U.K. grocery store to power itself on biogas generated from its own food waste

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British supermarket chain Sainsbury's has announced that it plans to power one of its grocery stores using only biogas generated from its own food waste. The store in Cannock, West Midlands is approximately one mile away from one of British based Biffa's waste management systems, and will get its power from a single dedicated line.

Sainsbury's is already Britain's largest retail user of power generated by biogas, courtesy of anaerobic digestion systems. Food waste from its stores is used to generate enough power, the company claims, to run roughly 2,500 homes each year. In this new scheme, food waste from several of the chains' stores will be trucked to a central depot—from there it will be trucked to the Biffa facility near Cannock. Once there it will be dumped into an anaerobic digestion system—a big tank deprived of oxygen that allows for speedy decay. Biogas (mainly methane and carbon dioxide) rises to the top and will be sent to a separate mechanism that separates out the carbon dioxide and other gases. The methane is then sent to a generator for burning. The electricity produced will be sent by a cable to the grocery store, providing all of its electricity needs—any excess will be sold back to grid providers. Excess sludge from the digestion system will be sold to farmers for use as fertilizer. What happens to the carbon dioxide has not been made clear, though the company has noted in the past that carbon dioxide released into the air (directly or via burning) due to release from food products is not counted towards global warming gasses, because its considered neutral—the amount of the gas released by plant material is equal to the amount consumed by new plants that grow in their place.

Sainsbury's announced last year that it had met its goal of no longer sending any food waste to a landfill. Previously they had instituted a policy whereby food that cannot be held overnight is sold at reduced prices in the afternoon and evenings. Afterwards, edible leftovers are sent to charities. The remainder is sent to Biffa for processing. The grocery store receiving the electricity is believed to be the first of its kind to be run only on biogas generated by an anaerobic digestion system.

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