

RFID Helps Reward Consumers for Recycling

Kraft Foods joins RecycleBank in its use of RFID to track and reward consumers for recycling.

By Claire Swedberg

Feb. 22, 2008—Kraft Foods has signed up with a recycling program that uses RFID technology to track and reward consumers for recycling empty containers. Kraft is the "official food sponsor" of RecycleBank, which has been expanding its offering across the United States with technology to weigh recycling bins as they are lifted into the recycling truck, while also recording whose recyclables are being weighed. The consumer can then use that record to download a variety of coupons and other rewards, based on the amount of recycling they did.

RecycleBank says it tries to partner with companies that are considered corporate leaders in environmental efforts, with the "official sponsorship" status granted to one industry leader per category. Kraft Foods, which markets dozens of products under its Kraft brand, as well as such well-known products as Maxwell House coffee and Planters nuts, has made a multipronged effort in recent years to reduce the company's environmental impact and support "green" causes. One focus of that effort has been on packaging.

"We are looking to reduce the overall use of packaging," says Elisabeth Wenner, Kraft Foods' director of sustainability. By encouraging recycling, she says, Kraft helps reduce the amount of its own and others' product packaging in landfills. "RecycleBank offers an innovative way to make it easy and rewarding for consumers to recycle."

RecycleBank launched its program in Philadelphia in 2006, and has since expanded up and down the Eastern Seaboard, says Ron Gonen, RecycleBank's cofounder and CEO, with 70,000 consumers currently participating and a contract for 250,000 more. The company provides the system to municipalities that use it to enhance their existing recycling programs. The municipalities pay for the service, then make their own decision about whether to bill residents for using it.

Each participant is provided with a plastic RecycleBank bin with an embedded active 134.2 kHz RFID tag in its side. The consumer fills the bin with newspapers, cans, glass bottles, plastic containers and other recyclable materials, then places it at the curb, where a recycling truck uses a mechanical arm to lift the bin and drop its contents into the vehicle. The RFID tag transmits a unique ID number associated with data about the participant in RecycleBank's back-end data system. Each truck's mechanical arm has a RecycleBank weighing scale provided by Avery Weigh-Tronix and McNeilus. The scale weighs the bin and its contents.

An RFID interrogator, built by Avery Weigh-Tronix, is also attached at the back of the vehicle, which captures the ID number at a proximity of 12 inches or less as the bin is emptied. The reader and scale are connected to an onboard computer system that stores data. When the truck returns to the recycling center, a RecycleBank laptop and transponder receives that data from the vehicle's computer and sends it wirelessly to the RecycleBank Web-based server.

The consumer can then log into his or her personal account on the RecycleBank Web site, and view a record of how much they recycled, as well as statistics such as the amount of oil and the number of trees saved by that effort. They can then log into their credit record to determine how many points they received, and also view financial rewards, or "RecycleBank dollars"—coupons offered by area businesses as well as by Kraft Foods, based on the amount recycled. Consumers can earn up to \$35 RecycleBank dollars per month.

The tags have been working well, Gonen says. Since RecycleBank began using RFID, the company has had to adjust the system to ensure the read range is fairly short. If it's too long, he says, the reader captures ID numbers from all recycling bins in the vicinity simultaneously. "Accuracy is very important to us, and we are spending a lot of time researching the best tags," Gonen states. For that reason, the company has not yet settled on a specific tag manufacturer. And as its orders get larger, he says, that large-scale status may also determine which vendor it uses. Avery Weigh-Tronix currently supplies the tags.

RELATED_ARTICLES According to Gonen, the tags have a life span of several years. "We've taken cities with almost no recycling and brought them to 40 percent [of their trash] being diverted from waste." That much less refuse is discarded in landfills as a result.

The RecycleBank program is currently in use by more than 35 municipalities throughout Pennsylvania, Delaware, Massachusetts, Vermont and New Jersey, with plans for nationwide expansion later this year. Thus far, Gonen says, RecycleBank households have diverted almost 36 million tons of recyclables from landfills.

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