



British Columbia Paint and Household Hazardous Waste Stewardship Plan

Draft for Consultation March 2, 2017

For the following product categories listed in Schedule 2 of the BC Recycling Regulation:

- Paint
- Solvents and Flammable Liquids
- Pesticides
- Gasoline

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GLOSSARY

The following is a glossary of terms and abbreviations used in this program plan.

Term	Definition
Stewardship Plan	Paint and Household Hazardous Waste Stewardship Plan
Regulation	BC <i>Recycling Regulation</i> , BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014
Program	Paint and Household Hazardous Waste Stewardship Program

Acronym	Initial phrase
CCV	Container capacity volume
CWMA	Coast Waste Management Association
EHF	Environmental handling fee
ELC	Equivalent litres of containers
EPR	Extended producer responsibility
HHW	Household hazardous waste
PCA	Product Care Association
PCB	Polychlorinated biphenyls
PCP	Pest control product
PPH	Pollution prevention hierarchy
RRV	Residual recovery volume
VOC	Volatile organic compound

1. INTRODUCTION

This Paint and Household Hazardous Waste Stewardship Plan (“Stewardship Plan”) is submitted by Product Care Association of Canada (“PCA”) on behalf of the major brand owners of paint and household hazardous sold in British Columbia to the British Columbia Ministry of Environment, pursuant to the requirements of the BC Recycling Regulation (“Regulation”).¹ The [Regulation](#) sets out the requirements for Extended Producer Responsibility (EPR), including the requirement for approved product stewardship plans. The Paint and Household Hazardous Waste Stewardship Program (“Program”) has been in operation since 1994 for paint and 1997 for Household Hazardous Waste (HHW). For the purposes of this Stewardship Plan, household hazardous waste means pesticides, gasoline, solvent and flammable liquids.

This Stewardship Plan replaces the previous stewardship plan developed and implemented by PCA in 2006.

2. DUTY OF PRODUCER

For reference, Section 2(1) of the Regulation provides:

Except as otherwise specifically provided in this regulation, a producer must
(a) have an approved plan under Part 2 [Product Stewardship Plans] and comply with the approved plan, or
(b) comply with Part 3 [Product Stewardship Program Requirements If No Product Stewardship Plan]
with respect to a product in order to sell, offer for sale, distribute or use in a commercial enterprise the product in British Columbia

The Regulation defines “Producer” as:

(i) a person who manufactures the product and sells, offers for sale, distributes or uses in a commercial enterprise the product in British Columbia under the manufacturer’s own brand,
(ii)...a person who is not the manufacturer of the product but is the owner or licensee of a trademark under which a product is sold, distributed or used in a commercial enterprise in British Columbia, whether or not the trademark is registered,
(iii)...a person who imports the product into British Columbia for sale, distribution or use in a commercial enterprise.

The BC Recycling Regulation Guide makes further reference to the definition as “.... importer, broker or retailer who sells the product directly to a consumer or imports and uses the product in a commercial enterprise and includes catalogue or internet transactions”.²

¹ British Columbia Ministry of Environment, *BC Recycling Regulation*, BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014. Accessed at http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004.

² British Columbia Ministry of Environment, *Recycling Regulation Guide*, April 2012. http://www2.gov.bc.ca/assets/gov/environment/waste-management/recycling/recycle/recycle_guide2012.pdf.

3. APPOINTMENT OF A STEWARDSHIP AGENCY

This Program is developed, managed and operated by PCA, a not-for-profit industry association that manages product stewardship programs for paint, household hazardous and special waste on behalf of its members across Canada. PCA was established as an agency to allow its members (obligated Producers) to meet their obligations under applicable extended producer responsibility legislation. PCA is incorporated under the Canada Not-for-Profit Corporations Act³ and is governed by a multi-sector industry board of directors, with representation from four membership classes (Paint Products, Lighting and Alarms Products, Retail, Other Products). A list of PCA's Directors is available on PCA's website, www.productcare.org. Any changes to PCA's incorporation classification will be referenced in the Program's annual report, as applicable.

As per the Regulation, all Producers of applicable paint and HHW products are obligated to collect and pay the costs associated with the collection and management of paint and HHW sold, offered for sale or distributed in BC. To meet this obligation, each Producer appoints PCA as its agent to carry out the duties imposed by the Regulation. PCA members represent the vast majority of the paint household hazardous waste market in British Columbia for obligated products. Program members may include the manufacturers, brand owners, distributors, first importers and retailers of obligated products in BC. Program membership is open to all obligated Producers. A current list of Program members, as well as other member-related information, is available on PCA's website, www.productcare.org.

In joining PCA, each Producer must agree in writing to appoint PCA as its agent to carry out the duties of the Producer imposed by section 2(2) of the Regulation. The Stewardship Plan confirms the duties that PCA will perform on behalf of each Producer that is a member of the Program. Confirmation of membership is available upon the request to the Director.

PCA also manages and operates stewardship programs in other provinces for paint (SK, MB, ON, NB, NS, PEI, NL) and HHW (MB, ON).

4. PRODUCTS COVER UNDER THE STEWARDSHIP PLAN

4.1 Program products

The Program collects and manages the following products:

(a) Household/Architectural Paint and Coatings

The Regulation defines "Household/Architectural Paint and Coating" products as:

(a) latex, oil and solvent-based architectural coatings, including paints and stains for commercial and household use, whether tinted or untinted, and including empty containers for any of these, and;

³ The Canada Not-for-Profit Corporations Act is available at: [https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdrlCrpDtIs.html?corpId=3894185&V_TOKEN=1485282119530&crpNm=product care association of canada&crpNmbr=&bsNmbr=](https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdrlCrpDtIs.html?corpId=3894185&V_TOKEN=1485282119530&crpNm=product%20care%20association%20of%20canada&crpNmbr=&bsNmbr=)

(b) paints and stains, whether coloured or clear, sold in aerosol containers, and including empty aerosol containers for any of these, but not including unpressurized coatings formulated for industrial, automotive or marine anti-fouling applications.

The Program accepts and manages the following types of household/architectural paint (up to a maximum container size of 25 litres) and aerosol paint (up to maximum container size of 680 grams or 24 ounces).

The following is a list of accepted household/architectural paint products and is subject to change by PCA:

- Paint aerosols of all type
- Interior & Exterior: latex, acrylic, water-based, alkyd, enamel, oil-based consumer paints
- Deck coatings and floor paints (including elastomeric)
- Varnishes and urethanes (single component)
- Concrete/masonry paints
- Drywall paints
- Primers (metal, wood)
- Undercoats
- Stucco paint
- Marine paints (unless registered under Pest Control Product Act)
- Wood finishing oils
- Wood preservatives (unless registered under Pest Control Act)
- Melamine, metal & anti-rust paints, stains, shellac
- Swimming pool (single component)
- Stain blocking paint
- Textured paints
- Block fillers
- Wood, masonry, driveway sealers or water repellents (non tar-based or bitumen based)
- Already empty paint containers

(b) Flammable Liquids

The Regulation defines “Flammable Liquid” products as:

(a) products with a flash point as tested by the ASTM D1310 Tag Open Cup Test Method of less than 61°C with the exception of

- (i) products containing less than 50% water-miscible flammable liquid, as defined by the National Fire Code of Canada, 1990, as published by the National Research Council of Canada, by volume with the remainder of the product not being flammable,*
- (ii) liquids that have no fire point as tested by the ASTM D1310 Tag Open Cup Test Method,*
- (iii) wine and distilled spirit beverages,*
- (iv) cosmetic and beauty products,*
- (v) drugs, medicines and other health products,*
- (vi) unpackaged products or products not ordinarily sold to, used or purchased by a consumer without repackaging,*
- (vii) pre-packaged products produced for use by commercial or industrial enterprises without resale to other consumers as pre-packaged goods,*

- (viii) products in the paint product category,*
 - (ix) coatings formulated for industrial or automotive use, and*
 - (x) pre-packaged kerosene in containers larger than 9 litres, and*
- (b) paint strippers containing methylene chloride.*

The Program accepts and manages consumer flammable liquids with a flame symbol or phrase similar to "keep away from open spark or flame" on the label, subject to a maximum container size of ten (10) litres. The list of flammable liquid products accepted by the Program and is subject to change by PCA. Examples include, but are not limited to:

- Acetone
- BBQ lighter fluid
- Camping fuel
- Fondue fuel
- Furniture stripper
- Kerosene
- Flammable degreasers
- Flammable lubricants
- Flammable liquid adhesives
- Flammable fuel treatment and additives
- Methanol
- Methyl Hydrate
- Mineral spirits
- Paint stripper
- Paint thinner
- Paint and varnish remover
- Turpentine
- Varsol
- Other flammable solvents

(c) Domestic Pesticides

The Regulation defines "Domestic Pesticides" products as:

- (1) Subject to subsection (2), the pesticide product category consists of control products registered under the Pest Control Products Act (Canada) that*
- (a) are required to show on the label the domestic product class designation, and*
 - (b) display on the label the symbol shown in Schedule III of the Pest Control Products Regulation (Canada) for the signal word "**Poison**".*

The Program accepts and manages consumer pesticides that have the poison (skull and crossbones) symbol, a Pest Control Product (PCP) number and the word "domestic" on the label, subject to a maximum container size for liquid and solid pesticides of ten (10) litres and a maximum size for aerosols of 680 grams or 24 ounces. Examples include, but are not limited to:

- Pesticides that meet the above requirements in liquid or solid or aerosol form

(d) Gasoline

The Regulation defines “Gasoline” products as:

The gasoline product category consists of gasoline sold for use in spark ignition engines and returned in an approved Underwriters Laboratories of Canada container.

The Program, therefore, accepts waste gasoline only in approved ULC containers, subject to a maximum container size of 25 litres.

A detailed and updated list of all products accepted by the Program (“Program Products”) can be found on PCA’s website, www.productcare.org.

4.2 Non-Program Products

The Program does not collect and manage the following paint-related products:

- Unidentifiable or unlabelled containers
- Paints or wood preservatives that are registered as a pesticide under the pest control act (has P.C.P. Reg# on label) e.g. marine anti-fouling paint, should be treated as a pesticide
- Craft paint (non-aerosol)
- Automotive paint (non-aerosol)
- Industrial paints & finishes (e.g. baked-on, heat resistant etc.)
- 2-part or component paints containing catalyst or activator
- Roof patch or repair
- Tars
- Tar-based or bitumen based product
- Traffic or line marking paint
- Quick drying paint
- Resins
- Paint thinners, mineral spirits or solvents
- Deck cleaners
- Colorants and Tints
- Caulking compound, epoxies, glues or adhesives
- Brushes, rags and rollers
- Improperly sealed paint containers
- Paint containers with poor integrity (e.g. badly rusted cans) or leaking
- Bulging containers

The Program does not collect and manage the following HHW-related products:

- Products that cannot be identified (unknowns)
- Products that are leaking or improperly sealed
- Commercial, industrial or agricultural products
- Cosmetics, health and beauty aids
- Insect repellents, disinfectants and pet products
- Diesel, propane, butane fuels
- Fertilizer
- Acids, cleaners, bleach, and other corrosive materials

- Empty containers

A regularly updated list of non-accepted household hazardous waste products can be found on PCA's website. Non-program products are not limited to those listed above. PCA reserves the right to amend the list of non-Program Products at any time.

5. STAKEHOLDER CONSULTATION

As a prerequisite to the filing of this Stewardship Plan, the Program held four consultations on the Stewardship Plan. Before each consultation, reasonable notice was sent to the stakeholders whose interests will potentially be or are affected by the provisions of this Stewardship Plan. Specifically, notice was:

- Emailed to affected stakeholders, including collection sites, regional governments, First Nations, program members, PCA directors, and industry associations;
- Posted on PCA's Regeneration website under the news/public consultation web page at <http://www.regeneration.ca/news/category/public-consultations/>;
- Sent to the Recycling Council of British Columbia, Stewardship Agencies of British Columbia and Coast Waste Management Association for distribution to their membership and listserves.

PCA conducted three consultation sessions as part of the consultation process:

- In-person consultation on October 19, 2016 at the Coast Waste Management Association (CWMA) Conference in Victoria, BC.
- Conference call and webinar with members of the BC Product Stewardship Council on March 14, 2017.
- Two webinars in March 2017.

A list of who attended the consultations and their affiliations, where available, is provided in Appendix A.

Deadline for stakeholder feedback in writing was April 14, 2017. During each consultation, stakeholders had the opportunity to ask questions about the draft Stewardship Plan, including Program commitments and targets. Questions and feedback received during the consultations were taken into consideration by PCA in finalizing the Stewardship Plan and are summarized in Appendix B along with PCA's responses and the rationale for why each option is or is not being pursued. Comments and responses were circulated to all stakeholders, notably those who provided comment, to confirm their comments were properly reflected.

PCA also consults with stakeholders on an ongoing basis regarding the program's operation by:

- Visiting collection sites on a regular basis
- Engaging continuously with program members through daily interactions and online feedback
- Consulting with National HHW Advisory Committee members

6. COLLECTION SYSTEM AND CONSUMER ACCESSIBILITY

6.1 Collection system

Since the Program’s inception in 1994, PCA has established a comprehensive collection system of permanent year round collection sites across BC that provides reasonable access to consumers. The permanent collection site system is comprised of two types of collection sites:

Paint collection sites	Collect leftover paint and paint aerosols only
PaintPlus collection sites	Collect leftover paint, paint aerosols and HHW

As of December 31, 2015, the Program operated 216 permanent, year round collection sites in British Columbia. Of this total, 115 were paint collection sites and 101 were PaintPlus collection sites.

There is no charge to drop off Program Products at any collection site, whether the products are currently or previously sold, offered for sale or distributed in BC. Additionally, the Program provides an online collection site finder on PCA’s Regeneration website to assist consumers in locating their closest collection site.

PCA does not directly own or manage any collection sites, but contracts with existing collection sites. Collection sites include, but are not limited to:

- Local government facilities such as recycling centres, transfer stations or landfills
- Bottle depots
- Non-profit organizations
- Private businesses
- Return to retail

In addition, some of PCA’s collection sites include First Nations communities. PCA will continue to have discussions with those First Nations communities who are ready, interested and in a position to discuss the possibility and best service options for their community. In general, where feasible, PCA aims to provide a one-stop-shop collection service for consumers by collaborating with other stewardship programs to co-locate collection services in the same location.

PCA also augments the permanent collection system with a number of one day events, often in collaboration with a municipality or regional district. For those who qualify, the Program offers a direct pick-up service for business and entities that generate large volumes of Program Product.

Performance Metrics

The Program will maintain a minimum of 200 collection sites in total, including between 95 and 105 Paint Plus collection sites. The number and location of paint collection sites, Paint Plus collection sites and one day events will be published annually in the Program’s annual report.

6.2 Accessibility

The Program has a mature and well-established collection system that provides consumers access to collection facilities in accordance with the SABC Accessibility Standard. The Standard defines reasonable access as a 30 minute drive to a collection site in urban areas of population greater than 4,000, and a 45 minute drive to a collection site in rural areas with a population greater than 4,000. As of the end of 2016, the Program had established a comprehensive network of 216 collection sites with a 98.37% accessibility rate for PaintPlus collection sites and 97.58% accessibility rate for Paint collection sites. The Program will continue to seek opportunities to expand the collection system, where feasible.

Performance Metrics

The Program will maintain an accessibility rate of 93% based on the SABC Accessibility Standard. An accessibility study will be conducted every five years (next study in 2021), with additional studies undertaken if the number of depots falls below 2016 levels (216 Paint collection sites).

6.3 End of life management

The objective of the Program is to minimize the improper disposal of Program Products by providing an effective collection program and ensuring that the collected materials are either recycled or disposed of in an environmentally responsible manner. The Program encourages consumers to return their unwanted Program Products to Program collection sites, rather than disposing of them improperly in the garbage. In addition to the Program, consumers or end users may contract with hazardous waste management companies to dispose of their unwanted products. The Program strives to manage collected Program Products using the highest option on the pollution prevention hierarchy as set out under section 5(1)(c)(v) of the Regulation, where economically feasible and viable. The application of the pollution prevention hierarchy and the management of each product varies depending on options available and economic feasibility.

Waste composition audits

To confirm that Program Product is being successfully diverted from landfill, the Program participates in waste composition audits undertaken by local governments in collaboration with other stewardship organizations.

Performance Metrics

The Program will report out on the number and location of waste composition audits conducted annually and the amount of Program Product identified, as applicable.

6.4 Performance monitoring and reporting commitments

Volume Collected

Unlike some other stewarded products, such as tires, pharmaceuticals or electronics, Program Products are consumable products that don't necessarily have an expiry date where they are no longer usable. Consumers may keep Program Products in their possession for years after initial use. The Program Products are only considered waste at the point where the consumer no longer values it or determines they no longer have any use for it. Factors such as the consumable nature of the product, varied product

life expectancy, and consumer behavior makes it difficult to evaluate program performance and to utilize recovery rate as a performance target. In general, program performance should be evaluated based on a suite of performance metrics and in aggregate, focusing on trends as opposed to absolute numbers or one particular metric.

The recovery rate compares the volume of product collected in a given year to the volume of product sold in that same year:

$$\text{Recovery Rate} = \frac{\text{Litres of paint collected}}{\text{Litres of paint sold}}$$

While recovery rate is acknowledged as an important indicator of program performance, there are several important reasons to evaluate it in context, not in isolation. It is, in fact, a ratio of two values, which can be influenced by different factors in a given year, such as market conditions and consumer purchasing behaviour. Despite a higher recovery volume and consumer awareness in a given year, the recovery rate can decline in comparison to the previous years if sales have increased at a higher rate. On the other hand, a decrease in the recovery rate may reflect improved program performance where consumers are using paint more efficiently. It is important to look at trends over time in conjunction with other performance indicators.

The volume of Program Product collected is measured via “container capacity volume” (CCV), also known as “equivalent litres of containers” (ELC) and the “residual recovery volume” (RRV). CCV is defined as the measurement of the maximum capacity of containers if they were full, that are returned through the Program. RRV represents the actual quantity of residual paint (excluding containers) collected by the Program, measured in litres. An increase in RRV over time generally indicates an improvement in program performance, however many other factors unrelated to program performance may explain an increase or decrease RRV over time, such as population change, consumer purchasing habits, housing market activity, product reformulation and regulatory changes. As a result of these changing factors, CCV is used to create performance metrics and targets for this Stewardship Plan.

CCV figures are extrapolated from the number of “tubskids” of Program Products managed by the program. Tubskids are collection bins used to transport containers of Program Products from collection sites to processing facilities.

Table 5 below provides an overview of the container capacity volume, in litres, of program products collected by the Program from 2010 to 2015.

Table 2: Container Capacity Volume 2010 – 2015 (Litres)

	Paint (Non-Aerosol)		Paint Aerosol		Flammable Liquids		Pesticides	
	CCV	% Change Yr/Yr	CCV	% Change Yr/Yr	CCV	% Change Yr/Yr	CCV	% Change Yr/Yr
2010	9,407,232	---	158,200	---	258,345	---	66,182	---
2011	9,618,048	2.2%	192,588	21.7%	289,930	12.2%	69,638	5.2%
2012	9,801,648	1.9%	202,440	5.1%	301,760	4.1%	75,902	9.0%
2013	9,938,160	1.4%	231,298	14.3%	305,516	1.2%	70,286	-7.4%
2014	10,611,994	6.8%	236,285	2.2%	344,010	12.6%	92,578	31.7%
2015	11,448,864	7.9%	244,860	3.6%	377,111	9.6%	93,917	1.4%

Performance Measures and Targets

The Program uses CCV as a performance measure for volume collected. Table 6 provides a summary of CCV targets for 2017 to 2021. Moving forward from 2021, targets will be reassessed and adjusted as necessary.

The following will be published in the Program’s annual report:

- Total volume collected by product category using CCV,
- Volume collected by regional district by product category using CCV,
- Total amount sold by product category (L)
- Total RRV collected (L)
- Annual recovery rate

Table 3: Container Capacity volume Targets 2017-2021*

Product Category	Target (2017-2021)
Paint (Non-aerosol & Aerosol)	1-3% annual increase in container capacity volume (CCV) based on 2015 volumes.
Flammable liquids	1-2% annual increase in container capacity volume (CCV) based on 2015 volumes. (Subject to review based on future sales.)
Pesticides	1-2% annual increase in container capacity volume (CCV) based on 2015 volumes. (Subject to review based on future sales.)

*Targets 2022 onward will be assessed as necessary in 2021.

7. CONSUMER AWARENESS

PCA uses a number of methods to raise consumer awareness of the program, including the location of collection facilities and information regarding product handling. These methods may include:

- **Program Website:** The ReGeneration website⁴ provides information to BC residents on:
 - Collection site locations with details on hours of operation and products accepted
 - Description of products accepted by the program
 - Details on relevant environmental handling fees
 - Annual reports and other program information
 - Information for consumers on buying the right amount of paint as well as the safe storage and handling of program products
- **Website Linkages:** PCA coordinates with other parties, such as Regional Districts, to establish links to the program’s website.
- **Reuse Websites:** To promote its Paint Reuse program, PCA is listed on relevant Reuse sites such as *Surrey Reuses*, and others.
- **Point of Sale (PoS) Materials:** Program brochures and posters are regularly distributed to over 3,000 retailers. Orders are replenished upon request, free of charge, and materials are regularly updated.

⁴ <http://www.regeneration.ca/>

- **Point of Return Materials:** Collection sites are offered program signage to display and counter cards to distribute to consumers
- **Stewardship Program Collaboration:** PCA collaborates with other stewardship agencies in BC to develop common promotional materials, such as the BC Recycling Handbook.
- **Yellow Pages:** Advertising is placed in the “recycling services” section of Yellow Pages publications across BC.
- **RCBC Recycling Hotline:** PCA contracts with the Recycling Council for the RCBC “recycling hotline” service. RCBC hotline operators provide consumers with a convenient “one stop” contact to obtain information about PCA programs and any other recycling questions. PCA promotes the RCBC hotline number through its web page, on its signs, brochures, as well as Yellow Pages listings. The RCBC Hotline is typically open Monday through Friday, and is accessible to all BC residents by a toll free telephone number.
- **RCBC Recyclepedia:** PCA collection sites are also listed in the RCBC Recyclepedia website search and App available for iOS and Android devices.
- **Local Government Partnerships:** PCA works with municipalities and regional districts (RD) to promote the PCA program. Specific actions include:
 - Advertising in all municipal garbage collection/recycling calendars.
 - Local government website linkages (see above).
 - Point of purchase consumer information material was also made available to all municipalities free of charge.
- **Dedicated Mailings:** Dedicated mailings to targeted groups such as trade painters are conducted to promote the program.

Ambassadors Program: where feasible, participation in summer ambassadors program in conjunction with other programs, with community events

Consumer Awareness Levels:

Unlike other consumer products, paint and HHW products are used by selected consumers, typically on an infrequent basis and therefore not top of mind products. PCA has conducted various consumer awareness studies since program inception. Awareness levels in general have slowly and steadily increased over time. In 2013, the awareness level was found to be 66%. A subsequent study in 2015 saw a decline in consumer awareness level to 62%, despite significant investment in public education and promotion initiatives in 2015. This result may signal that awareness levels for paint and HHW products may be very difficult and costly to move beyond the range of 66%.

Performance Measures and Targets:

The Program will continue to utilize the various communications activities discussed above as warranted and appropriate. Consumer awareness surveys will be conducted every two years, starting in 2017 to track awareness levels with findings reported in the Program’s annual reports. The Program will aim to achieve a consumer awareness level in the range between 60%-70%.

8. MANAGEMENT OF PROGRAM COSTS

The Program is funded by Environmental Handling Fees (EHF) paid to PCA by its members based on the volume of sales of the designated products in BC. The EHF may appear at the time of retail sale as a separate charge or be integrated into the product price. The EHF is not a tax or a refundable deposit, but is rather subject to provincial sales tax. Program revenues generated by the EHF’s are applied towards program operations, including but not limited to:

- Administration,
- Public education and communication
- Collection, transportation, recycling and responsible disposal of collected products, and
- Establishing and maintaining a reserve fund.

The reserve fund is used to stabilize program funding in the case of unexpected collection volume increases, fluctuations in operating costs or reduced revenue due to economic or other factors. The reserve fund is also intended to cover the cost of winding up the Program in the event of regulatory changes.

EHF rates are set by PCA and are subject to change as needed to address surpluses or deficits. Given that the Program does not have direct control over its revenue stream, EHF's are reviewed on a regular basis to ensure there are sufficient funds to operate the Program and maintain the necessary reserve as per PCA Board policy. Current EHF's for Program Products are listed on the PCA's website, www.productcare.org.

The Program's audited financial statements are posted on PCA's website as part of the Program's annual report.

9. MANAGEMENT OF ENVIRONMENTAL IMPACTS

The Program seeks to divert, as much as possible, Program Products from the waste stream and manage them according to the pollution prevention hierarchy, where technically feasible and economically viable.

9.1 Reduce and Redesign

The ability of a stewardship program of this scope to influence product design is limited. The paint industry is a consolidating industry and most brand owners manufacture for a market area that includes more than one province or country. The overall program objective is to reduce the environmental impact of Program Products through the application of the pollution prevention hierarchy of reduce/reuse/recycle.

The composition of many of the paint products covered by the Program have changed over time as a result of design for environment activity. In particular:

- There has been a steady shift in the marketplace from oil based (alkyd) paints to water based latex paints. This trend is expected to continue as consumer preference for latex paint increases and technical specifications improve.
- Federal regulations relating to volatile organic compounds and the composition of surface coatings are hastening the process of reducing the environmental impact of paint products.

Tools used by PCA that may have an impact on product life cycle and reduction of environmental impact include:

- Applying variable EHF's, which increase with the size of the container
- Promoting the "B.U.D." rule (i.e. **B**uy what you need, **U**se what you buy and **D**ispose of the remainder responsibly)
- Educating consumers on the proper storage of leftover paint
- Researching alternative management options for collected materials

9.2 Reuse and Recycle

Leftover paint is the largest volume of the Program Products managed by the Program. Leftover paint can be managed in a number of different ways while there are limited options for the management of other HHW products. The processing of paint and HHW is a multi-step process involving primary processors, downstream processors, and final recycling and/or disposal facilities. During the process, the products are typically consolidated and processed with similar compatible products from other waste generation sources, such as waste from manufacturing.

Reuse

Reusable paint is given away at no charge through the Paint Reuse program to consumers to be used for its originally intended purpose. In 2015, 142 collection sites participated in the Paint Reuse program, representing 66% of all collection sites. Approximately 2.5% of the total volume of paint collected in 2015 was reused through the Paint Reuse program. Users of the Program included individuals, community organizations, theatres and anti-graffiti programs. Many consumers obtained information about the Paint Reuse program through the RCBC Materials Exchange program.⁵

Reuse is not an option for HHW products due to:

- Regulatory requirements that impose criteria/limitations on the use of ingredients and allowable concentrations;
- Regional bans on certain pesticide use;
- Contamination of the product through use (i.e. oil contaminated gasoline).

Recycling

Recycling may be an option for certain types of paints, however not all paint can be recycled. Paint to paint recycling is heavily dependent on whether there is a demand or market for the recycled paint. In addition, a number of different factors such as age, quality, and physical state of the paint returned, impacts whether certain paints are suitable for recycling or not. Other limitations include, but are not limited to:

- Recyclable paint is already tinted and there is limited ability to alter the colour of recycled paint;
- Selling recyclable paint requires more shelf space at retail versus just carrying virgin base paint and adding tint at the counter;
- Regulatory requirements, such as the Volatile Organic Compound (VOC) Concentration Limits for Architectural Coating Regulation that limit the concentration of VOCs.

Recycling alkyd paint back into paint is more difficult due to a number of factors:

- Hazardous waste and transportation regulations, which limit the movement of this kind of material.
- Old paints tend to be higher in VOCs, making recycling of alkyd paints more difficult.
- The chemistry of alkyd paints makes it more difficult to recycle into paint and coating products.
- The market for alkyd products is significantly smaller than that for latex paint products and is diminishing making it more difficult to find end markets for the recycled product.

⁵ <http://www.rcbc.ca/services/materials-exchange>

- Latex paint technology has improved significantly such that new formulations outperform the durability of alkyd paint.

In addition to paint-to-paint recycling, latex paint may be used as a raw material in certain manufacturing processes, such as the manufacturing of concrete products (i.e., utility blocks, etc.). As with paint-to-paint recycling, there are limitations on the amount of latex paint that can be utilized in this manner. Utilizing alkyd (oil-based) paints in concrete manufacturing is not an option due to its chemical properties.

In 2015, 79% of the latex paint was either recycled into paint or utilized in the manufacturing of concrete products.

Unlike paint, HHW products encompass a very broad range of product categories, industry sectors, product types and uses with different uses/applications, ingredients, concentrations, physical state, etc. Consumer HHW products generally come in smaller packages. Some ingredients in older products are no longer allowed to be in use or sold in the marketplace. There are also very few recyclers that can handle these product categories, none of whom are in BC. These factors all contribute to increased costs to manage these products, as well as reduce program efficiencies and the ability to recycle products. For these reasons and others, HHW products are not recycled.

Energy Recovery:

As noted above, not all paint is suitable for recycling and as such, requires alternative management options. Depending on the type of paint, paints (including latex) typically have varying degrees of heat value, which makes them more or less suitable for energy recovery, especially alkyd paints. Some cement kilns and incinerators have the necessary environmental approvals or permits to allow the use of alternative fuel, such as paint, in place or in conjunction with traditional fuel sources, such as natural gas. Energy recovery may continue to be one of the options utilized for the management of all paint products. In 2015, 7% of latex paint and 100% of oil-based paint collected was sent for alternative energy recovery at a permitted/licensed facilities.

For certain HHW products, such as flammable liquids and gasoline, their nature and chemical composition, along with the fact that many are sold as fuels, makes them ideal for energy recovery. Energy recovery is not an option for other HHW products, such as pesticides. Pesticides need to be treated at temperatures high enough to avoid creating hazardous by products. In addition, pesticides and paints that are contaminated with Polychlorinated Biphenyls (PCB) require dedicated incineration at licensed and permitted facilities. In 2015, 100% of flammable liquids and gasoline were sent for energy recovery. In 2015, 100% of the pesticides were sent to incineration.

Disposal

In many jurisdictions, solidifying and landfilling latex paint is a regulatory acceptable practice. Landfilling is the least preferred option for latex paint, but may be a necessary option depending on the market conditions. With the increase in collected volumes and limited capacity of some of downstream processors, not all unrecyclable latex paint can be sent for energy recovery. As a result, a portion of unrecyclable latex paint may need to be solidified and landfilled. In 2015, 14% of latex paint collected was diverted to a secure landfill.

HHW and alkyd paint are typically prohibited from landfills. Accordingly, landfilling is not considered as an option for these types of products.

9.2.5 Containers

Paint and HHW products are typically packed in metal or a variety of different types of plastic containers. While the market exists for metal and plastics recycling for cleaner and more voluminous product streams, the uniqueness of paint and HHW containers poses a number of challenges to recycling these containers once they have been emptied of their contents. These challenges include, but are not limited to:

- Being less attractive to recyclers if the container contents were of a hazardous nature (e.g., pesticides) requiring special handling pursuant to regulation prior to recycling or alternative management,
- Being unable to completely clean containers, as cleaning often results in more waste generation,
- Paint and HHW containers being considered low grade and less desirable by metal and plastic recyclers,
- Protective coatings on metal cans that pose challenges for the recycling system,
- The low volume and inconsistency of type and colour of plastic of containers compared to other sources of plastic;
- Fluctuations in commodity pricing and market demand, and
- The limited number of recyclers that have the ability to handle such products.

These issues can limit the recycling of paint and HHW containers at times, thus requiring alternative management options such as energy recovery or landfilling.

Table 4 illustrates the management options for Program Products and their associated containers.

Table 4: Summary of Management Options 2015

Method	Explanation	Paint	Paint containers	Flammables Liquids	Pesticides	Gasoline
Reuse	Given to a consumer in original condition through "Paint Reuse"	2.5%	--	--	--	--
Recycling	Reprocessed as paint, used in concrete and cement manufacture	79% of latex paint	100% of metal containers; 100% of #2 plastic containers	100% of metal containers	100% of plastic containers	100% of metal and plastic containers
Energy recovery	Alternative fuel	100% of oil based paint, 7 % of latex paint	98% of polypropylene cans	100% of flammable residuals	--	100% of residual gasoline

Disposal	Incineration	--	--	--	100% of residual pesticide	--
Landfill		14% of latex paint	--	--	--	--

Performance Measures and Targets:

The program will track and report on the following information annually in the program’s annual reports:

- Significant developments, provided by its membership, that reduce the environmental impact and improve the recyclability of Program Products, as applicable.
- Percentage of collected paint reused and recycled
- Number of collection sites offering Paint Reuse
- The approximate percentage of program products and containers managed according to the pollution prevention hierarchy.

Performance Metrics

Where feasible and economically sustainable, and recognizing that the product management is subject to change, the Program will:

- Maintain a minimum rate of 75% recycling of latex paint.
- Continue seek options for the recycling of oil-based paint
- Strive to recycle 100% of the metal and #2 plastic paint containers.
- Strive to recycle 100% of the metal and #2 plastic gasoline containers.

10. DISPUTE RESOLUTION

PCA contracts with service providers (e.g., collection sites, transporters, etc...) using commercial agreements. Any disputes arising from service provider contracts are discussed with PCA’s senior management in attempts to resolve the dispute. Any dispute requiring further escalation is resolved using normal commercial legal procedures as set out in the terms of our service provider contracts.

11. PERFORMANCE MEASUREMENT SUMMARY AND REPORTING COMMITMENTS

Metric	Performance Measure
Collection System and Accessibility	
Number of collection sites	Maintain a minimum of 200 collection sites in total, including between 95 and 105 Paint Plus collection sites
	Report annually the number and location of paint collection sites and PaintPlus collection sites
Number and location of collection events	Report annually

Metric		Performance Measure
Percent of population with access to a collection site		Maintain a minimum of 95% accessibility rate to a collection site based on SABC Accessibility Standard
Waste Audits		
Number and location of waste audits conducted		Report annually
Units of program product identified during waste audits		Report annually
Collections		
Percentage annual increase in container capacity volume (CCV) based on 2015 volumes	Paint (Non-aerosol & Aerosol)	1-3% annual increase
	Flammable liquids	1-2% annual increase
	Pesticides	1-2% annual increase
Total volume collected by product category using CCV		Report annually
Volume collected by regional district by product category using CCV		Report annually
Total amount sold by product category (L)		Report annually
Total RRV collected (L)		Report annually
Recovery rate		Report annually
Consumer Awareness		
Consumer awareness survey		Conduct every two (2) years starting in 2017
Percent of population aware of the program		Maintain between 60%-70%
Management of Environmental Impacts		
Significant developments, provided by its membership, that reduce the environmental impact and improve the recyclability of Program Products, as applicable		Report annually
Percentage of collected paint reused and recycled		Report annually
Number of collection sites offering Paint Reuse		Report annually
Approximate percentage of program products and containers managed according to the pollution prevention hierarchy		Report annually
Percentage of latex paint recycled		Maintain a minimum rate of 75%
Percentage of metal and #2 plastic paint containers recycled		Strive to recycle 100%
Percentage of metal and #2 plastic gasoline containers		Strive to recycle 100%

APPENDIX A. STAKEHOLDERS WHO ATTENDED AT THE CONSULTATIONS

