

# Easing the Collection and Processing of Food Waste with FoodCyclers

## A Conceptual Model for Connecticut

April 14, 2023



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**FOODCYCLER**

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# Introduction / Executive Summary

Food Cycle Science (“FCS”) is a manufacturer of residential and commercial scale food waste processing technologies that use state of the art grinding and dehydrating processes to convert food waste into an inert, nutrient-rich by-product.<sup>1</sup> The residential suite of products – called “FoodCyclers”<sup>2</sup> - are household devices that, with the click of a button, enable consumers to reduce the global warming impact of food waste by over 90%, (even factoring in energy use), without dealing with the mess and smell typically associated with source separating and storing food waste.

The FoodCycler can unlock significantly higher food waste diversion rates on two levels – first, by increasing resident participation in food waste diversion programs, and second, by decreasing both organics and municipal solid waste (MSW) collection costs. Cost reductions are primarily due to the reduced weight and volatility of the by-product.

FCS sees the technology as complementary to – not in competition with – existing food waste diversion strategies and infrastructure. The by-product can be processed at a range of locations, including backyards, community compost sites, municipal leaf waste composting sites, and large-scale compost and Anaerobic Digestion (AD) facilities. For municipalities, the significant reduction in food waste weight can unlock capacity at existing processing locations and make transporting the by-product longer distances

## 90% FOOD WASTE REDUCTION



FCS has demonstrated proof of concept through more than 82 programs in Canada and the U.S. Pacific Northwest and has four agreements to develop new partnerships with municipalities in the United States.

<sup>1</sup> <https://foodcyclescience.com/pages/municipal-solutions>

<sup>2</sup> The residential suite of FoodCycler products includes the FC-30, which is the current model available for residential purchase, and the Eco 5, which will be released soon as the primary residential product. The specifications for each are included in Section 1: Technology Overview. For simplicity, we refer to “FoodCyclers” throughout the concept paper unless discussing a specific model.

FCS is seeking to bring best practices from those programs, combined with an approach tailored to Connecticut's unique needs, to communities across the state. Through at-scale municipal partnerships, FCS believes that providing FoodCyclers to Connecticut households can:

1. Provide consumers with a food waste recycling option that is convenient, odor- and mess-free, and not attractive to pests, leading to higher and more consistent consumer participation in food waste diversion;
2. Reduce greenhouse gas emissions associated with food waste in Connecticut;
3. Unlock existing capacity for food waste management in Connecticut, reducing food waste diversion costs for municipalities; and
4. Reduce MSW disposal paid for by municipalities and waste hauling customers, helping the Connecticut Department of Energy and Environmental Protection ("CT DEEP") achieve the goal of diverting 185,000 tons of food waste from disposal in Connecticut.

## **Next Steps**

FCS is eager to explore pilot projects with municipalities and multi-family buildings in Connecticut to demonstrate meaningful progress in residential food waste diversion. As municipalities consider how to reduce their MSW disposal costs in the face of the Materials Innovation and Recycling Authority ("MIRA") closure, FCS believes that providing FoodCyclers to every household in a community can dramatically increase the amount of food waste diverted from disposal. If combined with a municipal collection opportunity, households can both reduce waste and generate a compost or AD accelerant. Municipalities can expect to realize cost savings for existing or planned food waste collection programs, as the FoodCycler by-product can be stored for a longer time than putrescible food waste and does not require weekly collection. Decreased frequency of collection can directly translate into less trucks on the road. Alternatively, municipalities may be able to provide less costly and more convenient drop-off opportunities for the FoodCycler by-product due to the reduced weight and volatility of the by-product.

**In Section 1: Technology Overview (The FoodCycler)**, we provide a detailed overview of the technology and relevant environmental considerations. These include life cycle assessment ("LCA") results demonstrating the minimal emissions associated with the operation of the FoodCycler compared to the avoided emissions if food waste is diverted from disposal, and an analysis of how the FoodCycler by-product improves composting and AD.

**In Section 2: Municipal Diversion Programs**, we explain potential opportunities for partnerships between Connecticut municipalities and FCS. Ideally, FCS would like to work first with municipalities interested in organics diversion that have a leaf composting site and a transfer station. There is an immediate opportunity to combine the FoodCycler by-product with leaf waste and expand capacity for food waste at municipal leaf waste composting sites. Given smell concerns and potential caps on the amount of putrescible food waste that can be accepted at leaf waste sites, household use of FoodCyclers and by-product drop off at transfer stations presents an opportunity to increase the amount of food waste allowed at leaf waste sites and could open opportunities at sites that don't currently accept food waste. These programs are likely able to handle a higher volume of food waste if putrescible food waste is first processed through FoodCyclers.

The municipality might subsidize the cost of a FoodCycler for interested households, or work with a particular region of the municipality to provide a unit for each household. Residents could periodically drop off their by-product at the transfer station, and the reduced weight of the food waste combined with the reduction in volatility (i.e., reduction in smell) could allow for addition of the by-product to leaf waste composting sites.

Recognizing that different municipalities are in different places in their organics diversion efforts, FCS is also interested in partnering with municipalities that are exploring curbside collection of food waste. FoodCyclers could be distributed to households receiving curbside collection, and the municipality can reduce the frequency of pickups from those households because the collected by-product is transformed into an inert material with 90% less weight and volume. Less frequent collection directly translates into less trucks on the road and lower labor costs in a collection contract. If a municipality transitioned from weekly curbside collection of putrescible food waste to monthly curbside collection of the FoodCycler by-product, the municipality would likely see the upfront cost of the FoodCycler convert to savings over the lifetime of the FoodCycler unit.

Lastly, FCS sees an opportunity to address the challenges that have hindered the success and scaling of food waste diversion programs in multi-family residences. FCS has had initial success collaborating with multi-family building supervisors who are interested in food waste diversion. Food waste diversion typically presents building supervisors with a difficult set of logistics. Instead, use of FoodCyclers in each residential unit reduces the frequency of resident trips to the trash room, decreases the amount of space needed in the trash room for food waste storage, reduces the “ick” factor associated with putrescible food waste collection in the building, and can reduce the number of pickups required in a commercial hauling contract.

## Section 1: Technology Overview (The FoodCycler)

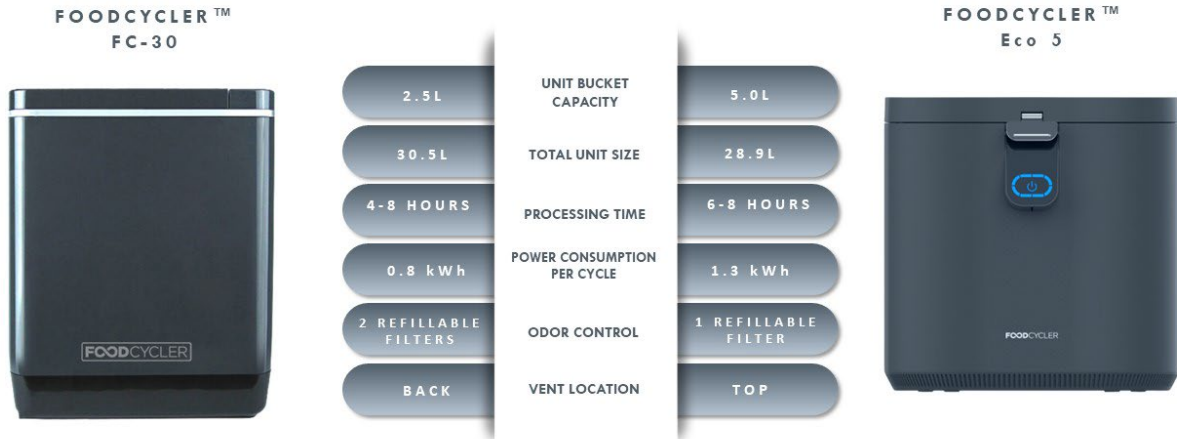
The FoodCycler is a compact, household machine that uses patented Vortech™ grinding technology and heat to pulverize and dehydrate food waste, including meat, bones, pits, and shells. Each machine is equipped with a re-fillable charcoal filter to eliminate any odors associated with the process, and besides emptying the bin after each use, periodically changing the charcoal in the filter every three to six months is the only regular upkeep required. The output is an inert, stable, nutrient-rich by-product which can be added to large-scale compost and AD processes, composted in backyards, or added in small amounts to soil as a fertilizer.<sup>3</sup>

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<sup>3</sup> <https://www.mdpi.com/2071-1050/12/15/5959>

Because the technology is a diffuse solution spread across many households, the “capacity” of food waste capable of diversion using the FoodCycler is directly tied to the number of units used in households in Connecticut. Wide adoption will lead to higher levels of food waste diversion. FCS survey data shows that over 80% of FCS pilot participants in over 80 pilots across North America have reported reducing their MSW disposal by at least 1 bag per month to over 3 bags per month.

## THE FOODCYCLER PRODUCT FAMILY



In addition to the FoodCycler FC-30 model currently available to consumers, FCS will soon offer the FoodCycler Eco 5, which uses the same technology as the FoodCycler FC-30 but has a slightly larger capacity and is more energy efficient per kg of food waste processed. The Eco 5 is available now for municipalities and will soon be released to consumers. The emissions analysis on page eight focuses on the FoodCycler FC-30, but the FoodCycler Eco 5 will be associated with even less emissions per kg of food waste processed.

## Technical Specifications for the Food Cycle Science FoodCycler Product Line

	FoodCycler (“FC-30”)	FoodCycler (“Eco 5”)
<b>Dimensions</b>	(H) 14.2” X (W) 11” X (D) 12.6”	(H) 13.8” X (W) 13.8” X (D) 10.3”
<b>Bucket Capacity</b>	2.2 pounds	4.5 pounds
<b>Cycles per week</b>	4.9 (for family of four)	2.5 (for family of four)
<b>Power Consumption</b>	Approx. 0.8 kWh per cycle	Approx. 1.5 kWh per cycle
<b>Monthly CT Energy Costs</b>	\$5-6 (for family of four) <sup>4</sup>	\$3.50-\$4.50 (for family of four)
<b>Cycle Length</b>	4-8 hours	6-8 hours
<b>Filtration</b>	2 reusable filters	1 reusable filter
<b>Output (inert, nutrient rich by-product)</b>	¼ pound	0.44 pounds

## FoodCycler By-product and Decomposition

The FoodCycler by-product is not compost itself but can be a nutrient-rich addition to compost processes. Once added to a compost pile and moderately rehydrated, the pulverized food waste has significantly more surface area for microbial activity, accelerating compost processes.<sup>5</sup> Because the nutrient profile of the food waste is unchanged, the by-product remains a valuable source of nitrogen compared to the high carbon content of leaf and tree debris. AD is also a valuable end process for the by-product. A 2018 review of the academic literature on organic waste processing found that dehydrating food waste prior to AD can enhance the performance of AD facilities by minimizing unwanted microorganisms that suppress methane production.<sup>6</sup>

Limited amounts of the by-product can also be added directly to soil as a fertilizer amendment. Once incorporated into the soil, the by-product will be broken down by soil bacteria, releasing valuable micro and macro nutrients, while adding organic matter into the soil.<sup>7</sup>

Collection or drop-off systems are the best way to manage large volumes of household by-product and FCS will outline opportunities for incorporating the by-product into municipal or industrial-scale composting and AD processes in *Section 2: Municipal Diversion Programs*.

<sup>4</sup> Based on CT per kWh costs of \$0.35.

<sup>5</sup> <https://www.mdpi.com/2071-1050/12/15/5959>

<sup>6</sup> <https://www.sciencedirect.com/science/article/abs/pii/S096085241731670X>

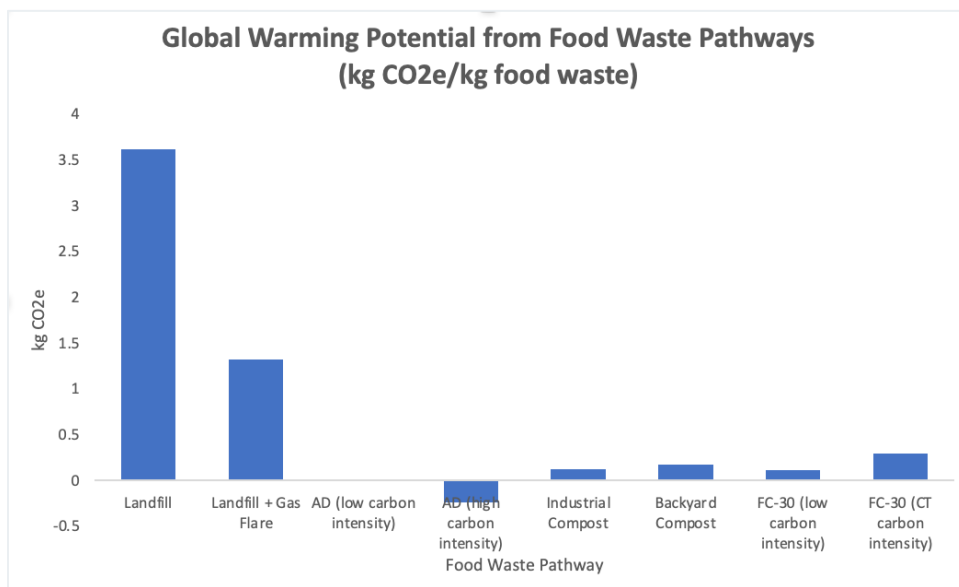
<sup>7</sup> [https://cdn.shopify.com/s/files/1/0684/4278/4019/files/The\\_Science\\_Behind\\_the\\_Magic\\_by\\_Food\\_Cycle\\_Science\\_1.pdf?v=1672866106](https://cdn.shopify.com/s/files/1/0684/4278/4019/files/The_Science_Behind_the_Magic_by_Food_Cycle_Science_1.pdf?v=1672866106)



## Life Cycle Assessments and Energy Use

A life cycle assessment (“LCA”) of the emissions associated with the FoodCycler FC-30 demonstrates that energy use is a comparatively small part of the overall food waste emissions profile, and the benefits of using the FoodCycler outweigh the small amount of energy use required to operate the machine.

FCS worked with an independent consulting firm AirVironment Canada to conduct an LCA on several food waste management pathways, including landfill, landfill with gas capture (flared), AD, industrial composting, backyard composting, and use of the FC-30 with backyard application of the by-product. LCA findings showed that regardless of the source of energy used in a home, the FC-30 significantly reduced the global warming impact of food waste sent to landfill. When the carbon intensity of the energy grid is *low*, the FC-30 reduces the global warming impact of food waste by 96%. When the carbon intensity of the energy grid is *high*, the FC-30 reduces the global warming impact of food waste by 83%. Based on the carbon intensity of various Canadian provincial energy grids and the embedded carbon emissions associated with production and transport of the FC-30, the carbon intensity of managing one kg of food waste using a FC-30 ranged from 0.112 kg CO<sub>2</sub>e/kg food waste (Quebec) to 0.621 kg CO<sub>2</sub>e/kg food waste (Alberta).



**Figure 1.** Global warming potential of food waste based on various pathways. The carbon intensity of the Connecticut grid (0.222 kg CO<sub>2</sub>e/kg food waste) means an FC-30 used in Connecticut will generate slightly more CO<sub>2</sub> emissions compared to other source separated processing pathways like AD, industrial composting, and backyard composting. However, the greenhouse gas emissions from avoiding landfill disposal are substantial. If use of the FC-30 increases food waste diversion, the benefits significantly outweigh the energy required to operate the unit.

In comparison, the carbon intensity of Connecticut’s energy grid is 0.222 kg CO<sub>2</sub>e/kWh of energy generated, which is closer to Quebec’s carbon intensity (0.003 kg CO<sub>2</sub>e/kWh) than to Alberta’s (0.820 kg CO<sub>2</sub>e/kWh). Based on the carbon intensity of Connecticut’s grid, the FC-30 would likely reduce more than 90% of the global warming potential of food waste compared with landfill. That means that even including the energy to operate the FC-30, the unit has an emissions profile comparable to backyard



and centralized composting and can play an important and complementary role in diverting food waste from disposal.

FCS recognizes that more than half of Connecticut's food waste is disposed of at one of the state's four permitted MSW waste-to-energy facilities, which changes the greenhouse gas emissions profile. Assessing these emissions was out of scope for the AirVironment Canada LCA. However, putrescible food waste generates less electricity than overall MSW in a waste-to-energy facility, so reducing food waste from disposal will increase the efficiency of Connecticut's waste-to-energy facilities.<sup>8</sup> And for municipalities that continue to ship waste out-of-state to landfill, the benefits of using a FoodCycler to divert food waste map to the LCA results above.

Transportation emissions associated with moving food waste to industrial compost, AD, or disposal were included in the LCA and considered negligible (0.011 kg CO<sub>2</sub>e/kg food waste). Transportation emissions would be 90% lower for the by-product on a kg/kg basis, given the reduced weight of the by-product compared to unprocessed food waste.

## Section 2: Municipal Diversion Programs

Partnerships with municipalities might look different across communities. Some municipalities may want to prioritize curbside collection; others may have existing leaf waste composting capacity to utilize. Regardless of the model, including FoodCyclers in the program is expected to increase diversion by driving up resident participation and reducing the need for dedicated, frequent (weekly) collection of food waste.

FCS is already working with 82 municipalities in Canada and the U.S. Pacific Northwest and has had success building programs with both urban and rural municipalities. Additionally, FCS has four agreements to develop new partnerships with municipalities in the U.S., including in New York State. Learnings from existing programs are included throughout this section.

### Benefits of FoodCyclers in a Municipal Diversion Program

There are several pinch points currently restricting the widespread adoption of food waste diversion that FCS's technology may be able to help overcome, specifically lack of resident participation, "ick" factor associated with putrescible food waste collection and transportation, the high cost of collection, and a lack of cost-effective processing opportunities.

#### Higher Resident Participation

For residents, the process dramatically reduces the smell and volatility of food waste in households, eliminating the "ick" factor of source separating food waste.

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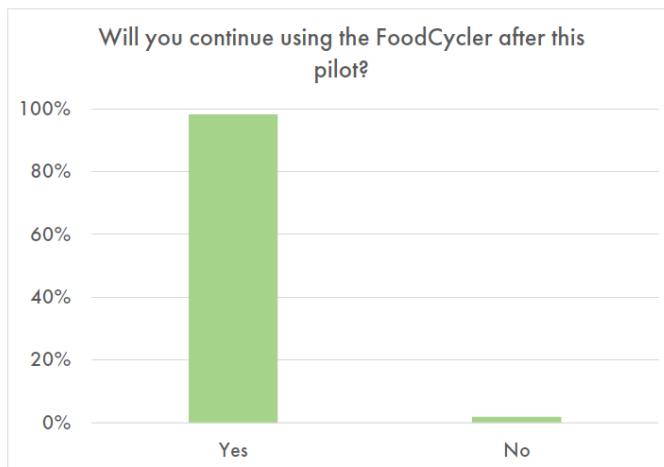
<sup>8</sup><https://link.springer.com/article/10.1007/s40518-014-0018-1>

Across 82 programs in the U.S. Pacific Northwest and Canada, FCS has surveyed residents to understand the FoodCycler user experience. FCS has found that 98% of all participants in municipal pilot programs stated they will continue to use their FoodCycler after the formal end of pilot programs. High resident participation means higher diversion rates. In contrast, curbside green bin programs in Canada have generally achieved lower participation rates. Limited data is available, however the most recent Statistics Canada reports the average hovering around 45%.<sup>9</sup>

## Satisfaction and Continued Use



When asked to rate their experience with the pilot project, the average rating was 4.59/5 across all pilots. This rating is consistent with consumer ratings on Vitamix and Amazon. Pilot participants are satisfied not only with the FoodCycler, but also with the overall pilot project experience.



Almost all residents (98%) that participated in a pilot program said that they will continue using the FoodCycler as a solution to their food waste moving forward. Compared to the green bin program in Ottawa, which has only a 57% uptake, the FoodCycler adoption rate across all pilots speaks to the willingness of residents to embrace this innovative method of food waste diversion.

*"Excellent way to reduce food waste. I thoroughly enjoyed the pilot program and was excited and amazed each time I ran a cycle to see how much our food waste was being reduced and how much*

In the same survey, participants were asked why they do not compost. The top three reasons were:

1. Concerns about bears and pests,
2. Concerns about odors,
3. They are too busy.

The FoodCycler directly addresses these issues by removing unpleasant smells, which in turn reduces the attraction of pests. By making recycling food waste as easy as clicking a button, resident participation increases.

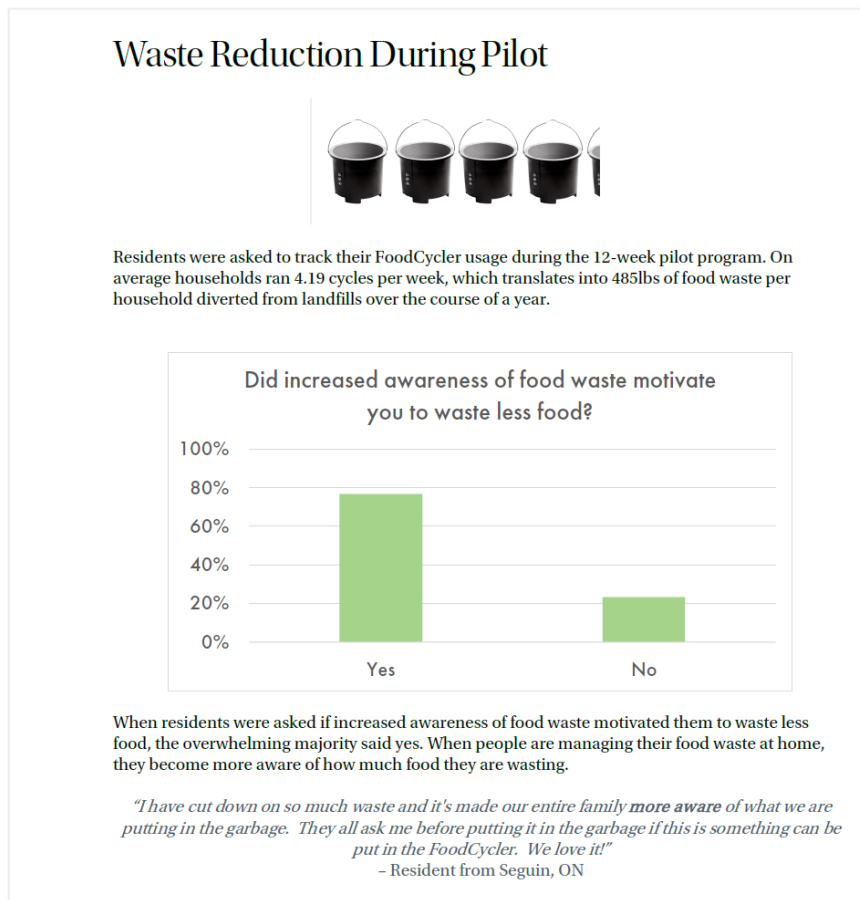
Unlike putrescible food waste, the FoodCycler by-product is an inert material that can be stored indefinitely if kept dry. Because the weight and volume of food waste is reduced by 90%, more food

<sup>9</sup> <https://www150.statcan.gc.ca/n1/pub/16-002-x/2013001/article/11848-eng.htm>

waste can be stored for longer before pickup or delivery to a drop-off location. The dehydration process means users rarely need to clean their FoodCycler buckets and eliminates the need for the biodegradable bags typically required for organics collection, saving residents \$2-3 every month.<sup>10</sup> Biodegradable bag savings can directly offset the small increase in monthly electricity usage.

### Higher Diversion Rates

Through their participant surveys, FCS has also found that using the FoodCyclers has made residents more aware of the amount of food they waste. In turn, survey respondents have reported paying closer attention to the amount of food they waste, boosting the amount of food waste they divert from disposal.



### Opportunities at Leaf Waste Composting Sites

Existing leaf waste composting programs may present a low cost, efficient way to manage the FoodCycler by-product, which is much lower in weight/volume and does not present the same challenges related to odor and pests as putrescible food waste. Over 100 municipalities throughout Connecticut host a leaf waste composting site, often operated by the municipality itself. At least four municipalities (Litchfield, Ridgefield, West Haven, and Mansfield) collect and process food scraps at their leaf waste composting facilities, but most facilities do not accept food waste.

<sup>10</sup> Based on per bag cost of \$0.28, at a bag use of 8-12 bags per month.

FCS has not done a comprehensive survey of leaf waste composting operators to understand why they restrict food waste from their facilities and welcomes any feedback or further discussion with CT DEEP to understand in more detail the barriers restricting food scrap acceptance at this existing infrastructure, and any permit considerations for municipalities. But based on FCS experience, the following barriers may be to blame:

1. **Concerns About Smells and Pests** – food waste is putrescible, and without proper composting management it can release significant smells, especially in warm climates. FCS is aware of several composting sites in the Northeast that have struggled with smell complaints due to their operation. Smells can also attract pests, especially bears and rodents. Leaf waste does not smell even when composted, so avoiding the addition of food waste to composting sites may be a simple way to avoid complaints from nearby residents. In contrast, the FoodCycler by-product is inert and does not smell.
2. **Lack of Processing Capacity** – municipalities process varying quantities of leaf waste at permitted municipal leaf waste composting sites in Connecticut, with some municipalities processing as little as several hundred cubic yards per year. Although four municipalities include food waste in their leaf waste composting operations, the limited processing capacity may dissuade municipalities from starting to collect any material. However, if residents use FoodCyclers, the weight and volume of their food waste will decrease by 90%, allowing municipalities to collect and process more food waste in less space.
3. **Contamination** – municipalities may be concerned that food waste processing at leaf waste composting facilities may lead to increased contamination, both from residents placing non-compostable materials in their collection bins and from the compostable bags used to collect food waste. FoodCyclers address contamination because the unit will not accept items that typically contaminate compost streams. The by-product from a FoodCycler is clean, contaminant free, and accelerates composting processes compared to putrescible food waste.

### **Collection Savings for Municipalities**

Because the FoodCycler produces an inert by-product, municipal curbside collection or resident drop-off of the by-product for processing can occur much less frequently. The reduced weight and volume of the by-product means more food waste can be stored longer in households. If kept dry, the by-product can be stored indefinitely. Less collection can quickly translate into municipal savings, especially when paired with decreased MSW generation, and municipal savings can offset the purchase or rental cost of a unit in each home. Cost savings are especially compelling when comparing infrequent collection of the FoodCycler inert by-product and the weekly collection cost of putrescible food waste from each household.

Use of FoodCyclers in households opens several collection opportunities and cost savings for municipalities. First, a primary municipal benefit of diverting food waste via any means is reductions in MSW tip fees. Over 80% of participants in FoodCycler municipal pilot programs surveyed stated that they were able to reduce their trash disposal by at least 1 bag per month.



Almost 80% of residents estimated that they reduced their monthly garbage production by at least 1 bag while using the FoodCycler to divert their waste. More than a quarter of the residents across all pilots reported diverting 2 or more bags of garbage per month, indicating a significant reduction in waste being sent to the municipal landfill.

*"We were pleased to observe that regular use of the FoodCycler cut our curbside garbage by more than half. Our family of 4 already reuses/recycles as much as possible, and now with the FoodCycler diverting our organic waste, we put out approximately 1/3 of a bag of garbage each week, down from 1 bag."*

- Resident from South Stormont, ON

*I feel this is an excellent way to reduce food waste. From my calculations the machine reduced the food waste down by about 92%. We were so amazed how much the waste was reduced and there is no bad smell at all to the reduced waste, plus we are producing lots of fertilizer for our plant beds and pots for spring and summer. It's also a lot better than hauling a bucket of smelly rotting food waste to the dump and emptying into the compost bin there. Very clean and easy process and we are happy and excited to continue using our FoodCycler."*

- Resident from Trent Lakes, ON

If municipalities wish to do curbside collection of the by-product, they can run collection services much less frequently, perhaps as little as once per month. Alternatively, a municipality may choose to simply forego collection altogether and offer drop-off locations for the by-product. Transfer stations could play a critical role as a drop-off location, and the frequency of bulk pickup of the by-product by a waste hauler or composter could be reduced. Lastly, because the by-product is 90% lighter than putrescible food waste, transporting it longer distances to a commercial composting site or an AD facility is easier and more cost effective.

## Flexibility in Financing Options

FCS has utilized several different financing models, depending on the specific needs of a municipality. Multiple financing options provide flexibility to the municipality depending on budgetary considerations and other programmatic criteria that may impact how FoodCyclers are layered into a municipal food waste diversion strategy.

<p style="text-align: center;"><b>Option 1</b> <b>Subsidized Purchase by Municipality</b></p>	<p style="text-align: center;"><b>Option 2</b> <b>Rental Funded by Municipality</b></p>
<p>For municipalities interested in utilizing a drop-off model, likely at a transfer station, FCS recommends that the municipality either purchase FoodCycler units or subsidize the cost of FoodCycler units for each household. The cost to subsidize or purchase a FoodCycler outright is a fixed cost over the 6–7-year lifetime of the technology.</p> <p>Fixed costs per unit (which do not include the marginal costs of carbon filter replacements, repairs, or electricity) should be compared on an annual basis with the alternative cost of disposing of food waste through landfill or waste-to-energy, and to the annual cost associated with curbside collection of food waste. FCS is confident that the annualized cost of a FoodCycler in each home will be competitive – if not lower – than the cost to operate a curbside collection program for food waste collection.</p> <p>Once purchased, FCS can provide regular maintenance and carbon filter replacements to households working either with the municipality or directly with the resident.</p>	<p>For municipalities interested in curbside collection of food waste, FCS recommends that the municipality consider including FoodCycler rentals in the collection program. Because the FoodCycler reduces the volatility, weight, and volume of food waste, collection could happen far less frequently than needed for putrescible food waste. Savings from less frequent collection could fund rental of FoodCycler units in each household.</p> <p>A primary benefit of the rental model is the inclusion of maintenance and carbon filter replacement in the monthly or annual cost to rent the unit. Municipalities would also have the flexibility to incorporate updated FoodCycler units into distribution much quicker than a purchase program, where the same FoodCycler model would be in homes for the lifetime of the unit.</p>

## Section 3: Multi-Family Buildings Food Waste Diversion Programs

There are challenges associated with implementing both household recycling and food waste diversion programs in multi-family buildings. Most multi-family buildings are excluded from municipal collection programs and are managed under commercial waste contracts negotiated directly by the building supervisor. Recycling and food waste diversion programs are generally seen as an extra service provided at the discretion of the supervisor, although Connecticut has a legal requirement that multi-family buildings offer recycling services. Even with the requirement, compliance is far from universal.<sup>11</sup>

<sup>11</sup> <https://portal.ct.gov/DEEP/Reduce-Reuse-Recycle/Recycling/Apartment-Condo-MultiFamily-Recycling>





Food waste diversion and recycling programs share many of the same challenges, with food waste programs creating additional concerns about smell and pests. In addition to high resident turnover, language barriers, and contamination concerns, food waste diversion in multi-family buildings present the following hurdles that FoodCyclers may help overcome:

1. **Concerns About Smells and Pests** – Food waste is putrescible, making it difficult to manage without regular cleaning of bins and collection areas. Regular cleaning is a burden on maintenance staff and can increase labor costs. The smell can quickly attract pests which may already be a concern for building supervisors. In contrast, the FoodCycler by-product is inert, does not cause any mess in buckets or collection rooms, and does not attract pests. Managing the collection of FoodCycler by-product would be much easier for building staff than managing putrescible food waste. In addition, if most of the food waste is removed from trash bags, MSW may also be less smelly and attractive to pests.
2. **Lack of Storage Space** – Multi-family buildings have limited storage space for MSW, let alone recyclables and source separated organics. Because FoodCyclers reduce the weight and volume of food waste by 90%, a collection system in the trash room of a multi-family building could hold more food waste in a smaller container.
3. **Lack of Space in Residences** – Any food waste diversion program will take up some space in residences, whether for a FoodCycler or a collection bucket. But given the space constraints, residents are more likely to engage with the FoodCycler which produces an inert material, compared to the mess and smell of putrescible food waste.
4. **Added Cost** – Because multi-family buildings tend to have commercial waste contracts based on the frequency of collection, any added diversion program is an additional cost. Traditional collection of putrescible food waste requires frequent collection due to smell and pest concerns. Instead, FoodCyclers can help significantly reduce the frequency of collection, potentially offsetting the cost to collect the by-product.

FCS has had initial success collaborating with multi-family building supervisors who are interested in food waste diversion. FCS would like to explore pilot project opportunities with multi-family building supervisors in Connecticut to continue to demonstrate both the viability of the model for resident participation and the potential cost savings available for building management.



# Conclusion

The FoodCycler technology provided by FCS offers several exciting opportunities to boost food waste diversion in Connecticut and help municipalities and CT DEEP achieve the waste reduction goals outlined in the updated Connecticut Materials Management Strategy. By partnering with municipalities, FCS can help unlock the potential of existing composting and anaerobic digestion infrastructure in the state, increase resident participation in food waste diversion, and save municipalities money compared with traditional curbside collection of food waste.

FCS welcomes the opportunity to engage with CT DEEP and Connecticut municipalities over the coming months and would welcome the opportunity to provide a presentation to the Connecticut Coalition for Sustainable Materials Management (CCSMM) to share further insight into the technology and the proposed adoption model.