

Cumberland County Recognized for Innovative “Friendly Glass” Recycling System

Glass bottles pose unique materials management challenges due to their weight and volume. Markets for recycled glass are often located too far from rural counties for the revenue to offset transportation costs, yet disposal of glass bottles is also expensive, and wasteful of natural resources, energy, and landfill space.

Last year, the Cumberland County Solid Waste Department made a significant investment in a new state-of-the-art technology designed to address this dilemma. The Andela Pulverizer is a machine that crushes all types of glass to three-eighths of an inch or less. The crushed material can be screened to both a fine, sand-like consistency, as well as a larger, “gravel” size, with any trash (e.g., paper labels) and residue removed. The pulverized glass is angular in shape and has no sharp edges, which allows the glass “sand” and the glass “gravel” to be used safely for many different applications, including landscaping, road maintenance, and as a raw material for making new products.

Since the Andela system was purchased and became operational in December 2011, the rate of glass recycling in Cumberland County has more than doubled. Initially the rate of glass being collected and recycled county-wide was about ten tons per week; currently it is over twenty tons per week, and the amount continues to increase each week. Tom Breeden, Cumberland County Solid Waste Director, stated that the acquisition of the Andela machine is unequivocally the main reason for this dramatic increase in the county’s glass collection and recycling rate. The Solid Waste Department has promoted the Andela system and glass recycling with local newspaper and radio ads, and has added additional glass recycling collection containers at the county’s fourteen convenience centers, as well as at their main recycling center on Maryetta Street in Crossville. All of the collected glass is now processed in the Andela machine.



Glass bottles being loaded into the hopper of the Andela Pulverizer at the Cumberland County Recycling Center in Crossville. Mike Harvel, Cumberland County Assistant Solid Waste Director, in the foreground.

For every ton of glass recycled, Cumberland County saves its taxpayers \$30.67 in landfill disposal (tipping) fees. At their current glass collection and recycling rate this is an annual savings to the county of almost \$32,000 per year. Furthermore, the crushed glass material produced by the Andela machine is a marketable product that generates additional revenue for the county. The Solid Waste Department just recently contracted with a Knoxville-based company, Virtuous Products, Inc., who will pay the county between \$120-\$150 per ton for the material to make recycled-glass countertops and tables using a proprietary process. The savings in landfill disposal costs, along with the revenue generated by the sale of the product, is projected to completely pay back the \$100,000 it cost to purchase the machine in about eighteen months.



Recycled glass bottles are turned into “gravel” (shown above) and “sand” after processing with the Andela Pulverizer.

Mike Harvel, Assistant Solid Waste Director and a member of the Cumberland County Commission, stated that the Andela system is one of the best investments the county has made in many years. He and Mr. Breeden both agreed that this system is one that many other local solid waste programs could benefit similarly from, and they have been actively sharing their success story with their counterparts across the state.

In recognition of the exemplary commitment, innovation, and leadership demonstrated in initiating the Andela “Friendly Glass” project, the Cumberland County Solid Waste Department was recently announced as the recipient of the 2012 Governor’s Environmental Stewardship Award for Excellence in Materials Management.



Tom Breeden, Cumberland County Solid Waste Director, demonstrates the Andela “Friendly Glass” Pulverizer machine, which he credits for more than doubling the rate of glass recycling in Cumberland County in less than one year.