Important Note: This activity was developed for the original Green Lunchroom Challenge program, a voluntary pledge program for K-12 schools to improve the sustainability of their food service operations. The project was coordinated by the Illinois Sustainable Technology Center Technical Assistance Program with funding from US EPA Region 5.

The following page(s) represent the content of this activity as it appeared on the original project web site, complete with available points and instructions for submitting documentation. **The project is no longer funded and as of June 2018 schools may no longer submit activity documentation to earn points and recognition as described.** The activity is presented for your information to guide your organization's sustainability efforts.

If your school or district implements the suggested activity and wishes to share its experiences, please email Joy Scrogum. Your story may be incorporated into a blog post on this web site, the main ISTC site, or shared on social media to foster networking and inspiration among peer institutions.

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Send food scraps to an anaerobic digester

Activity Category: Diverting Food Waste to Fuel/Energy

Activity: Send food scraps to an anaerobic digester

Photo by Alex Marshall (Clarke Energy) via CC BY 3.0

Rationale: After you have practiced source reduction, and diverted any unused edible food to humans or animals for consumption, the next preferable activity on the US EPA Food Recovery Hierarchy is divert food waste for industrial uses. This includes sending food scraps to an anaerobic digester to create biogas for energy. According to the US EPA, "Anaerobic digestion is a process where microorganisms break down organic materials, such as food scraps, manure, and sewage sludge. This is done in the absence of oxygen. Recycling wasted food through anaerobic digestion produces biogas and a soil amendment, two valuable products. Biogas is made primarily of methane and carbon dioxide. The solids remaining from the anaerobic digestion process can be land applied or composted and used as a soil amendment.. Wasted food can be processed at facilities specifically designed to digest the organic portion of municipal solid waste. It can also be co-digested at wastewater treatment plants and manure digesters. Co-digestion is a process whereby additional, energy-rich organic materials (e.g. food scraps or fats, oils, and grease) are added to dairy or wastewater digesters that have extra space." Sending food scraps from your facility to an anaerobic digester can create renewable energy, a soil amendment, and reduce your waste hauling costs.

Activity Description: Work with the operator of an anaerobic digester in your area to divert food scraps from your school or district to the digester for conversion to biogas. **Please note that currently, only two digesters in Illinois accept food scraps.**

Earn Challenge Points (150 points): Submit a report on your diversion of food scraps for anaerobic digestion, including:

- What digester you partnered with, and a copy of any contract in place if one exists (included at the end of your report, which will not count toward your page limit)

- The weight or volume of food waste diverted
- How the biogas produced by the anaerobic digester is used

Your report should be in Word or PDF format and 2-4 pages in length. Email it to Joy Scrogum at jscrogum@illinois.edu.

Resources:

- US EPA Food Recovery Hierarchy: Industrial Uses
- Anaerobic Digestion Basics
- Waste to Energy: City of West Lafayette (Presentation describing Purdue University's partnership with a wastewater treatment plant in Lafayette, IN for anaerobic digestion of Purdue's food waste)
- US EPA AgStar National Mapping Tool Facilities information
- Operational Biogas Systems in the U.S.