

Food Scrap Diversion

Benefits of Redirecting Material from Landfills

Produced by the DEC, Waste Management & Prevention Division, Solid Waste Program, 802-828-1138
www.VTrecycles.com



Benefits Include:

- ✓ **Food Donations:** Capturing quality food before it is discarded helps Vermonters in need. In 2015, the Vermont Foodbank reported 6.64 million pounds of food that was rescued or donated, rather than disposed in a landfill. This is about a 40% increase in quality food donated to assist those in need since the start of the Universal Recycling Law.
- ✓ **Healthy Soils:** Processing food scraps through composting or anaerobic digestion, allows the nutrients and organic matter to be put to better uses. Compost improves plant growth, food production, and can reduce soil erosion, increase water retention, and decrease the need for synthetic fertilizers. By using rather than landfilling the remaining nutrients and energy we can build healthy soils and support Vermont's agriculture and lower impact from flood events.
- ✓ **Green Jobs:** New uses for discarded food scraps has the potential to create new products and markets. The collection, management and treatment of food scraps will produce a higher number of green jobs in comparison to disposal.
- ✓ **Greenhouse Gas (GHG) Reductions:** Composting and anaerobic digestion of food scraps will reduce total GHG emissions. When food scraps are disposed of in a landfill their decomposition produces methane gas, a known GHG. When captured it can be used for energy production at a gas-to-energy facility. The rate of capture for produced methane can range significantly¹, depending on the installation of the gas collection systems and capping materials at the landfill. Installation of these systems takes time, in some cases years, and so significant decomposition of food scraps happens before these collection systems are in place. Even the most efficient landfill gas-to-energy facilities are not as effective as anaerobic digesters at capturing and converting methane into electricity.

But will it affect the energy produced from landfill gas-to-energy plants?

- **Some Food Scraps Will Still be Landfilled:** Even with full implementation of the Universal Recycling Law, some food scraps will still be landfilled. An analysis of the impacts of Universal Recycling on Vermont's solid waste systems estimated that at full implementation of the law, we would still be disposing about 40% of our food scraps within a landfill. This estimate seems reasonable, given that a program like the deposits on beverage containers, which initiated in 1973, still only recovers about 75% of those containers being recycled through that collection system.
- **There are Other Sources of Methane:** In addition to food scraps, other organic materials such as painted wood and biosolids will continue to be disposed in the landfill and will generate capturable gas. In cities, like Seattle, WA that have food scrap disposal bans in place, it has been demonstrated that mixed waste can generate significant landfill gas.
- **Old Waste Will Continue to Produce Gas:** Significant amounts of food scraps and landfill gas producing material is already in place within Vermont's active landfill. Based on required reporting data, the Agency of Natural Resources estimates that there is material in the landfill to generate gas and produce energy for decades.
- **Capture of Gas Produced by Food Scraps is Already Limited:** Food scraps decompose and generate methane quite quickly compared to other organics. Because landfill gas collection systems are not established immediately, some of this methane is lost to the atmosphere. A recent evaluation reported in MSW Management magazine², found that *"the diversion of food waste is likely to have a neutral or slightly positive impact on LFG (landfill gas) recovery rates. This is due to the fact that mixed waste decomposes more slowly than food waste, and therefore, the LFG generated by its decomposition is more likely to be captured and utilized."*

¹ Solid Waste Industry for Climate Solutions, 2009. *Current MSW Industry Position and State-of-the-Practice on LFG Collection Efficiency, Methane Oxidation, and Carbon Sequestration in Landfills.*

² Jeremy K. O'Brien, 2016. *The Landfill Impacts of Food Waste Diversion Programs.* MSW Management.