



FoodCycler Municipal Solutions

The Future of Food Waste



Who is Food Cycle Science?

- We offer food waste diversion solutions using on-site technology called the FoodCycler
- Semi-finalists in Impact Canada's Food Waste Reduction Challenge
- Products available in North America through FoodCycler Municipal / Vitamix and internationally through network of distributors & OEM partners
- Selected as one of the 2021 Deloitte Fast 50 CleanTech award winners
- # 81 on Globe & Mail's Canada's Top Growing Companies for 2021
- We collect and analyze data for our municipal partners to help communities make evidence-based decisions



Trusted Municipal Solution



Thirty-Seven Municipal Partners...and counting!

The Problem With Food Waste

- **63%** of food waste is avoidable
- Household waste is composed of **25-50%** organic waste
- Food waste weight is up to **90%** liquid mass (which is heavy)
- The average household spends **~\$1,766** on food that is wasted each year
- Methane emissions from food waste are responsible for **~11%** of global methane emissions



Municipal Impact

WASTE & LANDFILL COSTS

- ~**25-50%** of household waste is organics
- Landfills are quickly filling up, creating substantial costs for communities
- Hauling, transfer, and disposal services are a major cost factor to municipalities

ENVIRONMENT

- Landfilled organic waste produces methane, which is **25 times** more harmful than CO₂
- 1 ton of food waste is equivalent to ~1 car on the road for one year



COMMUNITY

Food in the garbage:

- More frequent collection or trips to the disposal site
- Unpleasant odours
- Animals, pests & other visitors



Removing food waste from garbage:

- Volume is reduced by up to **50%**
- Less frequent collection, fewer trips to disposal site, save on bag tags
- Keeps odours out, makes garbage much less *interesting* for animals

"Haven't We Solved This Already?"



GREEN BINS

- GHG emissions from curbside collection
- Contamination is an ongoing challenge
- Expensive and relatively low-participation rates
- Safety concerns from additional trucks on the road
- Requires ongoing maintenance of processing infrastructure



BACKYARD COMPOST

- Cost-effective but can also be labor-intensive
- May attract pests/animals or create unpleasant odors
- Most users do not compost in winter or inclement weather
- Adoption rates are relatively low and stagnant



LANDFILL

- Easiest solution and often perceived as the most cost-effective in the short term
- Waste is typically out of sight and out of mind for consumers
- High levels of GHG emissions, particularly methane
- Long-term environmental hazard requires monitoring / maintenance

Our Solution

In Three Simple Steps

1. Add waste to bucket
2. Add bucket to unit
3. Press Start. That's it!



Vegetable & Fruit Scraps



Starches



Fish & Poultry Bones



Dairy Products



Tea bags & Coffee grinds



Egg shells

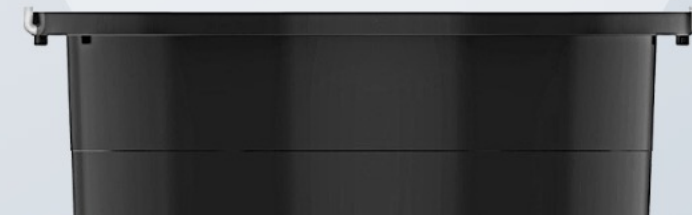


Nut shells, nuts & seeds



Meat, poultry & fish

The resulting by-product can be used in many applications, including gardening, farming, and more.



Reduces Food Waste Volume By 90%

1 kg (2.2lbs) of wet,
smelly food waste

100 g (1/4lb) of dry, sterile
& odorless soil amendment

4-8 HOURS + 0.8 kWh
~8 cents / cycle

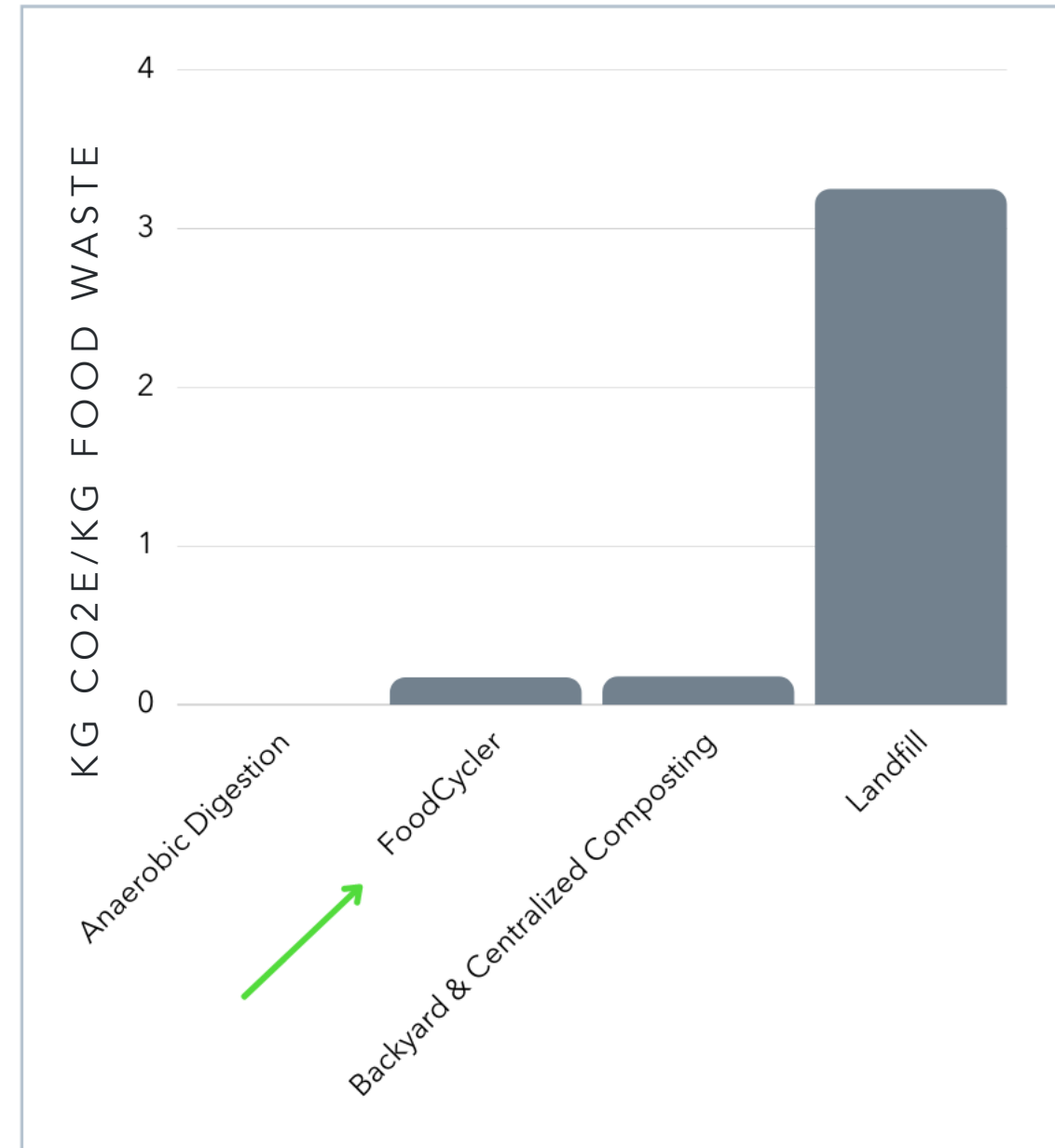


Lifecycle Analysis

FOODCYCLER IS COMPARABLE TO

- Backyard composting (if done correctly*)
- Curbside collection with central composting (assuming zero transportation emissions)
- FoodCycler offers **>95% reduction in CO₂e** vs. sending food waste to landfill even after accounting for production-related emissions

*Incorrect backyard composting can lead to methane gases and odors



Economic Impact



Social Impact

THE TIME IS NOW

- Constituents want **solutions** to reduce their environmental impact
- Waste is perceived as a government problem and **regulations** are coming
- Food waste is “low-hanging fruit” to achieving higher **diversion** and addressing the environmental impact of waste



"It alleviates a lot of the concerns that people might have with backyard composting. The time commitment, the location, pests and animals and everything like that."

- Kylie Hissa, Strategic Initiatives Officer in Kenora

"I've received a number of positive messages from residents saying, "sign me up, where can I get mine." I'm 100 per cent in favor of it."

- Deputy Mayor Lyle Warden, South Glengarry

"We were extremely happy with this program and loved that it made us aware of our daily waste."

- Program participant in South Glengarry

"It's a great tool to reduce household waste. Appreciate that the municipality is being innovative and piloting different solutions."

- Program participant in Hornepayne

The FoodCycler Pilot Programs



>1,200 households

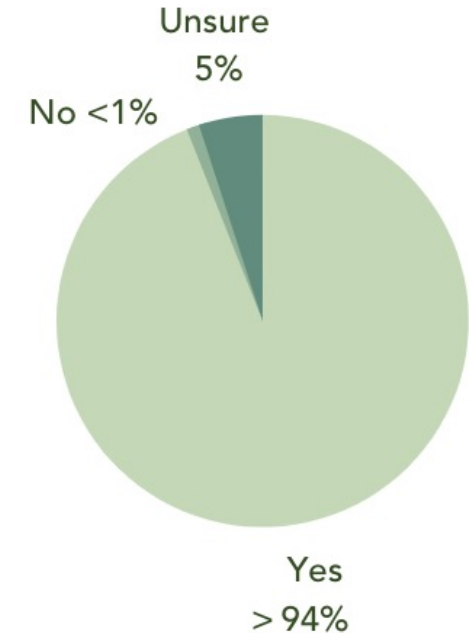
14 municipalities have completed their on-site food waste recycling programs with overwhelmingly positive results.

Net New Diversion

Each participating household is estimated to divert between 661.4 lbs and 881.9 lbs of food waste annually.



Would you recommend FoodCycler?



Average overall user experience



Our Food Waste Recycling Pilot Programs

Data-focused approach

PROGRAM TIMELINE

START

Residents obtain their FoodCycler from the Municipal Office (or other designated location).

12 WEEKS

Participants use their FoodCycler for a period of **12 weeks**.

Weekly cycles are tracked to estimate **total diversion** achieved throughout the program.

END

Participants fill out **exit survey**, providing a review of the program and any other feedback.

Survey results are **analyzed** to evaluate program success and a **report** is prepared for the municipality.

NEXT STEPS

Full program design and implementation.

Identify **grants** and government funding available.

Pilot Investment Options

FoodCycler Cost: \$250 /unit	
Standard Pricing Plan	Cost-Sharing Plan
Municipal investment: \$250 /unit	Municipal investment: \$125 /unit
Resident investment: \$0	Resident investment: \$125 /unit



Pilot Scope Recommendations

Pilot Scope	5-year Diversion	Standard: Total Municipal Investment **	Cost-Sharing: Total Municipal Investment **
100 households	200 tonnes	\$25,000	\$12,500
250 households	500 tonnes	\$62,500	\$31,250
500 households	1000 tonnes	\$125,000	\$62,500

**Plus shipping costs and applicable taxes.



Thank You!

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