

THE VISUAL ESTIMATE ASSESSMENT GUIDE





1 INTRODUCTION TO THE VISUAL ESTIMATE ASSESSMENT GUIDE

1.1 The Need for a Waste-Resource Assessment Guide

All over the world, businesses and institutions are changing the way they deal with **solid waste**. Now, waste is increasingly regarded as a **resource**. Here in Nova Scotia, the process of change is being driven by the Solid Waste-Resource Management Strategy and new provincial regulations. ***In particular, Nova Scotia businesses and institutions will be affected by a set of provincial bans on certain materials going into landfills.***

This Guide uses a **visual estimate approach** to waste-resource assessment and is an important first step towards a comprehensive waste reduction program for your organization. It will help you and your organization assess your current generation of solid waste and to plan the changes necessary to comply with the provincial regulations. A waste assessment can be an extremely valuable experience to a forward-thinking business or institution. By following this visual estimate approach your organization will be in an excellent position to implement a sound Waste Reduction Action Plan and help Nova Scotia turn waste into resources.

The Guide has been adapted from a document developed by Halifax Regional Municipality for the Industrial, Commercial and Institutional sectors (IC&I). The Resource Recovery Fund Board (RRFB) is grateful to HRM for making this available to businesses and institutions throughout the province in this revised form.

Materials Banned From Landfill

- Redeemed beverage containers
- Corrugated cardboard
- Newsprint
- Lead-acid automotive batteries
- Leaf and yard waste
- Scrap tires
- Waste paint
- Ethylene glycol (automotive antifreeze)
- Steel/tin food containers
- Glass food containers
- Low-density polyethylene (LDPE) bags & packaging
- High-density polyethylene (HDPE) bags & packaging
- Compostable organic material

For more information on the Resource Recovery Fund Board, Inc., its mandate and its programs for waste-recovery, check out the RRFB Website: www.rafb.com or call 1 (800) 665-LESS.

1.2 The Visual Estimate Approach

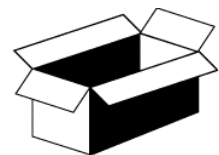
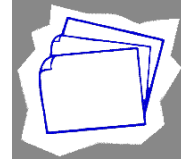
This document describes a *visual estimate approach* to assessing your waste stream. It is based on what is commonly called the "eyeball" method of estimation and uses **volume** rather than weight as the unit of measurement. In other words, visual approximation of waste volume is used instead of weigh scales. The goal is to produce reasonable estimates of your waste stream and the amount of material available for source reduction, re-use, recycling and composting initiatives. This approach has the advantage of limiting the cost and the commitment of employee time.

While the time and resource demands of this process are not great, it does require the following:

- ✓ a "champion" within the organization to lead the process;
- ✓ the support of senior management;
- ✓ the participation of key staff representatives in a series of 2 or 3 meetings and in the accumulation of data; and,
- ✓ if the program is to be successful over the long term -- "buy-in" to the plan from most or all of the employees in the organization.

For those of you who wish to apply a more rigorous (and, therefore, resource-intensive) method to assessing your organization's solid waste management status and opportunities, please refer to **The RRFB Waste Audit Guide**. You can download it from the RRFB website (www.rfb.com) or by calling 1 (800) 665-LESS or faxing (902) 662-2396.

Source Separation
is the key...



1.3 Some Points to Consider

Before starting with the **7 Basic Steps** outlined in Section 2, you should consider the following points.

1. The steps outlined in Section 2.5 assume that you, or someone that you solicit or appoint, is willing and able to lead the process. The steps are addressed directly to the leader of the process -- a waste reduction "**champion**" within the organization. ***This is very important.*** Waste reduction initiatives work much better if one person co-ordinates the process and motivates others. If you are not this person, consider appointing someone who has the necessary qualifications and motivation. Alternatively, you could seek a volunteer through your company's internal communication channels (staff newsletter, bulletin boards, etc.). You will find that most organizations have such a person in their ranks.
2. ***Take some time to consider the process in advance of setting it in motion.*** You may need more flexibility and you may need to "personalize" it or tailor it to your organization. For instance, if your organization is small, three meetings may not be necessary. On the other hand, a larger organization may need more than three meetings. You might also want to enlist some help from a supportive colleague or two who could provide feedback to you before start-up.
3. ***Getting people "on side" is a very big part of implementing a successful waste reduction plan.*** You will need support from above and from below in order to make it work. You will also need to consider how you will communicate the plan to all of the employees. In the case of larger organizations, a communications strategy should definitely be developed.
4. ***Go over the worksheets very closely,*** first by yourself and then with the people who will be filling them out. The worksheets are largely self-explanatory, but ambiguities and differing interpretations are always possible with forms that rely on short headings. Also, it is important to recognize that every facility is different. The RRFB has tried to make the Guide and worksheets as generic as possible; however, you may find it



An Example of "Buy-in"

Hotel Halifax was an early player in the waste-resource game through reuse and recycling programs.

In May 1998, under the leadership of a Green Team headed by Environmental Chairperson Scott Hill, the hotel commissioned a waste audit. The resulting information allowed hotel management and staff to implement an ambitious program of organics separation.

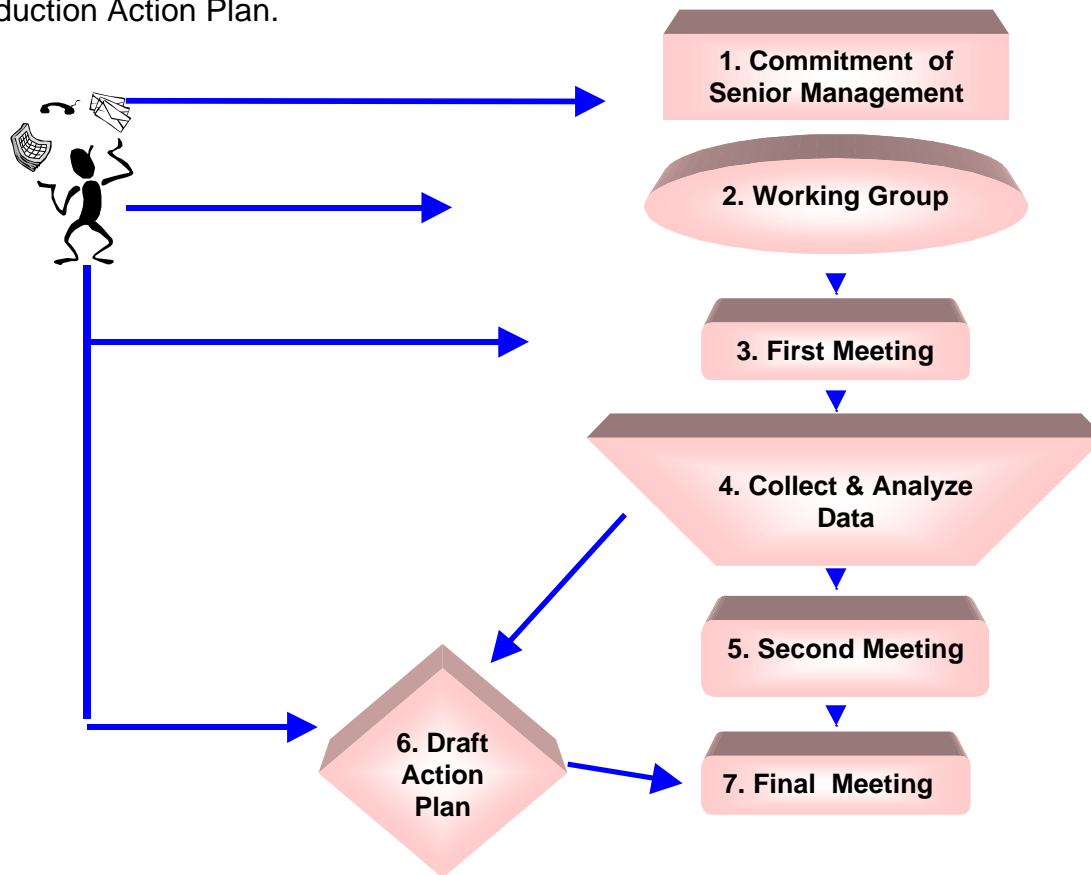
Scott Hill believes that getting long-term "buy-in" from the hotel staff is of paramount importance. The key to achieving success is the "on-going education of everyone involved -- communicating your goals is critical."

desirable to make modifications appropriate for your particular circumstances.

2 IMPLEMENTING A WASTE-RESOURCE ASSESSMENT

2.1 The 7 Basic Steps to Implementing a Visual Estimate Approach

The following steps describe the process involved in the *visual estimation* of a waste stream. The assessment will provide you with the data you need to implement a comprehensive Waste Reduction Action Plan.



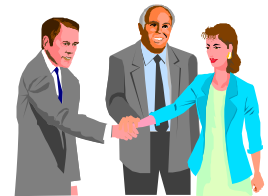
The process itself begins before the actual assessment and continues afterward through to the development and implementation of the Action Plan. All key worksheets and other information for the actual assessment are included in a series of appendices at the back of the Guide.

Once you have read this document, make a tour around your facilities (unless you are already familiar with the general layout

and the way in which solid waste is handled). Then review how the process and the various tools contained in this Guide might be adapted to your facility. Now you are ready to proceed.

Step 1: Obtain Commitment of Senior Management

If senior management is not leading the assessment process, present your case for undertaking this project to them and get a commitment of the necessary resources. Develop a draft letter of official support for management signature. It is important that this initiative be viewed as a company or organization undertaking. Communicating this to all employees is extremely important.



Step 2: Set up a Working Group

Send the management commitment letter to all relevant department heads and set a date for the first meeting. Indicate that the meeting will discuss the upcoming assessment and the intention to develop an Action Plan to maximize diversion using the assessment data. Each department head should be asked to assign a representative to attend meetings and oversee initiatives within their department. Because of their crucial role in the handling of waste, custodial staff should also be asked to attend. For smaller organizations, the letter should be circulated to all employees.



Step 3: Hold the First Meeting

- Discuss the purpose of the meeting with everyone. Emphasize the need for diversion and the implications of the provincial landfill bans. See Appendix G for suggestions about social-marketing principles that can be outlined at this meeting.
- Distribute copies of **Waste Assessment Worksheet 1 (Internal Collection System)**, with **instructions for filling it out**, (both are included as Appendices A & B). Ask that the forms be filled out before the next meeting. Go over the worksheets in detail using the model worksheet on page 10. Discuss the timing of the assessment¹. Working with the



¹ If you wish, you could do the visual inspection on a number of occasions and average the results, giving you greater accuracy. However, you can get an adequate “snapshot” from one estimate, provided that you take care to ensure that the assessment is not carried out during a time period when waste generation is unusually high or low.

custodial staff, make your visual estimates just prior to the regular emptying of the containers.

- Give a copy of **Waste Assessment Worksheet 2 (Central Storage Area)** and its **instructions** to the custodial staff representative and make arrangements to meet with him/her to fill out the sheet just prior to the next pick-up of the containers.
- Finally, ask everyone to be prepared to discuss possible options for an organization-wide plan to ensure maximum diversion and compliance with the landfill bans at the second meeting. Place particular emphasis on a communication strategy.

Step 4: Collect and Analyze the Data

Collect all the worksheets. Make sure all of the information you need is summarized (see Section 2.4, **Working with the Data**, page 13). Use the data and information in this document to form some preliminary recommendations (e.g., develop a facility-wide composting program, develop a system to re-use transport packaging, etc.). You can get some guidance in this area from the **General Suggestions for 3Rs** in Appendix F.

Step 5: Hold the Second Meeting

Make a brief presentation on findings to the working group. Lead the discussion on data collected and your preliminary recommendations. Get the group's feedback and ask for their commitment. Hand out **"Ideas Sheet"** (Appendix E) and a copy of **"General Suggestions for 3Rs"** (Appendix F); ask that the Ideas Sheet be filled out and faxed back to you. Schedule a third and final meeting to review and agree on an Action Plan.

Step 6: Do Rough Draft of Action Plan

Use the results of the second meeting and the ideas sent in by the representatives to develop a rough draft of an Action Plan. This could consist of a brief description of the initiatives to be undertaken, along with a schedule and milestones. Send this Action Plan to all representatives in advance of the third meeting.

Step 7: Hold Third and Final Meeting



- (b) **In Column 2**, indicate the exact location (e.g., room number, beside photocopier, next to freight elevator in basement, etc.).
- (c) **In Column 3**, indicate the type of material the bin is intended to collect (its primary function) by writing a letter representing one of the following: waste, paper, beverage containers, blue bag item; or by writing the name of a specific material (e.g., organics, cardboard, milk cartons, etc.) if the bin is intended for a material less commonly collected. **Please note** that this column is to indicate the intended use of the container; therefore, if a blue box intended for office paper recycling is actually full of milk cartons, you should still mark a "p" in this column.
- (d) **In Column 4**, estimate the capacity. [NOTE: If you wish, bring a tape measure along to measure the dimensions of each container; however, an "eyeball" estimate -- e.g., "...about 2 cubic feet" -- will do fine.]
- (e) **In Column 5**, indicate the frequency of collection of the contents of the container (e.g., daily, weekly, twice weekly, etc.). This may be how often the container is emptied into a larger container -- see box below.

NOTE: In almost every case, the frequency with which containers are emptied will be the same for all waste containers (recycling containers may vary). However, if the frequency does vary, you must do one of the following:

If the containers that are picked up less frequently are simply an intermediate step in the collection system, they can be ignored during the assessment. This estimation system is based on measurement at two points – the first point of disposal and the final storage area (before pick-up). Intermediate storage containers should be ignored to avoid double counting.

If the less-frequently emptied containers are unique collection points, you should ensure that you estimate their contents just prior to emptying (as with all others); and second, that you adjust the estimated volume according to the difference in the collection period. For example, if most containers are collected daily but the ones in the photocopy room are collected weekly, divide the estimated volume of the weekly containers by 5 (assuming a 5-day workweek) before entering the data in Worksheet 1.

- (f) **In Column 6**, record the "fullness" of the container. For example, if the container is one third full, record 33%. If the container is empty, record 0%. Your estimate should be based

on how full the bin would appear if the contents were slightly compressed, as they would be if stuffed into a garbage bag.

- (g) **For Column 7**, examine the contents of the container and estimate, for each type of material, the percentage it comprises of the *total* volume. Do this for **recyclable fibres (i.e., paper products), redeemable beverage containers, blue bag items, compostable materials, garbage, and questionable materials**. For example, if a container had one glass jar and a few pieces of office paper, you might estimate 50% blue bag items and 50% recyclable fibre. You do not have to "dig through" the containers; a quick look will provide a reasonable estimate of the ratio of materials present. Please see Appendix D for a list of items included in each of the categories. If you are unsure of what category in which to place certain items, record them in the "questionable materials" category and make a note of the item in Column 8 (Comments).
- (h) **In Column 8 (Comments)**, provide anecdotal information where applicable.

WORKSHEET 1 - INTERNAL COLLECTION SYSTEM												
Bin No.	Location	Indicate the Primary Function (one only) of the Container - w aste, p aper, b everage container, b lue bag item or other (specify)	Capacity (Size)	Collect Freq	Percentage Full	Materials as a Percentage of Total Waste/Resources per Container (*see below)						Comments
(1)	(2)	(3)	(4)	(5)	(6)	(7)						(8)
						P	V	C	B	W	Q	
1	General office	W	2.5	Daily	75	75	5			20		
2	Principal's office	P	2.5	"	20	80			5	15		
3	VP's Office	P	2	"	15	60				40		
4	Staff Room	W	5	"	100	70	10		10	10		
5	Classroom 1	P	2	"	30	70			10	10	10	Plastic
6	Classroom 2	P	2	"	35	60				20	20	Plastic
7	Classroom 3	P	2	"	15	70			20	10		
8	Classroom 4	P	2	"	30	80				10	10	Plastic
9	Lunch Room	W	5	"	100	10	20	40	10	10	10	
10	Rear entrance	w	5	2 x wk	100		20	20		40	20	Plastic, broken glass

*P = Paper V = Beverage Container C = Compostable Material B = Blue Bag Items W = Waste Q = Questionable Material

2.3 How to Use *Worksheet 2 (Central Storage Area)*

Name of Assessor: _____ Date: _____ Area of Responsibility: _____

WASTE ASSESSMENT WORKSHEET 2 - CENTRAL STORAGE AREA

Type of Container (e.g., dumpster, barrel, roll-off, etc.)	Indicate the Primary Function (one only) of the Container - waste, paper, scrap metal, corrugated cardboard, or other (specify)	Capacity (Size)	Collect Frequency	Percent- age Full	Please list any items you notice in the container that should not be there		Comments
(1)	(2)	(3)	(4)	(5)	(6)		(7)
					Item	% of total material	

As described above in the **7 Basic Steps**, Worksheet 2 should be filled out by the custodial staff representative (or by you, in consultation with the custodians). The following points provide some guidance.

1. Make sure you have enough space on the worksheet to record all of the information. You will need one line per waste or resource container. Make a second copy if necessary.
2. Systematically list every waste or resource container in the central area reserved for waste and recyclable collection. If there is more than one storage area, use a separate sheet for each one. On each worksheet you should use a separate line for each container. Fill out the columns as follows:
 - a) **In Column 1**, indicate the type of container (e.g., dumpster, roll-off container, barrel, etc.).
 - b) **In Column 2**, indicate the type of material the bin is intended to collect (its primary function) by writing the name of a specific material (e.g., mixed waste, cardboard, paper, organics, blue bag items). **Please note** that this column is to indicate the intended use of the container; therefore, if a dumpster intended for corrugated cardboard recycling is actually full of mixed waste, you should still mark “cardboard” in this column.

- c) **In Column 3**, record the capacity. *[NOTE: You will probably know the container's capacity (e.g., 6 cubic yard dumpster); however, if you do not, use a tape measure to determine the dimensions and then calculate the volume. Please note that a "quick-and-dirty" estimate is fine -- you do not need to be exact with things like rounded or angled corners].*
- d) **In Column 4**, indicate the frequency of collection of the contents of the container (e.g., daily, weekly, twice weekly, etc.).
- e) **In Column 5**, record the "fullness" of the container. For example, if the container is one third full, record 33%. If the container is empty, record 0%.
- f) **In Column 6**, list any items that you notice in the container that should not be there. For example, if a bin intended for corrugated cardboard is full of mixed waste, mark "waste" and "100%" in Column 6. Or, if a dumpster intended for used tires has some scrap metal in it, you might record "scrap metal" and "10%" in the column.
- (i) **Comments (Column 7)**: This column is the place to provide anecdotal information where applicable. For example: "high contamination" or "container overflowing".

To obtain the estimated volume of materials discarded on the day of the assessment you simply add the numbers in Column 2 (if you need more space, you can photocopy the Summary Sheet). Record the total in the second-to-last box of Column 2.

Step 2:

Again using the figures from Worksheet 1, **calculate the volumes of each of the designated material categories**. You can do this by multiplying the percentage for each of the materials (Column 7, all sub-columns) by the estimated volume of materials in each individual container (Column 2, Summary Sheet). Record the numbers in Columns 3 to 8 of the Summary Sheet. You can then calculate the estimated volumes for each of the material categories by adding the figures in the appropriate columns (3 to 8 of the Summary Sheet). Record the totals in the second-to-last box in Columns 3 to 8.

Step 3:

Using the totals at the bottom of the Summary Sheet, **calculate the percentage composition of the waste stream on the day of your assessment**. You do this by dividing the Total at the bottom of Column 2 by each of the totals of Columns 3 to 8, in turn. Record the percentage in the bottom box of the appropriate column.

Step 4:

You now have an estimate of the composition of your waste stream for a single day. To convert those to annual amounts, simply multiply each total by the number of working days in the year.

Step 5:

You can repeat the above steps for each of the recycling containers as well. This will provide you with annual amounts of materials already recycled in your facility. It will also provide you with an estimate of the amount of contamination in your recycling streams (the assessors will have recorded all materials in these containers, just as they did with the waste containers).

Step 6:

Compare the figure for total waste generated by Worksheet 1 (Bottom of Column 2, Summary Sheet) with those obtained from Worksheet 2. The latter can be calculated simply by multiplying the estimated volume of waste at the

time of the assessment by the number of pick-ups in a year. If the numbers are within 25% of each other, you can adjust the Summary Sheet numbers to match the Worksheet 2 totals. First, calculate the ratio of Summary Sheet to Worksheet 2 by dividing the former by the latter. Then multiply each of the material totals from Steps 4 and 5 by that ratio. This will give you adjusted figures for these materials that are probably more accurate. Because the same ratio is applied to all figures, the percentages will not change.

If the totals differ by much more than 25%, you might consider reviewing the process and your calculations carefully and repeating the assessment one or even two more times to improve the accuracy.

2.5 Making Recommendations

As described in the **7 Basic Steps**, the assessment data should be presented to the representatives at the second meeting. The key pieces of data are:

- the total amount of waste generated annually (from Worksheet 2);
- the amounts of materials already recycled or composted annually (from Worksheet 1 and Step 5);
- the amounts of materials available for recycling or composting, adjusted (from Step 6).

You should prepare for the meeting by developing some recommendations about which material streams to target and which types of initiatives to consider. You can get ideas from the list of *General Suggestions for 3Rs* in Appendix F.

It is highly recommended that you and others involved in the drafting of the Action Plan read the summary in Appendix G about **Community-Based Social Marketing**, an approach to dealing with change by Douglas McKenzie-Mohr of St. Thomas University. The ideas described in this document have been widely and successfully used to bring change in environmental behaviour, especially in waste-resource management.

Recommendations from the leader of the process will provide structure to the meeting and prompt discussion. In the end, everyone has to agree with the initiatives selected if they are to be successfully implemented and sustained.

In conclusion, remember that the Waste-Resource Assessment is only the first step in a long-term strategy to divert and reduce waste, turn waste into resources and meet the landfill ban requirements of Nova Scotia. The Action Plan you develop must be sustained with an on-going internal communications

program which engages the attention and support of all of your employees.

APPENDIX A

APPENDIX B

APPENDIX D

MATERIAL LIST: What is in Each of the Material Categories

Compostable Materials

Food Waste (cooked or raw)

- Fruit & vegetable peelings
- Table scraps
- Meat, chicken, fish and bones
- Shellfish, including shells
- Dairy products
- Cooking oil, grease & fat
- Bread, rice, pasta
- Egg shells
- Coffee grounds & filters
- Tea leaves & bags

Yard Waste

- Grass, leaves & brush
- House & garden plant waste
- Soil & old sod

Boxboard (remove foil & plastic liners, metal fasteners, serrated edges, etc.)

- Cereal, shoe, tissue, detergent, cracker, & cookie boxes
- Pizza boxes (all other corrugated cardboard should be recycled)
- Toilet paper rolls & paper towel rolls

Non-Recyclable Paper

- Soiled napkins, paper towels & fast food wrappers
- Waxed paper & cardboard (please continue to recycle milk cartons)
- File folders
- Yellow (manilla) envelopes
- Wrapping paper (no foil paper please)
- Paper plates & cuts (**not** Styrofoam)
- Damp & soiled newspapers & flyers
- Sugar & Flour bags
- Tissue/Kleenex

APPENDIX D

Continued

Other

Sawdust & wood shavings
Popsicle sticks, toothpicks, cotton balls, Q-tips (wooden only)
Kitty litter

Recyclable (*Blue Bag*) Materials

All redeemable beverage containers
Steel & aluminum cans
Glass bottles & jars
#4 LDPE plastic bags
#2 HDPE narrow neck plastic bottles (e.g., shampoo bottles, liquid dish soap bottles, etc.)
#1 PETE plastic containers (e.g., pop bottles, some salad dressing bottles, etc.)
Milk & juice cartons, tetra packs and mini-sips

Recyclable Fibres

Newspapers, flyers, magazines, catalogues, paper egg cartons, paperbacks, phone books
Bond paper
Envelopes (with & without windows), "junk mail", coupons, etc.
(**NO** manilla envelopes, photographs, carbon paper, travel/overnight envelopes, or overheads)

Garbage/*Non-recyclables*

Worn out textiles
Rubber other than scrap tires
Composite materials such as chip bags
#2 HDPE wide mouthed plastic containers (e.g., margarine & ice cream tubs)
#2 HDPE "crinkly" plastic bags
#3, 5, 6 & 7 plastics (except beverage containers) - PVC, polypropylene, & polystyrene
Disposable diapers
Personal hygiene products
Paper products/fabrics contaminated with motor oils or solvents
Wood with preservatives, coatings or adhesives
Non-container glass (e.g., windshields, crystal, Pyrex, etc.)

APPENDIX F

General Suggestions for 3Rs

REDUCE

- *Double sided photocopying.*
- *Discourage disposable containers.*
- *E-mail and bulletin boards instead of separate memos to everyone.*
- *Bring your own coffee mug to work.*
- *If you have a water cooler use a glass or your mug instead of the disposable styrofoam or paper cups.*
- *Promote litterless lunches. No disposables - reusable containers only.*
- *Purchase a reusable coffee filter for the coffee machine.*
- *Discourage the use of straws, paper napkins, and disposable stirring sticks.*
- *Milk, sugar, coffee, and condiments in the lunch room can be provided in bulk containers.*
- *Use cloth loop towels instead of paper towels.*
- *Set up a car pool notice in the building.*

REUSE

- *Send used books and office equipment to a local charity or social service agency.*
- *Post a sign informing staff that cardboard boxes are available for their home use.*
- *Provide reusable utensils in the lunchroom.*
- *Circulate newspapers and magazines.*
- *Use blank side of paper for photocopying draft copies of work.*
- *Be sure there is a tray beside the photocopier for one-sided paper that can be reused.*
- *Use inter-office envelopes.*
- *Use refillable pens and pencils, and reuse paper clips and file folders.*
- *Re-ink printer/toner cartridges.*

APPENDIX F

Continued

RECYCLE

- ***Encourage all employees have a recycling container next to their desk.***
- ***Buy materials with recycled content.***
- ***Ensure there are adequate recycling receptacles throughout the building.***
- ***Set up a backyard composting unit on the grounds and post signs for staff informing them of the acceptable materials.***
- ***Place adequate signs above recycling receptacles describing the materials accepted.***

GENERAL

- ***Set up a suggestion box and designate a person responsible for conveying suggestions to the building operators/managers.***
- ***Be certain that there are an appropriate number of garbage receptacles.***
- ***Ensure that garbage receptacles are sized appropriately.***

APPENDIX G

A New Way to Bring Change

One of the most important things to remember is that we are all human. Change is not easy, nor does it just happen. Changing behaviour is a challenge. If you want to help your employees rise to the challenges of your Waste Reduction Action Plan to divert and reduce waste in your organization, you may find the approach outlined below helpful.

The following is a brief summary of an approach to community-based social marketing by Dr. Doug McKenzie-Mohr. The Resource Recovery Fund Board believes that these concepts can be adapted and applied to your company or organization's Waste Reduction Action Plan.

In the past, governments, businesses and institutions have developed programs designed to save energy, fight pollution and promote environmentally friendly solutions to environmental problems. Your company or organization may have participated in some of these programs.

When results are measured, however, these programs are often less than successful. For example, in the 1970s the U.S. federal government tried to encourage energy efficiency by providing home assessments. Only 6 percent of eligible households applied and, of these, only half made any changes at all. Most of the recommendations from the assessments were simple and inexpensive, yet few people changed -- even when they could save money! Why?

Doug McKenzie-Mohr's research shows that people and businesses don't make changes just because they have access to information that indicates that they should. The key to real change is in how the information is delivered.

How then can we help people change? The answer lies in the systematic application of the principles of community-based social marketing. The approach can be summed up as follows:

1. Identify the barriers that prevent people from changing their behaviour;
2. Develop a communications strategy that eliminates or minimizes the barriers;
3. Implement the strategy;
4. Monitor and modify the strategy as necessary.

The systematic approach outlined above provides a structural framework for the CBSM approach. Within that framework, there are a number of important concepts, including commitment strategies, prompts, norm building, and the principles of effective communications. These ideas, along with the fundamental concept of barriers to behaviour change, are discussed below.

1. Barriers

Barriers to behaviour change may be internal to the individual, such as:

- lack of awareness
- non-supportive attitudes
- absence of commitment

Other barriers exist outside the reach of the individual and require changes in the way the workplace is organized or structured to provide opportunities for new, environmentally friendly behaviours. Examples of external barriers include:

- inconvenient or non-existent infrastructure
- lack of authority or management support for the behaviour
- lack of relevant information

It is important to realize, as well, that the barriers for one type of behaviour, such as conserving energy by turning off unneeded lighting, may be quite different from the barriers for another, such as source separating for recycling.

Since the barriers that prevent individuals from engaging in change are very specific and closely connected to the nature of the activity, it is important to uncover the barriers. Once identified, it is possible to develop an approach to remove these barriers. This is best carried out through careful planning and the involvement of all employees in the undertaking. The table on the following page shows some typical barriers.

Activity	Barriers
Source Reduction	<ul style="list-style-type: none"> • Awareness of environmentally friendly products is low • Cynicism about environmental claims • Unwilling to put much effort into locating and using environmentally friendly products • Not perceived as the right thing to do
Recycling	<ul style="list-style-type: none"> • What can be recycled is unclear • Collection concerns • Cost of containers, bags and supplies • Timing of collection
Composting	<ul style="list-style-type: none"> • Viewed as unpleasant • Viewed as inconvenient • Viewed as time consuming • What and how to compost is unclear • Not perceived as the right thing to do
Organic Separation	<ul style="list-style-type: none"> • Employees are unclear as to what can be put in organic receptacles • Storing organics perceived to produce odours and attract rodents

2. Commitment: Turning Good Intentions into Action

Research indicates that when people agree to a small request, they are more willing to consider bigger requests. This initial agreement often alters the way they perceive themselves. It capitalizes on a basic human desire to be consistent. If we can gain this kind of commitment from people, we are well on the way to changing their behaviour.

It's important to apply commitments in a real context. For example:

- When distributing new organics receptacles to key stations in your facility, ask the employees who will use the area for suggestions about timing and frequency of collection; they know their habits and ways of doing things best
- In an area where several employees are responsible for disposal of waste, ask for a volunteer to be a team leader for that area
- Plan regular or periodic meetings to review progress and solicit suggestions about making the system more effective and efficient

Here is a checklist for using commitment:

- Don't use coercion. Commitments should be sought for behaviours that people express interest in doing.
- Ask for a group or work team commitment when possible.
- Ask for the commitment in writing.

3. What is a Prompt?

A prompt is an auditory or visual aid that reminds us to carry out an activity that we might otherwise forget. The purpose of the prompt is not to change attitudes or increase motivation, but simply to remind us to engage in an action that we are already predisposed to do. A small "buy-green" sign on order forms, for example, reminds employees to look for a more environmental alternative when ordering supplies.

Here are some guidelines:

- Make the prompt noticeable.
- The prompt should be self-explanatory.
- The prompt should be presented as close in time and space as possible to the targeted behaviour.
- Use prompts to encourage people to engage in positive behaviours rather than to avoid environmentally harmful actions.

4. Norms: Making Use of Company or Organization Standards

A "norm" is a fuzzy idea to most people. What do we mean when we say that a certain way of doing things is the norm? For example, most people, after entering an elevator, turn to face the door. This behaviour is the norm. A person facing the other direction is "out of step" with the norm, making themselves and others feel somewhat uncomfortable. The discomfort most people feel when they are not in step with a perceived norm is an important force for change. Norms are extremely powerful motivators.

In organizational terms, when most people in a company or institution have a generally accepted common belief, we can call this a norm. Research shows that people modify their own beliefs and behaviours to conform to "perceived" norms.

In many companies and institutions we already have a good example of an important norm -- recycling. Recycling has grown rapidly as businesses, institutions and the

general public as a whole have accepted recycling is “the right thing to do.” You may have noticed this yourself by observing increasing numbers of people putting out recyclables on collection day in your own neighbourhood or the number of recycling and cardboard-only dumpsters appearing at the back of commercial and institutional buildings.

How can we use norms to make our waste reduction programs a success? The ways are only limited by our imaginations. One of the most commonly used ways is to employ “models” for the desired behaviour. If employees see their manager making a highly visible effort to be on side with a program, an important message is sent. Similarly, posters with pictures of (or statements by) co-workers are also very effective. A “green team” can lead by example as well. Norm building is a gradual process whereby employees come to see that the desired behaviour is the “right thing to do” and that others, both peers and upper management, share this belief. Eventually, being out of step with the norm becomes uncomfortable and the behaviour becomes entrenched.

Here is a checklist for using tools to develop norms:

- The message should be simple but strong (e.g., “Recycling Means the World to Us”)
- Try to use models as much as possible;
- Make the desired norm as visible as possible (e.g., Blue Boxes for recycling);
- As with prompts, the norm should be made explicit at the time and place that the targeted behaviour is to occur (posters that model the desired behaviour can be strategically placed);
- As with prompts, when possible use norms to encourage people to engage in positive behaviours rather than to avoid environmentally harmful actions.

5. Communicating Effectively

Much of human communication involves persuasion. There are some simple ideas involved. First, in communicating with someone, it is critical to get his or her attention. Information that is presented in vivid, concrete and personal terms means more and captures attention and interest. Information presented from your own experience counts for a lot.

It is important also that a person presenting information about your new source separation approach to waste management have credibility. Your credibility is based on knowing your audience and presenting the information that meets its needs. You should have a clear idea about how receptive the audience is to your message. You should decide how much information you need to communicate. In short your messages should be tailored to the people you are dealing with.

On environmental issues, including waste management, it has been quite common to stress the many threats to the environment, or an appeal to people's fears. However, this approach should be coupled with messages that show **individuals** working within a sense of community in the company or organization. **This can make a difference.**

Here is a checklist for Effective Communications:

- Make sure that your message is vivid, personal and concrete.
- Know your audience.
- Always suggest concrete and specific action.
- Have your message delivered by credible, reliable people.
- Where possible, use personal contact.
- Build into your message commitment strategies; identify rising company and organization standards, vivid anecdotes and examples.

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