

The Only in My Backyard Program:

**An Opportunity to Achieve Zero Waste
in Residential Organics in Single-Family
Owner-Occupied Homes in Central
Vermont**



CENTRAL VERMONT
SOLID WASTE
MANAGEMENT DISTRICT

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Introduction

Only In My Backyard" (OIMBY) is the name of the Central Vermont Solid Waste Management District's (CVSWMD) Residential Organics Diversion Program. The goal of the program is to provide District residents with the means to divert 100% of their food scraps and yard clippings from the trash. We have substantive data and testimony from participants in two test programs — one completed in July 2006 and one to be completed in July 2007 — involving 175 households in four rural communities in our region indicating that this 100% diversion goal for the program can be achieved. The remaining challenge involves how to market the OIMBY Program in a way that appeals to and is seen as affordable for single-family homeowners in the 22 communities comprising the CVSWMD.

A critical component of the program is the Green Cone™ food scrap digester. The digester allows residents to manage all food scraps including meat, fish, bones, and dairy on-site — materials that are not commonly composted at home because of potential problems with pests and pathogens. In addition to offering Green Cones™, the OIMBY Program also offers plans for building compost bins for lawn and garden clippings, a list of where to purchase compost bins locally and on the Web, a District-generated booklet about composting titled *The Dirt on Composting*, and a Compost Specialist available to answer questions relating to composting and Green Cone™ use. The resources are available in print form and most are also included on the District's Web site.

The "Only in My Backyard" Program encourages Zero Waste behavior because materials that are commonly sent to a landfill can instead be managed right where they are generated. This model also saves the resources that would be needed to collect, haul, and process them at a more preferable site such as a composting facility. With this program, residents can take responsibility for up to 40% of their "waste," right where they live.

The District began testing Green Cones™ in the summer of 2005 in a pilot project funded in part by a USDA Rural Development Grant. In this pilot, District staff installed Green Cones™, asked participants to measure the amount of food scraps they put into the cones, and surveyed them about how they felt about diverting food scraps from their trash. A second pilot project is currently underway, funded in part by a grant from the Vermont Agency of Natural Resources. In this pilot, participants were asked to install the cones themselves and were surveyed about the installation process. At the end of the pilot, participants will also be surveyed about how they feel about diverting food scraps from their trash.

This report provides a history of the development of the "Only in My Backyard" Program, the key role Green Cones™ can play in the program's future success, and options to encourage adoption of widespread use of the system throughout the District.

The "Only In My Backyard Program" encourages Zero Waste behavior because materials that are commonly sent to a landfill can instead be managed right where they are generated.

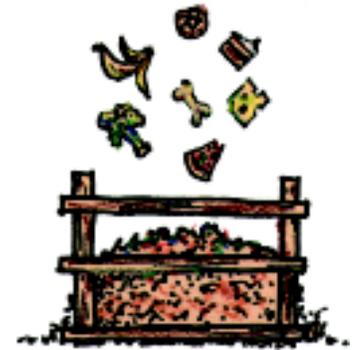
History

The CVSWMD's current Solid Waste Implementation Plan (SWIP), adopted by the District Board of Supervisors in 2003 and approved by the Vermont Agency of Natural Resources in December 2006, states that "The CVSWMD will make the diversion of organic matter from waste the single most important program activity undertaken in the next 5 years." Since organics can comprise up to 40% of waste, diverting organics from trash will move the District significantly closer to the Zero Waste goal it has set in its Plan.

The District recognizes that not all organic discards generated by a household are suitable for home composting. It is not recommended that items such as meat, fish, bones, grease, oil, and dairy products be put in backyard composters.

In order to achieve the greatest diversion rates, the goal was to develop a system that has the potential to divert the most material. This is often achieved by providing options for food scraps to be collected, hauled to, and composted at a permitted facility. Although perhaps the best option for businesses and schools, these types of programs are costly when compared to handling the material in one's own backyard, and result in fuel use, pollution, and waste created by the hauling and processing of organic materials. More in line with CVSWMD's Zero Waste Plan would be a system that eliminated the need for collection and hauling and that encouraged residents to take responsibility for reducing the amount of trash they generate.

In 2003, the CVSWMD learned about Annapolis Royal, a community in Nova Scotia that had taken a Zero Waste approach to organics management. When the province banned organics from landfills, it encouraged communities to join together and send their



organic materials to regional composting facilities. Annapolis Royal instead adopted a goal of Zero Waste and developed systems for managing all of the community's commercial and residential food scraps and lawn and yard clippings on their own. Part of that effort involved using Green Cone™ food scrap digesters to manage residential food scraps. The success of that program encouraged the CVSWMD to test the cones to determine how they would function in this region and if District residents would be willing to adopt the behavior of backyard diversion. If successful, the cones will provide the "Only in My Backyard" Program with the remaining resource needed to achieve 100% on-site residential organics diversion.

It should be noted that Green Cones™ are most suitable for single-family owner-occupied households. Rental units and multi-family households present a challenge due to the fact that multiple users of the cones and potential high turnover of occupants could result in non-food contamination of the cones. District staff is developing programs targeting businesses, rental units, and multi-family households which will result in multiple diversion programs that will meet the goals for organics diversion laid out in its SWIP.

The Pilot Programs

The first pilot, conducted between July 2005 and July 2006, was funded in part by a USDA Rural Development Grant. 92 households in the towns of Bradford and Chelsea participated in the project. District staff met with participants individually, helped them site their cones, and provided technical assistance. A District crew installed two Green Cones™ for food scraps and a compost bin for yard waste for each household. The goal of the project was to see how well the Green Cones™ and compost bins functioned, gauge the willingness of the households to continue using the system, determine whether participants would encourage other residents to use the system, and measure the amount of food scraps diverted to the Green Cones™ by the households.

Most of the residents who responded to the surveys continue to use their cones and would recommend the system to others. The estimated quantity of food scraps diverted by the 92 participating households during the year of the pilot was 35 tons, or 760 pounds per household. Based on these estimates, this represents the potential to divert approximately 6,500 tons of food scraps per year from the estimated 16,859 owner-occupied households in the District.

Survey results from respondents in the 1st pilot:

- 97% rated the overall performance of the cones excellent, very good or good.
- 85% said the process of separating and collecting food scraps was very easy and no inconvenience.
- 93% would recommend the system to others.
- 98% said the appearance of their property was very satisfactory or satisfactory after the cones were installed.

Survey results from respondents in the 2nd pilot:

- 63% said the process of installing the cones was easy or very easy.
- 98% said the appearance of their property was very satisfactory or satisfactory after the cones were installed.
- 82% rated the overall performance of the cones excellent, very good or good.
- 100% said the process of separating and

collecting food scraps was very easy and no inconvenience.

- 71% said taking food scraps out to the cones was very easy and no inconvenience.
- 92% would recommend the system to others.

A similar study conducted in Dorset, England found:

- The average annual amount of waste diverted to the Green Cone™ was measured to be 448 lbs. a year per household.
- 63% of participants put out for collection up to 1 less trash bag after using the Green Cones™; 23% saw no reduction; 11% saw a 1-2 bag reduction; and 3% saw more than a 2-bag reduction.
- 70% of participants agreed with the statement that using the Green Cone™ "has reduced the amount of rubbish collected from my house."
- 69% of participants agreed with the statement that using the Green Cone™ "has increased my commitment to reduce rubbish."
- 65% of participants agreed with the statement that using the Green Cone™ "has increased my commitment to recycling."
- 73% of participants agreed with the statement that the Green Cone™ "should be made available to every household with a garden."
- Although a majority of households experienced some issue with the Green Cone™, only 4% had a problem that caused them to stop using it entirely.
- 81% of participants would recommend the Green Cone™ to a friend.

The current CVSWMD pilot project is testing the use of Green Cones™ that were self-installed by residents of Calais and Middlesex using District-generated instructional materials. This pilot started in June 2006 and will end in July 2007. It is funded in part by a grant from the Vermont Agency of Natural Resources. Households receiving the cones are responsible for choosing a site and installing the cones themselves. Technical assistance relating to choosing a site, installing the cones, and using the cones is provided by the District's Compost Special-

ist. The goal of this project is to determine if successful operation of the cones is affected by the installation process, to test the effectiveness of the instructional materials, and to measure the willingness of the participants to continue using the cones. Data from the surveys from both pilots will be compared following the completion of the current project in July 2007.

The District has developed written materials and provides a Compost Specialist to assist residents with composting lawn and yard clippings. While some residents put yard clippings in their trash, the participants in both pilots said they either composted or disposed of these materials on their property. Food scraps are the organic material most commonly being put in household trash. 58% of participants in the first pilot and 25% in the second pilot did not compost prior to taking part in the project. All of the food scraps from these households were being put in the trash. Even the households that do compost are likely putting meat, fish, bones, dairy, fats and oils in the trash. For this reason, the Green Cones™ become the most important component of the "Only in My Backyard" Program because they can capture all of the food scraps in residents' trash.

What does the "Only in My Backyard" Program With Green Cones™ Offer District Residents?

The "Only in My Backyard" Program is a comprehensive residential organics diversion program that offers households a variety of options for managing all of their food scraps and yard clippings. These include:

- Green Cones™ purchased by a household for self-installation (with instructions and technical support provided by the District) or installed by a District crew;
- The Dirt on Composting booklet developed by the District; the booklet explains composting in general and provides information about types of composting systems.
- Plans for building a variety of compost bins;
- A list of local and mail order suppliers of compost bins; and
- A Compost Specialist on staff to provide hands-on technical assistance related to backyard composting and Green Cone™ installation and use.



Green Cones™ and compost bins installed in easy-to-access spots will get the most use. Here they have been placed in flower gardens, close to the house, and in an actively worked vegetable garden.



Next Steps

Green Cones™ as a component of the "Only in My Backyard" Program provide residents with a means to successfully manage food scraps on-site, resulting in a true Zero Waste program. Based on the success of the first pilot project, it is clear that the Green Cones™ have significant potential to increase on-site diversion of residential organics. Participating households have adopted the behavior of separating their food scraps and taking it out to their cones. They are also willing to recommend the system to others, providing a word-of-mouth, direct-experience tool for promoting the practice. As shown in the above description of the pilots, the amount of organic material that can be diverted by using the cones is significant. The challenge now is how best to design a program that results in the widest use of the Green Cones™ throughout the District.

The following section explores strategies for developing the Green Cone™ component of the "Only in My Backyard" Program based on experience gained through the two pilots.

Promoting the "Only In My Backyard Program"

OIMBY Promotion Overview

Based on District experience, the Green Cones™ should be promoted as a way to remove food scraps from the trash and realize the benefits associated with that behavior. We learned during the pilots that some participants thought the Green Cone™ was a system for composting. When they learned the cones did not produce compost, some of the participants considered withdrawing from the pilot until it was explained the cones could digest the food scraps they were not presently composting. This raises the question of whether some residents may not have applied for the project because they were already composting. For this reason, the cones should be promoted as a way to remove all food scraps from the trash. In this way, even those who already compost will see the benefit of using the cones as a way to remove all food scraps from their trash, reduce odors and flies associated with their trash, and reduce the volume of trash they need to pay to dispose of.

OIMBY Goals

- Program should be designed to achieve contact with all 16,859 owner-occupied households in the District.
- Contact will introduce homeowners to the "Only in My Backyard" Program and to the benefits of Green Cones™, their cost, and how to order them.
- Contact will occur over a maximum timeframe of 3 years, beginning July 2007.
- A fee-based installation service option for Green Cones™ will be developed, but self-installation will be

assumed to be the primary mode of installation. 68% of respondents to a survey in the second pilot reported that installation was "easy or very easy," which indicates a high number of residents should be able to self-install.

- \$73 per cone, which represents the costs for the cone, promotion, and technical support, falls in the range that 86% of respondents to a survey in the 1st pilot were willing to pay. Pricing will be capped at this rate and opportunities for discounts and subsidies through organizations or municipal sponsorships may be investigated to spur purchase and use.

There are two distinct approaches to promoting the OIMBY Program:

1. Promote the program throughout the District's 22 member communities directly to single-family homeowners without regard for location; and
2. Focus on promotion in specific, targeted communities on an annual basis based on a pre-disposing factor (such as participation in another District program) that could reasonably be believed to increase participation.

Option One.

This approach would "seed" success throughout the District by targeting the "Innovators" and "Early Adopters," terms used by Malcolm Gladwell in his book, *The Tipping Point*, to describe the adventurous types who are willing to try new things and the opinion leaders in the community who watch and analyze what

the Innovators are doing and then follow suit. These people are more likely to engage in a new behavior and purchase new items. They, in turn then promote the behavior through word-of-mouth and the visibility of their successful use of the system. Promotion to these individuals is easy because they will require less convincing to adopt a new behavior and because they are pre-disposed to try new behaviors.

As we found in the first pilot, 95% of survey respondents said they would recommend using Green Cones™ to others. OIMBY could be promoted in a similar way as Green Cones™ were promoted in the pilots. In this way, the District would be seeded with households willing to promote OIMBY and any promotion to expand OIMBY to additional households could be minimal as we would be building upon the positive experiences of neighbors.

The greatest limitation to this approach is deciding how best to promote the program to such a wide geographic area without drawing the attention of non-District households. The District cannot provide services and programs to non-District residents. Most advertising mediums other than direct mail would reach substantial numbers of non-District residents, resulting in District resources being wasted on those not able to be served by the District program.

Option Two.

Targeting communities according to a strategic plan makes sense in light of the need to control where District resources are expended. By targeting specific towns, the District can choose communities where District organics diversion programs are currently in place or in or around towns where the pilots were conducted. An example of this strategy would be to target towns that have either schools or businesses participating in the School or Business Organics Diversion programs. The timing of making OIMBY available to all District communities could be tied to the roll-out of these other programs. The same principles described above, targeting the Innovators and Early Adopters, could be applied under this option.

The same limitation as to how best to advertise the program applies to this option as well, but there are opportunities to promote through the existing programs that would reach primarily District residents.

Option 1 Explored: Strategies for District-Wide Promotion of OIMBY

Promotion efforts target all the towns in the District, and could be undertaken individually or in concert with other approaches.

A. Advertising campaign directed at District households.

Ads could be placed in local newspapers and publications and on TV and radio promoting the OIMBY Program and Green Cones™.

- *Benefit of this approach:*

A large segment of the population, both District and non-District, would learn about on-site food scrap diversion and Zero Waste through this approach.

- *Downsides of this approach:*

Television ads are costly and the range of viewers goes well beyond the boundaries of the District, potentially resulting in a number of requests for services from non-District residents.

Radio is a more cost-effective advertising medium but its reach, if not as broad as TV, also goes well beyond District boundaries.

An effective newspaper ad campaign could have a high cost. Ads would need to be run in numerous publications for extended periods of time to be effective. Most publications in the District have a circulation that reaches non-District households which would likely result in requests for District services from non-District households.

Advertising, in general, could result in requests for cones from renters and residents living in multi-family housing units. The successful use of the cones may be jeopardized by high turnover rate of residents and potential contamination or overloading from multiple users.

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Promoting the Program, continued

B. Direct mailing to all District owner-occupied households.

There are approximately 16,500 owner-occupied households in the District. Promotion materials could be mailed to all households.

- *Benefits of this approach:*

All owner-occupied households in the District would receive promotion materials.

Only owner-occupied households receive promotion materials in this approach. Less chance of receiving requests from renters and residents in non-owner-occupied multi-family households.

- *Downsides of this approach:*

High cost for such a large mailing.

There would be no control over where requests for cones and installation services come from. This could make it difficult to efficiently distribute cones and provide installation services.

D. District-wide promotion events.

Promote the program at District-operated depots, farmers markets, supermarkets, food co-ops, and garden centers. Tables could be staffed by District staff or interns hired for the summer.

- *Benefit of this approach:*

No costs for mailing promotion materials or purchasing ads.

- *Downside of this approach:*

This approach may result in requests for services from non-District residents, renters, and residents from multi-family units.

Option 2 Explored: Strategies for Promoting OIMBY by Targeting Specific Towns

A. Towns Currently Participating in School Organics Programs:

Promotion of OIMBY could be targeted at the towns with the 10 K-12 schools currently participating in the District's School Organics Program. These towns are Barre Town, Bradford, Calais, East Montpelier, Montpelier, and Northfield. U-32 in Montpelier also has

students from the towns of Berlin, Middlesex, and the non-District town of Worcester, while Oxbow Union High School in Bradford has students from Orange and Washington and the non-District towns of Newbury, Waits River, and Piermont New Hampshire.

Promotion through the schools could be done through parent teacher organizations, school clubs, environmental groups, and as part of school fund raising events. These types of promotion efforts will vary from school to school as they would be dependent on the level of interest of the groups mentioned.

In addition to promotion activities conducted through the schools, there is the option of mailing promotion materials to all owner-occupied households in some or all of the towns sending students to the participating schools.

- *Benefits of this approach:*

Students at these schools already divert food scraps, so there is likelihood that parents might have interest in diverting food scraps at home. Some schools in the program have expressed a desire to help promote the use of the cones and the OIMBY Program to raise awareness about composting and waste reduction.

Aside from Bradford, the participating schools and the towns they serve are in the same area of the District, which would allow for concentrated promotion efforts, cone distribution, and efficient installation services.

There are approximately 10,000 District owner-occupied households in the towns served by the schools in the Composting Program that potentially could learn about the OIMBY Program via promotion activities conducted at the schools.

Potentially no cost for direct mailings.

- *Downsides of this approach:*

Promotion through schools with students attending from out of District towns would result in resources being expended for promotion to residents not eligible for District services.

This approach could result in requests for cones from renters and residents living in multi-family housing units. The successful use of the cones may be jeopardized by renter turnover and potential contamination or overloading from multiple users in multi-family housing units.

B. Towns that participated in the Green Cone™ Pilot Projects.

The towns of Bradford, Chelsea, Calais, and Middlesex participated in the two pilot projects the District conducted for testing the Green Cones™ from 2005 to 2007. These towns could be targeted to increase use of the cones. Promotional materials could be direct-mailed to all owner-occupied households in these towns. There are approximately 2,200 owner-occupied households in these four towns.

- *Benefits of this approach:*

There are already households in these towns successfully using the cones for food scrap diversion. Some of the households that participated in the pilots that are willing to share their experiences with others could provide a valuable resource for promoting the use of Green Cones™.

Cost for a small direct mailing is lower than a District-wide mailing.

Only owner-occupied households receive promotion materials in this approach. There is less chance of receiving requests from renters and residents in non-owner-occupied multi-family households.

- *Downsides of this approach:*

These towns are not situated within close proximity of each other. Depending on how cones are distributed and the type of installation service provided, efficiency of cone distribution and installation services may be reduced.

This approach will affect only the listed towns and potentially some of the towns that surround them. The rest of the District will not be affected by this approach, so some strategy will still be needed to reach all District towns.

C. Strategically Located Towns.

Towns that are strategically located throughout the District could be targeted for promotion efforts, allowing awareness of the OIMBY Program to "spill over" into surrounding towns. For example, Hardwick, Montpelier, and Tunbridge could be targeted for promotion. This would result in households in the northern, central, and southern regions of the District using Green Cones™. There are approximately 3,300 owner-occupied households in these three communities.

- *Benefits of this approach:*

This approach would "seed" the District with cone users for less expense than targeting all of the towns in the District individually.

Cost for mailing is lower than District-wide mailing.

Only owner-occupied households receive promotion materials in this approach. There is less chance of receiving requests from renters and residents in non-owner-occupied multi-family households.

- *Downside of this approach:*

These towns are not situated within close proximity to each other. Depending on how cones are distributed and what type of installation service is provided, efficiency of cone distribution and installation services may be reduced.

Next Steps

Distribution and Installation Services

To have an effective OIMBY Program utilizing Green Cones™, systems for efficient distribution and installation service need to be in place. Residents will need to have the means to order the cones, pick them up or have them delivered, and have them installed on their property, if desired. Different options for these services are explored here.

A. Distribution and Installation Services Provided by CVSWMD.

The District would be responsible for warehousing cones, taking orders, and either arranging for cone pick-up by, or delivery to, residents. Installation scheduling would also be done by District staff. Vehicles, tools and supplies would be provided by District staff.

- *Benefit of this approach:*

The District would have total control of the system for distribution and installations, providing the ability to maintain a high quality of service and customer relations. By maintaining complete control, the District can more effectively provide economic incentives to residents to encourage cone use through sales, promotions, and subsidies.

- *Downsides of this approach:*

The costs for establishing these services would need to be budgeted entirely by the District.

The District will potentially be in competition with local businesses that may be interested in providing the same services.

B. Contract with Local Garden Supply Stores and Landscaping Services to Provide Distribution and Installation Services.

The District could issue an RFP to provide cone distribution and installation services to District residents by private businesses such as garden supply stores and landscapers serving District residents. The District would maintain an inventory of cones that would be distributed to contractors as orders are received or require contractors to maintain sufficient inventory to meet orders from

District residents. The District would stipulate in the RFP the level of technical support to be offered and require contractors to meet guidelines established by the District for proper site selection, drainage, and exposure for cone installations.

- *Benefits of this approach:*

The District would not need to develop an infrastructure for distribution and installation services that may already exist at local businesses.

The District would maintain the ability to provide economic incentives to encourage cone use through sales, promotions, and subsidies.

- *Downside of this approach:*

Contractors may not be willing to provide the service or may not be capable of serving the entire District, resulting in the District either having to provide some level of service or accepting that service is not available to the entire District.

C. Market Cones through Local Garden Supply Stores and Landscapers.

The District could sell cones to local businesses who would serve as outlets for Green Cones™. The District could promote the use of cones through promotion efforts listed above and direct residents to outlets that carry Green Cones™. If outlets did not provide installation services, the District could contract with local landscapers to provide installation services or provide the services utilizing District resources.

- *Benefit of this approach:*

The District would not need to develop an infrastructure for distribution and installation services that may already exist at local businesses.

- *Downsides of this approach:*

Coverage may not be provided throughout the entire District.

It would be more difficult for the District to provide economic incentives to encourage cone use. Control of this process would be limited to the price of the cones charged to businesses, which would not necessarily result in savings being passed on to residents.

It would be difficult to require outlets to provide sufficient technical support and advice regarding site selection, drainage, and exposure which may result in a higher failure rate of the cones.



CVSWMD staff installed the cones and compost bins during the first pilot program.

Conclusion

Both of the options explored above, District-wide promotion and promotion targeted at specific communities, offer effective means of promoting OIMBY and Green Cones™.

- District-wide promotion offers all single family owner-occupied households in the District the opportunity to begin diverting food scraps at the same time.
- The targeted approach, directed at specific communities or sectors of the District, would result in some communities having access to a District program earlier than others.

It's important to note that District-wide promotion would reflect one of the District's Guiding Principles, which states that "CVSWMD Services and Programs Are Available in a Balanced Manner Throughout the Jurisdiction." Thus, District-wide promotion would be the strongest approach and the most reflective of District principles.

The major challenge of the District-wide approach is the possibility of requests for program services from non-District households. While a fee structure can be established for products and services offered to non-District communities, there is no way to predict the impact these requests may have on District resources. The District should take steps to ensure that these requests do not overwhelm staff and result in a negative impact to the annual budget. With these safeguards in place, the District-wide approach would be the most effective means of diverting a significant percentage of residential organics from landfills.

District-wide promotion would be the strongest approach and the most reflective of District principles.