
*South Okanagan Recycling (Okanagan Falls,
Oliver, and Osoyoos)*

Let It Rot!

Organic Waste Reduction Strategic Plan



Prepared by:

Laurie Gallant, BES



Acknowledgements

This report was developed in consultation with South Okanagan Recycling committee members between September and November of 1998. Special thanks to Tom Szalay, Administrator for the Town of Oliver, for passing on suggestions for improving this document and for his willingness to discuss opportunities for joint implementation of educational projects and waste reduction programs with the City of Penticton.

Parts of the discussion on diversion options and education initiatives are taken directly from *Guidebook for the Assessment of Organic Waste Generation in Municipalities* produced by the Ontario Association of Recycling Coordinators and from *Home Composting Handbook: How to Promote Home Composting in your Community*. Other ideas have been gathered from the author's personal involvement with or knowledge of diversion programs and education projects in the municipalities of Kelowna, Penticton, Vernon and the regional districts of the Southern Interior. Additional charts and tables from the above two publications have been supplied to South Okanagan Recycling for information purposes which do not appear in this report. Lastly, the two appendices of this report are taken from "Back on Track", the waste reduction strategy report produced for the City of Penticton during the same time period.

November 30, 1998.

Footprint Environmental Consultants can be reached as follows:

Phone: (250)847-1670

Fax: (250)847-1931

E-mail: footprint@wkpowerlink.com

Box 3746, Smithers BC V0J 2N0

Table Of Contents

1.0 INTRODUCTION	3
1.1 RATIONALE FOR WASTE REDUCTION	3
1.2 REPORT FORMAT	4
1.3 SOUTH OKANAGAN EFFORTS TO DATE	5
3.0 ESTIMATING THE TYPES AND QUANTITIES OF ORGANIC WASTE	6
TABLE 1. WASTE COMPOSITION OF BC LANDFILLS	8
4.0 ORGANIC WASTE DIVERSION OPTIONS	8
4.1 LANDFILL BANS	9
4.2 TIPPING FEES	10
TABLE 2. RDKB TIPPING FEES FOR RECYCLABLE MATERIALS	11
4.3 TAG-A-BAG SYSTEMS	11
4.4 COMMUNITY COMPOST PILES	12
4.5 COMMUNITY PARTNERSHIPS	13
4.6 BACKYARD COMPOSTER DISTRIBUTION EVENTS	15
5.0 PUBLIC EDUCATION INITIATIVES	18
5.1 DISTRIBUTION OF HOW-TO LITERATURE AND VIDEOS	20
5.2 PRESENTATIONS AND WORKSHOPS	20
5.3 PORTABLE DISPLAY	21
5.4 PROMOTIONS AND CONTESTS	22
5.4.1 BEST COMPOSTER HEAP CONTEST	22
5.4.2 GRASSCYCLING CAMPAIGN	25
5.5 HOTLINE	26
5.6 COMPOSTING DEMONSTRATION SITE	26
5.7 DOOR- TO- DOOR EDUCATION/ HOUSE CALLS	27
5.8 BLOCK LEADER / MASTER COMPOSTER VOLUNTEER PROGRAM	27
5.9 WASTE REDUCTION CAMPAIGN	28
TABLE 3. WASTE REDUCTION STRATEGIES FOR FOOD WASTE	28
6.0 PUTTING IT ALL TOGETHER	29
TABLE 4. SUMMARY OF STRATEGIES	30
6.1 PUBLIC EDUCATION	32
6.2 TIMING	32
TABLE 5. SHORT TERM IMPLEMENTATION SHOPPING LIST	33
APPENDIX A: ENVIRONMENTAL POLICY INSTRUMENTS	35
A.1 VOLUNTARY MECHANISMS	35
A.2 GOVERNMENT EXPENDITURE	36

A.3 FINANCIAL INCENTIVES	37
A.4 REGULATIONS, PERMITS, AND POLICIES	37
A.4.1 BANS ON DISPOSAL	37
A.4.2 PERMITS	38
A.4.3 PURCHASING POLICIES	39
A.5 LOBBYING AND COUNCIL RESOLUTIONS	39
A.6 LANDFILL OPERATIONS	40
APPENDIX B - ENVIRONMENTAL PRINCIPLES	42
REFERENCES AND RECOMMENDED READING	43

Example is not the main thing in influencing others, it's the only thing.

—Albert Schweitzer

1.0 Introduction

In September 1998, the South Okanagan communities of Oliver, Okanagan Falls, and Osoyoos commissioned Footprint Environmental to design a blueprint for maximizing opportunities to keep organic waste out of the landfill. The consultant was asked to plan a system that:

- addresses a need and desire to increase the total amount of material diverted from landfill
- provides specific options and timelines for diverting organic waste, given the tremendous value organic material has as a soil enhancer and the large quantity of organic material currently being buried
- includes a strong public education component including a Grasscycling campaign, Demonstration sites, information distribution at public events such as Festival of the Grape and tradeshow, media relations, and hands-on composting workshops
- encourages private sector initiatives for composting large quantities of materials
- coincides with planned reductions in weekly residential garbage container collection limits in early 1999
- considers the feasibility of a ban on yard waste disposal at the landfill in the next 12 months
- optimizes opportunities for cost savings and implementation efficiencies

This report outlines the recommended new system for Oliver based on discussions with staff and elected officials. The system is designed such that it can be implemented in all communities of the South Okanagan, and builds on both the Regional Solid Waste Management plan completed in 1995 by Stanley and Associates, and the City of Penticton's waste reduction strategy report, Back on Track, completed by Footprint and currently out for technical and public review.

1.1 Rationale for Waste Reduction

British Columbians are among the highest consumers in the world, and much of what is consumed eventually becomes waste. This means that not only are we using up natural resources at a rate that cannot last much farther into the future, but we are also missing out on an opportunity to recover resources such as timber and petroleum, create jobs at home for displaced forestry workers and new graduates, and reduce the amount of waste that gets introduced into the environment through landfilling. Reducing our waste gradually now will help avoid a sudden and forced change in consumer habits for future generations.

Recognizing the wisdom of this approach, in 1989 the province of British Columbia implemented a Solid Waste Management Strategy. The strategy includes a requirement for more effective municipal solid waste management by Regional District with an overall goal of reducing all waste entering provincial landfills by 50% by the year 2000. The strategy also calls for research and development to encourage the creation and purchase of products that produce less waste; public information and education programs; partnership building between the public, industry and government; and the development of polluter-pay and product stewardship programs. Much progress towards implementing this strategy has been made, and the recent expansion of the beverage container deposit/refund system is an example of this. However, much more needs to be done, and significant contributions to this goal can be made at the local level. Local efforts are particularly important, since they result in immediate benefits to both the local environment while also contributing to provincial waste reduction targets. We must also consider that by the year 2000, it is estimated that 60% of the 236 landfills in British Columbia will be filled to capacity.¹ This presents a serious challenge as siting new landfills is a very difficult task, given that few communities want a landfill site in their backyard.

South Okanagan Recycling was formed as a partnership between Oliver, Osoyoos, and Okanagan Falls in an effort to contribute to waste reduction goals in an efficient and cost-effective manner. With the initial success of the recycling program, efforts are now being turned to organic material, which on average represents 34% of waste going into British Columbia landfills.² Organic material is a relatively easy component of the waste stream to reduce, since composting is a naturally occurring process that doesn't require special equipment or expertise when done on a small scale. It also makes sense to focus on organics as they are a liability in a landfill because of the space required and the leachate the decomposing material creates. On the other hand, this same material becomes an asset when composted since the finished product improves the health of soil and plants and reduces the requirements for watering and fertilizing.

1.2 Report Format

Section 1 of this report summarizes past and present South Okanagan Recycling initiatives to reduce organic waste. Section 2 provides a discussion on the types and quantities of organic waste present in the South Okanagan. Section 3 details policy and expenditure options for diverting organic waste from the landfill. Section 4 builds on these options by presenting specific public education initiatives to complement government policies and expenditures. Section 5 presents a summary of all the ideas for managing and avoiding organic waste based on the ideas presented in Sections 2 through 4, and paying special attention to the specific design considerations expressed by the South Okanagan Recycling Committee. The final table of this report represents a Shopping List of diversion options and education programs. It is intended to be used as a

¹ BC Ministry of Environment, Lands and Parks, June 1996. "Solid Waste in British Columbia", Environment Indicator Series. Municipal Waste Reduction Branch, Victoria, BC.

² Ibid.

planning tool for selecting which options to implement, and assigning specific timelines. Lastly, the Appendices contain additional information which help provide a context for the ideas expressed in this report, including a discussion on Environmental Policy Instruments and Environmental Principles.

It should be noted that a discussion of costs or technical details of central composting is not included in this blueprint as these details are beyond the scope of this report. However, given the healthy amount of experience with organic waste management in British Columbia, compiling this information at a later date will be easy to accomplish and may possibly happen as a cooperative venture with the City of Penticton since they are examining similar waste reduction strategies and timelines.

1.3 South Okanagan efforts to date

The communities of Oliver, Okanagan Falls, and Osoyoos formed the South Okanagan Recycling partnership in 1997 in order to provide a cost-effective recycling program and a consistent public education program. These three local governments entered into a service agreement in April 1998 with OV Waste Systems to provide a drop-off depot service to collect the following recyclable materials: aluminum cans, Number 2 Plastics, Boxboard and Heavy Paper, Newsprint and Mixed Paper, and Corrugated Cardboard. In June of this year, a total of 107.5 tonnes of material were collected, representing an increase of 74% in monthly collected volumes since the first month of operation in April of this year. Based on the success of this recycling initiative, South Okanagan Recycling is now expanding their scope to look at other ways of reducing waste going to area landfills.

Since organic wastes (yard waste, grass clippings, and kitchen scraps) typically make up one-third of all wastes going to landfill, South Okanagan Recycling has decided to focus on this issue. Given the largely rural and residential nature of these communities, local government is particularly interested in strategies that maximize opportunities for public involvement. To this end, a newsletter was distributed to all homes in April of 1998 to promote the recycling program and other methods of waste reduction. Informative articles describing composting and grasscycling and their benefits also appeared in this newsletter.

Perhaps most significantly of all for reducing waste going to landfill, user fees for curbside garbage collection and the landfill are now being introduced in South Okanagan communities. The Town of Oliver launched a Tag-a-Bag system for residential garbage collection in July of 1997. Their system calls for a three (3) bag weekly limit (down from 5), with a provision for extra containers through the purchase of \$1.00 garbage tags. The Town of Osoyoos plans to follow suit by introducing a two (2) bag limit in early 1999. Oliver is lowering their limit to two effective January 1, 1999. There is no organized garbage collection service in Okanagan Falls, or the rural areas of Oliver and Osoyoos.

There has been some initial discussion concerning harmonizing landfill policies and tipping fees but agreements have not yet been reached. At this time, the Osoyoos and Oliver landfills charge \$20.00 per tonne and have weigh scales. There are no fees at the Okanagan Falls landfill but access is restricted to local residents through an identification check carried out by a Commissionaire. Bans on the disposal of corrugated cardboard and newspaper are also in effect at the Oliver, Okanagan Falls and Osoyoos landfills, and recycling programs are available at the landfills for cardboard, newspaper, batteries, tires, and scrap metal. Wood waste is separated at the Oliver and Osoyoos landfills for burning, a practice which will be ending in June of 1998 by order of the Ministry of Environment.

South Okanagan residents also benefit from home composting education programs offered by the City of Penticton. Listed below are some of the Penticton education initiatives which are accessible to South Okanagan residents:

- composting workshops and/or information booths at the Farmers Market in Gyro park on the second Saturday of each month
- Composting Demonstration Site at the new Community Gardens
- weekly Waste Reduction Warrior column in the Penticton Herald and bi-monthly in the Western Advertiser
- promotion of the BC Recycling Hotline (1-800-667-4321)
- availability of composting literature (*Here's the Dirt: A Guide to Backyard Composting (4 pages); Worm Composting; Grasscycling; Building a Worm Composting Bin; Building a Rotating Barrel Composter; Building a Portable Wood & Wire Composting Bin; Building a Compost Screen*)

In addition, two events for distributing backyard composting bins have undoubtedly contributed to the level of awareness in South Okanagan communities regarding the benefits of home composting.

3.0 Estimating the Types and Quantities of Organic Waste

Based on the findings of waste composition studies across North America, the organic waste fraction is a significant component of the total municipal waste stream, ranging from 20% to 45%. Table 1 presents the findings from some BC studies, and shows that in all cases, organics and paper are the two largest components of the waste stream.

If South Okanagan's organic waste management strategy is limited to education and on-site management of materials (i.e., backyard composting, mulching and grasscycling), then knowing quantities of materials is not especially critical to the planning process. However, if a collection program, or a central composting and processing system is being considered, then knowing the types and quantities of organic waste in the local waste

stream becomes extremely relevant. Having a good handle on the volumes of materials will lead to an efficient design process and ensure that the right size equipment and an appropriate location are selected. Even if a local government expenditure for a central composting program is out of the question, having this information will be helpful to entrepreneurs conducting feasibility studies on operating a private facility.

Table 1. Waste Composition of BC Landfills

	BC ³ %	Kelowna ⁴ %	Vernon ⁵ %	Armstrong ⁶ %
Organics	34	45	28	31
Paper	38	13	18	28
Plastics	9	2	14	15
Metals	5	2	7	5
Glass	5	2	2	4
Other	9	36	31	16

Variables such as the time of year the study was conducted, methodology used, and existing waste reduction efforts should be considered when reviewing the results of studies conducted in other communities. This information is readily available for the North Okanagan Regional District study and is worth pursuing since a fairly good estimate of quantities can be extrapolated if the total quantity of waste entering South Okanagan landfills is known. Alternatively, researching the landfill volumes for similarly sized communities will yield useful results. However, if having accurate, reliable information becomes critical, consideration should be given to a regional waste composition study, and there are numerous qualified professionals who can be retained to provide this service.

4.0 Organic Waste Diversion Options

Given the small population base and rural nature of the South Okanagan, low-cost and low-tech solutions, combined with regulations and economic incentives, provide the most sensible approach for diverting organic waste from local landfills. The strategies outlined in this chapter have been successfully used in communities of all sizes across North America. These strategies represent a new standard of managing resources that places a higher value on materials formerly considered a nuisance and a liability, and places a higher value on space currently used for landfills.

³ Ministry of Environment, Lands and Parks, July 1991. Municipal Solid Waste Composition Studies: Summary Report. Municipal Waste Reduction Branch, Victoria, BC.

⁴ Regional District of Central Okanagan, March 1996. Summary Report of the Residential Waste Composition Study, Kelowna BC. (These results cannot be categorized as scientific due to the low number of samples)

⁵ Regional District of North Okanagan, October 1998. Waste Composition Study, Table 12. Footprint Environmental Consultants and EcoChoice Consulting, Vernon, BC.

⁶ Ibid.

For a low-tech approach to succeed however, local government must show strong leadership and vision, and work cooperatively with community partners and citizens to implement the new programs and monitor them for effectiveness. There must also be an underlying confidence that given a small incentive, and the right tools, people will gladly participate in efforts to improve their local environment. For a complete discussion on policy tools available to meet environmental targets, please refer to Appendix 1. Options that focus strictly on education initiatives are presented in detail in the next chapter.

4.1 Landfill bans

Landfill bans are one of the most effective and common methods of controlling which materials enter local landfills throughout North America. While this type of regulation brings with it enforcement challenges, it can be incredibly effective in achieving dramatic waste reduction results in a short period of time. Bans can also create a high level of awareness and support in the community through media coverage and informal discussion between friends and neighbours. However, if enforcement is obviously difficult, the level of punishment or fine too low, or reasonable alternatives to the prohibited behaviour do not exist, the environmental target will not be achieved and public confidence in waste reduction initiatives may also be put at risk.

Since cardboard and newspaper bans are already in place at the Oliver, Okanagan Falls, and Osoyoos landfills, haulers and residents are already familiar with this type of policy. The focus then should be on ensuring alternatives to disposal for organics, enforcement of a ban, and an effective communication plan to let stakeholders know about the new policy. Ideally, there will be an alternative to disposal right at the landfill site for added convenience, as is done with cardboard and newspaper. If this is possible, consideration should be given to using positive language in communications that focuses on the desired action, instead of on the prohibited action. As an example, instead of promoting a “ban on yard waste and grass clippings from the active tipping face of the landfill”, we can promote a “composting only” policy for this material. This avoids any confusion over the acceptance of the material at the landfill and can potentially create a more cooperative and accepting attitude by waste generators and the general public.

As with new tipping fees, a new “composting only” policy should be introduced with sufficient notice so that haulers and waste generators can establish alternative programs and train employees before penalties are enforced. For materials such as cardboard that have well-established alternatives to disposal, a three month notice is sufficient. Materials for which alternatives are still relatively new or represent a dramatic shift from the current business or household operation, a minimum notification period of six months and up to one year should be given. This extra allowance also creates a window of opportunity for new initiatives which may make enforcement of the “composting only” policy much easier.

Special attention should be paid to the definition of organics to ensure that the policy is clearly understood. In fact, it may be preferable to promote a ban on the specific materials that have alternatives, such as grass clippings, yard waste, and vegetable scraps. For yard waste, we will need to assess the feasibility of including woody materials such as prunings, with due consideration given to chipping services that can be provided privately, or, if desired by local government. In the latter case, cost recovery will be an issue and consideration should be given to charging a tipping fee for materials that require chipping. Unless a rigorous ban enforcement program will be in effect, the chipping fee should be set at a rate lower than disposal to provide an incentive to sort waste.

4.2 Tipping fees

Tipping fees for waste disposal at the landfill which are set at a rate that makes recycling and composting efforts economical are the most obvious form of financial incentive for reducing waste. Introducing new tipping fees or increasing modest fees must be carefully planned in order to gain acceptance and support by the general public and waste generators. A minimum warning of three months should be given to all waste haulers, who can then inform their customers of the new rates. This lead-in time also allows waste generators to develop and implement waste reduction and recycling programs in order to avoid substantial increases in their garbage hauling bills.

Fee increases should be supported by public education and information with reduce, reuse, recycle and composting tips and a listing of recycling and composting depot locations and services. Harmonizing of tipping fees with other landfills in the region will help to reduce the flow of waste to landfills with lower fees, and will ensure that the desired result, that of long-term behaviour change (waste reduction and recycling) is realized within the region.

The benefits of incentive-based (versus cost-based) tipping fees are as follows:

- encourage waste reduction, reuse and recycling by the waste generator
- make recycling and composting economically viable business opportunities
- eliminate all materials that can be recycled or composted from the active tipping face
- create a revenue source for subsidies, diversion credits, and public education programs

Why keep tipping fees higher than landfill operating costs?

Tipping fees that are set high enough to make sorting refuse for repair, reuse or recycling economically attractive are the most powerful tool that local government has for reducing waste. High disposal costs, combined with suitable disposal alternatives and public education, creates a favourable climate for new businesses that offer repair, rental,

recycling and composting services. The results are twofold: 1. New, dependable jobs for a wide range of skills sets and educational backgrounds and 2. Local environmental protection.

South Okanagan Recycling may want to look at other jurisdictions for examples of how variable tipping fees can work. For example, at the Kootenay Boundary Regional District landfill, there are two tipping fees: \$42.00 per tonne for Sorted Refuse, and \$60.00 per tonne for Unsorted Refuse (more than 10% recyclable materials). A per bag charge of \$1.00 with a four bag limit is also in effect for self-hauled residential waste. The sorted refuse charge applies to all materials not accepted for recycling at the landfill, and variable rates apply to recyclable materials depending on the material type, as indicated below:

Table 2. RDKB Tipping Fees for Recyclable Materials

(will be effective Jan.1,1999)

RECYCLABLE MATERIAL	CHARGE
Yard or garden waste	\$.50 per bag up to 10 bags - grass and leaves only; \$10.00 per tonne
Chipped wood waste	\$10.00 per tonne
Clean wood waste	\$28.00 per tonne
White goods (major appliances)	\$5.00 per unit
White goods requiring freon removal	\$18 per unit
Auto hulks (incl. Pickup trucks and vans)	\$15.00 per unit
Truck or bus hulk	\$30.00 per unit
Mobile home hulk	\$300.00 per unit
Scrap metal (excl. White goods)	\$10.00 per tone
Tires (16" or smaller, rims removed)	Free
Other tires	rates vary
"Blue Box" materials (paper, cardboard, cans, metal, glass etc.)	Free

Harmonizing fees, services, and hours of operation within market boundaries rather than political boundaries would go a long way towards winning public support for waste reduction initiatives. Similar to the recycling program, all South Okanagan landfills could be operated like a franchise. This would entail a consistency in services, charges, signs, and conditions of use.

4.3 Tag-a-Bag systems

Per Unit Garbage Collection Charges or "Tag-a-Bag" systems have proven to be the method with the greatest potential to reduce waste in communities across North America

when appropriate programs for reducing, reusing, composting, and recycling are in place. Even without expensive composting and recycling programs, Tag-a-Bag systems still encourage source reduction, reuse, and backyard composting but may cause undue hardship for large families and property owners with trees that drop quantities of leaves and needles too great to handle in a backyard composting pile.

Since Tag-a-Bag programs are already in place in Oliver and planned in Osoyoos, the benefits of this approach are already well known to local government officials and will not be discussed here. The introduction of these programs and the efforts to harmonize the program details (i.e. start dates, bag limits, tag costs) should be applauded. This type of initiative shows foresight in community planning and helps instill a new standard of lower garbage production.

4.4 Community Compost Piles

If the objective is to encourage composting of organic waste over disposal, government expenditure may be necessary to assist property owners that are managing organic matter from trees that are located either on or near their property. Subsidizing collection and centralized composting for tree prunings and leaves makes sense when considered in the context of the many community benefits of large trees. These include:

- bringing natural elements and wildlife habitats into urban surroundings which increases the quality of life for all residents
- providing beauty and shade which increases the quality of life for all residents
- serving architectural or engineering functions by providing privacy, emphasizing views or screening objectionable views, reducing glare and reflection, and directing pedestrian traffic
- modifying the environment by moderating climate, improving air quality, conserving water

Government expenditure on community compost piles may take a few different forms, namely:

- provision of space at the landfill or other location for a private operation
- payment of a diversion credit for a privately operated compost pile
- operation of a compost pile using municipal staff or a contractor
- promotion and support of private operations through tipping fees, bans, public education materials, and assistance with zoning and other technical siting issues

In all instances of windrow composting operations, attention must be paid to quality control of materials accepted for composting to reduce operating costs and to ensure a useable end product. Other operational considerations which should be discussed in consultation with site neighbours and other stakeholders before the operation starts are:

- odour control
- availability of water
- suitability of equipment to turn piles
- traffic resulting from drop-off of materials
- quality of end product including level of screening
- cost recovery issues (tipping fees, sales of finished product)
- aesthetics of site including litter control
- “user-friendliness” of site (will it be staffed? If not, will contamination occur)

As with privately operated recycling operations, local government does have a vested interest in ensuring the operation is functioning at a level that meets community approval. The first instance of odours, litter, or an inferior finished product can do significant damage to the reputation of a compost pile. Every measure should be taken to prevent problems through proper site design, and proper training of site operators. To this end, South Okanagan Recycling may also wish to consider subsidizing a workshop for private compost pile operators and farmers covering off the issues listed above.

4.5 Community partnerships

Partnerships between local government and community groups, local businesses, environmental groups and other government agencies will assist greatly with the implementation of organic waste diversion strategies and guarantee success. The following list provides examples of partnerships that South Okanagan can pursue:

- Partnerships with landscapers, developers, and relevant associations to promote landscaping designs that minimize maintenance and management requirements; specific examples include production of fact sheets, workshops for homeowners and landscape workers, and development of landscaping guidelines to accompany building permits.
- Partnerships with service clubs, schools, and environmental groups to assist with the delivery of education programs and bin distribution programs.

- Partnerships with neighbouring local governments to provide composting services and education programs, including training workshops
- Partnerships with local merchants and entrepreneurs to provide composting services, distribution of literature, promotion and sponsorship of contests, and training workshops
- Partnerships with local farmers to promote food waste as hog feed and land application of organic waste

4.6 Backyard Composter distribution events

The benefits of home composting can be summarized as follows:

- home composting can divert approximately 1/3 of household waste from landfills and diversion is immediate - there's no need to wait for the planning and construction of centralized facilities
- home composting is less expensive than centralized composting and other waste management methods that involve collection and centralized processing
- home composting eliminates the energy used and pollution caused by collection trucks and a processing facility
- home composting encourages a sense of responsibility on the part of individuals to manage their own waste, and this may encourage them to reduce, reuse and recycle in other ways as well
- home composting allows individuals to produce an excellent and free soil conditioner for their gardens, which will improve the health of their soil and plants
- home composting provides an opportunity for people to learn a bit about how the natural world works - the important role of organisms, the link between healthy soil and healthy food, and the problem of soil degradation

Neighbouring jurisdictions such as the City of Penticton and Central Okanagan Regional District have successfully distributed commercially produced home composter bins to residents. Central Okanagan distributed over 8,000 bins through three annual events, while Penticton sold approximately 1850 bins through parking lot sales in 1995 and 1998.

Commercial composting bins are also sold through garden centres and hardware stores, but at a price substantially higher than the subsidized price offered by local government. As an example, the City of Penticton sold Earth Machine composters for \$25.00 including tax, while some residents reported paying up to \$80.00 for a similar product to a private retailer. Commercial bins are convenient and easy to assemble, but are invariably manufactured in a distant location and involve high transportation costs.

Given the amount of experience now available in distributing commercial bins and the turn-key programs offered by manufacturers, our discussion will focus on the distribution of bins made from used materials. While not yet popular in BC, some Ontario municipalities have been distributing bins made from used materials, such as industrial 45 gallon drums or used pallets. In BC, promotion of non-commercial bins has been popular through demonstration sites where models of "homemade" composters are displayed and

fact sheets on how to construct the bins are distributed. However, even in these situations a strong emphasis on building with used materials has been lacking.

Programs that promote bins made from used materials have a number of advantages:

- materials are used which might otherwise be landfilled
- bins are less expensive for both the homeowner and local governments
- local community and social service groups can be involved in assembling materials and distributing them to residents, thereby giving them an opportunity to become involved in a worthwhile project and generate revenues for their own programs
- public awareness of the benefits of reusing is heightened, and reduce, reuse, recycle values are reinforced
- transportation requirements are dramatically reduced

The following table presents issues and suggestions for planning and implementing a program to distribute bins made from used materials. The Recycling Council of BC is referred to a number of times as being able to provide support services, but there may be other environmental groups that can also provide some educational services. In either case, these organizations require resources to offer these services, and South Okanagan communities should review their current membership and financial support of these groups before requesting assistance in delivering new programs.

ISSUE	SUGGESTIONS
Are used materials available locally?	Used barrels and drums and used pallets are possibilities. Chicken wire and 2x4s also work. Estimate how many bins will be distributed (a ball park figure of 5 - 10% of households can be used). Will this be a one-time or ongoing sales event? Are there special circumstances such as a landfill ban that assure a supply of materials? Identify companies that can provide these materials and register with the BC Materials Exchange operated by the Recycling Council of BC (1-800-667-4321). Will the supplier deliver materials?
How will materials be converted and how much time will this take per unit?	See case studies from Compost Ontario's Home Composting Handbook for details regarding conversion processes.
Who will do the conversion?	An invitation to all local community groups and social service agencies should be extended. Boy Scouts, Girl Guides. Rotary Clubs and Lions Club are among the groups that should be approached. Friendly competition between groups can be

	encouraged for “best design” and most sales.
Where will the conversion be done?	Local government may have a suitable site that can be used, but it is also common to let the groups involved select their own site based on the work to be done. For example, if drums are being used that requiring washing, a site with good drainage is required.
What insurance coverage is needed?	If power tools are being used, there is always the possibility of accidents. Every safety precaution should be taken and appropriate insurance coverage arranged.
Will any waste be produced as part of the conversion process?	This will vary with the materials used and the number of bins being produced. Wherever possible, “waste” materials should be reused or recycled.
How will program costs be covered?	Residents can be charged for the bins and local government may choose to subsidize part of the bin costs.
How will program be promoted and requests for bins handled?	Newspaper ads with an order form are a common method. Radio Ads, posters, flyers and inserts in utility bills can also be used. Information on bin sales should also be registered with the BC Recycling Hotline at 1-800-667-4321. In this way, the Hotline can be promoted as the number to call for further information. Local government staff should also be prepared to handle additional calls during the advertising period.
How will finished bins be distributed?	Specific times and places must be chosen that provide safe traffic flow and convenience for residents. Public works yards, fire halls, and shopping centres are all possibilities.
What education will be provided?	“How to compost” information must accompany the bins and is readily available from the City of Penticton. Construction plans for building bins at home from scrap or new materials can also be provided. Workshops and a “composting hotline” can also be provided. Again, the BC Recycling Hotline may be able to provide support services.
What follow-up will be done?	An evaluation of the bin performance, partnerships with community groups, the conversion and distribution process, and success of the program in increasing composting activity should be done. Informal discussions with groups and staff involved can form the basis for a short report on program logistics.

	<p>An evaluation of the effectiveness of the program is only possible by surveying a sampling (10 - 15%) of the residents who purchased the bins. Questions related to the merits and limitations of the bins, usefulness of the education materials provided, quantity of waste composted, and “faithfulness” to composting after a one or two year period, can be asked. Telephone surveys or questions as part of a larger community questionnaire can be used for this purpose.</p>
--	---

5.0 Public Education Initiatives

Since we are emphasizing low-tech solutions for managing organic waste that encourage personal responsibility and reduce collection and processing costs for the municipality, public education will be the cornerstone of South Okanagan’s organic materials diversion strategy. The goals of an education program are to:

- motivate people to compost, grasscycle, and apply xeriscape principles
- teach people how to compost, grasscycle, and apply xeriscape principles
- help people avoid potential problems as they arise (such as odours)
- teach people how to deal with problems should they arise
- increase the likelihood that people will continue to use organic management methods over time
- increase the likelihood that people will compost a substantial portion of their organics

All of these goals will involve a change in the way people are currently dealing with organic materials. Since change can be a difficult process for many people, we will need to use two tools of social marketing in order to make sure our programs are successful. The first tool is known as modelling or providing positive examples of the desired behaviour. Modelling is considered to be one of the most effective methods for influencing behaviour, and is used extensively by marketers of major corporations. We are all familiar with celebrity endorsements of products, but have also seen how a respected citizen, or “average householder” is also used in commercials to send a message that a particular product is safe to use or offers good value.

The second tool involves addressing specific concerns residents may have that are preventing them from participating in our waste reduction program. In this instance, we need to identify what the barriers are to participation, and provide solutions for overcoming these barriers or at the very least, reduce the significance of a particular concern. Concerns commonly expressed by residents who have never composted or who started and then quit, are as follows:

- don't know how
- don't have room
- don't have time
- don't have a composter
- worried about smells
- worried about insects
- worried about rodents and other animals
- other people in household don't want to compost
- don't know what to do with finished compost
- local weather conditions don't allow for effective composting at certain times of the year (i.e. too hot, too cold, too dry, too wet, too much snow)

There are many methods of public education and choices of implementation will depend on available resources and what we think will work best in the South Okanagan.

Common methods of education for organic waste management include:

- distribution of how-to literature and videos
- presentations, including public workshops
- displays
- promotions and contests
- information hotline
- demonstration site
- house calls
- door-to-door education
- block leader program (also known as Master Composter program)

It is important to remember that the various methods of public education can complement each other. For example, when a resident purchases a composter, a pamphlet explaining how to use the bin is given. A week or two later, the resident goes to a workshop to reinforce the information in the pamphlet and learn a few new tips. A month later, the resident may have some specific questions about composting, and calls a hotline to get answers. When planning the program, make sure that literature distribution is complemented by some person-to-person education such as workshops or a hotline, and make sure that the education is ongoing. Ideally, education programs are provided for the same amount of time that organic diversion is desired. This allows for new participants in the program, and reinforces the new habits of older participants.

On a cautionary note, there is a danger that by providing workshops, bins, and printed materials that home composting may be perceived to be overly complicated and “scientific”, thereby alienating residents looking for simple, easy solutions. For this reason, it will be especially important to emphasize that composting is a natural process that will happen eventually, regardless of the level of effort put in. Composting techniques and “recipes” have been developed to speed up this natural process and

prevent potential problems such as pests and odours, but there is no requirement to do anything more than throw organic materials onto a pile that takes up only four square feet of space in a backyard.

5.1 Distribution of how-to literature and videos

Literature and videos on low-tech organic diversion strategies are widely distributed throughout the Okanagan and samples for the following brochures are available from the City of Penticton or the Regional District of Central Okanagan:

1. *Here's the Dirt: A Guide to Home Composting (4 pages)*
2. *Worm Composting*
3. *Grasscycling*
4. *Building a Worm Composting Bin*
5. *Building a Rotating Barrel Composter*
6. *Building a Portable Wood & Wire Composting Bin*
7. *Building a Compost Screen*

In addition, Norseman Plastics distributes an excellent booklet with each Earth Machine composter sold. A 12 minute video is also available from this company, and has been placed in libraries within the City of Penticton.

When deciding which fact sheets to publish, or on the content for a new brochure, consideration should be given to the most commonly asked for information, such as:

- materials which can and cannot be composted, including weeds and rhubarb leaves
- problems such as odours and insects, specifically ants
- winter composting
- where to place the bin
- how to get started
- how to turn pile
- how often to water
- addition of commercial compost activators
- how long to get finished compost
- what to do with finished compost

Some people will want to do some additional research, and for them a fact sheet listing additional resources such as journals, books, and websites can also be provided.

5.2 Presentations and Workshops

Workshops can be a fun, interactive way to learn and have been used effectively to promote backyard composting and complement bin sales. However, as stated at the beginning of this chapter, we do not want residents to think that attending a workshop is mandatory in order to compost effectively. The information presented in a workshop can also be obtained by reading composting literature, watching a video, calling a “composting hotline” or learning from personal experience; any of these options may be more convenient for residents with limited mobility or spare time. These alternatives should be noted whenever workshops are promoted.

Workshops are most enjoyable and instructive for the participants when the instructor is well prepared and has excellent communication skills. It is particularly important to avoid the “expert trap”, where the presenter sets him or herself up as an expert and participants feel that only people as knowledgeable as workshop instructors can compost. Another danger of the “expert trap” is that some participants (especially experienced composters!) may enjoy challenging the instructor, which can cause some discomfort for everybody else in attendance. In addition to choosing an effective workshop leader, consideration should also be given to the resources needed to run a good workshop, such as a display, printed materials, and samples of composting tools and materials.

Introductory composting workshops can range from 1 hour to 2 hours and usually cover the following basic points:

- what is composting and what are the benefits
- materials you can and cannot compost
- how to compost (chopping, watering, and turning)
- what to do about pests and odours
- harvesting and using finished compost
- various containers and systems that can be used

If there is sufficient interest in learning more advanced techniques and concepts, consideration can be given to offering a one or two day workshop, as outlined in the Master Composter Volunteer Program in Section 5.8 below.

5.3 Portable Display

Displays are an effective way to promote home composting and can be used at shopping centres, festivals, gardening conferences, community fairs, or in the lobby of municipal offices. Budget constraints will determine if South Okanagan should share one display and if they should purchase or build their own display. Community groups or schools may

be willing to assist with the production of the display in exchange for expenses and a small contribution to their own projects. The following tips are offered for creating an effective display.

- Keep the copy short and remember that “a picture is worth a thousand words”. Use enlarged photographs and keep the display colourful and uncluttered. Your goal is to attract viewers. Don’t expect the display to say it all - printed materials that viewers can take home can provide additional details.
- Keep it mobile. A table-top display is half the weight and bulk of a floor version. Dimensions for a table top wooden frame display should not exceed 48” high and 28” for each panel (total of 3).
- Add other display items such as finished compost, a demonstration compost bin with one side made of plexiglass so that layers of kitchen scraps, yard waste and soil are visible, and samples of containers that can be used to store kitchen scraps.
- Staff the display so that questions can be answered on the spot.

5.4 Promotions and Contests

Contests are a fun way to get the public involved in education efforts and gain media attention. The “Best Composter Heap” contest and Grassycling campaign described below are two examples that can easily be implemented in the South Okanagan.

5.4.1 Best Composter Heap Contest

A “Best Composter Heap” contest can be used to identify effective home composting systems and address specific public concerns around composting. Through examples provided by neighbours of how to address these concerns, the level of backyard composting in the community can be increased. Running a “best heap” contest involves the following steps:

A. *Develop contest rules.*

The following rules were used by an Ontario municipality and can be adapted to suit local needs.

1. Contest applies to home composters in Oliver, Okanagan Falls, and Osoyoos.

2. Employees and members of immediate families are not eligible. (a separate contest should be held for this category of participants)
3. Only complete entry forms will be considered and should include the following information:
 - name, address and telephone number
 - at least one colour slide or photo of the compost heap
 - plans or instructions for making the home composter if it is an original design. Mention material used and other relevant information.
 - If composter is not original, include information on dimensions, materials, where it was purchased, and source of design if it was adapted from someone else's plans.
 - A description of materials composted, its source, end use, and other useful suggestions.
 - A description of composting approach (i.e. methods used to obtain optimal temperature, aeration and moisture levels)
 - a description of where the heap sits: urban or rural, front or backyard, sunny or shady, near the kitchen door etc.
 - a description of tools used during composting
 - anything else you can think of that other residents might like to know - is there something special about your composter?

B. Identify sponsors.

Managers and owners of local businesses can be contacted and asked to sponsor the contest with prizes in exchange for acknowledgement of their support on promotional material. Sponsors can also help by putting up promotional posters and handing out entry forms. Businesses that people associate with composting such as nurseries, garden centres, commercial farms and orchards should be willing sponsors, but don't miss out on an opportunity to involve other businesses that may have attractive prizes to offer, such as restaurants and hardware stores.

C. Develop winning categories.

This can be done with input from sponsors, but should be designed to provide information on successful home composting techniques and address concerns by residents that aren't currently composting as noted above. Examples of potential categories are:

- Best "Looking" or "keep the neighbours happy" approach
- Best "Keep the rodents away" approach

- Best “Keep the bears away” approach
- Best “through the winter” approach
- Best “from the kitchen to the heap” approach
- Best “involve the whole family” approach
- Best “minimum effort” approach
- Best “working compost heap”
- Best “beat the fruit flies” approach
- Best “keep it smelling sweet” approach
- Best “original design”
- Best use of used materials.

D. Design promotional materials.

Posters and entry forms can be developed in cooperation with schools, local media, printers and staff. Material should be available at post office, municipal offices, libraries, communities centres, and retail outlets of participating sponsors.

E. Put together advertising.

Press releases, newspaper ads, and radio spots can be prepared by municipal staff and media staff. Arrangements should also be made for interview with contest organizers and winners. Media should be contacted at the contest launch, during the contest to provide an update, and at end of contest to promote winners and winning compost systems.

F. Judging

A panel of 3 or 4 judges should be selected that are knowledgeable about composting and have good communications skills. Try to include one or two “high profile” community members. A point system and criteria for selecting winners in each category must be set in advance, and might include:

- design (location, shape, efficiency etc.)
- building materials
- maintenance (winter use, odour control, pest-proofing etc.)

- materials composted

G. Budget

Donations for promotional material design and printing can be solicited. Depending on the level of sponsorship and degree of advertising, a budget in the range of \$1000 to \$2000 should be set.

H. Follow-up

A brochure and/or newsletter article plus a press release highlighting contest results will ensure that all information collected on how to compost effectively reaches as many people as possible.

5.4.2 Grasscycling Campaign

Grasscycling is the practice of leaving grass clippings on the lawn to decompose instead of raking and bagging. This method of handling yard waste is used extensively by golf courses, parks, and private property owners who understand the benefits of mulching.

The tremendous benefits of grasscycling include:

- saves time and money for property owners in applying and buying fertilizer
- can be used with other organic gardening techniques to practice natural lawn care and achieve source reduction
- saves money for municipality in collection, transportation, processing, and disposal costs versus promotion and education costs
- municipality will achieve significant waste diversion
- increases citizen involvement in waste management
- compatible with other waste management initiatives

Central Okanagan Regional District ran a grasscycling promotion dubbed “Leave it on the lawn” in 1995 and again this past summer. Grasscycling was not a component of their Regional Solid Waste Management Plan but was considered in the context of a pressing demand for organics waste management due to the introduction of bag limits for residential garbage collection. The program consists of:

- a brochure outlining the benefits and technique of grasscycling

- demonstration grasscycling lawns at the Compost Education Garden and administration offices of local government (had to educate Parks Department staff first)
- a contest developed in partnership with Toro mulching lawn mowers and local distributor (Mower Mart) in which 50 brand new mulching mowers were made available to winners; winners used the mowers for the summer season and then had the option to buy the mower at a reduced cost at the end of the summer.

Contest forms were distributed through the local paper and municipal offices and “winners” selected based on criteria that allowed for maximum promotion of grasscycling, such as lot size and location. All participants attended a mini workshop on grasscycling led by a local golf course representative and displayed a “Grasscycling Demonstration Lawn” sign in prominent location.

There were two criticisms of the contest that South Okanagan should be aware of:

1. Gas mowers are very polluting. Old-fashioned push mowers and retrofitting existing mowers should be promoted with equal vigour, with some information on the benefits of reducing lawn size through other groundcover choices.
2. Perception by other mower distributors that a particular vendor is being endorsed by local government. In response to this criticism, Regional District staff sent a letter to all mower distributors asking for expressions of interest in running a similar contest the following year or sponsoring workshops. No responses were received.

5.5 Hotline

A hotline should be available so that residents can call with questions. This may be the phone number of a municipal staff person or a special hotline set up by paid personnel or volunteers. In Kelowna, the Waste Reduction Office and Composting Education Garden phone numbers are given out as hotlines, and are answered by Regional District staff. In addition, recorded information on composting is provided in the Talking Yellow Pages. Also available is the BC Recycling Hotline operated by the Recycling Council of BC using funding from provincial and local governments.

5.6 Composting Demonstration Site

Demonstration sites are being used effectively in many BC communities, including Penticton, Kelowna, Vernon, Vancouver and Victoria. The idea is to display a number of different types of composting containers and systems so that the public can choose which system will best suit their needs and get information on how to compost. In some

communities, the site also doubles as a community garden and an education centre where workshops are held and permanent brochure racks hold composting related information.

The demonstration site can be as small or large as you wish to make it, and can be run at minimal expense if it is designed to be “self-touring” or if most of the maintenance work is done by volunteers. A visit to the Composting Education Garden in Kelowna and the Demonstration Site in Penticton will provide examples of what a site can look like based on the amount of resources available. In Kelowna’s case, the project is completely funded by the Regional District and is a joint project of the Engineering department (Waste Reduction Office) and the Parks Department. Community involvement did form an important part of the project however, since landscaping materials and services were donated by a local company and the compost bins were built by a woodworking class from a local high school.

In Penticton, the project is completely run by volunteers with minimal involvement from the City. Composting bins built by the Skaha Rotary Club were incorporated into the layout of the community gardens early in the design process. The gardens are run by volunteers and the bins are used to compost garden waste generated on site. Consideration is being given to accepting a limited amount of materials from off-site sources.

5.7 Door- to- Door Education/ House Calls

House calls provide a convenient, personal method for residents to learn more about composting, and can also serve as a method of selling composter bins. The following examples of door-to-door education are a little dated, but may provide some ideas on how South Okanagan may want to apply this technique:

- in Mono Township, Ontario a door-to-door blitz was done in an area of 110 homes. If people already had a bin, advice was offered when required; if they didn’t already have a bin, they could buy one on the spot. Now all but 5 people in this area have a bin. This work was done by 2 Councillors and 3 volunteers.
- Master Composters in Metro Toronto will visit an individual’s home if requested to provide assistance in setting up bins or providing advice on problems
- In Edmonton, an organization called EcoCity has Compost Doctors who, for a \$10 fee, will make house calls.

5.8 Block Leader / Master Composter Volunteer Program

Block leader programs involve designating a resident on each block to act as a resource person for the neighbourhood. The block leader can have a lawn sign which identifies

him or her as a composting expert. In order for block leaders to feel comfortable assuming this role, training, resource materials and a sign should be provided.

Master Composter programs were popularized in large urban centres such as Seattle and Toronto at the beginning of the decade as an economical and effective way to promote home composting through the use of volunteers. The concept is that municipalities have limited resources for staff or contractors that can provide technical assistance on an on-going basis. An intensive training program covering public presentation skills and composting fundamentals is offered free of charge and in exchange, the participants agree to provide a certain amount of volunteer time to promote effective home composting in their community.

Contracting with local environmental or gardening groups to deliver a Master Composter program may be an option for South Okanagan. Resource materials for this program can be borrowed from other jurisdictions such as the Seattle Solid Waste Utility and Fraser-Fort George Regional District, and adapted for local use. The City of Penticton, through Footprint Environmental, offered a “Mini” Master Composter training program earlier this year using the handbook developed by Seattle. While Seattle’s program allowed for 40 hours total of training time with an equal amount of volunteer time committed by participants, the Penticton program was delivered in two three hour sessions. The time and resource constraints placed on the workshop leaders and participants limited the effectiveness of the program when compared to experiences in other jurisdictions, however, there are now eleven people with exposure to the program that can help design a new, improved Master Composter program for delivery in the South Okanagan at a later date.

5.9 Waste Reduction Campaign

Waste reduction also applies to organic waste, and there are many simple things we can all do to reduce the time, energy and resources needed to compost materials and market and apply the finished compost. A waste reduction campaign is a definite candidate for partnerships both at the community level and even at a national level. Table 3 lists waste reduction strategies for food waste that can be promoted through a campaign that uses all of the techniques discussed in this chapter. For a complete listing of Reduce, Reuse, and Recycle strategies for all categories of organic materials, please refer to the tables in “A Guidebook for the Assessment of Organic Waste Generation in Municipalities” which were provided at the September meeting of Footprint Environment and South Okanagan Recycling.

Table 3. Waste Reduction Strategies for Food Waste

STRATEGY	Residential	Institutional	Commercial	Industrial
----------	-------------	---------------	------------	------------

Purchase fresh local produce (in season) which will keep longer	✓	✓	✓	
Serve smaller portions (or variable on request) to reduce wastage	✓	✓	✓	
Identify tastes and dietary restraints of “clients”	✓	✓	✓	
Encourage proper purchasing and planning for number of meals	✓	✓	✓	
Ensure proper handling and receiving procedures		✓	✓	
Encourage proper storage procedures for different foods.	✓	✓	✓	✓
Ensure proper maintenance of storage equipment (fridges, freezers and coolers) and containers (cans, bottles etc.) to prevent spoilage	✓	✓	✓	✓
Encourage the purchase of foods which have not been excessively packaged or which are in recyclable packages	✓		✓	
Ensure proper processing controls are in place and check processing frequently.	✓	✓	✓	✓

6.0 Putting It All Together

The preceding chapters have outlined a number of different strategies for keeping organic waste out of the landfill based on the four policy instruments of voluntary initiatives, government expenditures, regulations, and economic incentives. An additional technique not directly addressed by these instruments is lobbying, which is an effective tool for change from the grassroots level right up to the provincial level of government. Table 4

below provides a summary of the strategies presented in this report and is useful for understanding how the various policy instruments complement each other. This summary should be considered in the context of Appendix A, which provides a detailed discussion of how policy instruments can be used to meet environmental targets.

A shopping list of strategies to implement over the next twelve months is presented in Table 5. All other initiatives, such as harmonizing landfill operations, switching to a full Pay-As-You-Throw program for residential garbage collection, and lobbying for senior government regulations and expenditures should be considered long-term. As emphasized in the chapter on public education, voluntary initiatives should also be considered long-term as these efforts must be ongoing to be effective. Partnerships and education efforts should continue as part of standard local government operations, and should be given status in resource allocation exercises equivalent to standard Public Works functions such as road maintenance and sewage treatment operations.

Table 4. Summary of Strategies

Policy Instrument	Strategies for promoting Reduce, Reuse, Recycle/Compost options of organic material
Voluntary Initiatives (public education)	<ul style="list-style-type: none"> • run a public education campaign on the benefits and “how to’s” of composting; the campaign should focus on the specific concerns residents have that are preventing them from composting, such as odours, winter conditions, fear of animals getting in compost pile etc. • get the schools involved with a composting project such as a worm bin. • run a grasscycling promotion in cooperation with the Regional District and local distributors of mulching mowers. • involve local gardeners in organizing a “best compost heap” and “best finished compost use” contest . • staff a composting information booth at the Farmer’s Market and at Home and Garden Shows • set up a distribution network for printed materials using local retailers and community centres • offer a Master Composter Training Program as a one-day workshop twice per year (once in the spring and again in early summer) • sell composters made from used building materials in cooperation with local organizations and businesses • work with local developers, landscapers and nurseries to educate staff and customers on grasscycling, mulching, composting, and landscaping choices that result in less

	<p>organic material to manage.</p> <ul style="list-style-type: none"> • set an example for the rest of the community by educating local government employees first through newsletters, special events, and contests; if necessary, incentives should be provided for Town employees to become ‘Master Composters’ such as partial payment for attendance at training sessions and free t-shirts. • run a media campaign on the problem of burning and illegally dumping yard waste
<p>Government Expenditures</p>	<ul style="list-style-type: none"> • Composting bin distribution • Community composting operation • Subsidizing private composting operation • curbside collection of organic materials
<p>Regulations</p>	<ul style="list-style-type: none"> • “Composting only” policy for organic materials at landfills • Building permits that require space for composting bins for residential properties • Landclearing permits that require a reuse or recycle application of organic materials uprooted during clearing • Harmonizing of waste management operations including tipping fees, bans, and curbside services.
<p>Economic Incentives</p>	<ul style="list-style-type: none"> • Tag-a-bag programs • Tipping fees
<p>Lobbying for senior government regulations and expenditures</p>	<ul style="list-style-type: none"> • redefining of allowable activities on ALR land to permit large-scale composting of materials generated off-site and retail sales of finish compost. • introduction of tax breaks for businesses offering composting services • provision of start-up grants and/or diversion credits for composting operations • rewriting of landfill operating permits to prohibit organic material from being buried where reasonable alternatives exist • encouragement of food waste to be used as hog feed through removal of unnecessary zoning and health regulations • development of education programs to reduce food waste in restaurants, fast food outlets, at special events, and in the home

This section provides direction on the overall implementation of the recommended approaches for the diversion of organic material from the active tipping face of the landfill.

Two elements are particularly important to address in implementation:

- public education, and
- timing.

6.1 Public Education

The new organic waste management system is designed to achieve a reduction in the overall amount of organic waste produced in South Okanagan, as well as a reduction in the amount of organic waste that must be managed by the town. For the system to achieve these goals, South Okanagan residents and business owners need to:

- assess their own waste management behaviours and attitudes, and
- understand clearly how the new waste management programs work

A comprehensive public education campaign is required to equip South Okanagan residents and merchants with the knowledge they need to work within and support the new system. The campaign should be organized by the Town but should make maximum use of community groups and school classes as delivery agents. Existing public education efforts and materials by other local governments, the provincial government, and non-profit groups such as the Composting Council of Canada and the Recycling Council of BC should also be incorporated into South Okanagan's campaign where possible.

Key dates such as Earth Day (April 22), National Compost Week (May 4-10) and Waste Reduction Month (October) should be used to launch parts of the campaign. Coinciding announcements with these dates will heighten awareness of the new services, and may attract education dollars from higher order governments, environmental organizations (such as the Composting Council of Canada) and the private sector.

It is important for South Okanagan communities to begin organizing a comprehensive education campaign as soon as possible. The early dissemination of information will make the overall implementation smoother.

6.2 Timing

The new recommended organic waste management system contains interdependent services, new policies and regulations, and a comprehensive education component. Table 5 below summarizes all of the strategies listed throughout this document. Suggestions for the approximate timing of each initiative have been provided to South Okanagan in earlier documents. This Shopping List can be used as a planning tool, in consultation

with citizens, businesses, and the staff and elected official of the three member communities of South Okanagan Recycling.

Table 5. Short Term Implementation Shopping List

Completed (✓)	Waste Reduction Initiative	Implementation Date
	Estimate types and quantities of waste in local landfills.	
	Ban “organic” material from landfills <ul style="list-style-type: none"> • identify practical alternatives to disposal • define “organic” based on alternatives • set up enforcement procedure • consult with haulers and provide 3 month notice • promote ban to general public and media 	
	Structure tipping fees to provide incentive to sort organic material (and other divertable materials too)	
	Implement two container allowance per week for residential garbage collection	
	Provide (or support) a community compost pile for materials that cannot be composted in backyards (prunings, pine needles, large quantities of leaves)	
	Sponsor a technical workshop on organic waste management (windrow composting, grasscycling, landscaping choices) for farmers, landscapers, and entrepreneurs	
	Partner with landscapers, developers, etc. to promote landscaping designs that minimize maintenance and waste management requirements.	
	Partner with schools, service clubs, and environmental groups to deliver education programs and distribute composter bins.	
	Partner with neighbouring local governments to provide education and training programs.	
	Partner with local farmers to promote food waste as hog feed and land application of organic waste and finished compost.	
	Coordinate the sale of backyard compost bins <ul style="list-style-type: none"> • commercial bins • bins made from used lumber 	
	Distribute how-to compost information and videos	
	Provide presentations and workshops on composting	

	and reduction of organic waste	
	Develop and book out a portable educational display	
	Hold a “Best Compost Heap” contest	
	Organize a Grasscycling campaign	
	Promote the BC Recycling Hotline for composting information	
	Build a Composting Demonstration Site	
	Train a core group of residents in each community to be “Master Composters” that can make house calls.	
	Run a door-to-door education campaign	
	Promote waste reduction strategies for food waste at the residential, institutional, and commercial level	

Appendix A: Environmental Policy Instruments

Four instruments commonly used for creating environmental change are: Voluntary Mechanisms, Government Expenditure, Financial Incentives, and Regulations. These instruments are meant to be used together, and when applied in a well-planned manner will ensure that source reduction, reuse, and recycling of organic material takes precedence over landfilling and burning.

A.1 Voluntary Mechanisms

Volunteer activities that promote waste reduction can be encouraged through the use of the three mechanisms of persuasion, information, and legal context. Persuasion occurs when a moral case is presented for behaving in a certain way that will benefit the community or society as a whole. This strategy is commonly used in anti-litter campaigns and can be particularly effective when the message originates from an agency currently in favour with the general public. Recognizing this, some local governments are entering into education partnerships with local non-profit groups and when appropriate, local businesses. Two recent examples of the successful application of this technique in Penticton are:

- creation of a Composting Demonstration Site through the volunteer efforts of the Skaha Rotary Club and the Penticton Community Gardens Society
- publishing of the GreenZine and weekly Waste Reduction Warrior articles by the Penticton Herald

The second method is through the provision of information. Many firms and households are simply not aware of opportunities for waste reduction or the potential benefits. When presented with this information, a healthy percentage of people will voluntarily act on this information. Another local example of how this works is provided by Samson's Soaps, who reported an increase in customers after being profiled as a Waste Reduction Warrior and advertising in the GreenZine. Persuasion and information require government expenditure on advertising and education campaigns, but will always be significantly less than either the short or long term costs of landfilling. Strategies for stretching education program dollars include:

- using materials developed by other jurisdictions and adapt them for local use
- developing new materials and launching advertising campaigns in cooperation with other jurisdictions
- taking advantage of subsidized staffing through provincial and federal government programs
- supporting non-profit groups that offer educational services at a cost significantly less than providing the same service in-house.

The third method is to change the legal context, so that individuals and voluntary organizations can take a firm or government to court for violating environmental regulations such as mandatory recycling of materials. While this method has been used successfully to enforce pollution violations under provincial and federal regulations, it has not been used at the local level for enforcing waste reduction policies. However, it stands to reason that if landfilling concerns are serious enough, individuals or organizations would take legal action against those who willfully choose to bury or burn waste despite local waste management regulations. Along these same lines, public disclosure of an individual's or a company's irresponsible waste management practices may be enough to produce the desired change in behaviour without involving the courts.

A.2 Government Expenditure

Environmental expenditures are traditionally in the form of infrastructure, such as recycling and garbage collection services but can also be very effective as subsidies and grants provided to businesses, non-profit organizations and households. The distinguishing feature of expenditures is that the cost of environmental protection is shared by the taxpaying community as a whole, whereas regulations and financial incentives require polluters to pay for the damage they cause.

Community sharing of costs makes sense where large-scale changes are required and other policy instruments such as public education and financial incentives cannot obtain the desired results on their own. As an example, if the desired result is to divert all organic material from the landfill, charging double the tipping fee for burying pine needles and distributing brochures on the benefits of composting pine needles will not divert this material if there is no place to compost it. In this instance, a municipal yard waste composting program in combination with education and higher tipping fees will be more effective in ensuring organic material is not buried.

Subsidies and diversion credits can be given to support collectors or producers of recycled or reused materials in order to encourage these activities. Such support is based on the recognition that the market price of used or recycled goods may be below the price which maximizes the social and environmental benefits of their use. Diversion credits can also be used as a temporary measure until the product or service can compete on its own with virgin products. Subsidies or assistance through the sharing of local government resources such as real estate and equipment may be all that is needed in some cases to start up a new recycling initiative that can help the City meet waste reduction targets without a large expenditure of tax dollars for capital, operating and administration costs. Additional benefits include supporting existing or creating new jobs and developing local markets for previously landfilled materials.

Subsidies and diversion credits for waste reduction activities can and should be taking place at senior levels of government as well. Provincial and federal governments are well

known for using tax dollars to subsidize and bail out marginal resource-based industries and for cleaning up after polluting industries long after the short-term jobs and wealth have left town. Unfortunately, examples of policies that favour environmentally friendly initiatives are harder to find, since most senior government efforts in this area are in the form of regulations and fines to punish polluters instead of encouraging non-polluting activities. Listed below are some examples of senior government expenditures for which local government should be lobbying; additional lobbying activities are discussed in section A.5.

- provincial and federal tax breaks for reuse, recycling and composting services
- start-up grants and bail-outs for reuse, recycling and composting services
- amendments to the Municipal Act to allow local government to provide tax incentives within regional district or municipal boundaries
- purchasing policies that create markets for reused, recycled and composted products

A.3 Financial Incentives

Financial incentives are used to make environmentally damaging activities less attractive by making them more expensive. It can be argued that such damage occurs because firms and consumers don't pay the full costs of the things they make or buy. In a local waste management context, tipping fees and per unit residential garbage collection charges are the most common form of financial incentive to reduce waste. At senior levels of government, product stewardship regulations and deposit/refund schemes provide incentives for industry and consumers to reduce hazardous waste and packaging that end up in local landfills.

A.4 Regulations, Permits, and Policies

Regulations remain the most effective and common method of pollution control throughout the world. While regulation brings with it enforcement challenges, it can be incredibly effective in achieving dramatic waste reduction results in a short period of time and creates a high level of awareness through media coverage and discussion in the community. However, if enforcement is obviously difficult, the level of punishment or fine too low, or reasonable alternatives to the prohibited behaviour do not exist, the environmental target may not be achieved. Outlined below are three specific types of regulations that should be considered, with a discussion on how to win support from waste generators and minimize enforcement requirements.

A.4.1 Bans on Disposal

In a local waste management context, regulations come in the form of bylaws that govern mandatory participation in a garbage collection program, set a limit on the quantity and

type of waste that can be set out for collection, or restrict certain materials such as cardboard and drywall from being landfilled. In the latter instance, communications around a requirement to change purchasing and management decisions so that cardboard does not end up in the landfill can focus on the desired action instead of on the prohibited action. For example, instead of promoting a “ban on cardboard from the active tipping face of the landfill”, we can promote a “recycling only” policy for this material. This avoids any confusion over the acceptance of the material at the landfill and can potentially create a more cooperative and accepting attitude by waste generators and the general public.

As with new tipping fees, a “recycling only” policy for specific materials at the landfill should be introduced with sufficient notice so that haulers and waste generators can establish alternative programs and train employees before penalties are enforced. For materials with well-established alternatives to disposal such as cardboard, a three month notice is sufficient. Materials for which alternatives are still relatively new or represent a dramatic shift from the current business operation, a minimum notification period of six months and up to one year should be given. This extra allowance also creates a window of opportunity for new initiatives which may make enforcement of a “recycling only” policy less distasteful.

A.4.2 Permits

Regulations can also come in the form of permit requirements, and are useful for encouraging source separation of materials. Examples of permits that can be modified in this way include:

- development permits - all new multi-family and commercial buildings must have a recycling and composting area
- special event permits - all events must provide containers for collecting materials that can be recycled and composted
- demolition permits - all salvageable building materials must be separated out and sold for reuse
- landclearing permits - all wood waste must be chipped and composted

Using permits in this way helps raise public awareness, encourages waste reduction, and decreases the responsibility of local government for providing increasingly expensive real estate for managing waste materials. Consultation with stakeholders in advance of setting new permit requirements and appropriate notification periods can help reduce resistance and win support. Case studies of how similar requirements in other communities have been used effectively should be provided during the consultation process, and gradually be replaced with local case studies.

A.4.3 Purchasing Policies

Governments have an incredible opportunity to help create reliable markets for recyclable materials and help make environmentally friendly products and services more accessible to the general public through the use of purchasing policies. Priority should be given to supplies, packaging and services that generate less waste, are less toxic, contain recycled material and/or can easily be reused or recycled.

A.5 Lobbying and Council Resolutions

Given the potential waste reduction initiatives have for reducing landfill costs, improving quality of life and contributing to local economic development, it is not surprising that many local governments actively lobby senior levels of government for province wide initiatives to meet these objectives. Furthermore, many Regional Boards and Councils pass resolutions supporting environmental initiatives or making declarations on environmental values almost monthly. This type of activity reinforces government commitment to clean air, water, soil and biological diversity as well as to full employment, since ultimately all jobs depend on the proper management of natural resources.

Local governments often receive requests to support lobbying efforts initiated by local or provincial environmental organizations. Over the last few years, much lobbying has been done in the areas of product stewardship for beverage containers and also for controlling unwanted admail (also known as “junk mail”). As we have seen with the hazardous waste and beverage container regulations requiring brand owners to collect and manage residual products and their containers, lobbying can effect change. In many instances, however, counter lobbying efforts are taking place at the industry level, under the misguided notion that products must create waste in order to be profitable. There can be no question that environmental controls and recycling programs can be expensive, but these costs must be measured against the cost of uncontrolled pollution and the ethics of profiting from local waste management challenges and their related expenses.

Quite often protests against product stewardship regulations or stricter environmental controls are made in the context of short and medium timeframes, based on the predicted amount of time a political or staffed office will be held. Individuals may not want to champion seemingly controversial initiatives if they are concerned about job security, or if their training and value system has not allowed for new ideas. This phenomena has been dubbed “NIMTO”, a cousin to “NIMBY”, and stands for Not in My Term of Office. Oddly enough, NIMTO applies to both elected and staffed positions of power, particularly in instances where the new policy may have long term environmental benefits that are not immediately obvious but with short term and immediate costs. Because of these potential problems, **it is critical that all local governments establish a clear set of**

environmental principles on which to base decisions, so that a positive or negative reaction to a new idea becomes a collective rather than an individual reaction, and is based on values that reflect what is best for sustaining a long-term quality of life for present and future populations in the community being governed.

A.6 Landfill Operations

Community attitudes towards waste management are created and reinforced by government policies and programs for dealing with waste. It can be argued that public acceptance of waste generation and burial is a result of the emphasis placed on residual management by government for most of this century. People have long associated the “town dump” with garbage and by extension, have defined their unwanted possessions and byproducts of purchases as garbage instead of as valuable materials that still have many uses in their present form or a new form after being recycled or composted.

If landfills were redefined as “materials marshalling yards” or “resource recovery centres” and operated as such, regulations would become redundant since burying materials would only happen after all other alternatives were exhausted. We are already witnessing this shift in landfill operations across North America, with the appearance of designated areas for source separated materials such as yard waste, wood waste, appliances and metals, tires, and “blue box” materials. More progressive landfill operators are now including Re-Use centers as well, with the focus being on building material supplies and furniture. This trend can be taken further by changing the language as indicated above so that people start saying “I’m going to the Resource Recovery Centre” instead of “I’m going to the dump.” This does not mean that the active tipping face will disappear, but it does imply an assumption that there may be smarter alternatives.

Are landfills costing us jobs?

In the forestry sector, many people have put forward the argument that exporting raw logs is the same as exporting jobs. This logic can be extended to say that burying garbage is the same as burying jobs. When consumer products and their packaging are repaired or recycled instead of landfilled, new training and job opportunities are created.

Imagine this instead: the landfill site has become a Resource Recovery Centre and all traffic flows past areas for recovery operations for different types of materials, leaving behind material at each station until all that is left is a small amount unrecognizable rubbish. This final bit of trash is landfilled, and of course, at that point, contains no metals, organics, or hazardous materials. Variable tipping fees are used to encourage source separation, with landfilling being the most expensive option of all. In Kootenay Boundary Regional District for example, there are two tipping fees: one for materials to be buried, and one for materials to be “recycled”.

Harmonizing fees, services, and hours of operation within market boundaries rather than political boundaries would go a long way towards winning public support for waste reduction initiatives. All waste management within a certain radius should be operated like a franchise, in that there is an obvious consistency in services, charges, signs, and conditions of use. In this way, service area boundaries can be changed to reduce transportation requirements and increase convenience to users. This can work if full or even partial User Pay systems are in place for materials for which recycling markets are not yet strong enough to cover the costs of accepting them for free.

All landfill expenditures should be made with the objectives of minimizing the landfill footprint and maximizing available air space by providing ample room at the site for the separation and storage of materials that can be reused, repaired, recycled or composted.

Appendix B - Environmental Principles

We have to stay fixed on our commitment and ideals; we have to have them very, very clear in our minds. We have to be flexible and opportunistic...we can't shy away from controversy or opposition—we need it.

—David Suzuki

The Environmental Guiding Principles below are extracted from the Ministry of Environment, Lands and Parks “Guide to the Preparation of Regional Solid Waste Management Plans”, December 1994. All policy and purchasing decisions should be made in accordance with these principles to ensure a continuity in support for waste reduction initiatives.

- The consumption of material and energy resources is set at a level which is ecologically sustainable.
- The regional solid waste stream is reduced to the greatest extent possible, in accordance with the hierarchy of reduce, reuse and recycle, and consistent with local resources and the nature of the regional solid waste stream.
- The goal of environmental policy is zero pollution and the strategies for achieving that goal are in accordance with the precautionary principle.
- Individuals and firms are enabled to make environmentally sound choices about consumption of resources and generation of waste through provision of appropriate information, including user-pay and market-based incentives wherever possible.
- Reduction policies and strategies are developed through public consultation and are socially acceptable and cost-effective, based on full accounting of costs and benefits, both monetary and non-monetary.

References and Recommended Reading

Adreasen, Alan, *Marketing Social Change. Changing Behavior to Promote Health, Social Development, and the Environment* (Jossey-Bass Inc. Publishers, San Francisco, California, 1995).

Association of Municipal Recycling Coordinators, *Guidebook for the Assessment of Organic Waste Generation in Municipalities* (Guelph, Ontario, May 1992).

Barker, Donna and Westhead, Bill (editors), *Tools for Change, Highlights of the Social Change Conference Vancouver, Canada May 26-27, 1995* (David Suzuki Foundation and the National Association of Japanese Canadians, 1996).

BioCycle, Journal of Composting and Recycling, Vol.39, No.6 (JG Press, Emmaus, Pennsylvania, June 1998).

BioCycle, Journal of Composting and Recycling, Vol.39, No.7 (JG Press, Emmaus, Pennsylvania, July 1998).

BC Environment; Environmental Protection Division, *Participant's Manual - The Power of Policy: Implementing Local Policies and Regulations to Support Waste Reduction* (Prepared by Resource Integration Systems Ltd. Victoria, BC. February, 1996).

BC Environment; Environmental Protection Division, *Draft Selected Organic Matter Recycling Regulation* (June 1998).

City of Rossland, *Waste Management System Discussion Paper* (Prepared by Footprint Environmental Consultants and Urban Systems Ltd., Kelowna, BC, March 1997).

Frankel, Carl, *In Earth's Company: Business, Environment and the Challenge of Sustainability* (New Society Publishers, Gabriola Island, BC, 1998).

Fraser Valley Regional District, *Design and Implementation Strategy for Solid Waste Services* (Prepared by Footprint Environmental Consultants, Kelowna, BC. March 1998).

International Society of Arboriculture, *Benefits of Trees* (Pamphlet, 1991).

Hawken, Paul, *The Ecology of Commerce* (HarperCollins, New York, 1993).

Jacobs, Michael, *The Green Economy* (UBC Press, Vancouver, BC, 1991).

Martin, Deborah and Gershuny, Grace, eds, *The Rodale Book of Composting* (Rodale Press, Emmaus, Pennsylvania, 1992).

Professional Development Unit, Centre for Continuing Education, *Proceedings from the Seminar of Composting and Organic Waste Management, Feb. 2-4, 1994* (Christchurch City Council and Lincoln University, New Zealand, 1994).

Recycling Council of British Columbia, Reiterate newsletter - *Why We ~~Can't~~ Must Reduce Our Waste* (Vancouver, BC, May 1994).

Recycling Council of Ontario, *Home Composting Handbook, How to Promote Home Composting in Your Community* (Ontario Ministry of the Environment, 1992).

Regional District of Okanagan Similkameen, *Solid Waste Management Plan* (Prepared by Stanley and Associates, 1995).

Roseland, Mark, *Toward Sustainable Communities - Resources for Citizens and their Governments* (New Society Publishers, Gabriola Island, BC, 1998)

Seattle Solid Waste Utility, *Master Composter Training Manual* (February 1994).

Wackernagel, Mathis and Rees, William, *Our Ecological Footprint, Reducing Human Impact on the Earth* (New Society Publishers, Gabriola Island, BC, 1996).