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Food Recycling: Coming to a Location Near You!

Susan Robinson

Over the past several years, businesses and local governments have been looking into ways to reduce the amount of wasted food sent to landfills. The first step is to reduce the amount of wasted food. Companies can donate usable leftover food to charities, recycle unusable food into compost or convert it into renewable energy and other valuable commodities.

Moreover, because food waste makes up the largest portion of material left in the waste stream, it has been targeted for diversion from landfills in order to meet aggressive solid waste recycling goals.

The Impact of Food Waste

The amount of food wasted in the United States is staggering. According to the EPA, more than 34 million tons of food waste—more than any other material category but paper—was generated in the United States in 2010. Food waste accounted for almost 14 percent of the total municipal solid waste stream, but less than 3 percent was recovered and recycled in 2010. The rest—33 million tons—was thrown away, making food waste the single largest component of MSW reaching landfills and waste-to-energy facilities. And up to 75 percent of this waste comes out of commercial food operations, including restaurants.

Cost savings associated with food waste management have significant potential at commercial food establishments. After all, the cost of food makes up a considerable portion of a restaurant's overall costs. Businesses incur not only the cost of purchasing food, but also the cost to dispose of food waste. In effect, they are paying for it twice.

Food waste is the largest and heaviest portion of a restaurant's waste stream, making it more expensive to dispose of than other materials. Simply put, reducing wasted food means saving money.

Regulatory Trends

An increasing number of businesses, states and cities are implementing aggressive and zero-waste recycling goals that can only be met if organics recycling is included in their long-term recycling programs. Thus, municipalities have begun implementing recycling programs and bans on commercial food waste disposal.

The EPA has issued a Food Recovery Challenge to encourage various businesses, industries and institutions to reduce, donate and recycle as much of their food waste as possible. Waste reduction is at the top of the EPA's hierarchy, with donations second and recycling into compost and converting to energy in line before disposal.

There is also a growing trend to use conversion technologies to generate renewable energy and renewable fuel from organic waste materials. Technology developers hope to offset our reliance on foreign oil with renewable biofuels created from waste organic material, such as food.

Federal, state and local regulations all indicate a growing interest in diverting food waste from local landfills—either through incentives or disposal bans. For example, the City of San Francisco implemented a commercial food waste ban several years ago, and other cities, including Boston, Portland and Seattle, will phase in similar bans over the next several years. Sufficient processing capacity, combined with a strong local market demand for finished compost, plays a critical role in the development of the bans.

Food Waste and the Customer While food waste collection programs are in the early stages of development in most communities across North America, the number of programs continues to grow. According to a 2011 National Restaurant Association Survey, many restaurants have anticipated the trend toward food recycling and

have implemented programs accordingly:

- 65 percent of restaurateurs currently have a recycling program in place, and 13 percent participate in food waste composting programs.
- 74 percent of restaurateurs who recycle do so in the kitchen and office areas, while 43 percent have a program in the dining room and other customer-facing areas.

A recent survey conducted by Waste Management for local governments in the Pacific Northwest indicates the following:

- Cost savings ranked high as a requirement for participation.
- Customer value placed very high as a reason for participation.
- Education was identified as a key driver for program success.

Customers seem to place a high value on the option for recycling food waste, but it must be cost effective for restaurant owners.

On-site Logistics

Food waste collection is not for the faint of heart. It takes commitment by on-site managers and must be monitored on an ongoing basis. Experience and surveys indicate that site-training and ongoing education play critical roles in the success of any commercial food waste collection program.

Consider these hints for a successful commercial food waste collection program:

- Make sure the materials being collected match the materials accepted by the local food waste processor.
- Have your collector/processor conduct regular/ongoing staff training.
- Invest in the proper on-site collection equipment (including containers, biodegradable bags, etc.).
- Assign an on-site staff "champion" to work with employees on an ongoing basis.

Although it requires work, careful and ongoing monitoring to help change behavior will pay dividends in the long run. While regulations and public sentiment are driving more interest in food waste, on-site logistics and education to change employee and customers behaviors can be daunting. A key ingredient is a commitment to employee engagement and education. At the end of the day, a food waste program will only be successful if employees buy into the program.

Commercial food waste collection is in the development phase and may not be offered in all communities. This creates a short-term "chicken or the egg" situation for collectors deciding to invest in the collection and handling infrastructure. While programs are being developed, restaurants will need to work closely with their local service provider to create a program that meets their particular needs, as well as those of the local composter.

Beyond Collection

You may be wondering what happens to the food waste once it is collected for recycling. In most instances, food waste is sent to local compost facilities for processing into soil products. However, through anaerobic digestion, or other biological, chemical and thermal technologies, food waste can also be processed into a synthesis gas, which can then be converted to renewable energy or to a biofuel, such as renewable natural gas or ethanol.

As these technologies continue to develop, the demand for food waste is expected to grow, helping to improve the overall economics of separating food waste for recycling.

Next Steps

The development of food waste recycling programs will ultimately depend on local policies and economic conditions. While some communities on the West Coast currently enjoy access to a variety of food waste recycling options, in many parts of the country it may take several years before food waste recycling becomes widespread.

In the meantime, restaurants can take steps to reduce their overall food wasted and to donate unused, yet usable, food to local food banks and other charities. For more information on the EPA's Food Waste Challenge Program, see their website: www.epa.gov/osw/conservesmm/foodrecovery/index.htm.

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