

## **Alternative Ideas for Food and Yard Waste Management**

If traditional hauling methods for composting do not align with your business needs, there are alternative options available. The City's primary concern is the diversion of food and yard waste, rather than prescribing a specific method for achieving it. Businesses have the flexibility to choose from various alternative methods that suit their size and operational requirements. Options such as countertop composting, onsite composting facilities, or collaborating with third-party composting services are viable alternatives to traditional hauling.

Here are several examples of alternative composting methods that businesses can explore:

### **1. Countertop Composters**

*Countertop composters are compact devices designed to compost food waste indoors. They are ideal for small businesses and offices that generate low volumes of food waste, with limited outdoor space, or when traditional hauling isn't feasible.*

- **How It Works:** These devices use heat, agitation, or microorganisms to break down food waste. Some models work quickly, turning waste into compost within hours.
- **Benefits:** Small footprint, odor control, suitable for indoor use, and reduced need for traditional hauling. They can handle typical kitchen scraps like vegetable peelings, fruit scraps, coffee grounds, and eggshells.
- **Considerations:** Capacity is limited, and they require electricity. Not all food waste (like bones or large quantities) may be suitable for countertop composters.

*Learn more about countertop composting on pages 4-5.*

### **2. Digesters**

*Digesters are a more industrial solution to processing food waste. They can break down organic material quickly, often using microbial action to convert waste into biogas or nutrient-rich fertilizer.*

- **How It Works:** Digesters use anaerobic (without oxygen) or aerobic (with oxygen) processes to break down food and yard waste. The by-products can be used as energy (biogas) or as compost/fertilizer.
- **Benefits:** Suitable for large-scale operations and can generate renewable energy. May be a good fit for restaurants, large businesses, or complexes with high volumes of food waste.

- Considerations: Digesters can be costly, require regular maintenance, and need proper handling to avoid odors or contamination. Installation may require permits or regulatory compliance.

*Learn more about digestors on page 6.*

### **3. Connect with Innovative Programs & Organizations**

*Businesses can also collaborate with programs and organizations focused on reducing food waste and promoting circular economy practices.*

- **Loop Resource:** This program connects businesses with charities, farmers, or other enterprises to redistribute surplus food and prevent waste. It is a great way to give back to the community while reducing waste.

Learn more about Loop here: <https://loopresource.ca/>

### **4. Food Donation Programs**

*Another effective way to reduce food waste is by donating surplus food to local charities, food banks, or community kitchens.*

- How It Works: Businesses can partner with food banks or charities to donate surplus food that is still safe for consumption but would otherwise go to waste.
- Benefits: Reduces food waste, helps the community, and may offer tax benefits. It's an excellent way for businesses to demonstrate corporate social responsibility.
- Considerations: Ensure food safety standards are met and collaborate with reputable organizations to handle donations responsibly.

Example of these types of programs in Canada: <https://foodmesh.ca/our-services/>

### **5. Employee Take-Home Programs**

*For small businesses or those with close-knit teams that generate low volumes of food waste, encouraging employees to take home surplus food or compost can be a simple yet effective way to divert food waste.*

- How It Works: Businesses can set up a system for employees to take home food scraps or compost for personal use (to dispose of in their residential green carts or use in their gardens respectively). This can include kitchen leftovers (residential green carts) or composted material from countertop composters (personal gardens).
- Benefits: Engages employees in sustainability efforts, diverts waste, and can foster a positive workplace culture.
- Considerations: Ensure employees understand food safety guidelines and maintain proper hygiene to avoid contamination.



*The alternative options listed may not fully address your businesses' needs for food and yard waste disposal. Choosing multiple alternative methods or combining a traditional food and yard waste hauling service with an alternative method not only guarantees proper disposal of all food and yard waste, but also optimizes cost-effectiveness for your business.*

## **Countertop Composters**

### **What size/how many countertop composters does my business need?**

- 2.5 – 3 litres of food and yard waste per day (one kitchen catcher) = small countertop composter
- 3 – 5 litres of food and yard waste per day = large countertop composter
- More than 5 litres of food and yard waste per day = use multiple countertop composters, consider a different alternative method for food waste management, or contract a food and yard waste hauler.

### **Recommendations of the Saskatchewan Waste Reduction Council (SWRC) Study**

The City of Saskatoon and the City of Regina provided funding to SWRC to conduct a study on countertop composters to evaluate their potential as a practical tool for Saskatchewan. SWRC selected four different models to undergo a series of tests, examining the advantages and disadvantages of each to identify which models are most effective for various scenarios.

Due to the higher cost, energy use, and lower quality of the finished product compared to mature compost, the study recommends traditional backyard composting or green cart systems in most circumstances. Countertop composters could be used as an alternative option in specific situations where other food waste options are not available or unappealing. This includes:

- Apartments or townhouses without yard space or a green cart collection
- Businesses with a moderate amount of food waste
- Institutions and schools for organic waste management as well as education purposes.

On the following page is a snapshot of the results from the SWRC research project conducted on countertop composters, the full report can be found here:

<https://www.saskwastereduction.ca/>

Table: Summary of SWR Report: Understanding Countertop Composters Final Report (2023)

| Countertop Composter    | Capacity                         | Processing Cycle<br>(time to process food waste material)  | Volume & Weight Reduction                  | Endurance and Flexibility             | Applicability  | Specific Observations  |
|-------------------------|----------------------------------|--|--|---------------------------------------|--|--|
| <b>Foodcycler FC-50</b> | 2L                               | 4-8 hours  | 66% volume reduction, 75% weight reduction | Impressive resilience and flexibility | Medium-sized offices with up to 15-20 people (emptied every 2-3 days)          | - Advertised as a food waste dehydrator, not a composter   |
| <b>Foodcycler Eco 5</b> | 5L                               | 8-12 hours   | 66% volume reduction, 74% weight reduction | Moderate resilience and flexibility   | Small to medium-sized offices with up to 10-15 people (emptied every 2-3 days) | - Advertised as a food waste dehydrator, not a composter   |
| <b>Pela Lomi</b>        | 3L                               | 3 settings:<br>-Eco-Express Mode (4-8 hours)<br>-Lomi Approved Mode (9-12 hours)<br>-Grow Mode (12-14 hours) | 67% volume reduction, 76% weight reduction | Moderate resilience and flexibility   | Medium to large offices with up to 20-30 people (emptied every 3-4 days)       | - Advertised as a composter, but end product differs (dehydrated and pulverized – not composted) |
| <b>Reencle</b>          | Optimum 0.5lg/day, up to 1kg/day | Up to 12 hours   | Estimating ~86% volume reduction           | High resilience and flexibility       | Small to medium-sized offices with up to 10-15 people                          | - Advertised as a composting machine, matches assessment   |

**NOTE:** Most counter-top composters dehydrate the material rather than compost it. If you choose to use your own food and yard waste processing technology, you are required to have a plan for the finished compost product such as donating the finished product to a community garden, using it in your garden at home/business or collecting it in a bin and hauling it for further treatment. Finished compost cannot be landfilled. Contact the City for additional information about countertop composters based on your business' needs.

## **Digestors**

### **Factors Influencing Cost**

- **Type of Digester:** Anaerobic digesters tend to be more complex and costly compared to aerobic digesters due to their biogas production capabilities.
- **Capacity:** The larger the capacity, the higher the cost. Digesters designed for industrial applications are typically more expensive than those intended for residential or small business use.
- **Technology and Features:** Advanced technology, such as sensors for monitoring and automation, can increase the cost. Additional features like odor control, heat exchangers, or energy recovery systems also contribute to the price.
- **Installation and Infrastructure:** Costs can be higher if significant infrastructure changes are required, such as building modifications, additional plumbing, or electrical work.

### **Typical Costs**

- **Residential or Small Business Digesters:** These are generally smaller and more affordable, ranging from \$500 to \$5,000. Countertop composters, which function similarly to small digesters, are on the lower end of this range.
- **Commercial Digesters:** Designed for larger-scale waste processing, these can range from \$10,000 to \$100,000 or more, depending on capacity and technology. They are typically used by restaurants, multi-family properties, or small businesses with moderate waste generation.

### **Additional Costs**

- **Installation:** Installation costs can vary based on site preparation, infrastructure, and labor requirements.
- **Maintenance:** Regular maintenance, repairs, and replacement parts can add to the total cost over time.

### **Some companies that sell digestors include:**

- BrewNature
- HomeBiogas Canada

\*Numerous companies sell digesters; conduct research to find one that fits your needs.