

Dispelling the Myths of Composting

Waste haulers can use the trend of food waste reduction and composting as an opportunity to reduce costs and increase revenue by embracing these technologies.

■ By John Gillespie and Robert Weatherbe

Landfilling can be a significant cost increase due to longer travel distance. Several areas, notably San Francisco and New York City, are requiring business and residences to separate food waste from trash. This can increase truck transportation and labor costs due to separate pickups and longer travel distance to commercial composting facilities. Many green waste composting facilities do not currently accept food waste.

Haulers make money hauling. A composter reduces hauling, so why would they invest time and energy with this technology when it will reduce their bottom line? It's a statement that will not take as much time to answer as "why recycle", because if haulers cannot find solutions, property managers, food processors and the hospitality industry will, and they will want their service provider to assist them with this choice or find someone who can.

Using Composting as an Opportunity

Waste haulers can use the trend of food waste reduction and composting as an

opportunity to reduce costs and increase revenue by embracing these technologies. There are both dehydrators and in-vessel composting machines that will significantly reduce both the weight and volume of food waste. Both are preferred alternatives to Aerobic on site digesters, which require water input and sewer hookup or solution by dilution. The digester also creates problematic grey water with high BOD (biological oxygen demand, the allowable limits vary depending on local regulatory permits) and FOGs (fats, oil and greases, the system is not connected to a grease trap). Either a composter or digester could be used at a commercial customer's location or in the hauler's yard.

An in-vessel composting machine uses high heat micro-organisms, heat and agitation to reduce food waste in a short time. However, most stadiums, amusement parks, convention centers, malls, food processors, restaurants and even universities do not want to deal with the compost nor rely on the hauler. The soil amendment can be sold to composting or fertilizer operations and thus create another revenue input for the recycler.

Several haulers are marketing themselves as "Green" by using either bio-diesel or natural gas in their trucks. They could capitalize on this Green initiative by becoming a dealer, marketing, leasing or selling composters to their commercial customers. The consequent reduction in both weight and volume will result in fewer pickups, thus less trucking, fuel, insurance and labor expense. A larger unit installed in the hauler's yard would reduce transportation costs by merely delivering to an existing commercial green waste composting or generate income by creating a marketable soil amendment byproduct.

Beyond Zero Waste™

The sum of the parts is usually the key to most solutions and a composter offers a technological solution that is shaping how to deal with organic food waste. The recycling and recovery sector has developed rapidly in the last decade with sophisticated systems and programs designed to maximize collection efficiencies and create valuable recovery. Over the last decades, robust diversion goals have been set with rigorous targets to be met.

As legislation, regulations and requirements around recycling have been introduced in almost all jurisdictions, it has become harder than ever to be a hauler in the traditional front load business, due to routes being diminished, while the number and variety of recycling streams are being increased and expanded. Keeping up with changes in demand for best practices and providing this information to generators takes time, communication and effort.

In the case of organics and food scraps collection, the generator of the material must be educated, committed and engaged. If successful, the results of a food waste diversion program for generators can be extraordinary, providing an opportunity for generators to make strategic choices to minimize their remaining residual waste.

The generator will continue to need the support from the hauler for recycling and residual, and will seek to create contracts based on lease financing for equipment like compactors and composters. They can become leaders in their field. Recovery cycles will be told. Non-renewable fuels will not be burnt. New innovations will foster. Goodwill is given for changing their sustainability.

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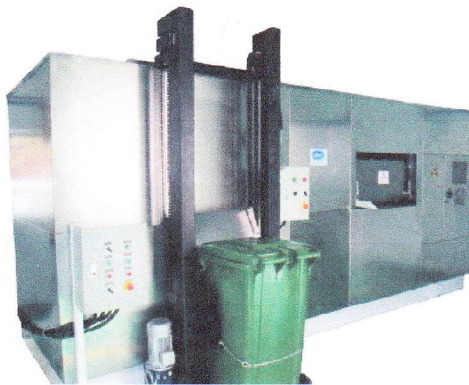
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No size too big for a GreenGood composter for onsite projects.
 Images courtesy of Recycling Alternative and GreenGood.



In addition, the hauler will rely on fewer trucks, reducing breakdown time, maintenance and insurance costs. Fewer trucks require fewer drivers whose working environment will be improved dramatically. They will not have to handle the heaviest stream nor deal with smell, leakage, fruit flies, maggots, washing totes, lining with compostable liners, and driving two hours out of town arguing about contamination with the processor, and missing collections.

How It Works

Aerobic composters increase the speed of the natural digestion process through biological means using patented microbes by maintaining optimal levels of aeration, moisture, temperature and intermittent agitation. Under these controlled conditions, the micro-organisms can safely digest food waste at a rate much faster than under natural conditions. These microbes will reproduce themselves similar to yeast or yogurt and only need to be added once with the initial installation.

An accelerated aerobic composter will reduce food waste (including fruit, vegetables, meat, chicken bones and crustacean shells) by 80 to 90 percent of both weight and volume within 24 to 48 hours into a soil amendment. It also kills bacteria and reduces odor. The only other effuse is ventilated H₂O as steam and CO₂. Composters are scalable to fit various applications. Commercial models are available that can handle 10 to 500 metric tons annually. This volume can be increased on the larger units by using a grinder/shredder.

All endings have a beginning and in the future waste management, information on new technology will give customers more choices than ever before. They will define how waste is written and waste haulers will have to change and give them what they require. Onsite processing is at its beginning and an aerobic composter can be a piece of the waste puzzle. **IWA**

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background in distribution in compostable products and brought the Greengood Composter to North America. He can be reached at (949) 552-0405 or via e-mail at john@greengood.com.

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GreenGood® was one of the first companies to produce compostable disposable food service products made from Sugarcane Bagasse, Post Consumer recycled materials and Ingeo® PLA resin and were the first to develop high heat CPLA. However, GreenGood was challenged by the lack of commercial composting facilities internationally to process their compostable products. One of the company's partners discovered Oklin, a South Korean company, who manufactured in-vessel aerobic composting machines, which started in the late 1990s selling in South Korea and Japan. Oklin International bought into the business with controlling interest and has expanded the market internationally under the Oklin and GreenGood brand names. First introducing the machines into the countries of Canada and Brazil in the Americas, GreenGood is currently looking for distributors and dealers for expansion in all of the Americas. For more information, e-mail info@GreenGood.com or visit www.GreenGoodComposter.com.

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CASE STUDY

Recycling Alternative® is a GreenGood® Composter supplier in Canada and provides downstream options for clients including onsite maintenance, totes and compostable liners in addition to hauling. With their extensive 20+ years of experience in the recycling sector, Recycling Alternative looked forward with confidence to the next progression of waste reduction and recovery for their clients.

Known for forging community partnerships with a collaborative approach to business, Recycling Alternative is a recognized leader playing a key partnership role in a variety of local initiatives including the Vancouver Biodiesel Co-operative (www.vancouverbiodiesel.org), Food Scraps Drop Spots (www.foodscrapsdropspot.ca) and LOCO (www.locobc.com).

Initially, they considered that adding food waste collection to existing recycling services would be as easy a step as providing co-mingled multi-material recovery collection and processing plants. This, however, was not the case, as the recycling industry began to realize that organics collection and processing presented significant challenges that we now all understand. They embraced the

GreenGood® to modify their approach to food and waste reduction in developing their position as a leader in Vancouver, BC and the zero waste model.

Most recently Recycling Alternative opened the Recycling Hub—Vancouver's first of its kind recycling co-location model founded in partnership with a local inner city non-profit organization. Recycle Hub drove local, innovative materials recovery and recycling solutions, while increasing green jobs for individuals with barriers and fostering the local green economy. Recycling Alternative® has extensive experience working with clients and GreenGood® composter technology to help solve their waste reduction and diversion challenges.

The Recycling Alternative Zero Waste Truck™

The GreenGood composter creates the opportunity to right size collection routes because it reduces the live organics stream by up to 80 to 90 percent and stabilizes it into an immature compost material in 24 hours.



Top: Zero Waste Truck visits Presidents.

Bottom right: Zero Waste Truck top loads on a dock in closed underground space.

Bottom left: Soiled paper organics using a GreenGood composter produces immature compost from a food court in 24 hours.



It was now possible for Recycling Alternative to design a truck body, Recycling Alternative's Zero Waste Truck, to collect the three streams of recycling, compost, residuals in one stop. The truck is also equipped with a wash system, weigh scales for reporting, as well as route display and billing programming. An automated system using the driver's remote control designates which container is to be top loaded and the lifter carriage moves to the designated container. A unique concertina system allows the totes to be loaded from ground or off dock level. There are no more long drives out of town because Recycling Alternative can offload and consolidate three streams into three separate roll off containers or compactors. The Zero Waste Truck body can also be configured to be set up on a hook or wire system. One person can now operate a multilateral stream of collection.

Food Court Hospitality Waste

One of the largest mall food courts in Vancouver, BC was chosen for a case study to determine whether a GreenGood composter would reduce overall costs and food waste contamination. The client was concerned about totally eliminating inorganic material from the food waste.

Recycling Alternative offered a solution by introducing the GreenGood and is currently collecting with a toter system. Soiled paper products, and hard plastics were added as acceptable in this composter trial. Paper acted as carbon filler for the compost while the plastics were screened out after offloading at the Recycling Alternative facility. Below is a table demonstrating the current costs and tote lifts and reductions and savings.

Case study comparison for 30 days between truck collected totes versus GreenGood GG-100 unit with 300 kg/660 lb. day capacity:

	Total 32 Gallon Lifts	32 Gallon Composter Offloaded	Disposal Weight	Contaminated 32 Gallon Tote Lifts	Month Cost (Including Service Collection)
Truck Collected	152	N/A	20,300 lbs	56 totes	\$3,800
GreenGood GG-100	224	44	4,400 lbs	none	\$1800

As indicated in the table, by introducing Green Good Composter, the client gained significant cost savings, while at the same time drastically reducing contamination and eliminating associated issues with smell, flies, leakage and live loads.

For more information, e-mail greengood@recyclingalternative.com or visit www.RecyclingAlternative.com.

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