics Engineering** from **Plastics Make it Possible®**, an initiative sponsored by **America's Plastics Makers®** through the **American Chemistry Council**.*

Boise's Alternative Recovery Program

In early January 2018, Boise was awarded a \$50,000 grant from Dow Packaging and Specialty Plastics and Keep America Beautiful to establish a new program called the Hefty® EnergyBag® program which offered an alternative to disposing of their hard-to-recycle plastics in landfills.



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This spring, residents received 26 Hefty EnergyBag orange bags—enough for a year—along with instructions and a list of acceptable materials to put in the bags. The instructions noted that residents should continue recycling their PET soda bottles and HDPE detergent bottles by simply tossing them in the recycling cart as usual. But certain other plastics—including potato chip bags, stand-up pouches, straws, stir sticks, foam containers, and juice pouches—could now be placed in the EnergyBag orange bags and added to the recycling cart.

Through this program, Boise was able to recover most of the plastics the city previously recycled—and some that they couldn't recycle before, including multi-material laminate plastic packages. Boise Mayor Dave Bieter described the program as "... an innovative solution that allows us to turn a bad situation into something quite positive."

Dow's Hefty® EnergyBag® program began as a pilot in California in 2014 and launched its first full-scale program in Omaha in late 2016. The program has collected approximately 329,000 orange bags and diverted about 214 tons of hard-to-recycle plastics from the landfill as of October 2018—the equivalent of approximately 171 million snack-sized chip bags or 1,018 barrels of diesel fuels. Dow helps with planning, implementing, and measuring phases of the program, but communities are ultimately responsible for the program.

Recovery: the Road to Circularity

Boise's orange bags are shipped to a facility in Salt Lake City operated by Renewlogy where they and their contents are transformed into a liquid fuel such as diesel, using advanced non-combustion conversion technology.

The Renewlogy facility is part of a growing number of enterprises that recover the value of plastics by converting them to fuels, industrial products, and even their original feedstocks. These enterprises complement existing recycling capabilities and can recover many plastics that today are not typically part of the recycling stream. They allow communities such as Boise to recover more plastics, keep these valuable materials out of landfills, and help meet sustainability goals.

These enterprises also represent part of the journey that has begun toward greater circularity in how plastics are made, used, and reused. In May 2018, North America's plastics makers announced goals to capture all packaging, preventing it from becoming waste, and committed to a circular economy for plastics. The goal: 100 percent of plastic packaging will be reused, recycled, or recovered by 2040.



Courtesy of Getty Images

Plastics makers believe that reducing the amount of plastic packaging going to landfills is achievable through increased traditional mechanical recycling, as well as new recovery programs such as the Hefty EnergyBag program that deploy innovative new recovery technologies to convert hard-to-recycle plastics into useful products such as energy or ultimately new plastics.

As news spreads of the success of Boise's program, local officials and recyclers there anticipate that additional nearby communities will join the program in the future. A new Hefty EnergyBag program starts up in Cobb County, Georgia, in November. And plastics makers and processors are encouraging other communities to participate in this and similar collection programs—to recover more plastics from landfills and advance a circular economy.



Courtesy of Hefty