UNDERSTANDING

Organic Waste Composting & Material Reuse

PURPOSE

To reduce energy usage by encouraging composting of organic waste and re-use of building materials.

Commercial composting programs and building material re-use programs are waste diversion strategies that save valuable landfill space, conserve energy, and reduce the emission of greenhouse gas.

Through composting, organic waste is transformed into natural fertilizers for farming and gardening. This process decreases the energy demands of farming by offering a natural alternative to petroleum-based chemical fertilizers. Compost also retains more moisture in soil, reducing the need for irrigation. Additionally, the greenhouse gas produced from composting is completely captured and used for energy, rather than released into the atmosphere as occurs in a landfill.

In a building material re-use program, unwanted but reusable building materials from remodeling projects--including lumber, doors, kitchen appliances, and cabinets--are made available to non-profit organizations, businesses, and individuals for construction projects. Material re-use requires less energy and natural resources than the creation of new products and can minimize the fuel consumption necessary for transporting new products to the marketplace.

HOW IT WORKS

Implementing a Commercial Composting Program

The primary activities that form a commercial composting program are the collection of organic waste from commercial generators (restaurants, school cafeterias, hospitals, and supermarkets), composting the waste at a waste facility, and transporting the finished compost to farms and gardens. Municipalities can assist in these activities through the following actions:

- Identifying and permitting composting facilities - Assisting in the permitting process can make it easier to recruit organizations to invest in and operate the facility. The permitting process is controlled by the Massachusetts Department of Environmental Protection (DEP). The DEP recommends that new composting facilities be established on active or inactive landfill or transfer station sites, because these facilities already have a "site assignment" permit. Facilities that compost brush do not have a current DEP site assignment. While these sites represent potential sites for a composting facility, they would require the full permitting process to accept food wastes. Any local Board of Health regulations should also be reviewed to ensure that the composting facility meets these requirements.
- Facilitating participation from waste generators and farmers - Outreach to businesses in order to educate them about the benefits of composting is an important first step to creating a commercial compost program. Outreach should be directed to managers and owners of restaurants and operations managers of schools and hospitals. As per a state ban that started on October 1st, 2014, large food waste producers can no longer send discarded food to the landfill, so these are excellent candidates for participation in the program. Overreliance on a specific large waste generator or compost user can make the program fragile, but working with other communities to expand the system can reduce this risk.
- Encourage haulers to provide separate organic waste collection - municipalities can encourage and train local commercial waste haulers about organic waste source separation. They can also make haulers aware of waste generators who are interested in participating in a commercial composting program, in order to facilitate the creation of new organic waste hauling routes. Municipalities can also implement bylaws that require businesses to separate organic waste and give haulers a financial incentive to compost by increasing municipal landfill tipping fees.

- Recruit compost facility investors and owner-operators - In addition to facilitating permitting for composting facilities, municipalities can release requests for proposal to identify potential investor-operators, corporations, or others that may have an interest in operating a composting site. Municipalities can also reach out to existing organizations in the region, such as Amend Organics in Amherst, which operates a full commercial composting program and are involved in collection, composting, and delivery of compost. Municipalities can also help secure funding for a composting program by applying for grant funding from the Massachusetts DEP's Sustainable Materials Recovery Program (SMRP).

Implementing a Building Material Re-Use Program

Most building materials re-use programs maintain a storage facility of used items, where individuals, businesses, and institutions who are involved in building construction can deliver and purchase materials. Items that are commonly part of a re-use program are: windows, hardware, cabinets, fixtures, doors, paint, furniture, computers, office equipment, carpet, and wood. Ways in which municipalities can assist with a re-use program are:

- Provide a building materials storage facility - finding a physical structure for a re-use program is often the largest challenge and expense to its implementation. Providing municipally-owned space for this purpose, even if only small, can provide a solution to this challenge.
- Partner with non-profit organizations to run the program - Re-use programs can be run as a joint effort between municipalities and non-profit organizations. Partnering allows the program to tap into an existing volunteer network that can help operate and staff the program.
- Promote existing re-use programs in the Pioneer Valley - The non-profit Center for EcoTechnology runs the EcoBuilding Bargains store in Springfield, which is the largest program in New England. Encouraging residents, businesses, and non-profits to utilize this existing program is an excellent alternative to starting a new program.

EXAMPLES OF COMMUNITY IMPLEMENTATION

Northampton, MA

The Pioneer Valley's largest commercial composting effort to date, called the Northampton Source Separated Organics (SSO) Program, ran between 1991 and 2002. The program was a collaboration between the City of Northampton and the Center for EcoTechnology, a local non-profit organization. For the first seven years of the program, Smith Vocational High School Farm in Northampton operated a food waste composting facility at their school farm. The program was expanded in 1998 through a CET-provided grant to include large supermarkets (Stop & Shop and Big Y), food processors (e.g. Hot Mama's), small markets (e.g. Serio's and Coopers), restaurants (e.g. La Cazuela and Northampton Brewery), institutions (e.g. Smith College and the Hampshire County Jail), health care facilities (e.g. Cooley Dickinson Hospital), and public schools (e.g. JFK Middle School). Most of the compost was used by the Smith Vocational High School Farm (25-30 tons of food per week), with other area farmers accepting some as well. In 2004, composting at the high school's farm ceased due to changes in school administration, and the program ended without an identifiable backup composting facility. The program was successful while in operation, but also demonstrates the need to have more than one composting facility in order to ensure the resiliency of a composting program.

Amend Organics, Amherst, MA

Amend Organics is an agriculture-based non-profit that offers composting to farmers, commercial food generators, and municipalities in western Massachusetts. The company collects leaves, cow manure, horse bedding, and food scraps to create compost for agricultural use. Beginning its composting operations in 2012, the company has a lease with the New England Small Farming Institute to use the composting facility at the NESFI-operated Book & Plow Farm located on land owned by Amherst College. Amend Organics also runs a food scraps collection program at the Town of Amherst Transfer Station. The program is funded through compostable bags sold through the Amherst Transfer Station for collection of food scraps.

EcoBuilding Bargains, Springfield, MA

EcoBuilding Bargains, located in Springfield, Massachusetts, offers reused and surplus building materials, including cabinets, furniture, doors, tile, lighting fixtures, appliances, and lumber. The 30,000 square foot facility accepts donations from homeowners, contractors, manufacturers, retailers and municipal collection centers. The program,

which is the largest in New England, was created by the Center for EcoTechnology, a non-profit community-based environmental organization started in 1976. The revenue from reselling the donated building materials provides the program enough funding to cover its operational costs. The program started in 2001 in a much smaller facility in Springfield, and was started with just under $200,000 in grant money from sources including the Massachusetts DEP, US Department of Commerce Economic Development Administration, and private foundations.

LINKS TO MORE INFORMATION

CONSTRUCTING A REGIONAL ORGANIC WASTE MANAGEMENT PROGRAM FOR THE CENTRAL PIONEER VALLEY, CREATED BY THE PIONEER VALLEY PLANNING COMMISSION:
http://www.northamptonma.gov/DocumentCenter/View/333

STRATEGIES FOR STARTING A MATERIALS RE-USE PROGRAM, CREATED BY THE UNIVERSITY OF WISCONSIN:
http://infohouse.p2ric.org/ref/21/20193.pdf

CENTER FOR ECOTECHNOLOGY'S ECOBUILDING BARGAINS WEBSITE:
http://ecobuildingbargains.org

FOR MORE INFORMATION, PLEASE CONTACT

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