

BC Portable And Floor Care Appliance Stewardship Plan

for the period commencing April 1, 2011
on behalf of the
Canadian Electrical Stewardship Association

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June 25, 2010

Executive Summary

This stewardship plan for **portable and floor care appliances** in BC has been prepared pursuant to the requirements of the BC Recycling Regulation. A preliminary program plan was used in consulting with stakeholders. At the consultations, stakeholder concerns and suggestions were heard and the plan was revised to address the feedback received. Consultation themes have been summarized and are included in the plan. The plan has also been revised to take into account any changes since then and the amendments to the Recycling Regulation.

The Canadian Electrical Stewardship Association (CESA) has been created to implement and manage the plan. The program will be funded by eco-fees remitted to the association by its members based on product category and sales in BC.

CESA will establish and operate a collection system across BC to collect the end-of-life program products. Collected program products will be consolidated and transported to facilities for recycling and other management options. The program will include measures for environmental risk reduction.

The program plan includes a communication and education program to ensure public awareness of the program, drop off site locations, as well as proper handling of program products.

This plan anticipates a launch of April 1, 2011 and proposes actions and targets for five years through to March 31, 2016.

Table of Contents

Executive Summary	2
1. Introduction – Background and Consultation Process	5
2. The Stewardship Agency	5
3. Products included in Plan	6
4. Current Market and End of Life Management	7
4.1 Sales & Market	7
4.2 Available for collection	9
4.3 Collection	11
4.4 Processing	12
5. Planned Operations	12
5.1 Collection System	12
<i>Collection Locations</i>	12
<i>Collection Containers and Transportation</i>	13
<i>Collection and Transportation Standards</i>	13
5.2 Processing and Tracking	13
5.3 Product Life Cycle and the Pollution Prevention Hierarchy	13
<i>Reduce</i>	13
<i>Redesign/Eliminate</i>	14
<i>Reuse</i>	15
<i>Repair</i>	15
<i>Recycle/Recover</i>	15
<i>GHG Impact of Recycling</i>	17
5.4 Consumer Awareness	18
<i>Focus groups</i>	18
<i>Market Research Study</i>	18
<i>Consumer Awareness Surveys</i>	18
<i>Key Messages</i>	19
<i>Methods</i>	19
<i>Partnerships</i>	20
5.5 Administration	21
<i>Fees and Budgeting</i>	21
<i>Level Playing Field</i>	21
<i>Risk Management and Reserve Fund</i>	22
<i>Dispute Resolution</i>	22
6. Strategies & Actions	22
6.1 Collection	23
6.2 Awareness	23
6.3 Environmental Aspects	24
6.4 Cost Effectiveness	25
6.5 Research & Development	25
7. Program Performance & Targets	25
7.1 Recovery Rate	25
<i>Performance Measures</i>	26

<i>Targets</i>	26
7.2 Consumer Awareness	26
<i>Performance Measures</i>	27
<i>Targets</i>	27
7.3 Accessibility	27
<i>Performance Measures</i>	27
<i>Targets</i>	27
7.4 Other Performance Measures	27
8. Stakeholder Consultation	28
Appendix A. The Program Member List	29
Appendix B. Program Products.....	30
Appendix C. Vendor Standards.....	33
Appendix D. Annual Report Data.....	35
Appendix E. Consultation Plan and Report	36
Appendix F. Abbreviations & Definitions.....	45
Appendix G. BC Recycling Regulation Requirements	46

1. Introduction – Background and Consultation Process

This stewardship plan for **portable and floor care appliances** in BC has been developed by the Canadian Electrical Stewardship Association (CESA) with input from the Canadian Appliance Manufacturers Association (CAMA) (an industry council of Electro Federation of Canada), the Association of Home Appliance Manufacturers (AHAM) and the Canadian Hardware and Housewares Manufacturers Association (CHHMA) with the assistance of the Product Care Association. The program plan has been developed pursuant to the requirements of the BC Recycling Regulation, B.C. Reg. 449/2004 (the “Regulation”) and CESA will perform all duties required of the producers under Part 2 of the Recycling Regulation.

This plan anticipates a launch of April 1, 2011 and proposes targets for five years through to March 31, 2016. A preliminary program plan was used in consulting with stakeholders. At the consultations, stakeholder concerns and suggestions were heard and the plan was revised to address the feedback received. Consultation themes have been summarized and are included in the plan. Since the consultation, the Recycling Regulation was amended and changes have been made to the plan to reflect those changes.

Following approval of the program plan by the BC Ministry of the Environment, the focus will be on program plan implementation, including:

- identification and qualification of collection sites, transporters and processors
- creation of the communication strategy
- registration of producers
- budget development, cost analysis and fee setting

2. The Stewardship Agency

The Canadian Electrical Stewardship Association (CESA) is a national not for profit corporation created for the purpose of operating extended producer responsibility programs in Canada. A board of directors selected by the fee-paying producers will govern CESA.

CESA is responsible for overseeing the Program Plan on behalf of its members who are the producers. As defined in the BC Recycling Regulation Guide, “the product producer is principally the first-seller of the product in the province. In practice the producer is typically the product manufacturer, distributor or brand-owner. The producer could also be an importer, broker or retailer who sells the product directly to a consumer.”

The members of CESA will come from the membership of CAMA, CHHMA and AHAM in Appendix A as well as retailers and other organizations and the program website will show the updated members list. Each of the Program’s members will

appoint CESA as their proposed stewardship agency and its authorized agent as described in section 2(2) of the Regulation.¹

3. Products included in Plan

This plan is intended to capture **portable electrical appliances**, powered by 120V 60 Hz input power or batteries, **designed for use in homes** in the following categories:

Countertop Cooking Appliances—Electrical portable appliances for food preparation that may include heating elements or motors. This includes products such as electric knives, food sealing equipment, toasters, blenders, slow cookers, coffee makers and countertop microwaves.

Garment Care Appliances—Electrical appliances used for smoothing wrinkles from fabrics or for garment care. Includes both irons and garment steamers.

Floor Care Appliances—Electrical portable appliances and their accessories that are used for dry or wet cleaning of floor and upholstery surfaces. Includes vacuum cleaners, floor steamer and carpet cleaners.

Air Treatment Appliances—Electrical portable appliances used for space conditioning. Include portable heaters, fans, humidifiers, and air cleaners.

Personal Care Appliances—Electrical portable appliances used for personal grooming or hygiene. Includes such products as shavers, hair clippers, hair dryers, curling irons, massagers, and electric toothbrushes.

Time Measurement Appliances—Electrical portable appliances used solely for measuring or displaying time. Includes clocks and timers.

Weight Measurement Appliances—Electrical portable appliances used for measuring weight. Includes such things as body scales and countertop food scales.

Batteries—where products contain primary or rechargeable batteries, they should be removed from the products in accordance with the manufacturer's instructions and disposed of according to the requirements of the British Columbia Ministry of Environment and the Rechargeable Battery Recycling Corporation battery stewardship program. Batteries that are not designed to be removed will be accepted with the product. The program will work with the Rechargeable Battery Recycling Corporation battery stewardship program to avoid consumer confusion, double counting of returned materials and gaps between the programs.

¹ British Columbia Ministry of Environment (2006). *BC Recycling Regulation*. Accessed at http://www.bclaws.ca/Recon/document/freeside/-- E --/Environmental Management Act_SBC 2003 c. 53/05_Regulations/43_449_2004_Recycling_Regulation/449_2004.xml

Other accessories sold with household appliances will be accepted as part of the Program. Future appliances that fit within the above categories will be included in this plan.

Appliances designed for industrial or commercial purposes are outside the scope of this program (however those sold to industrial or commercial customers that have the same design as household appliances will be accepted). Appliances that do not require electric power are not included in this program as they are outside the scope of Schedule 3 of the Recycling Regulation.

The Program includes both products clearly attributable to an existing producer, and orphan products. Orphan products (those that are no longer in production or which the manufacturer is no longer producing) will be accepted by the program if their function was the same as products in the program.

Consumers will be encouraged to return program products that are reasonably clean, and identifiable as program products. As the program is intended for end-of-life products, it is expected that the products will be “broken” in some way in that they no longer work. However, consumers will be encouraged to handle the product in a way that does not cause further damage. Items that are broken in a way that may pose a risk to the collector (i.e. shards of glass) may require special handling, which will be covered in the collection site manual.

The program will work with other stewardship programs to avoid consumer confusion, double counting of returned materials and gaps between the programs.

A more complete list of inclusions (and exclusions) as well as examples is included in Appendix B and will be included on the website.

4. Current Market and End of Life Management

4.1 Sales & Market

Members of the Canadian Appliance Manufacturers Association (CAMA), the Association of Home Appliance Manufacturers (AHAM), Canadian Hardware and Housewares Manufacturers Association (CHHMA), and the Retail Council of Canada (RCC) manufacture and/or import program products for the North American market. As the products require electricity, those with an attachment plug are designed specifically to meet the North American voltage requirements. There may be some products that are made for a worldwide market if they use batteries as the sole energy source. The products are distributed through retail stores, direct sales, the Internet, television sales, and infomercials.

The portable and floor care product categories are stable and viewed by consumers as replacement or commodity products. In these cases, when a coffee maker reaches end of life, the consumer generally replaces this with another coffee maker. However, there are a number of products that have a relatively short (5-7 year) cycle

in which the product sees a significant rise to meet high interest level and then afterward shipments are more modest.

The recent economic downturn has had and will continue to have an impact in the near term. This has resulted in a decrease in the number of manufacturers, lower sales as consumers use their program products for a longer time and less funding for research and development in product design. These trends make forecasting future sales difficult.

In addition, shipment statistics for individual product categories in the portable and floor care categories in Canada are not available. Estimates for shipments in Canada are given by several sources. Currently, there are no specific shipment statistics for British Columbia. The estimates given in Table 1 are based on Canada shipments and the annual percentage of population of Canada in BC. For many new categories, there are no statistics available.

Table 1 Estimated Shipments to BC of Portable and Floor Care Appliances from 2005 to 2008

	Units in 2005	Units in 2006	Units in 2007	Units in 2008
Personal Care Electrics				
Shavers	115703	119197	137183	149253
Curling Irons/Brushes	179607	173389	220305	219605
Hair Dryers	154228	157627	187972	195672
Men's Trimmers	89673	89235	121606	155828
Home Hair Clippers	54012	58622	65974	80873
Toothbrushes	249758	242823	NA	NA
Kitchen Electrics				
Coffee Machines	211884	222241	276854	285224
Blenders	103339	118155	156556	171608
Mixers (Hand and Stand)	62212	71127	91761	99151
Irons & Garment Steamers	101257	99917	126188	136892
Toasters	144727	146684	175275	191859
Kettles	147330	155412	184307	200012
Grills & Griddles	66767	62139	80896	86790
Toaster Ovens	73274	84545	95295	93365
Food Processors	58177	83633	81158	96653
Slow Cookers	NA	70476	108123	134130
Deep Fryers	46203	46637	47386	52732
Food Steamers & Rice Cookers	26290	26445	49088	66671
Citrus Juicers	5076	3908	2618	8548
Juice Extractors	8199	7816	11388	13939
Waffle Irons & Sandwich Makers	34229	32437	28929	31955

Coffee Grinders	43861	42598	56680	61937
Bread Makers	8199	12506	16101	14597
Can Openers	35401	37909	35212	31692
Skillets & Woks	23817	23579	26573	26695
Microwave Ovens (Includes both Countertop and OTR)	116745	120891	148572	147806
Air Treatment				
Fans**	66116	126232	138361	239,540
Heaters	NA	NA	122953	122953
Humidifiers	NA	NA	124005	124005
Air Cleaners	38134	39342	40710	41686
Vacuum Cleaners				
Full Size Vacuums	108025	119327	181166	184626
Hand and Stick Vacs	107764	104086	104589	121375

**Based on Imports to Canada

4.2 Available for collection

The amount available for collection in a given year depends on the life expectancy of the product and the number of units sold in the previous years that may now be reaching the end of their useful lives. The table below shows the range of lifespans of the products and the average. It should be noted that the life expectancy of most products is based on hours of use (often determined by the motors within appliances) and as a result, the number of years that a product lasts may vary greatly based on the frequency with which its owner uses it.

Table 2 Life Expectancy of Selected Portable & Floor Care Appliances²

	Low	High	Average
Coffeemaker, Drip	4	10	7
Coffeemaker, Percolator	4	8	6
Griddle (Electric Fry Pan)	5	10	8
Deep Fryer	6	12	9
Toaster	3	9	6
Toaster Oven	3	9	6
Food Processor	4	10	7
Blender	4	10	7
Stand or Hand Mixer	4	12	8
Iron	3	9	6

² 27th Annual Portrait of the US Appliance Industry, September 2004 as noted in Beck, 2005.

Hair Trimmers	2	6	4
Carpet Shampooer/Steam Cleaner	5	12	8
Vacuum (canister, stick, upright, handheld) ³	6	12	9
Microwave Oven	13	15	14

Figure 1 Projections of Material Quantities Generated by Discarded PFC Appliances -Canada⁴

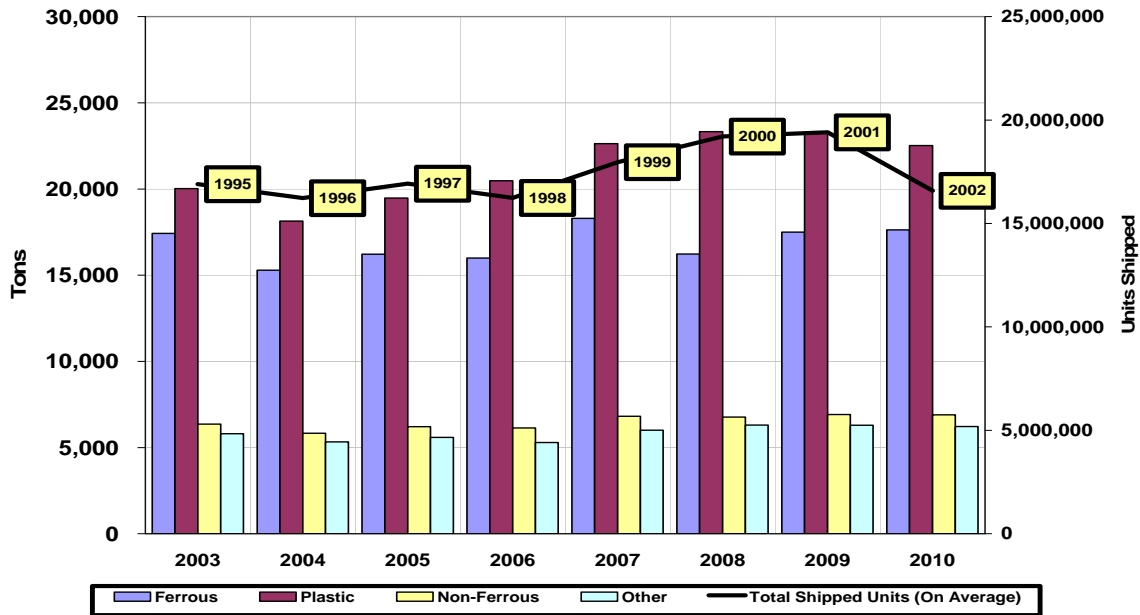


Table 3 Estimated Tonnes of Material Resulting from Portable or Floor Care Appliances Discarded in 2005 -British Columbia⁵

Category	Average Age	Ferrous	Non-Ferrous	Plastic	Other	Total
Beverage	6.5	105	92	313	90	600
Countertop Cooking	6	775	186	474	129	1563
Kitchen Motorized	7	220	173	242	214	849
Microwaves *	14	1762	188	241	167	2358

³ Some models of vacuum cleaners have been demonstrated to have life spans in excess of 12 years.

⁴ Beck, R.W. (2005). *Recycling, Waste Stream Management, and Material Composition of Portable and Floor Care Appliances*. Prepared for the Association of Home Appliance Manufacturers.

⁵ Extrapolated from Beck, R.W. (2005). *Recycling, Waste Stream Management, and Material Composition of Portable and Floor Care Appliances*. Prepared for the Association of Home Appliance Manufacturers.

Garment Care	6	35	59	80	11	185
Home Comfort	12.5	262	60	290	73	685
Personal Care	4	82	22	135	62	300
Floor Care	9	375	119	692	61	1246
Total		3615	898	2468	806	7786

*Includes both countertop and built-in microwaves

These numbers provide an approximation of quantities of the different types of materials available for collection and will be used as a guideline. The numbers are based on the best available data which uses the assumption that product composition has remained stable over time. For some categories such as time and weight measurement devices, there is no data available. After the program begins, improved sales data will be available, and further research will be undertaken to improve the method of estimating the amounts available for collection.

To illustrate the scale of the program, in 2003 there was over five times as much electronics equipment available for recycling as portable and floor care appliances.⁶

4.3 Collection

A study commissioned by the Association of Home Appliance Manufacturers⁷ noted that in Canada and the US, most end of life appliances went into the solid waste stream, with a small portion going to government sponsored recycling programs, scrap metal recyclers or electronics recycling programs (if mixed with those products). This is the case in BC, with a few exceptions.

In BC, there are recycling companies (e.g. Happy Stan's Recycling, Pacific Mobile Depots), non-profit recycling agencies (e.g. Nanaimo Recycling Exchange) and some local government facilities (e.g. Nanaimo Landfill) that will take back appliances. Most of these organizations send the end-of-life appliances to a metal recycler where the items are shredded and the metal is recycled. At some companies, there may be charges and restrictions on the types of appliances accepted.

The Regional District websites that direct consumers to drop-off locations for small appliances (such as Metro Vancouver or the Regional District of Nanaimo) provide different locations for items that are still usable and non-functioning end-of-life appliances. Items that can still be used are directed to thrift or second-hand shops and charities while the end-of-life products are directed to recycling organizations. Metro Vancouver prohibited from landfill all items listed in Schedule 3 of the BC Recycling Regulation in April 2009⁸.

⁶ Ibid.

⁷ Ibid.

⁸ Metro Vancouver Waste Management Committee minutes from April 8, 2009 meeting package.

There is one retail chain, London Drugs, which has been successfully accepting back some small appliances for over a year and a half. Customers bring in end-of-life appliances that they had purchased at London Drugs or appliances bought elsewhere when they buy a replacement item. The company consolidates the items at their warehouse and has them processed into their component parts for recycling.⁹

4.4 Processing

Most personal and floor care appliances that are recycled are captured through scrap metal recyclers and tend to have higher metal content. These appliances usually are shredded into their component materials. There are a few exceptions (for example, Genesis Recycling) where the appliances are disassembled, allowing for better sorting of the materials and thus more complete recycling.

The metals are consolidated by the larger recycling firms and sent for smelting (usually in the Western US) after which the metals are sold back into the market. Some plastic may be included with the metals (particularly if the appliances have been shredded), and is consumed as a fuel source in the metal smelting process. Plastics and glass that have been sorted are sold into recycling markets where possible. CESA will continue to work with processors to maximize the materials that can be recycled through all recycling processes.

5. Planned Operations

5.1 Collection System

Collection Locations

The Program will establish a system of permanent year-round collection locations in British Columbia aimed at collecting intact program products. There will be no charge to drop off program products. The Program will not directly own or manage any depots but will contract with willing organizations that view this as an opportunity. Collection sites may be located at facilities such as retailers, recycling organizations (both non-profit and for profit), local government recycling centres or transfer stations or at other associations or businesses. The program will work to include existing return programs if they are willing, and seek out additional locations.

The intent is to establish a province-wide network of sites that provides reasonable access to consumers. Actual depot locations will be determined through the implementation process based on facilities available, ability to meet standards (see Appendix C for more details), proximity to population, ease of access and cost effectiveness. Where necessary, the Program will supplement the depot collection system with a number of one-day events in areas where there are no collection sites, possibly in participation with a retailer, or municipality or regional district. The initial collection network is targeted to include up to 40 collection sites augmented by a schedule of special events. After the initial collection network and event schedules

⁹ London Drugs <http://www.greendeal.ca>

are set-up, an analysis of accessibility will be conducted to set a baseline and then new targets will be determined in year 1.

It should be acknowledged that although CESA is committed to implementing this stewardship plan in a timely fashion, a full collection network will take time to build, as there are no precedents for collection of these products in a program within Canada.

Collection Containers and Transportation

It is the intention of the Program to contract out for the services of transportation from collection sites to processors (possibly employing consolidation points). Program products will be collected and transported using collection containers that fulfil environmental, safety and transportation requirements. Collection container options will be reviewed in consultation with potential collection sites and transporters.

Collection and Transportation Standards

Standards for collection sites and transportation services will be developed (see Appendix C for details) and adherence to the standards will be required of all collection sites.

5.2 Processing and Tracking

The Program intends to negotiate contracts for the processing of portable and floor care appliances and will consider available service providers based on a number of factors including location, capacity, processing methods, downstream vendors and conformity with processor standards (see Appendix C for details). Particular consideration will be given to using existing and/or developing efficient and effective processing technologies. A tracking system will be developed to track the portable and floor care appliances from the point of collection to final destination. Audits will be performed to ensure compliance by processors with processor standards. Information on the final material use will be provided in the annual reports.

CESA will continue to work to differentiate products with higher recyclable content and establish mechanisms to account for these differences.

5.3 Product Life Cycle and the Pollution Prevention Hierarchy

Reduce

The environmental impact of the program products can be reduced in three ways: reducing toxic components, reducing the materials used in the manufacture and use of the products, and increasing energy efficiency. Producers have been working on all of them. For example, over the past five years, manufacturers have been working to discontinue the use of brominated fire retardants in the plastics and this work continues. Making products lighter to reduce the transportation requirements has been an ongoing consideration in product design resulting in a higher percentage of plastic in some products. Also, plastic can last longer in some situations (i.e. where metal may corrode). Future improvement can be expected in energy efficiency as producers focus on reducing overall energy and standby power consumption.

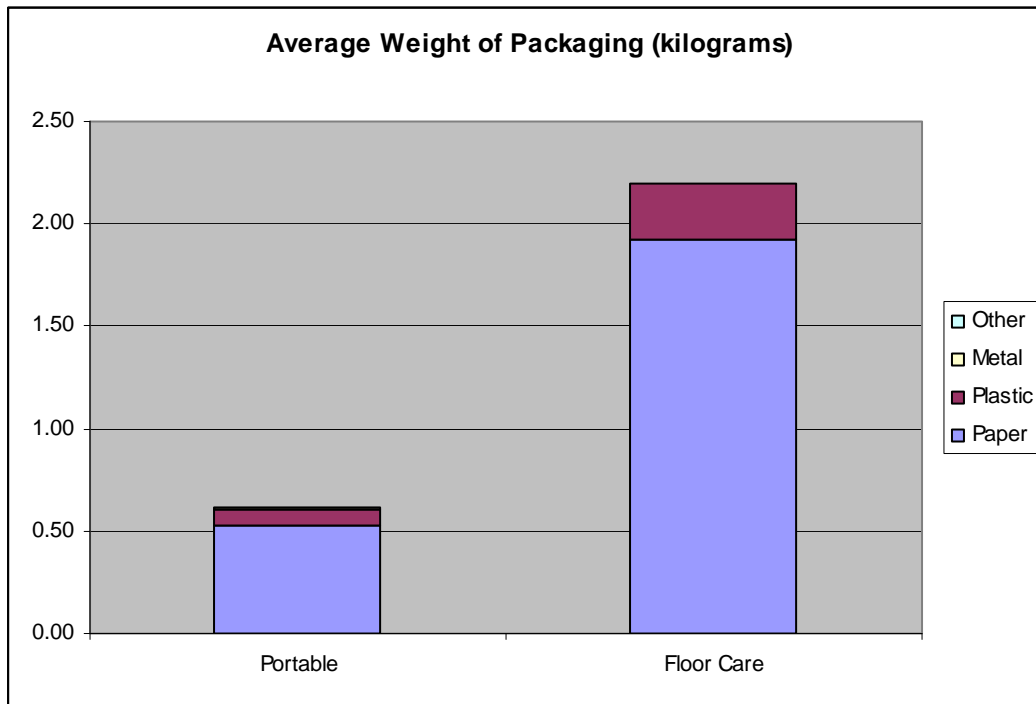
It should be noted that the program products do not contain any refrigerants and thereby require no special considerations for handling.

The program will report on examples of initiatives completed by individual producers that reduce the environmental impacts of their products.

Redesign/Eliminate

Packaging is another area where producers have been making changes. The use of styrene products has been decreased in favour of more easily recycled options such as soft chipboard or plastics 1 & 2.¹⁰ Packaging materials were analyzed in Beck's report with the results shown in Figure 2 below. This data is from 2005 and further progress has occurred since then.

Figure 2 Materials in Portable and Floor Care Appliance Packaging by Weight (2005)¹¹



Every year, manufacturers continue to review design of products for sustainability and impact on the environment. The program will report on examples of initiatives completed by individual producers that reduce the environmental impacts of their products.

¹⁰ Personal communication with Wayne Morris, AHAM

¹¹ Beck, R.W. (2005). *Recycling, Waste Stream Management, and Material Composition of Portable and Floor Care Appliances*. Prepared for the Association of Home Appliance Manufacturers.

Reuse

While reuse and repair of the program products are worthy goals, there are several considerations that make it impractical to include it in the program. First, in Canada, there are requirements for mandatory safety testing under programs such as the Canadian Standards Association (CSA) or Underwriters Laboratories of Canada (ULC). Manufacturers are responsible for the safety of all products with safety certification. Outside of licensed and authorized service facilities, manufacturers could not guarantee the safety of the product after it has reached end of life. In addition, manufacturers may have warranty restrictions on the sale of used products. Finally, there are health risks with program products that come in contact with the body (for example, electric shavers) or food (for example, meat grinders) where sanitation cannot be guaranteed. For these reasons, this program will focus on the proper recycling and recovery of end-of-life products. The Plan recognizes that consumers give properly working appliances to friends and family as well as to charitable organizations. As long as the product is in good working order, such reuse can exist outside the parameters of this program.

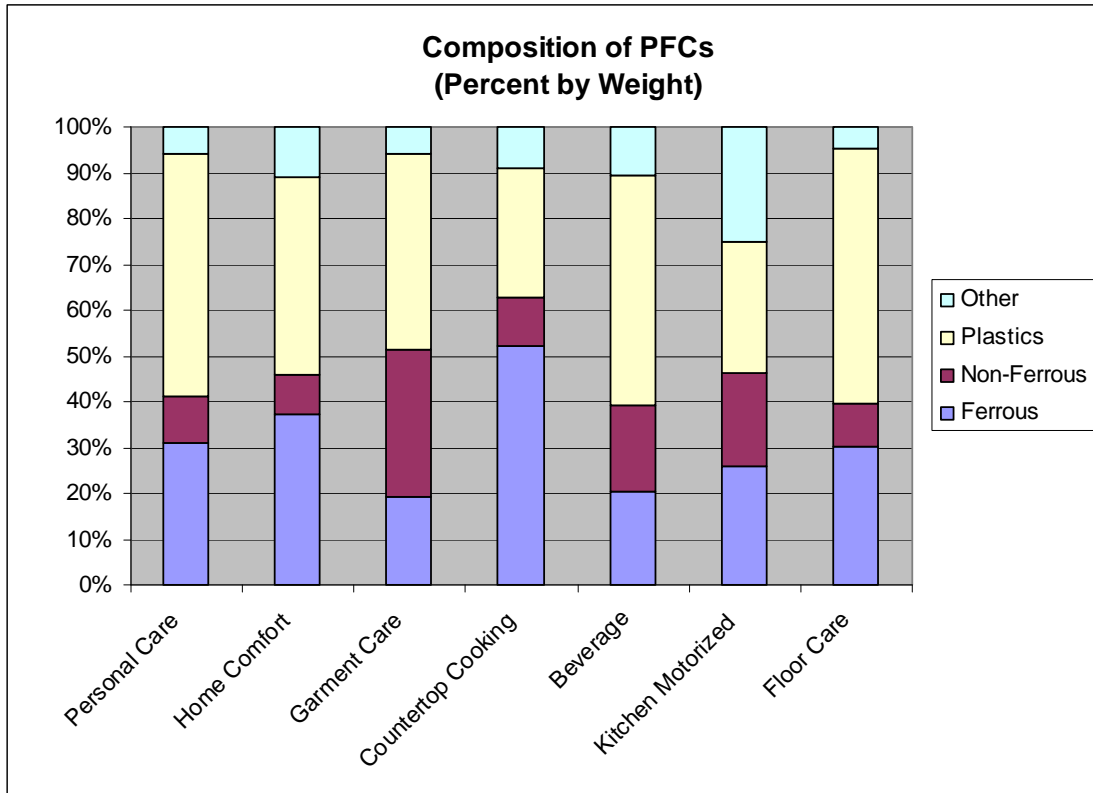
Repair

Manufacturers encourage the use of proper repair facilities prior to designating an appliance as reaching end of life. Proper maintenance and repair can increase the life of a product and is to be encouraged.

Recycle/Recover

The materials that make up the PFC appliances vary by the type of appliance as shown in Figure 3 below.

Figure 3 Compositions of Portable and Floor Care Appliances¹²



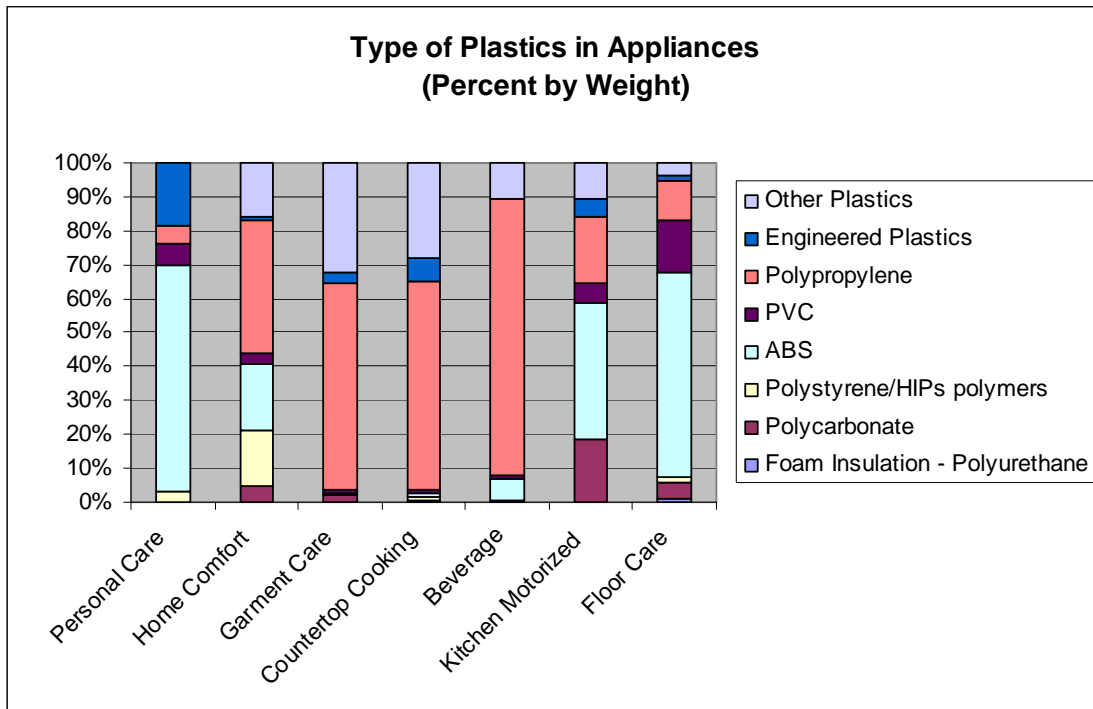
Further details on the types of plastics in various product types are characterized in Figure 4. One challenge for recycling is the variety of plastic types used. Beck¹³ noted that some have higher amount of ABS while others use more polypropylene. There can also be engineered plastics, PVC, polystyrene and HIPS polymers polycarbonate, foam insulation –polyurethane and other plastics. In addition, as advances have been made in electronics recycling, more processors have been sorting the plastics and recycling them.¹⁴ While metals are easier to recycle, their use over plastic needs to be balanced against other considerations such as fuel required to transport heavier appliances, safety concerns with insulation against electric shock and a potentially shorter lifespan where corrosion is an issue.

¹² Beck, R.W. (2005). *Recycling, Waste Stream Management, and Material Composition of Portable and Floor Care Appliances*. Prepared for the Association of Home Appliance Manufacturers.

¹³ *ibid*

¹⁴ *ibid*

Figure 4 Types of Plastics in Appliances¹⁵



Final destinations and use of materials will be considered when selecting processors. This information will be tracked and the annual reports will include the percentage of materials that were recycled, recovered and disposed. Availability of options to move materials up the hierarchy will be regularly monitored.

GHG Impact of Recycling

When the materials are recycled, they reduce the need for virgin resources to be used. As these virgin resources take more energy to produce than using recycled materials, Greenhouse Gases (GHGs) are saved through recycling. The Environment Canada model shows the following GHG savings per tonne of material.

Table 4 Carbon Dioxide Equivalents Reduced through Recycling of Materials¹⁶

Material	Tonnes eCO ₂ per tonne recycled
HDPE	-2.27
PET	-3.63
Other plastics	-1.80
Aluminum	-9.65
Steel	-1.18

¹⁵ Beck, R.W. (2005). *Recycling, Waste Stream Management, and Material Composition of Portable and Floor Care Appliances*. Prepared for the Association of Home Appliance Manufacturers.

¹⁶ Waste GHG Calculator available through Environment Canada.

Copper Wire	-4.10
Glass	-0.10
Microwaves	-1.26

The Green House Gas impact of the program will be reported based on data available using the Environment Canada calculator (see Appendix D).

5.4 Consumer Awareness

The Regulation requires that the plan makes adequate provision for informing consumers of the producer's product stewardship program, the location of collection facilities, how to manage products in a safe manner as well as the environmental and economic benefits of participating in the program. The Program will develop a communication strategy to educate consumers about the program prior to the launch. The strategy will be modified over time in response to the results of the market research study, focus groups, community-based social marketing pilot projects, consumer awareness surveys, performance measures and work with willing partners to raise awareness.

Focus groups

CESA will conduct focus groups of typical consumers to identify the barriers and benefits of participating in the program. This information will then be used to develop some of the market research study questions and to develop pilot projects using community-based social marketing methods. Focus groups could also be used to fine tune key messages and for further research in the pilot projects.

Market Research Study

The Program will conduct a consumer market research survey before the end of year 1 to determine the level of awareness of existing collection systems, the need to dispose of appliances responsibly, key messages and methods to raise consumer awareness of the program and will also be used to gather other information that may assist the program.

Consumer Awareness Surveys

The Program will conduct ongoing consumer surveys to determine consumer awareness of the program (see section 6.2 in Performance Measures) and to gather other information that may assist the program. The survey may include questions regarding:

- awareness of the program and methods utilized by consumer to obtain program information.
- awareness of and satisfaction with the collection system including desirable depot characteristics
- identification of target audiences, key messages and information channels for the Program's communication program
- quantity of used small appliances in respondent's household, and intentions regarding use or disposal.

Key Messages

For used small appliances, it is important that consumers are aware of the importance of returning them, where to return them and the appropriate way to handle them.

Specific information will be provided on:

- The particular products included in the program
- Collection sites and handling the products
- What happens to the collected products and where the materials go
- The fees and how they are used

With an increasing number of stewardship programs available for electric and electronic products, the program will work with the other stewardship program to try to limit consumer confusion and to develop synergies between programs.

Methods

The Program will use a number of methods of creating consumer awareness of the program including the location of the collection sites, and information regarding product handling. These include:

- Website - This will have information on what items can be returned (see Appendix B) and where to return it. A Google Map based depot finder will be available. It will also include a print-ready brochure (in pdf format) and an ordering system for organizations that wish to request print media to assist in informing consumers. Links to other organizations such as recycling organizations will be made for users looking for recycling information.
- Recycling Hotline 1 800 667 4321 or 604 RECYCLE– The Program will participate in the RCBC recycling hotline service by which consumers can contact RCBC operators during business hours and obtain information about disposing of the Program products (see Appendix B) as well as any other products.
- RCBC Recyclepedia – The program will provide RCBC with updated lists of collection sites for inclusion in their online search system providing consumers with information on where to take back different products.
- Point of Return – All participating collection depots will be provided with program signage to display and counter cards to distribute to consumers.
- Yellow Pages – An advertisement will be placed in every Yellow Pages publication in the province.
- Annual report – The report will be posted on the website once approved by the Ministry of Environment for interested parties to read. The report will include

details for consumers on the environmental and economic benefits of returning portable and floor care appliances.

- Earned media & advertising
- Launch (plan for announcements/media/opening, etc)
- Other avenues identified through the market research study, focus groups and communication plan development

Partnerships

The Program would also like to partner with organizations that already communicate with consumers about product return. The communications generated through these collaborations will be determined through discussions with potential partners. Some possible avenues are:

- Point of sale –These could include shelf-talkers, counter cards, consumer brochures, program posters, at no cost to the retailers. These will be re-evaluated for design and distributed to participating retailers at least every two years, and “refill” orders are distributed to retailers upon request at any time, at no cost. They may also include information on the fees and how they are used.
- Retail electronic and pre-print communications - Leveraging of existing ongoing consumer based marketing and advertising.
- Municipal & Regional District partnerships – The Program will participate in municipal calendars by advertising program information. CESA would like to participate in community recycling events and promotions and will seek opportunities to partner with local governments to inform householders of the availability of the program. In addition, the Program would work with partners to have links to the Program website. The Program may also offer brochures at no cost to local governments for distribution with their mailings if the research shows this to be effective.
- Others –Brand owners and other agencies with an interest in recycling may wish to have links to the Program website. In addition, LiveSmart BC, the BC Provincial government program to encourage more sustainable habits among BC residents, could be another partner to ensure that consumers using small appliances know where to return them. Sponsorship of provincial recycling conferences may also be pursued.

5.5 Administration

Fees and Budgeting

The Program will be managed and funded by members of the Program through fees levied on the sale of new portable and floor care appliances into the BC residential market. Producers will be obligated to pay the fees starting April 1, 2011. Producers joining the program after April 1, 2011 will be required to pay retroactive fees and accrued interest. Fees may be passed on by the producers to their customers at their discretion as visible fees or part of the product cost. The fees will be set using estimates for program costs, projected life, and product sales units and will be posted on the program website once set. Fees may be adjusted in the future to address surpluses or deficits but all fees are used for program purposes. Costs associated with managing obsolete or orphan products will be borne by the successor product within the categories under the Program. Activities in advance of fee collection (such as developing the plan, establishing the collection network, assessing qualified processors and developing the communication strategy) will be reimbursed from future program revenues, with interest. Fees will be subject to Harmonized Sales Tax (HST) which is being introduced to British Columbia on July 1, 2010. The program will develop recommended language for producers to use should they choose to show a visible fee.

In addition to the ecofees, program members may pay a membership fee to join the program.

Level Playing Field

In order to maintain a 'level playing field' for the Program members and to ensure that all obligated producers of the program products are in compliance with the Regulation, the Program will conduct a continuous market surveillance and producer recruitment effort. The Program will actively research, identify and recruit producers of program products.

Techniques to identify potential producers will include internet searches, store visits, information obtained through producer compliance reviews conducted by the Program, through audits of collected materials and by information received from existing members. Once a potential producer is identified, the following is the compliance process protocol to be followed by the Program in recruiting producers of such products:

1. Notification by telephone, letter or email advising of the regulatory obligation and inviting the brand owner to join the Program within a 30 day period.
2. Two formal letters to the brand owner noting the prior contact, referring to the regulatory obligation and advising the brand owner of the Program's intention to notify the Ministry for enforcement purposes if compliance is not demonstrated within a second 30 day period (which may be accomplished by joining the Program or by participating as a steward regulated under Part 3 of the regulation).

3. The Program will issue a letter to the Ministry of Environment advising of the circumstances including the name of the brand owner, the product and location of place of sale, with the request to the Ministry of Environment to investigate and if appropriate conduct enforcement proceedings.

Risk Management and Reserve Fund

The Program will reduce the risk arising from product management using a number of methods including:

- Developing, implementing and auditing collection, transporter and processor standards (including operating procedures and control systems) as part of responsible environmental management practices.
- Maintaining adequate insurance to cover liabilities, environmental or other, including directors and officers liability insurance.
- Maintaining a reserve fund. The Program proposes to accrue a reserve fund which is limited to the amount determined by the Board. The reserve fund serves a number of purposes. The primary purpose is as a reserve in case of environmental claims. The fund also allows for stability of program funding in case of volume increases, fluctuations in operational costs or reduced revenue.

Dispute Resolution

Contractors: The Program will contract with all suppliers and service providers to the program by the use of commercial agreements.

- Program Manager: CESA will contract to engage the services of a program manager for the program.
- Collection depots: All collection depots will be contracted to the program using renewable agreements which provide for a cancellation by either party on 30 days notice.
- Processing: CESA will contract with reputable downstream processors and will ensure compliance with the vendor standards.

Any disputes arising from collection or processing contracts would be resolved using normal commercial legal procedures.

Other stakeholders: Any complaints received by CESA from the general public or other stakeholders will be first dealt with by the program manager. If the issue remains unresolved, the matter would be referred to the CESA Board of Directors. Any consumer enquiries that cannot be answered by the retailer or collection depot will be referred to the program manager who will resolve the enquiry directly with the consumer.

6. Strategies & Actions

In this section the strategies and actions for implementing the program and improving program performance are set out. As this is a new program with few precedents, strategies and actions have been listed for the first two years. An action plan for actions in years 3-5 will be developed at the end of year 2 based on the program

experience and results to that date. The potential strategies and actions for later years are listed for information purposes only (with the exception of the consumer awareness surveys which will be done in years 3 & 5 and the audits of which the frequency will depend on guidelines set by the Board).

6.1 Collection

Vision	To optimize collection of available portable appliance products through a network of accessible, well-run collection opportunities
	<u>Actions</u>
Pre-launch	<ul style="list-style-type: none"> • Develop collection site standard • Establish initial collection site network
year 1	<ul style="list-style-type: none"> • Increase size of collection network, establish event days in underserved communities • Evaluate the accessibility of collection sites using mapping
year 2	<ul style="list-style-type: none"> • Increase size of collection network, establish event days in underserved communities
Possible actions for later years	<ul style="list-style-type: none"> • Increase size of collection network, re-evaluate business proposal if more collection sites are needed (niche areas) • Conduct collection site user satisfaction survey and create action plan • Audit existing collection sites for compliance to standards • Implement action plan to improve customer satisfaction • Work with waste hauling companies to educate their customers on the program • Work with local government to get their feedback on program and address issues • Conduct collection site operator satisfaction survey and address any issues • Collaborate with willing partner communities to support landfill bans (assuming adequate collection facilities) • Assess rate of collection, determine barriers that still exist and develop plan to capture remaining amount • Work with local governments towards using waste audits as a measurement tool.

6.2 Awareness

Vision	To have all consumers of the products aware of the program, where to find depot location information and how to safely handle the product
	<u>Actions</u>
Pre-launch	<ul style="list-style-type: none"> • Develop the communication strategy using existing knowledge base, focus groups and market research study. • Design the communications elements

	<ul style="list-style-type: none"> Implement some aspects of the communication strategy (which at a minimum would include a website, RCBC hotline and Recyclepedia, some media for point of return, some media available for point of sale, and advertising)
year 1	<ul style="list-style-type: none"> Implement the communication strategy Establish the program with launch-specific communication Conduct a consumer awareness survey at the end of the first year
year 2	<ul style="list-style-type: none"> Modify communication strategy based on experience and survey results Work with potential partners Conduct community based social marketing pilot projects
Possible actions for later years	<ul style="list-style-type: none"> Consumer awareness surveys will be conducted in years 3 and 5 Use results to modify communication strategy Roll out successful pilot programs to the broader community and continue testing new ones Further pilot projects and sharing results with public and partners

* Actions that involve working with partner organizations are dependent on the willingness of the partners to be involved.

6.3 Environmental Aspects

Vision	To decrease the environmental impact of the products through product design, collection and recycling of the product and program efficiency
	<u>Actions</u>
Pre-launch	<ul style="list-style-type: none"> Develop processor and transporter standards Contract with transporter and processor vendors Establish tracking system for materials Determine audit frequency guidelines
year 1	<ul style="list-style-type: none"> Develop metrics and baseline data for impacts of program
year 2	<ul style="list-style-type: none"> Analyse end markets of materials and look for options to close the loop on them or move them higher in environmental efficiency (i.e. repair, reuse, closer markets, upcycling)
Possible actions for later years	<ul style="list-style-type: none"> Analyse GHG impact and look for more efficiencies in the collection, transport and processing operations Work with processors to implement an environmental management system Audit processors to ensure standards are being met Conduct analysis of the program and identify areas to improve Switch to variable fees based on impact of individual producers products

6.4 Cost Effectiveness

Vision	To operate a program that works towards the awareness, collection and environmental visions in as cost effective a manner as possible
	<u>Actions</u>
Pre-launch	<ul style="list-style-type: none"> • Develop program budget and establish fees
year 1	<ul style="list-style-type: none"> • Establish baseline costs of program
year 2	<ul style="list-style-type: none"> • Make investments in research that could decrease future operating costs • Conduct collection material analysis to ensure all producers participating
Possible actions for later years	<ul style="list-style-type: none"> • Work on trying to reduce costs of collection, transport and processing in program • Look for synergies with programs in other jurisdictions or processors of similar materials to reduce costs • Promote sustainable purchasing as a way to improve end markets • Review fee categories to ensure that they fairly represent the materials being collected

6.5 Research & Development

Vision	To continually improve the program and conduct research and development to achieve this
	<u>Actions</u>
	<ul style="list-style-type: none"> • Research to identify program areas that need improvement and identify actions to address them

7. Program Performance & Targets

CESA will assess the performance of the program with the quantitative measures noted below, which will be presented in the program annual reports (Appendix D)¹⁷ and available to the public on the CESA website. Where applicable, new or revised targets will be stated in the annual report. Actions to reach targets will also be included in the annual report.

7.1 Recovery Rate

Because of the durable nature of the CESA program products, each product unit sold should eventually be available for collection. The determination of the number units available for collection in a given year is subject to the availability of historic sales data and consumer use patterns which can be hard to determine. Due to the

¹⁷ Kelleher, M. (2008). *Extended Producer Responsibility (EPR) Program Measurement and Tracking*. Prepared for Canadian Council of Ministers of the Environment.

fluctuations in the marketplace and lack of accurate data, this program proposes to use a recovery rate model (comparing present year collections to present year sales).

Annual sales quantities will be recorded and that data will be used to calculate the future recovery rates.

Performance Measures

• Absolute collection (units and weight of product collected)
• Recovery rate (% based on amount of product collected over amount sold in that year)
• Absolute collection per capita (could be units and by weight)
• Absolute collection per capita by Regional District

Targets

While the Regulation calls for a 75% recovery rate or other rate that may be set by the Director, measuring the collection rate and setting a meaningful target presents a challenge. This is because this type of program does not exist elsewhere in North America so there is no historical information; the products have a range of average lifespans from 4-14 years; there is a lack of complete data on previous sales for all products in BC and the supply chain is complex and it will take time to ensure all producers are registered and reporting completely.

CESA plans to increase collection annually of program products, collect BC specific data from producers and determine the most appropriate way to measure program performance with regards to collection. The experience and data gained during the first two years of the program will allow for meaningful measures of performance to be determined and targets set at the end of year 2.

7.2 Consumer Awareness

The plan for creating consumer awareness is discussed in section 5.4. CESA will conduct a Market Research Study which, among other things, can establish a baseline of awareness among consumers. To measure the performance of the communication strategy, the Program proposes to conduct consumer awareness surveys at the start of the program, after the first year, after the third year and in the fifth year. The surveys will track consumer awareness of the program, if they know where to take the end-of-life appliances or where to find that information and if they know how to handle the appliances in a safe manner. This measure of consumer awareness will also be tracked with regard to urban, suburban, and rural areas, to help the Program address future plans to serve all citizens of the Province.

The ultimate measure is the level of consumer awareness but other measures can also be tracked that can assist the program to tailor its communication strategy. These could include number of visitors returning small appliances at a collection site, number of visits to the website, and, where possible, the impact of specific marketing

elements. Progress on implementing the communications strategy will also be detailed in the annual report.

Performance Measures

• Percentage of population aware of the program
• Participation rate (number of people returning program products)
• Website visits
• RCBC Recyclepedia website hits for program specific data
• RCBC Hotline calls about program

Targets

CESA will establish consumer awareness targets after baseline data is available. Targets for the increase in awareness will be set in year 1 and then revised as further surveys are completed.

7.3 Accessibility

Performance Measures

• Number of collection sites and collection events
• Population within a certain proximity of the drop-off depot
• Average travel distance to drop-off depot

Targets

Once the initial collection site network is established at the program launch, the accessibility of collection sites for the BC population will be assessed. Targets will be set in year 1.

7.4 Other Performance Measures

Pollution Prevention Hierarchy:

- The annual report will include information on examples of measures taken by representative producers to reduce the environmental impact of their products through the reduction, redesign or elimination levels of the hierarchy.
- Materials captured by the program through collection sites will be tracked and their final material use reported annually. In year 2, targets will be set for percentage of materials recycled.

Other performance measures will be tracked, without setting targets, and new performance measures may be developed as the Program progresses. They will be included in the annual reports (Appendix D).

8. Stakeholder Consultation

Stakeholder consultations were conducted in October -November 2009 as a prerequisite to the finalization and filing of this plan with the BC Ministry of the Environment. The consultations included:

- Email communication to stakeholders (who were requested to forward it to their members where appropriate)
- Regional consultation meetings were held in Richmond (October 19), Victoria (October 21) and Kelowna (October 22)
- A web-based conference call (October 19)
- Written submissions provided by stakeholders

Seventy-one people participated, representing organizations from federal, provincial and local governments, recycling organizations, retailers, processors, transporters, environmental groups and other BC stewardship programs. The common themes (those that were mentioned more than three times) arising from the consultations are presented below (the number of times mentioned is in brackets):

1. The program should consider participating in municipal waste audits to measure products missed by the program (7)
2. What about packaging? (6)
3. What will collection look like: what containers, how many types of materials to sort, any dismantling, what types of forms for tracking, etc. (6)
4. Programs need to make it easy for consumers and try to have one-stop dropping as opposed to multiple drop off points for different materials (6)
5. Work to prolong the life of the products through good design, reuse and repair (5)
6. Can reuse systems co-exist at collection sites?(5) Many potential collection sites also have reuse stores.
7. What condition will the products need to be in? What about broken products?(4)

The responses to these themes and the rest of the feedback received are in Appendix E.

Appendix A. The Program Member List

3 M Corporation
Accent Fairchild Factory Group
Access Business Group
Air-King Limited
Anglo-Canadian Housewares, L.P.
Applica Consumer Products
*Banvil 2000
BISSELL Canada Corp.
Black & Decker
BlueAir
Broan – NuTone Canada Inc.
BSH Home Appliances
*Canarm Ltd.
Canavac Systems Inc.
Charlescraft Corporation Ltd.
Conair Consumer Products Inc.
Danby Products Ltd.
DeLonghi
Dorcy Canada Ltd.
Dyson Canada Ltd.
E.F. Appliances Canada Ltd.
Electrolux Home Care Products
Emerson Tool Company
Essick Air Systems
*Energizer Canada
*Envirogard/Rainfresh Water Filters
EuroPro
Fisher & Paykel Appliances Inc.
Focus Products Group (West Bend)
Groupe SEB
Krupps/Rowenta
T-Fal
Haier Group
Hamilton Beach Brands Canada, Inc.
Helen of Troy
*Honeywell Limited
H-P Products
Hung Hsing Electric
Hunter Fan
Ian Gough Sales Inc.
Ideal Security Inc.
Jarden Consumer Solutions (Sunbeam)
Kaz

Kidde Canada Inc.
Koblenz Electrica S.A. de C.V.
Lasko Products
Les Promotions Atlantiques Inc.
*Lutron Electronics Co.
LG Electronics Canada Inc.
Lindsay Manufacturing Inc.
Linear
MABE Canada Inc.
Metal Ware
Miele Inc.
National Presto Industries
Nilfisk/Advance of Canada
NuTone Inc.
Oreck
*OSRAM SYLVANIA LTD.
Panasonic Corporation
Philips Electronics Ltd.
Proctor-Silex Canada Inc.
Rexair LLC
S.C. Johnson & Sons
Saeco International
Samsung Electronics
Salter Housewares Canada Inc.
Salton Canada
Sanyo Electronics
Sanyo Fisher Company
Scott Fetzer Company
Sharp Electronics
Shop-Vac Canada Ltd.
Spectrum Brands (Remington)
SYNNEX Canada Limited
Tacony Corporation
TTI Floor Care North America
United Appliances
United Sales & Marketing Inc.
UPM Marketing Inc.
Viking Range
Vornado Air
Wahl Clipper
Whirlpool Canada LP
Winix
World Kitchen Canada
Zojirushi America

* - covered under other plans

Appendix B. Program Products

This plan is intended to capture **portable electrical appliances**, powered by 120V 60 Hz input power or batteries, **designed for use in homes** in the following categories:

1. Countertop Cooking Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *Appliances for counter top cooking, including, without limitation, toasters, toaster ovens, fryers, hot plates, microwaves, coffee makers, coffee grinders, kettles, blenders, mixers and food processors; knives; devices for opening or sealing containers or packages*

Definition: Electrical portable appliances for food preparation that may include heating elements or motors.

Products Accepted: Household, residential countertop electrical appliances such as: toasters, toaster ovens, hot air corn poppers, deep fryers, rice cookers, slow cookers, bread makers, hot plates, food steamers, fry pan/griddles, fondue pots, woks, contact grills, tabletop grills, waffle irons, sandwich makers, countertop microwave ovens, percolators, drip coffee makers, coffee urns, espresso/cappuccino makers, coffee grinders, kettles, blenders, stand mixers, hand mixers, food processors, ice-cream makers, ice crushers, yogurt makers, juice extractors, juice press, food slicer, food chopper, knives, can openers, food bag sealers or food bag openers.

Products Not Accepted: Restaurant, commercial cooking and institutional cooking appliances performing the same functions Appliances not powered by electricity or batteries. Products included in Phase III: Built-in or over the range microwaves; appliances that perform this function that are part of a large appliance (i.e. ice crusher in a refrigerator).

2. Garment Care Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *garment care appliances, including, without limitation, irons and mangle*

Definition: Electrical appliances for smoothing wrinkles from fabrics or for garment care.

Products Accepted: Household, residential irons, travel irons, stationary irons, cordless irons, garment steamers

Products Not Accepted: Industrial or commercial ironing appliances. Mangles used in ironing bedding materials in commercial establishments.

3. Floor Care Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *floor and carpet care appliances*

Definition: Electrical portable appliances and their accessories that are used for dry or wet cleaning of floor and upholstery surfaces.

Products Accepted: Household, residential electric upright vacuum cleaners, canister vacuum cleaners, wet-dry vacuum cleaners, stick vacuum cleaners, handheld vacuum cleaners, full-size extractor carpet cleaner, portable extractor carpet cleaner, floor or surface

steamer, wet hard floor cleaners, hose and floor tools for central vacuum cleaner and their accessories.

Products Not Accepted: Ride-on or large scale vacuums used in industrial or commercial centres for floor care, floor scrubbing or sealing. Commercial or industrial wet vacuums or vacuum systems. Products included in Phase III: Central Vacuum Cleaner Systems that are part of the home structure, including both the central power unit and piping and wiring.

4. Personal Care Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *personal care appliances, including, without limitation, hair cutting and drying appliances, tooth care appliances, shavers and massagers*

Definition: Electrical portable appliances used for personal grooming or hygiene.

Products Accepted: Household, residential electric hair clippers, beard trimmers, hair dryers, curling irons or brushes, hair crimpers or straighteners, hair curlers, toothbrushes, foot baths and massagers.

Products Not Accepted: Floor supported commercial hair drying equipment.

5. Air Treatment Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *portable air treatment appliances, including, without limitation, fans, air purifiers, humidifiers and air conditioners*

Definition: Electrical portable appliances used for space conditioning.

Products Accepted. Household, residential electric portable air purifiers, portable air cleaners, portable humidifiers, air fresheners, portable fans and portable heaters.

Products Not Accepted: Air treatment appliances designed for commercial or industrial use. Products included in Phase III: Room Air Conditioners, Portable Air Conditioners (due to the refrigerants within them); air treatment products attached to the furnace or central air conditioning system; and ceiling fans, range hoods, kitchen downdraft ventilation, bathroom fans, whole house fans, through-wall kitchen ventilators or heat exchangers.

6. Time Measurement Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *Devices for measuring time*

Definition: Electrical portable appliances used for measuring or displaying time. Includes battery operated or mains connected appliances.

Products Accepted: Household, residential electric products for which the sole purpose is time measurement or display such as clocks (alarm clocks, wall clocks) or timers.

Products Not Accepted: Does not include wind-up clocks, windup watches or grandfather clocks. Does not include time instruments that are part of another product: i.e. clock as part of a clock radio. Note that clocks that are part of products with another primary function (such as clock radios or cell phones) may be included other stewardship programs.

7. Weight Measurement Appliances

BC Recycling Regulation terms Section 3 -2.1(b): *scales*

Definition: Electrical portable appliances used for measuring weight. Includes products powered by batteries or mains connected appliances.

Products Accepted: Household, residential body scales, countertop food scales

Products Not Accepted: Does not include mechanical scales that are not electric powered, doctor's scales or laboratory, commercial or industrial scales.

Note on excluded products:

- Items that are not electrical are excluded as they do not fit within Schedule 3 of the Recycling Regulation
- Items that industrial, commercial or institutional are not within the scope of this program.
- Built in microwaves, air-conditioning units and other "large appliances" are not within the scope of this program and should be addressed in 2012 along with other Phase III products.

Appendix C. Vendor Standards

The CESA Program will include standards to ensure that program materials are collected, stored, transported and processed in a safe and environmentally sound manner in accordance with local, provincial and national regulations and international standards, as they may apply. These will be developed prior to launch in order to establish vendor contracts and may be updated as needed. Guidelines or manuals will be developed based on these standards for vendors.

Vendor Standards – General

Vendor standards will be developed that will address each of the following:

1. Collection, transportation and processing services will only be provided by selected vendors in good standing.
2. All vendors will be subject to audit at the discretion of the program.
3. Vendors will be required to have a satisfactory tracking and reporting system.
4. Vendors will be required to demonstrate their business registration and liability insurance coverage.
5. Vendors will need to demonstrate and verify organizational compliance with, but not limited to, the following:
 - BC Environmental Management Act (as applicable)
 - BC Employment Standards Act
 - BC Occupational Health and Safety Regulation
 - Canadian Environmental Protection Act
 - Labour Code of Canada
 - Municipal zoning by-laws or other by-laws such as fire codes, parking and hours of operation
 - regulations of other jurisdictions (as applicable)
6. Vendors will be required to provide a statement of compliance as well as provide notification of any non-compliance.

Collection Standard

Collection Sites will have standards for matters such as:

- setting up the site,
- acceptable/not acceptable program products,
- staff training,
- records collection and retention,
- provision of program information for consumers,
- emergency reporting,
- planning and
- health and safety.

Transportation Standard

Transporters will be assessed for:

- conformity to applicable legislation and regulations,
- record keeping system,

- insurance coverage,
- licensing,
- emergency response plan, and
- staff training.

Processing Standard

A processing standard will be developed to cover the following elements:

- Insurance requirements based on processing activity
- Workers' compensation coverage
- Security of facilities
- Processing time specifications to prevent stockpiling
- Evidence of an Environment, Health and Safety management system
- Mapping of materials flow to downstream markets and processors which in turn must be subject to audit and meet all program standards which may include product management restrictions
- Residual and product management method declarations as requested e.g. certificate of recycling, landfill or destruction
- Reporting of processing activities including amount and type of waste, quantities of processed material sent for further processing or to downstream end-markets, corresponding destination by waste and product, and the recycling and disposal rates of products and waste
- Processing of waste must be done in an economic and environmentally acceptable manner.
- Emergency response plans and a contingency plan
- Maintain emissions controls (if applicable)
- Notify Program manager of any non-compliance events, fines, regulatory orders, or environmental incidents
- Maintain a closure plan

Appendix D. Annual Report Data

The program intends to include the following information in annual reports: (note: additional info may be reported to meet the needs of the program or the requirements of the Ministry).

List of producers participating in the program
Collection
Absolute collection (units and weight of product collected)
Recovery rate
Absolute collection per capita (could be units and by weight)
Absolute collection per capita by Regional District
Awareness
Percentage of population aware of the program (surveys done in years 1, 3 & 5)
Participation rate (number of visitors returning program products)
Website visits
RCBC Recyclepedia website hits for program specific data
RCBC Hotline calls about program
Accessibility
Number of collection sites and collection events
Population within a certain proximity of the drop-off depot
Average travel distance to drop-off depot
Other
Progress against stewardship plan targets and strategies
Amount of each type of material collected
Post-collection destination of material (final material use)
Expenses (program specific) & distribution
Revenue (program specific)
Cost per unit of collected material
Total cost per kg diverted
Greenhouse Gas Emissions from transportation/collection/processing
Greenhouse Gas Emissions saved by recycling materials
Examples of initiatives by individual producers that show design changes to reduce environmental impact
Surveys will be conducted periodically to measure the consumer and program partner satisfaction

The above measures will be shown with previous years data (as the program progresses) to show the historical context and demonstrate any trends

These will be noted if they occur:

Number and nature of complaints
Service disruptions
Regulatory non-compliances
Awards and recognition

Appendix E. Consultation Plan and Report

Consultation meetings were scheduled for the week of October 19, 2009. The following is the invitation letter which was issued.

Save the date!
Notice of Public Consultation
for the BC Portable & Floor Care Appliance
Stewardship Plan

Dear Sir or Madam,

You are invited to attend consultation meetings scheduled for the review of the draft BC Portable & Floor Care Appliance Stewardship program plan at the following locations and dates:

9 am - 11 am, Monday, October 19, 2009
Sheraton Vancouver Airport Hotel
7551 Westminster Highway, **Richmond**, BC

1 pm - 3 pm, Monday, October 19, 2009
A **web conference** meeting. Log-in details will be sent to those who RSVP for this meeting.

8 am - 10 am, Wednesday, October 21, 2009
(same date & location as the Coast Waste Management conference)
Westin Bear Mountain Golf Resort & Spa
1999 Country Club Way, **Victoria**, BC
Continental breakfast will be provided

9 am - 11 am, Thursday, October 22, 2009
Ramada Hotel & Conference Centre
2170 Harvey Avenue, **Kelowna**, BC

9 am - 11 am, Friday, October 23, 2009
Ramada Hotel Downtown Prince George
444 George St., **Prince George**, BC
(Note: while advertised, due to low registration, participants called into the web conference instead)

Please RSVP by Wednesday, September 25 to let us know which meeting you plan to attend. Please note that if it appears that there is insufficient attendance for any of the meetings, participants will be contacted to make alternative arrangements.

The draft program plan will be available prior to the meetings and will be posted on the [Product Care](#) website. Notification of posting will be emailed to invitees and to those who RSVP.

You are also invited to submit written comments to the program plan on or before Friday, November 6, 2009. Please send comments:

- by email to: erin@productcare.org
- or by mail to:
Portable & Floor Care Appliance Stewardship Plan
c/o Product Care Association
12337 82A Ave., Surrey, BC V3W 0L5
- or by fax to 604 592 2982

For further information and to RSVP, please contact Erin Webster at

erin@productcare.org
Telephone: 604 592 2972 x 208
Toll free: 1 888 772 9772 x 208
Fax: 604 592 2982

We look forward to meeting with you to discuss the BC Portable & Floor Care Appliance Stewardship Plan.

Larry Moore, Vice President, Canadian Appliance Manufacturers Association
Vaughn Crofford, President, Canadian Hardware and Housewares Manufacturers Association
Wayne Morris, Vice President, Association of Home Appliance Manufacturers

Communications about the consultation on this draft plan were sent out to reach stakeholders who may be interested in portable and floor care appliance stewardship in BC. Key groups that were notified include:

- Local Government including Regional Districts, BC Product Stewardship Council and the Union of BC Municipalities
- Senior Governments including BC Ministry of Environment
- Portable and Floor Care Appliance Industry including CAMA, CHHMA and AHAM members
- Recycling organizations including RCBC, Solid Waste Association of North America and Coast Waste Management Association
- Retailers including the Retail Council of Canada
- Processors & Transporters
- Environmental and public interest groups
- Other stewardship programs in BC (new and developing)

Feedback received from stakeholders was recorded and is noted below by meeting (questions on similar themes have been grouped together).

BC Appliance Summary of Feedback	
Concern (numbers in brackets reflect the number of times mentioned)	Response
Products	
What condition will the products need to be in? What about broken products? (4)	Consumers will be encouraged to return program products that are reasonably clean, and identifiable as program products. As the program is intended for end-of-life products, it is expected that the products will be “broken” in some way in that they no longer work. However, consumers will be encouraged to handle the product in a way that does not cause further damage. Items that are broken in a way that may pose a risk to the collector (i.e. shards of glass) may require special handling which will be covered in the collection site manual.
What about non-user accessible batteries (3)	The plan has been modified to clarify this language.
Consider taking back batteries in products to make it easier for consumers (2).	We will work with the battery recycling program to determine the best system for the batteries.
What about ICI products (both for sales and collection)? (2)	Product definitions are based on design of product (size and weight) rather than the sales channel. Products using the same frame as the residential products will be included in the program. Collecting materials from the ICI sector can be a challenge and may be addressed in future years if it is determined to be a problem.
A detailed list of products may be needed as people may bring back other items that are not included (i.e. smoke detectors).	Having consumers return the correct products will be a focus of the program and will be addressed in many ways (for example, in the collection site manual and in the communications strategy)
Packaging	
What about packaging? (6)	-manufacturers will continue to work on reducing packaging and changing to recyclable packaging -as it is unlikely that consumers will keep their packaging for the life of the product or

	wish to bring the packaging for different products to different depots, consumers will be encouraged to use existing recycling infrastructure for packaging
Reuse/Repair/Design	
Work to prolong the life of the products through good design, reuse and repair (5)	The program will report on initiatives by individual producers who make changes to design that reduce environmental impact. Reuse of products is outside the scope of the program (more details in section 5.3). The program supports repair businesses however consumer safety and regulations must also be considered.
Can reuse systems co-exist at collection sites?(5) Many potential collection sites also have reuse stores. One site noted the concern that encouraging reuse draws people behind the counter.	The standards for collection sites will make it clear how to address reuse
Repair costs are more than the to buy a new product (2) Advocates for more local small businesses to repair appliances Are there any discussions about standards coming out for recyclability of products? An idea is to get high school kids in shop programs to do repairs.	It is acknowledged that these issues are of concern but they are beyond the scope of what a program can change
Information on the lifespan of the product and its recyclability should be on the product.	Determining lifespan is difficult as it depends on hours of use, family size, types of usage, so any mention of this by a manufacturer could be misinterpreted as a warranty. Addressing the issue of informing consumers that program products should be recycled will be the focus of the communications strategy (which will include a variety of different methods).
Collection	
The program should avoid single stream collection (i.e. many recyclable materials picked up by curbside collection in one container)(3) Support for depot type system (3) Programs should only accept materials from contracted vendors to ensure	The program intends to have a network of drop off sites operated by contracted vendors (which may be various types of organizations). The program also needs to track the materials which may preclude certain types of collection.

standards are maintained (1)	
What will collection look like: what containers, how many types of materials to sort, any dismantling, what types of forms for tracking, etc.(6) Support for stackable bins as well as a bag system, flexible pickup schedules and a limited number of bins for sorting. Noted that some current systems may track by weight not units.	The specifics will be developed in the implementation phase. Consideration will be given to the safety of collection and processor personnel and the needs of collection sites, transporters and processors while ensuring standards are met, materials are tracked and progress is made towards the visions of the program.
Will there be payment to collection sites (3)? Special consideration needs to be given to remote sites	The program intends to have a province-wide network of collection facilities and will need to make business arrangements with various vendors to achieve that. Each vendor will sign a contract to provide the services as a willing partner.
Will the current Product Care depots be encouraged to accept the expanded electronics list?	The program will be looking for collection sites to participate in the program and all interested parties are encouraged to contact the program.
Consider that presently some metal from appliances is already being recycled (3). Noted that metal appliances are a small amount of the metals recycling business.	Existing systems will be considered in the implementation. This may involve collection site standards, ensuring that program products are handled responsibly, that they can be tracked and evaluation of the final destination of the materials.
Programs need to make it easy for consumers and try to have one-stop dropping as opposed to multiple drop off points for different materials (6)	The program intends to set up a collection network with willing partners. It is expected that many of those partners will be sites where consumers are already taking other products. Accessibility of collection sites is also addressed in the plan.
Consider what insurance will be needed. Consider what non-program products might be left at depots. Consider that many retailers have agreements to handle products returned under warranty.	These factors will be considered in the implementation of the plan.
Return to retail should not be mandatory for these products (nor the packaging).	The program intends to set up a collection network with willing partners.
Transportation	
The appliance program should	Transportation arrangements will be made

consider the option of allowing approved processors to collect material directly from collection points. The program could provide processors with both a processing fee and a transportation fee while ensuring collection depots are properly compensated either directly through the program or through increased transportation fees that could in part be paid to collectors to cover their input costs.	similarly to collection and processing. Standards will be developed and then the options examined. Vendors that provide collection or processing services may also have the capacity to provide transport services as well.
Processing	
What will processing look like? (4)(will the electronics be recycled separately, what about multiple materials that are fused together, who will be processing the materials, how far will they be shipped?)	Processing standards will be developed and then processor options considered. The final destination of materials will be evaluated against the pollution prevention hierarchy. Distance to transport will also be considered.
When do you anticipate you will get in touch with the processors?	The program will be looking for processors to participate in the program and interested parties are encouraged to contact the program.
The EPSC vendor standard should be adopted.	The program will consider existing standards when looking at standards.
How will freon removal be addressed?	There are no products in the program that will contain freon. These types of products would be part of a program for Phase 3 under the BC Recycling Regulation.
How will mercury switches be handled?	If mercury switches were contained in any of these products, such as a few models of portable electric heaters, they were discontinued several years ago. If such a product were returned, the processor would remove the switch before further processing. Mercury will be handled in accordance with the applicable legislation and environmental stewardship principles.
Batteries need to be separated before processing.	This will be considered when developing the processing standards.
The program should limit the number of approved processors and provide contracts for a 3 year time period.	This will be considered when developing the processing contracts based on what makes the most sense for the program.
Communications	
Consider communication methods to	This will be given consideration in the

reach out to non-English speaking populations (Chinese, Punjabi, etc)	development of the communications strategy.
It is likely to be confusing for resident to discern which electronic product goes with which depot. Will there be an attempt to harmonize the various programs that are coming out with respect to Phase 2 electronics?	This program will be communicating regularly with the other programs to work on systems to limit consumer confusion and to develop synergies between programs.
Involve retailers with the program awareness so they know about the program, and then ensure that they have the support they need to make sure their customers get the message.	The program intends to work with willing retailers and provide information that they can use if they wish.
Administration	
Fees –what will they be? Will producers know ahead of time? Will the methodology be shared with producers? More notice is preferable to retailers (3)	The fees will be set as part of the implementation process and will be available on the program website once determined. As much advance notice as possible will be given to all parties.
For retailers, it is easier to have fewer fee categories (3)	While variable fees based on design and materials are a consideration for the future, the fees for the program will start based on categories of product. The number of categories will reflect a balance between keeping administrative costs down and fees that fairly represent the relative costs of products (given that there may be a significant weight or size difference).
Are there any restrictions or requirements for possible fees, such as whether or not it can be shown as a charge (2), and is there any specific wording requirement for that fee? (support for flexibility in choice of an ecofee or including it in the product price).	The plan states that the fees may be visible or included in the product cost. If the producer chooses to show the fee, the wording is up to the producer, though CESA will consider some recommended language examples. It should not be shown as a tax as this is not accurate and has confused consumers in other jurisdictions.
Will the frequency or timing of the producer reports be on a monthly or quarterly basis? Will it cover the previous month or quarter and what if that period does not match the organizations accounting period?	The reporting system will be developed during implementation. The plan is for monthly reports submitted online for the previous month's data. Consideration may be given to allowing smaller producers with a good reporting track record to submit quarterly. Discussions can also be held with individual producers about the reporting timelines where the accounting periods may not match the months –the outcome must

	be that all sales are reported for consecutive periods.
A recommendation that the program charge a flat fees for batteries rather than per item.	The program intends to charge fees by appliance type (without a separate reporting requirement for batteries).
Recommendation that retailers be included in the governance.	The governance of the program is being developed however consideration will be given to including representation from different producer groups including retailers.
For some producers, reporting units sold may be a challenge as some promotions include buy one, get one free (could be various appliances) or bonus appliances (i.e a coffee grinder with a coffee maker).	The program will work with producers to address specific issues such as this however to meet the regulation requirements, accurate data of product sales in BC needs to be tracked.
The appliance program should work with processors to define budget estimates for material processing.	The budget process, which will begin once the planning is complete, will include estimating processing costs.
Performance Measures	
What about processor standards and recovery rates, what expectations are there? Is incineration or landfill of the products considered recycling within those numbers? What are the recovery goals of the program in terms of separating materials?	The regulation guideline spells out the pollution prevention hierarchy and encourages programs to move materials up the hierarchy. It clearly states that incineration and landfilling of materials do not count as recycling. The plan provides for analysis of final destination of materials and for actions to be taken to move them up the hierarchy.
What are you anticipating in terms of volumes in the first six months of the program? Operators are stockpiling in Alberta in anticipation of a program there so expect a spike in returns at the start. Pointed out that data on products presently being recycled is missing. It is good to get baseline data pre-program.	The plan shows the estimates of some products sold into BC in the past and estimated lifespans. Baseline data that is available will be collected. The plan does not set out specific targets for the first two years as there are many unknowns. The program will collect more accurate data (e.g. sales) as it operates and will have a better sense of its strengths and weaknesses in terms of collection networks and consumer awareness. This should allow targets to be set for the subsequent years.
The program should consider participating in municipal waste audits to measure products missed by the program (7)	The program will work with local governments towards using waste audits as a measurement tool.

The regional districts really appreciate performance measures that are specific to particular regional districts.	The plan notes that collection data by regional district will be provided annually.
How will the program ensure that it gets all of the materials (some of the products are small and so people may not bother to recycle them, collecting from the ICI sector is difficult)? (3)	It will be a challenge but it is the key focus of the plan (along with how the materials will be handled once collected). The plan spells out the intent of the program, the actions to be taken, the measures of performance and the commitment to continually improve.
General	
Have you done any outreach with ARMA, they have a similar program. Have you talked to them yet, if not, do you plan to talk with them?	As a national not for profit organization, CESA intends to be connected with all new programs in development.
How do you plan to develop the collection and processing standards (will the approach involve recyclers or municipalities)?	Detailed information on standard development is in Appendix C. Practical issues that municipalities and recyclers face will be considered.
ESABC encourages landfill bans once programs effective and in place.	CESA plans to follow this practice as well.

Appendix F. Abbreviations & Definitions

ABS	Acrylonitrile-butadienestyrene –a type of plastic
AC	Alternating Current
AHAM	Association of Home Appliance Manufacturers
BCIMEX	British Columbia Industrial Materials Exchange
CAMA	Canadian Appliance Manufacturers Association
CCME	Canadian Council of Ministers of the Environment
CESA	Canadian Electrical Stewardship Association
CHHMA	Canadian Hardware and Housewares Manufacturers Association
EPR	Extended Producer Responsibility
ESABC	Electronic Stewardship Association of British Columbia
GHG	Greenhouse Gas
HDPE	High Density Polyethylene
HIPS	High Impact Polystyrene
ICI	Industrial, Commercial & Institutional
PET	Polyethylene Terephthalate
PFC	Portable and Floor Care (Appliances)
RCBC	Recycling Council of British Columbia
RCC	Retail Council of Canada
WEEE	Waste Electrical and Electronic Equipment

Definitions

Capture Rate -the amount of material collected by an EPR program divided by the amount of product discarded in the same year

Producer - The product producer is principally the first-seller of the product in the province. In practice the producer is typically the product manufacturer, distributor or brand-owner. The producer could also be an importer, broker or retailer who sells the product directly to a consumer.¹⁸ (BC Recycling Regulation Guide)

Recovery Rate -comparing present year collections to present year sales

¹⁸ British Columbia Ministry of Environment (2006). *BC Recycling Regulation Guide*. Accessed June 8, 2009 at http://www.env.gov.bc.ca/epd/recycling/guide/pdf/recycling_regulation_guide.pdf

Appendix G. BC Recycling Regulation Requirements

Recycling Regulation Requirement section 5	Plan sections
1.(a) the plan will achieve, or is capable of achieving within a reasonable time,	--
(i) a 75% recovery rate or a higher recovery rate established by the director,	--
(A) for each subcategory listed in section 4 of Schedule 1 for the beverage container product category, and	NA
(B) for each product category covered by the plan, other than the beverage container product category, if required by the director,	7.1
(ii) any performance requirements or targets established by the director, and	NA
(iii) any performance requirements or targets in the plan,	7
(b) the producer has undertaken satisfactory consultation with stakeholders prior to submitting the plan for approval and will provide opportunity for stakeholder input in the implementation and operation of the product stewardship program, and	8
(c) the plan adequately provides for	--
(i) the producer collecting and paying the costs of collecting and managing products within the product category covered by the plan, whether the products are currently or previously sold, offered for sale or distributed in British Columbia,	5.1, 5.5
(ii) with respect to the solvent and flammable liquids, pesticide, gasoline and pharmaceutical product categories,	NA
(iii) reasonable and free consumer access to collection facilities,	5.1
(iv) making consumers aware of	--
(A) the producer's product stewardship program,	5.4
(B) the location of collection facilities, and	5.4
(C) how to manage products in a safe manner,	5.4
(v) assessing the performance of the producer's product stewardship program, the management of costs incurred by the program and the management of environmental impacts of the program,	6, 7
(vi) a dispute resolution procedure for disputes that arise between a producer and person providing services related to the collection and management of the product during implementation of the plan or operation of the product stewardship program,	5.5
(vii) eliminating or reducing the environmental impacts of a product throughout the product's life cycle, and	5.3
(viii) the management of the product in adherence to the order of preference in the pollution prevention hierarchy.	5.3
(2) In deciding whether to approve the plan, the director may consider any of the following:	--
(a) the advice of a committee of up to 12 persons the director appoints for the purpose of giving advice on the plan;	NA
(b) the timelines and effectiveness of the plan respecting the matters referred to in subsection (1);	1
(c) the population and geographical area of the markets in which the producer sells, offers for sale or distributes the product;	4.1
(d) the manner in which the product is marketed and retailed by the producer;	4.1
(e) the nature of the product;	3
(f) the amount of product the producer expects to sell or distribute each year;	4.1

(g) the amount of product the producer expects to collect each year;	4.2, 7.1
(h) the size of the population intended to be served by each collection facility;	5.1, 7.3
(i) the provision of convenient options for the collection of products in urban centres and small, isolated communities, and for persons with disabilities or who have no access to transportation;	5.1
(j) the manner, kind and amount of advertising and consumer education planned by the producer to inform consumers of the location and operation of collection facilities and the environmental and economic benefits of participating in the product stewardship program;	5.4
(k) the methods of product collection, storage, transportation and management;	5.1, 5.2
(l) the product stewardship programs of other producers for products in the same product category;	NA
(m) the structure of financial and operational co-operation with other producers.	3
(3) For the purposes of subsection (1) (c) (viii), the pollution prevention hierarchy is as follows in descending order of preference, such that pollution prevention is not undertaken at one level unless or until all feasible opportunities for pollution prevention at a higher level have been taken:	--
(a) reduce the environmental impact of producing the product by eliminating toxic components and increasing energy and resource efficiency;	5.3
(b) redesign the product to improve reusability or recyclability;	5.3
(c) eliminate or reduce the generation of unused portions of a product that is consumable;	5.3
(d) reuse the product;	5.3
(e) recycle the product;	5.3
(f) recover material or energy from the product;	5.3
(g) otherwise dispose of the waste from the product in compliance with the Act.	5.3