



The InSinkErator® | City of Philadelphia
P R O J E C T

How Food Waste Disposers
Can Benefit Municipalities



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A collaboration between the City of Philadelphia and InSinkErator® demonstrated how in-sink food waste disposers reduced the amount of food waste that residents threw away in the trash, helping the City to achieve its environmental goals.

Cities around the world are increasingly focused on the challenges and opportunities associated with the generation of food waste. Approximately 10 pounds of food waste each week is generated by the average American family. In Philadelphia, the Streets Department collects more than 500,000 tons of residential waste each year, which it delivers to disposal facilities at a cost of about \$59 per ton. Some 10 percent of the City's residential waste is food waste.

The City of Philadelphia, in partnership with InSinkErator® - the world's leading manufacturer of food waste management systems - set about to assess the efficacy of in-sink food waste disposers (aka garbage disposers) as a means to divert food scraps from the trash by engaging in a demonstration project.

*Philadelphia's new Biogas
Cogeneration Facility at the
Northeast Water Pollution
Control Plant.*





After several months of planning, with key City agencies and the Mayor’s Office of Sustainability, the City of Philadelphia and InSinkErator® launched the *Clean Kitchen/Green Community* project at a press conference in May 2012, presided over by Mayor Michael Nutter. Led by the Streets Department, the city agency charged with managing solid waste, the City entered into a partnership with InSinkErator to pursue three sustainability goals included in the City’s *GreenWorks* plan: reducing the generation of solid waste; increasing production of renewable energy; and reducing greenhouse gas emissions.

Beyond the *GreenWorks* plan, the project was timely: the Philadelphia Water Department was in the process of upgrading its ability to recover and beneficially reuse organic resources from wastewater, including an expansion and upgrade of its anaerobic digestion and combined heat and power facilities, and a new state-of-the-art biosolids processing system to convert digestate into fertilizer products.

The primary objective was to measure the reduction in food waste (and overall waste) from homes that use an in-sink food waste disposers to manage food scraps. Using that data, estimates could be made regarding the potential for increased production of biogas from food scraps managed as a liquid, and the reduction in greenhouse gas emissions by diverting food scraps from disposal as trash. The City generally accepted the extensive body of technical research and best practice evidence regarding impacts on conveyance systems (sewers) and wastewater treatment facilities and processes.

The City also wanted to assess whether the expanded use of disposers could improve the quality of life of city residents. Using a disposer to immediately remove food scraps from a kitchen can help reduce odors and pests, and reduce the amount of waste set out for street collection.



The primary objective was to measure the reduction in food waste from homes that use an in-sink food waste disposer to manage food scraps.

City garbage collection trucks were “wrapped” with the project message.



The *Clean Kitchen/Green Community* partnership consisted of two components: a demonstration project structured around the installation of disposers in nearly 200 homes in two neighborhoods, and a citywide education campaign.

The citywide education effort sought to inform Philadelphia residents that using their food waste disposers can help the environment, and offered all Philadelphia residents an incentive to purchase and install a disposer or upgrade an existing one.

To support this effort, InSinkErator® sponsored a citywide print, broadcast and digital paid media campaign. It also participated in several city festivals, including the three-day *Taste of Philadelphia* festival (100,000 attendees), the Clean Air Council’s annual *GreenFest*, and the Philadelphia International Flower Show. Two City garbage collection trucks were “wrapped” with a message promoting the program. InSinkErator developed comprehensive content for the City’s web site.

For the demonstration project, a team of City officials and InSinkErator representatives selected two representative neighborhoods to host the project, choosing areas of owner-occupied moderate-income housing. Community

groups were identified in each area with which InSinkErator contracted to conduct the initial project outreach, identify homes without a disposer, sign up those homes to participate in the project, and then conduct ongoing educational programs. After homes participating in the project had a disposer installed by a licensed plumber (and electrician), they were asked to participate in project surveys, and to use their new disposer to handle as much of their food scraps as possible.

As part of the ongoing educational program, “Do’s and Don’ts” magnets were supplied to participants reminding them how to use their food waste disposer.





A press conference hosted by the mayor's office and InSinkErator, and an accompanying media campaign resulted in coverage in many of the city's most widely read, heard and watched outlets.

In South Philadelphia's Point Breeze community, Diversified Community Services was the project partner; in Northwest Philadelphia's West Oak Lane neighborhood, the Ogontz Avenue Revitalization Corp. Three plumbing firms installed the new disposers - a total of 173.

Through door-to-door canvassing, a series of community education events and word-of-mouth, the Streets Department, InSinkErator®, and community organizations encouraged and educated residents about how to use them effectively.

The method chosen for measuring the reduction in waste was conventional waste composition audits. InSinkErator and the Streets Department engaged MSW Consultants to conduct such audits prior to disposer installation, and then approximately one year later. To establish a baseline, the initial audit included the entire existing trash collection route of approximately 450 homes in each area. The final audit sampled waste only from the homes along those routes that had disposers installed.

The reaction of homeowners participating in the project was assessed through surveys administered by SERA, a consulting firm specializing in consumer environmental behavior; it also conducted two focus groups near the end of the project.

The Philadelphia Water Department monitored the use of water by participating households and did not find any significant change.

Participating homeowners gave feedback about their use of food waste disposers using prepaid postcards.



\$20 InSinkErator® Visa® Prepaid Card Offer
For the purchase of an Evolution Series® food waste disposer



Evolution Series® Food Waste Disposers
Grind More. Hear Less.®

FEED A DISPOSER. STARVE A LANDFILL.™

Using a food waste disposer recycles food scraps into renewable energy, fertilizer products and clean water at Philadelphia's wastewater treatment plants. Feeding a disposer keeps your kitchen cleaner and your neighborhood greener, and starves the landfill - reducing greenhouse gas emissions, and saving Philadelphia money.

Purchase an InSinkErator® Evolution Series® disposer before September 30, 2012 and receive a **\$20 Visa® Prepaid Card** after redemption of offer via mail.*

clean kitchen green community
RECYCLE YOUR FOOD WASTE • USE A DISPOSER

Michael A. Nutter, Mayor

To receive your \$20 Visa prepaid card you must:

1. Purchase a qualifying Evolution Series® food waste disposer between 6/1/12 and 9/30/12
2. Enclose your original, dated sales receipt. Make a copy for your records.
3. Enclose the original UPC symbol cut from the package (including the numbers below the UPC symbol).
4. Enclose this completed form, including food waste disposer number, from one of the following qualifying models.

Qualifying Models
Evolution Compact® / Evolution PRO Compact®
Evolution Essential® / Evolution PRO Essential®
Evolution Cover Control® / Evolution PRO Cover Control®
Evolution Excel® / Evolution PRO Excel®
Evolution Septic Assist®
5. Record 11-digit serial number here _____

6. Mail to:
Evolution Series® Food Waste Disposer Offer
Offer # 845-1
PO Box 753223
El Paso, TX 88575-3223

For rebate questions call: 800-559-2806 (MF, 7 AM - 7 PM) or check your status online at: status.rewardpromo.com/InSinkErator

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|-------------------------|---|
| May, 2011 | Introduction of City and InSinkErator®; initial discussion of project concept |
| November, 2011 | Agreement to collaborate |
| January - April, 2012 | Logistical planning |
| March, 2012 | Program announcement at city's annual Block Captain Rally; disposer workshops; baseline waste audit |
| May, 2012 | Mayor Nutter's press conference |
| May - June, 2012 | Canvassing and resident sign ups |
| June - August, 2012 | Disposers installed |
| June, 2012 - June, 2013 | Resident outreach and education |
| April, 2013 | Resident focus groups |
| July, 2013 | Final waste audit |
| November, 2013 | Project report |

Resident Behavior and Satisfaction

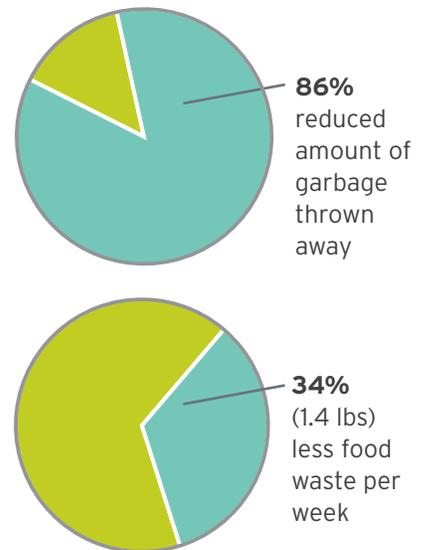
In April 2013 and near the project's conclusion, Skumatz Economic Research Associates, Inc. (SERA), surveyed disposer households and hosted two focus groups to better understand the participants' experience and usage habits.

Participants in the study stated they were happy with the new disposer provided because it made kitchen cleanup easier. In addition, 86% reported a reduction in the amount of garbage they threw away, with self-reported weekly trash-bag set-outs decreasing from 2.4 bags to 1.5 bags per household. According to the results, the average amount of trash bags each household set out decreased from 2.4 bags to 1.5 per week. Participants also reported noticing reduced odors and smells in their houses and neighborhood, and fewer pests in or attracted to the trash they set out. Over 80% of respondents reported they almost always used their disposer for the scraps from meal preparation; nearly 75% stating they put all food scraps down the disposer.

Four-fifths of participants experienced no problems with the disposer during the program. Messages discouraging the disposal of used cooking oils and grease

Waste Composition

A total of 173 households from two neighborhoods participated in the food waste disposer project. A baseline waste audit occurred in March of 2012. The subsequent final waste audit occurred in July of 2013, and found that residents reduced the weight of the food waste in their garbage by 34% - some 1.4 pounds less food waste per household per week.



Based on the results of the *Clean Kitchen/Green Community* demonstration project, households that had a new food waste disposer installed experienced a decrease in food scraps generation by one-third. If the entire City of Philadelphia utilized food waste disposers in homes and apartments similar to the target areas, potential benefits to the City could include:



Reduction of residential food waste by 19,000 tons annually



Reduction of waste disposal fees by \$1.1 million annually



Increased biogas production by the Philadelphia Water Department

- Surveys of project participants found that food waste disposers are regarded as a highly effective tool.
- Homeowners reported a high level of usage of their new disposer: the majority of respondents reported that they almost always use the disposer when preparing meals or cleaning up after meals.
- As a tool for diverting solid waste, most participants reported they put all or nearly all of the food scraps that were previously disposed of in the trash down the disposer.
- As a matter of convenience, participants were overwhelmingly happy: they reported that disposers reduced the trash they disposed, made cleaning up the kitchen easier, reduced odors and smells in the household and neighborhood, and limited vectors and pests associated with trash collection.

Next Steps

Based on the results of this project, the City and InSinkErator® are engaged in ongoing discussion about using food waste disposers to increase the diversion of food scraps from households. Following Philadelphia's commitment to this project, similar projects were launched in Tacoma, Chicago, Milwaukee and Boston. Composite results are expected in 2015.

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InSinkErator may make improvements and/or changes in the specifications at any time, in its sole discretion, without notice or obligation and further reserves the right to change or discontinue models.

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