

Supermarket Chain Transforms Old Onion Rings (And Other Expired Goodies) Into Electricity

By [Patrick Skahill](#) • Mar 28, 2017



Stop and Shop's anaerobic digester reduces the cost of energy for their distribution center in Freetown, Massachusetts that runs 24/7.

Stop and Shop

Each year billions of pounds of food go to waste. That means billions of dollars, too. The Environmental Protection Agency says more food reaches landfills and incinerators than any other one material in our trash. And for supermarkets, that leftover food equates to lost dollars.

One New England supermarket chain is now trying to get some of those dollars back by sending old food once consigned to trash compactors to a giant energy plant in Massachusetts. It's called an "anaerobic digester," and it's basically a big metal stomach, which gobbles up old food -- and turns that waste into power.

On the floor of Stop & Shop's distribution warehouse in Freetown, Massachusetts, there's a long line of garage doors. Each day, trucks unload old and expired food from over 200 New England stores and, eventually, that organic waste turns into electricity.

Roger Beliveau, manager of distribution services for Stop & Shop, said a lot of that old food comes from produce departments.

"But within this facility, we can take it from any department. We can take packaged goods," Beliveau said. "What you're looking at here is already-packaged onion rings, which are in a plastic container, which will go into the plant."

The story of how those onion rings get converted to electricity begins with an array of machines, which cranked away as we talked. I watched as plastic packaging was separated from old food like wilted greens, expired dairy, and even flowers. Then, all the organics got mixed down with water.



Credit Stop & Shop

"It's turned into a slurry, basically a big slushie," said Kevin Stetson with Divert, the company Stop & Shop uses to run the food-to-energy plant. Stetson said the "slushie" is slurped up by machines and fed at a steady rate into the core of the waste-to-energy plant -- its anaerobic digester.

"The anaerobic digestion likes a steady state, just like humans. We don't want to eat a big meal and then not eat for two days," Stetson said. "We want to eat at a regular rate."

That balance is important, Stetson said, because inside the anaerobic digester are bacteria, which gobble up that yummy milkshake and, eventually, release methane. The process is contained -- so it doesn't smell -- and that methane "biogas" is used to power a generator that currently spits out about one megawatt of power.

That's not a lot, but at full bore, the unit outputs enough electricity to fulfill about 40 percent of the power needs for the more-than one million square-foot distribution center.



Credit Stop & Shop

Divert said that about 70 to 80 tons of food waste come in each day. In the summer, that number is even higher. It's a lot of food. Looked at it another way, it's a lot of lost money.

"When you waste less food as a company, you save money," said Dana Gunders, a senior scientist with the Natural Resources Defense Council, and author of a 2012 paper examining wasted food in the U.S.

Nationwide, she said grocers are taking a much closer look at the food they throw away.

"But generally speaking, if there's an empty shelf out there, that's viewed as a missed sale," Gunders said. "They want to make sure there's enough product on the shelf that when a consumer gets there -- and wants that product, they can have it."

Gunders said the calculus of acceptable losses has changed in recent years. And while it's still hard to find a misshapen carrot or bruised apple on a store shelf, grocers are taking a harder look at reducing waste -- and costs -- up and down their supply chains.

Back at the Stop & Shop plant, Roger Beliveau said getting old food out of incinerators and landfills is good for the environment, but the anaerobic digester is also good for his company's bottom line.

The digester reduces the cost of energy for a distribution center that runs 24/7 -- and it means less trash that the company needs to pay to get rid of.

"Some of our stores are down to where they're maybe hauling their compactor once every other month," Beliveau said. "Versus, it could have been every two to three weeks."

The digester makes a lot of compost, too. Every week, about three dump truck loads of nutrient-rich soil, which eventually, could help grow the next-generation of produce lining supermarket shelves.

