

CITY OF CALGARY
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DIVERTING ORGANICS from the ICI Sectors

Considering the Garberator®

October 2016

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Senior Consultant to InSinkErator Canada

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EMERSON™
Commercial & Residential Solutions

InSinkErator

- **Kendall Christiansen**
Principal, Gaia Strategies
- **Senior Consultant – InSinkErator**
(U.S. + Canada)
- **Founding Assistant Director,**
NYC's Recycling Program (1989)
- **Former Chair, NYC's Citywide**
Recycling Advisory Board
- **World's leading**
manufacturer - food
waste processing
systems
- **50+ million installed in 100+**
countries
- **Commitment to technical**
research/best practices



grind²energy™



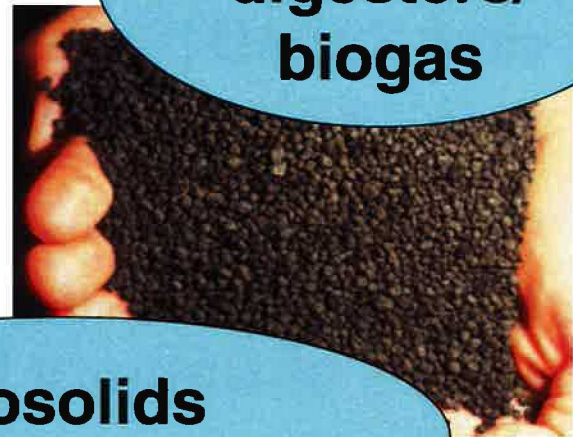
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Use In-Sink Disposer to Turn This...Into That



**Anaerobic
digesters/
biogas**



**Biosolids
CalGro**



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Why?

- Food = water (70%+)
 - Greenbins – challenging in multi-residential buildings
 - Disposers - highly distributed pre-processing system
 - Consumer convenience – 50% of Calgary homes
 - Calgary – best-in-Canada water resource recovery system
 - Bonnybrook – nearly energy self-sufficient
 - CalGro – longstanding product
-
- Cost-effective
 - Research substantial
 - Best Practices

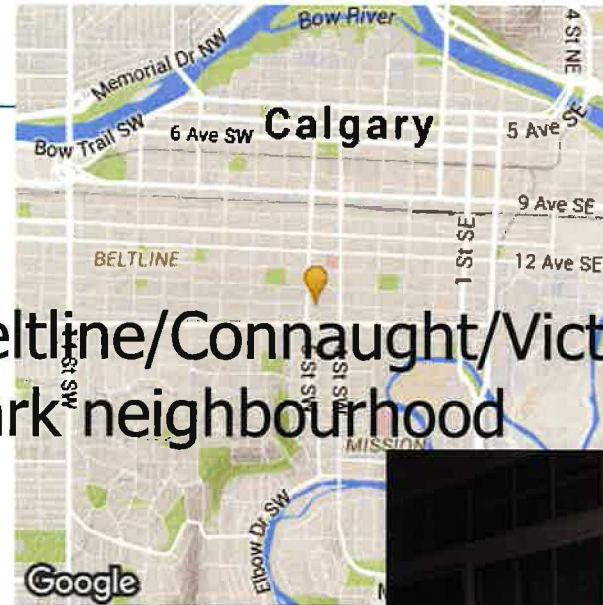


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The Conservatory

- 65 condos
 - 1-2 adults/unit
 - 30-40 yrs old
 - 5 yr residency
- Solicited participants
- Installed disposers
- Educated/engaged
- Evaluated



Beltline/Connaught/Victoria
Park neighbourhood



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EMERSON
Appliance Solutions

Calgary Project - Design

Protocol

- Outreach to @ 65 residents
- Installed @ 50 disposers
 - 40 new/10 upgrades
 - Fall 2014
- Outreach
 - Multiple-touch
 - Mix of printed, demos/events
 - Bag of Fruit/Veggies
- Waste audits
 - Pre/post – one year apart
 - Two weeks
- Surveys
 - Interim/final (19 responses)



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Partners

- TetraTech (waste audits)
- BluPlanet Recycling
 - project coordination
 - resident engagement
- University of Calgary
 - Project oversight – Advisory team of real estate stakeholders
 - Chaired by Getachew Assefa, Associate Professor – Environmental Design, University of Calgary
 - Survey analysis – UCalgary



TETRA TECH



Calgary Project - Top-Line Results

Behavior/Satisfaction

- **100% use/participation**
 - **53% all/most**
- **Less trash/fewer smells**
 - 74%: *noticeable reduction*
 - 26%: *decreased alot*
- **Performance**
 - Convenient/quiet
 - Minimal issues
- **Value**
 - most would replace if \$200+/-

Food Scraps Reduced

- **“Soft” food scraps**
 - **60% reduction**
 - 2.3 to .9 lbs/HH/week
- **Still packaged**
 - 50%+ of remainder
- **Negligible**
 - “liquid” (in bottles)
 - “hard” (bones/shells)



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Demonstration Projects

- Goal: *Assess efficacy of in-sink disposers*
- Research gap: waste diversion
- **Philadelphia**, **Chicago**, **Milwaukee**, **Tacoma**, **Boston**, ... and **Calgary**
- @ 500 disposers installed homes/apartments
- Evaluation: Waste audits/behavioral surveys



**GREENOVATE
BOSTON**



Mayor's Office of Environmental
& Energy Services

Mayor Martin J. Walsh,
Chief Austin Blackmon

bit.ly/greenovatebos | bit.ly/envirobos



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Other Cities

Philadelphia:

Building/plumbing code amendment – City Council adopted 12.03.16:

Require disposer installation in new residential construction

Los Angeles:

500 home project – 2017

Assess both solid waste and wastewater benefits

Boston:

Installing initial 3,000 disposers in public housing

Eastern Canada:

London – ban rejected

York Region – ban rejected

Markham - ban repealed

Vaughan – ban repealed

Endorsements:
New York City
Stockholm
Shanghai



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Calgary – Next Steps

- **Technical Workshop re Household Disposers**
- **On-site Food Scrap Processing Technologies**



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