



Product Care Association

**British Columbia Paint and Household Hazardous Waste
(HHW) Product Stewardship Plan - 2012-2016**

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

- Paint
- Solvents and Flammable Liquids
- Pesticides
- Gasoline

For submission to:

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1. Introduction

This stewardship plan has been prepared by Product Care Association, pursuant to the requirements of the B.C. Recycling Regulation, B.C. Reg. 449/2004 (the “Regulation”), for the following product categories:

- Paint
- Solvent and Flammable Liquids
- Pesticides
- Gasoline

The stewardship plan covers the years 2012-2016. The program plan was revised following a consultation process and is submitted to the B.C. Ministry of the Environment to replace the current [stewardship plan](#) dated October, 2006.

2. Product Care Association

The BC Paint and Household Hazardous Waste (HHW) program is operated and managed by Product Care Association. Product Care is a federally incorporated, not for profit product stewardship association formed in response to stewardship regulations and is governed by a multi sector industry board of directors.

Product Care Association was formed in 2001 as the result of the merger of the BC Paint and Product Care Association and the Consumer Product Care Associations. Paint stewardship was mandated in British Columbia in 1994 followed by flammable liquids, pesticides and gasoline in 1997.

Product Care Association manages the BC Paint and HHW program on behalf of the producers of program products who become members of Product Care for this program. In joining the Product Care program, each producer has appointed Product Care as its agency to carry out the duties of the producer imposed by the Recycling Regulation, pursuant to section 2(2) of the Regulation. Please refer to Appendix A for a list of program members.

3. Program Members

Members of Product Care’s BC Paint and HHW program include manufacturers, distributors and retailers of paint products, solvents and flammable liquids, pesticides and gasoline. The program is funded by membership fees, known as “eco fees”, remitted to Product Care by its members based on the volume of sales of the designated products. In some case, retailers recover the fees as a separate visible eco-fee to consumers. The eco-fee rates are set by Product Care. Program revenues are applied to the operation of the program, including education, collection system, administration, transport, recycling and disposal of collected residual products as well as a reserve fund. Effective January 1, 2011, the members of the Tree Marking Paint Stewardship Association agreed to join Product Care as members, with the intention of winding down the TSA.

4. Program Products

The BC Paint and HHW Program collects and manages the following products and categories.

Household/ Architectural Paint and Coatings:

The Regulation defines this category 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;

(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 collects the following types of household/ architectural paint and coatings, up to a maximum container size of 25 Litres. This accepted products list is subject to change by Product Care.

- 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, then classified as a pesticide)
- Wood finishing oils
- 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)
- Paint Aerosols of all types, including automotive, craft and industrial products
- Empty paint containers

Flammable Liquids:

The Regulation defines this category 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 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 10 Litres (except for kerosene, subject to a limit of 9L).

Examples:

- Paint thinners
- Other solvents
- Camp fuels
- Liquid adhesives with flammable symbol

Domestic Pesticides:

The Regulation defines this category 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 consumer pesticides that have both the poisonous (skull & cross bones) symbol and a Pest Control Product (PCP) number, subject to a maximum container size of 10 Litres.

Gasoline:

The Regulation defines this category 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.

5. Collection System

By the end of Dec 2011, Product Care operated 172 permanent, year round collection depots in British Columbia to provide convenient locations for consumers to drop off unwanted program products. Of this total, 115 are Paint Depots that collect leftover paint products, including paint aerosols, and 57 are Paint Plus Depots that collect leftover paint products as well as flammable liquids, pesticides and gasoline. There is no charge to drop off program products. A complete list of depots is available at www.productcare.org/BC-Depots.

Product Care does not directly own or manage any depots, but contracts with existing collection sites. Typically, depots are co-located at facilities such as local government recycling centres or transfer stations, bottle depots, non-profit societies and private businesses.

Product Care also supplements the depot collection system with a number of one day events, often in collaboration with a municipality or regional district. A direct pick-up service is also provided for large volume users of paint.

Table 1 compares the number of collection sites and one day events for the past five years, to the targets set out in the 2006 Product Care stewardship plan. It is noteworthy that 58 new paint depots were added to the program in 2011. New Paint Plus depots continue to be difficult to site, due to the hazardous nature of flammable liquids and pesticides.

Table 1 – Product Care Depots and Targets, 2007-2011

| | 2007 Target | 2007 Actual | 2008 Target | 2008 Actual | 2009 Target | 2009 Actual | 2010 Target | 2010 Actual | 2011 Target | 2011 Actual* |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Paint Depot | 60 | 59 | 62 | 61 | 64 | 63 | 66 | 64 | 68 | 115 |
| Paint Plus Depot | 45 | 45 | 47 | 49 | 49 | 50 | 51 | 50 | 52 | 57 |
| Total Depot | 105 | 104 | 109 | 110 | 113 | 113 | 117 | 114 | 120 | 172 |
| One Day Events | 13 | 19 | 12 | 15 | 12 | 19 | 12 | 16 | 12 | 26 |

2012-2016 Performance Measures and Target:

The program will target an annual minimum increase of one new paint plus depot, using the number of depots in 2011 as the baseline for this target. The number of paint depots, paint plus depots and one day events will be published annually in the program's annual reports. Given the large increase in paint depots in 2011 the program does not propose to add a significant number of new paint depots between 2012 and 2016.

Table 2 – Product Care Depot Targets, 2012-2016

| | 2012 | 2013 | 2014 | 2015 | 2016 |
|------------------|------|------|------|------|------|
| Paint Depot | 115 | 115 | 115 | 115 | 115 |
| Paint Plus Depot | 57 | 58 | 59 | 60 | 61 |
| Total Depot | 172 | 173 | 174 | 175 | 176 |

6. Management of Collected Materials

Product Care utilizes a number of performance measures to track changes in the program's performance year to year. Particularly with consumable, long life products, no single performance measure is considered an accurate indication of the program's performance.

6.1 Volume Collected

6.1.1 Residual Recovery Volume:

Residual Recovery Volume represents the liquid volume, measured in litres, of program products recovered by the program. These numbers have generally increased over the last eight years. Table 3 and Figures 1 and 2 show the volume of program products collected from 2003-2011.

Table 3 – Residual Recovery Volume in Litres, 2003-2011

| | Paint (non aerosol) | Paint Aerosol | Flammable Liquids | Pesticides | Total |
|-------------|---------------------|---------------|-------------------|------------|------------------|
| 2003 | 1,637,090 | 15,480 | 45,484 | 8,760 | 1,706,814 |
| 2004 | 1,854,960 | 18,860 | 49,224 | 8,880 | 1,931,924 |
| 2005 | 2,164,042 | 17,360 | 54,386 | 7,656 | 2,243,444 |
| 2006 | 2,164,437 | 15,426 | 58,516 | 10,716 | 2,249,095 |
| 2007 | 2,331,223 | 14,766 | 65,746 | 12,431 | 2,424,166 |
| 2008 | 2,700,416 | 17,226 | 92,872 | 16,076 | 2,826,590 |
| 2009 | 2,869,745 | 14,360 | 87,824 | 16,249 | 2,988,178 |
| 2010 | 2,777,390 | 48,816 | 86,792 | 17,158 | 2,933,758 |
| 2011 | 2,807,027 | 35,216 | 93,980 | 19,022 | 2,955,245 |

Figure 1 - Paint (non-aerosol) Residual Recovery Volume in Litres, 2003-2011

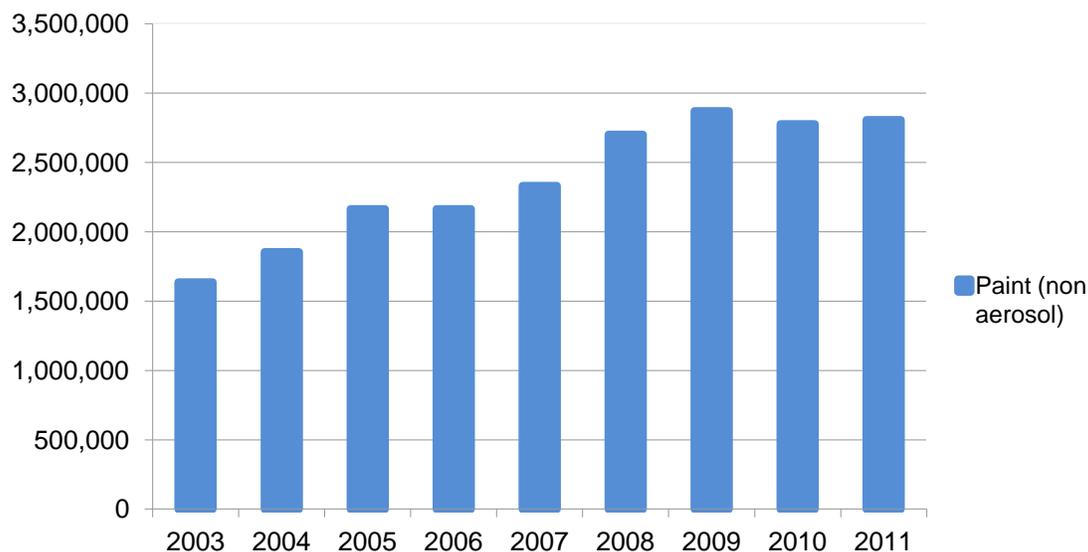
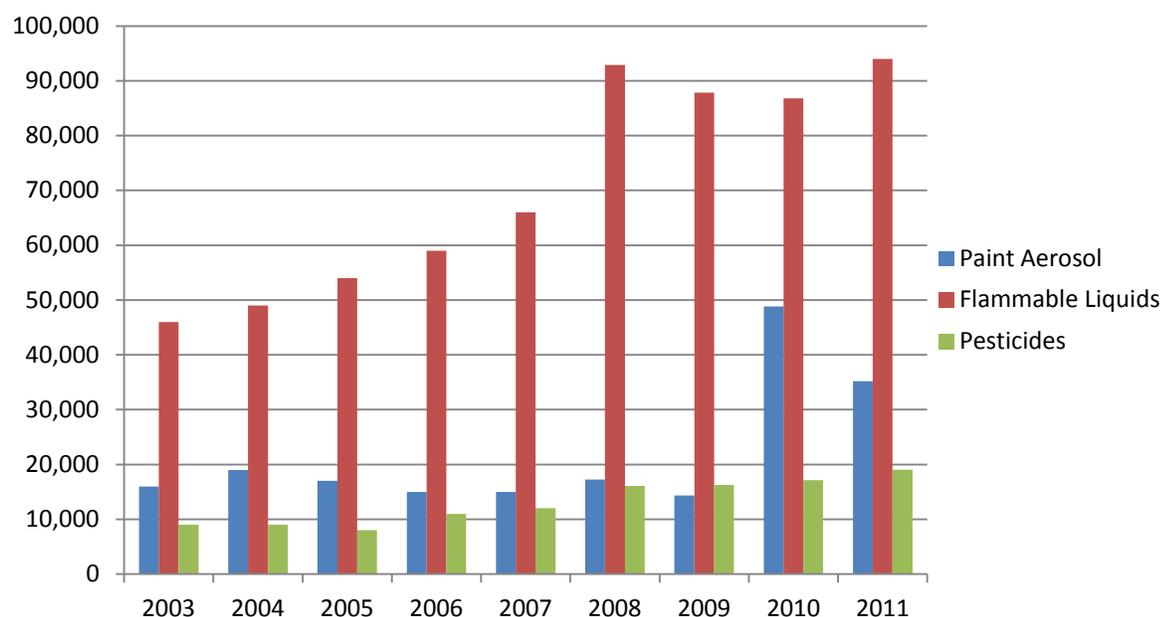


Figure 2 - Aerosol Paint, Flammable Liquids and Pesticides Residual Recovery Volumes in Litres, 2003-2011



2006-2011 Targets:

No targets were specified for this measure.

6.1.2 Container Capacity Volume:

Given the fluctuation in the quantity of liquid residuals contained within containers returned to the program, the aggregate nominal capacity of the program product containers collected is also a meaningful measure of program performance. Container capacity volume, also known as “equivalent litre container” (ELC), is a measure of the capacity of the original containers that are returned through the program. These 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 depots to processing facilities.

Table 4 below provides an overview of the container capacity volume, in litres, of program products collected by the program from 2006 to 2011.

Table 4 – Container Capacity Volume in Litres, 2006-2011

| | Paint (non aerosol) | Paint Aerosol | Flammable Liquids | Pesticides |
|-------------|---------------------|---------------|-------------------|------------|
| 2006 | 6,727,968 | 134,978 | 159,840 | 38,578 |
| 2007 | 7,445,870 | 129,202 | 179,092 | 44,020 |
| 2008 | 8,637,266 | 150,728 | 213,408 | 54,259 |
| 2009 | 8,930,736 | 125,650 | 215,568 | 59,486 |
| 2010 | 9,407,232 | 158,200 | 258,345 | 66,182 |
| 2011 | 9,618,048 | 192,588* | 289,930 | 69,638 |

*Note: While there was an increase in container capacity volume collected in 2011 for paint aerosols, the amount of residual paint recovered from paint aerosols for 2011 was less than in 2010 (Table 4)

Table 5 – Percent Change in Container Capacity Volume, 2006-2011 Comparisons

| % increase over prior period | Paint (non aerosol) | Paint Aerosol | Flammable Liquids | Pesticides |
|-------------------------------|---------------------|---------------|-------------------|--------------|
| 2007 vs. 2006 | 10.7% | -4.3% | 12.0% | 14.1% |
| 2008 vs. 2007 | 16.0% | 16.7% | 19.2% | 23.3% |
| 2009 vs. 2008 | 3.4% | -16.6% | 1.0% | 9.6% |
| 2010 vs. 2009 | 5.3% | 25.3% | 19.7% | 11.3% |
| 2011 vs. 2010 | 2.24% | 21.74% | 12.23% | 5.22% |
| 2011 Cumulative Target | 20% | 20% | - | - |
| 2011 vs. 2006 Baseline | 42.9% | 42.7% | 81.4% | 80.5% |

2006-2011 Targets:

The 2006 product stewardship plan committed to a minimum 4% annual increase in the total collected volumes for the paint product categories. This target represents an increase of 20% for the five year period ending 2011 compared to the 2006 baseline. Table 5 illustrates the percent change in container capacity volume collected between 2006 and 2011. As the last row of the table illustrates, the 20% aggregate increase target was exceeded for all Program Product categories.

2012-2016 Performance Measures and Targets:

The residual recovery volume, container capacity volume and annual percentage change for each product category will be tracked and included in the program's annual reports. The container capacity volume collected in each regional district will also be published.

The program will target a minimum of 4% increase per year of total collected volumes (container capacity volume) for the paint product categories between 2012 and 2016. The program will also target a minimum of 4% increase per year of total collected volumes (container capacity volume) for flammable liquids. 2011 figures will be considered the baseline for these targets. This represents a cumulative target of a 20% increase by 2016. These targets are considered reasonable in the context of the high quantity of program products already being collected by the program and declining paint and flammable liquid sales in recent years (see Table 6 below).

The program expects a decline in the volume of program pesticides available to collect in the coming years, given expected sales declines and phase outs of these materials. As such, the program target will be to maintain an annual pesticide collection volume equal to the 2011 baseline.

6.2 Product Sales

The quantity sold annually of program products varies with market conditions, but is an important reference for the quantity of products available for collection in the future. Table 6 and Figures 3 and 4 illustrate the quantity in litres sold of program products from 2003-2011.

Table 6 – Sales Volume in Litres, 2003-2011

| | Paint (Non Aerosol) | Paint Aerosol | Flammable Liquids | Pesticides |
|-------------|---------------------|---------------|-------------------|------------|
| 2003 | 30,059,254 | 861,425 | 3,508,158 | 220,914 |
| 2004 | 33,132,411 | 950,091 | 3,505,961 | 154,056 |
| 2005 | 34,704,008 | 929,981 | 4,308,371 | 185,882 |
| 2006 | 37,007,180 | 944,963 | 4,576,310 | 181,732 |
| 2007 | 36,169,248 | 946,941 | 4,366,434 | 177,055 |
| 2008 | 35,564,330 | 975,329 | 3,940,716 | 189,178 |
| 2009 | 31,356,165 | 845,428 | 3,404,010 | 159,428 |
| 2010 | 33,003,735 | 892,913 | 3,310,459 | 188,649 |
| 2011 | 29,292,683 | 979,216 | 3,368,510 | 175,535 |

Figure 3 – Sales Volume of Non-Aerosol Paint in Litres, 2003-2011

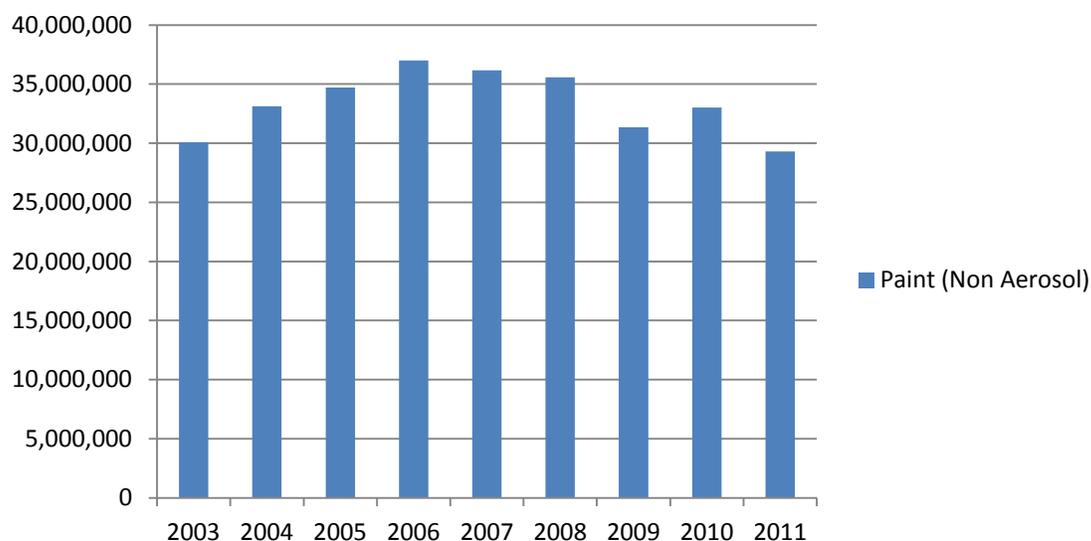
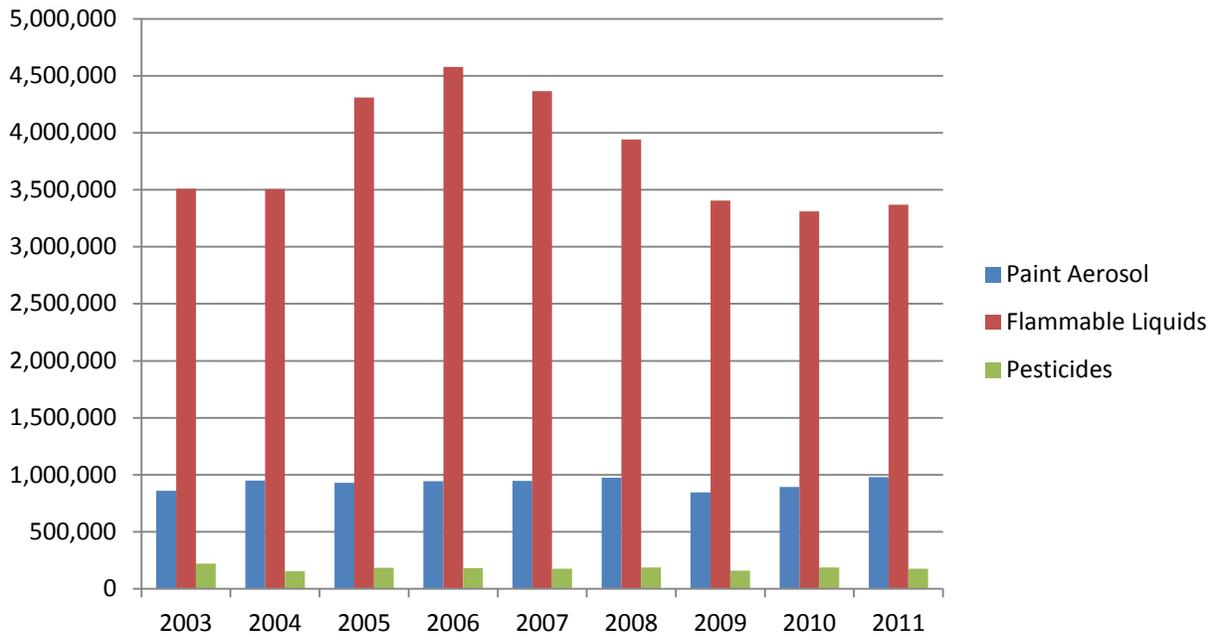


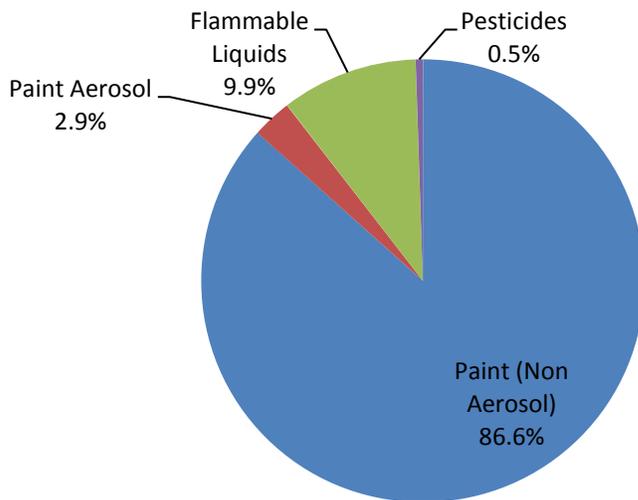
Figure 4 – Sales Volume of Aerosol Paint, Flammable Liquids and Pesticides in Litres, 2003-2011



Program Product Sales:

Figure 5 illustrates the relative quantity of sales in 2011 for each of the program product categories.

Figure 5 – Share of Program Product Sales - 2011



6.3 Recovery Rate

The products managed in the program can be stored for long periods and are designed to be consumed. While the amount recovered can be determined, it is difficult to determine the total amount of the product “available for collection. In addition, the lag time between purchase of a product and the decision that the leftover program product is unwanted varies. A recovery rate compares the volume of products sold in a year to the quantity of products collected by the program in that same year. As such, fluctuations in the volume of products sold can causes changes in the recovery rate.

Subject to these limitations, the recovery rates for the program’s products are shown in Table 7 below. The recovery rate is calculated by dividing the volume of residuals collected (from Section 6.1.1 above) by the volume sold (from Section 6.2 above) for each year.

A report prepared for RECYC-QUÉBEC, which oversees product stewardship programs in Québec, and Eco-Peinture, the paint stewardship program in Québec, determined the proportion of architectural paint sales that will eventually be available for collection to be 6.71%. Product Care program’s recovery rates in recent years compare favourably, however it must be noted that in calculating the recovery rate, the “denominator”, which is the quantity of paint sold in the year, has declined significantly from prior years due to economic conditions, which has the effect of increasing the recovery rate.

Table 7 - Percentage Recovery Rate (Residual Recovery Volume/ Sales), 2003-2011

| | Paint (non aerosol) | Paint Aerosol | Flammable Liquids | Pesticides |
|-------------|---------------------|---------------|-------------------|------------|
| 2003 | 5.4% | 1.8% | 1.3% | 4.0% |
| 2004 | 5.6% | 2.0% | 1.4% | 5.8% |
| 2005 | 6.2% | 1.9% | 1.3% | 4.1% |
| 2006 | 5.8% | 1.6% | 1.3% | 5.9% |
| 2007 | 6.4% | 1.6% | 1.5% | 7.0% |
| 2008 | 7.6% | 1.8% | 2.4% | 8.5% |
| 2009 | 9.2% | 1.7% | 2.6% | 10.2% |
| 2010 | 8.4% | 5.5% | 2.6% | 9.1% |
| 2011 | 9.6% | 3.6% | 2.8% | 10.8% |

2012-2016 Performance Measures:

Product Care will continue to participate in waste audits, in possible collaboration with local governments and other stewardship agencies, to track the amount of program products not captured by the program.

6.4 Product Life Cycle Management and Environmental Impacts

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 leftover paint through the application of the pollution prevention hierarchy of reduce/reuse/recycle.

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 the 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 Product Care Association that may have an impact on product life cycle and reduction of environmental impact include:

- Variable fees paid to the program by brand owners which increase with the size of the container
- Promotion to the consumer of 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 the consumer on the proper storage of leftover paint
- Research development into alternative management options for collected materials

2012-2016 Performance Measures:

The program will report on initiatives of individual producers that reduce the environmental impact and improve the recyclability of their products and packaging.

6.5 Management in Accordance with the Pollution Prevention Hierarchy

Product Care endeavours to manage collected products in accordance with the “pollution prevention hierarchy”.

6.5.1 Paint

Leftover paint is the largest volume of the residual products managed by the Product Care program and of the HHW category in general. Leftover paint is managed in a number of ways.

Reuse:

Reusable paint is given away at no charge through the Paint Exchange program to members of the public and to non-profit organizations to be used for its originally intended purpose. The Paint Exchange option is offered at most Product Care depots outside Metro Vancouver. Within Metro Vancouver, the paint exchange program is centralized at Product Care’s facility in Surrey as well as one other paint exchange location in Maple Ridge.

By the end of 2011, there were 90 paint exchange depots (52% of 172 depots). Users of the program included individuals, community organizations, theatres and anti-graffiti programs. Many participants obtain information about the Paint Exchange program through the RCBC Materials Exchange program. During 2011, 2.1% of the volume of paint collected by Product Care was reused through the paint exchange.

Recycling:

Product Care utilizes a number of options for paint recycling including:

- Reprocessing leftover paint into paint and coatings products.

- Latex paint as raw material incorporated in the manufacture of recycled concrete, and in the manufacture of Portland cement.

During 2011, 100% of the latex paint collected by the program was recycled by one of these methods. The recycling option for oil based paint continues to be unavailable as the demand for recycled oil based paint remains limited. In 2011, 66% of the paint collected by the program was latex paint and the remaining 34% was oil-based paint. The combined total of paint reused (2.1%) and paint recycled (66%) was 68.1% of all paint collected (latex or oil-based), below the 2011 of 85% target for the combined reuse and recycling of paint. The target was based on the projection that recycling options for oil based paint would be both available and feasible.

Energy Recovery:

Due to the high solvent content of alkyd (oil based) paints, alkyd paints are suitable for energy recovery. Through the process of fuel blending, 100% of the oil based paint and 100% of the flammables and gasoline collected by Product Care during 2011 were used as an alternative energy source in applications such as permitted incinerators. Product Care continues to search for recycling options for oil based paint. This is generally more difficult due to hazardous waste and transportation regulations which limit the movement of this kind of material, also the chemistry of alkyd paints makes it more difficult to recycle into paint and coating products, and because the market for the recycled alkyd products is significantly smaller than that for the water based products and continues to diminish. In addition, regulations such as the Federal VOC Regulations have tightened limits on certain chemical constituents of paint sold, which tend to be higher in older paints.

6.5.2 Flammables

Because the nature of flammable products, and the fact that many flammable products are sold as fuels, leftover flammables are managed for energy recovery as alternative fuels in permitted facilities which comply with all air quality regulations.

6.5.3 Pesticides

Due to the nature of pesticides, there is no reuse or recycling option available, and all pesticides are incinerated at high temperature government regulated and permitted incinerators.

6.5.4 Gasoline

Due to the nature of gasoline, which is intended to be used as a fuel, waste gasoline is managed as an alternative fuel for energy recovery at permitted facilities.

6.5.5 Containers

Metal Container Recycling:

The market for metal containers is highly dependent on commodity prices. The 2011 market was an improvement over 2010 and, all metal containers were recycled as scrap metal.

Plastic Container Recycling:

All 5 gallon size plastic paint pails and all plastic gasoline containers continue to be recycled. Plastic from solvents and pesticide containers is triple rinsed and sent for plastics recycling.

Plastic Containers Energy Recovery:

Plastic (polypropylene) one US gallon size paint cans were managed in one of three ways in 2011:

- Plastics to plastics recycling (12%)
- Plastic to 'plastic wood' recycling (39%)
- Utilized for energy value as solid fuel in permitted waste to energy incinerators or cement kilns (49%).

Plastic Containers Landfill:

Product Care has recently established a recycling option for plastic pesticide containers. This management option is currently considered a pilot. Should this option prove to be not viable or sustainable, the alternative would be to landfill the plastic pesticide containers.

6.5.6 Summary and Targets

Table 8 provides a summary of the management options for residuals collected through the program. Figures are given for the 2011 calendar year as an example.

Table 8 – Summary of Management Options for Residuals and Containers Collected, 2011

| | Method | Example | Paint | Paint containers | Flammables | Pesticides | Gasoline |
|---|-----------------|--|-------------------------|-------------------------------|-----------------------------|----------------------------|--------------------------------------|
| 1 | Reuse | Given to a consumer in original condition through "paint exchange" | 2.1% | -- | -- | -- | -- |
| 2 | Recycling | Reprocessed as paint, used in concrete manufacture, cement manufacture | 100% of latex paint | 100% of metal containers | 100% of metal containers | 100% of plastic containers | 100% of metal and plastic containers |
| | | | | 100% of #2 plastic containers | | | |
| | | | | 51% of polypropylene cans | | | |
| 3 | Energy recovery | Fuel blending | 100% of oil based paint | 49% of polypropylene cans | 100% of flammable residuals | -- | 100% of residual gasoline |
| 4 | Disposal | Incineration | -- | -- | -- | 100% of residual pesticide | -- |
| 5 | Landfill | | -- | -- | | | -- |

2012-2016 Performance Measures and Targets:

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

- Percentage of collected paint reused and recycled (latex, oil-based and total)
- Number of paint depots offering paint exchange

- Percentage of program products and containers managed by recycling, energy recovery or disposal methods

Product Care’s targets for the management of residuals and containers collected are:

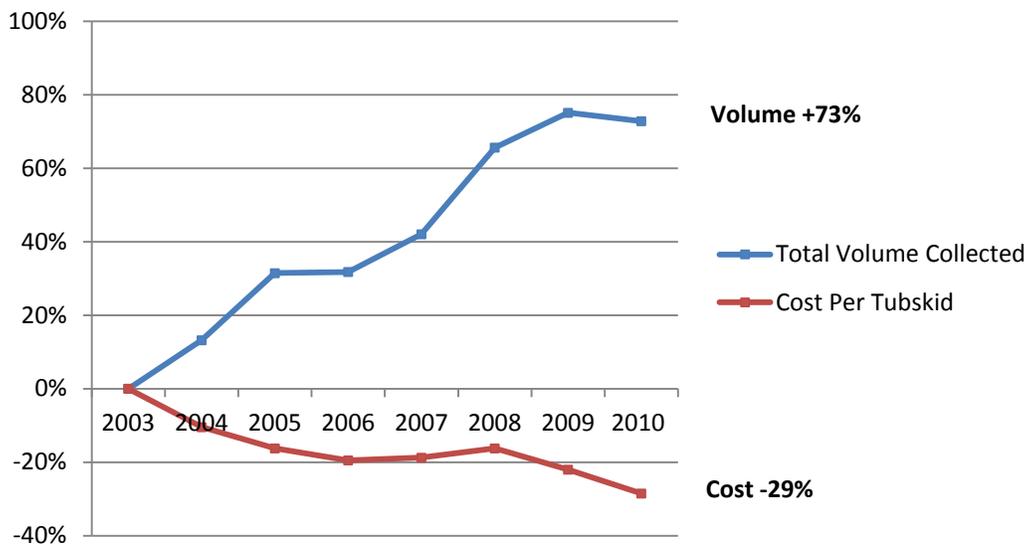
- Increase volume of paint being managed through reuse to 2.5% of paint collected by 2016.
- Maintain rate of 100% recycling of latex paint.
- Continue to look for options for the recycling of oil-based paint.
- Maintain rate of 100% recycling of metal and #2 plastic paint containers.
- Maintain rate of 100% of plastic and metal gasoline containers being recycled.

7. Management of Program Costs

Product Care pays all of the costs of collecting residual products, including those products sold before the program began. This cost is funded by eco-fees paid to Product Care by its members. The eco-fee may appear at the time of retail sale as a separate charge. Eco-fee rates are listed on the Product Care website at www.productcare.org.

While the volume of collected materials continues to increase, the cost of managing those materials has been decreasing on a per unit collected basis. Figure 6 compares the percent increase in volumes collected through the program (residual recovery volume) with the percent decrease in the annual cost of managing each “tubskid” of materials collected by the program. As the graph illustrates, the residual recovery volume collected by the program has increased by 73% from 2003 while the per-tubskid management cost has decreased 29%.

Figure 6, Percent Change in Residual Recovery Volume and Cost of Managing Tubskids, 2003-2010



Product Care also maintains a reserve fund between one and two years total revenue. This 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.

8. Dispute Resolution Process

Product Care contracts with all suppliers to its program using commercial agreements. All collection depots are contracted to the program using renewable agreements which provide for cancellation by either party on a pre-determined notice. Any disputes arising from collection or processing contracts would be resolved using normal commercial legal procedures.

9. Public Awareness

Product Care 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 include:

- **Program Website** – The BC Paint Plus website at www.productcare.org/BC-Paint-Program provides information to BC residents on:
 - Depot locations with details on hours of operation and products accepted
 - Description of products accepted by the program
 - Details on relevant eco-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** – Product care coordinates with other parties, such as Regional Districts, to establish links to the program’s website.
- **Reuse Websites** – To promote its paint exchange program, Product Care is listed on relevant Reuse sites such as *Surrey Reuses*, and others.
- **Point of Sale (PoS) Materials** – Program brochures and posters, as well as can-stickers, are regularly distributed to over 3,000 retailers. Orders are replenished upon request, free of charge, and materials are regularly updated.
- **Point of Return Materials** – Collection depots are offered program signage to display and counter cards to distribute to consumers
- **Stewardship Program Collaboration** – Product Care 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** - Product Care 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 Product Care programs and any other recycling questions. Product Care promotes the RCBC hotline number through its web page, on its signs, brochures, as well as Yellow Pages listings. The RCBC Hotline is open Monday through Friday from 9 am to 4 pm, and is accessible to all BC residents by a toll free telephone number (1-800-667-4321).
- **RCBC Recyclepedia** - Product Care collection sites are also listed in the RCBC Recyclepedia search engine <http://rcbc.bc.ca/recyclepedia>.

- **Local Government Partnerships**- Product Care works with municipalities and regional districts (RD) to promote the Product Care 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.
- **Community Events** – Participation in community events, including distribution of promotional materials, such as the City of Vancouver’s spring event at the Delta Landfill.
- **Dedicated Mailings**– Dedicated mailings to targeted groups such as trade painters are conducted to promote the program.
- **Ambassadors Program** – Participation in summer ambassadors program (2007 and 2011), including depot and retailer visits and promotional material distribution.

Consumer Awareness Levels:

Based on these efforts, consumer awareness of the program has been steadily increasing. In 2001, a MarkTrend survey commissioned by the program indicated that 49% of British Columbians were aware of a program in BC that accepts or collects leftover paint. By 2007, an IpsosReid survey commissioned by the program indicated that the awareness level had increased to 64%. In 2008, an IpsosReid survey commissioned by the BC Ministry of Environment indicated that 70% of British Columbians were very familiar or somewhat familiar with “how to go about recycling” paint.

In April 2011, an Angus McAllister survey indicated that 67% of British Columbians were aware of the existence of a program that recycles paint. For the other Product Care HHW products, awareness levels were 40% for flammable liquids, 36% for pesticides and 26% for waste gasoline. It is noteworthy that only 59% of respondents had leftover paint, 37% had flammable liquids in use or storage and 18% had domestic pesticides in use or storage. Consumer awareness levels of these programs, therefore, are higher than the portion of the population that actually have products for disposal. Product Care believes that awareness levels for these non-paint products will also increase over time, but it is anticipated that the awareness levels of the paint program will continue to exceed that of the other HHW products, due to greater public interest.

The 2006 stewardship plan targeted a 50% increase in consumer awareness levels in 2011 from 2007 but did not specify a baseline awareness level on which this increase would be based. The program proposes to establish targets for the 2012-2016 period that are based on a reference level of awareness.

2012-2016 Performance Measures and Targets:

The program will continue with each of the communications methods discussed above. The program will also focus more extensively on earned and bought media, and will participate more regularly in the summer ambassadors program or an equivalent program. Consumer awareness surveys will be conducted every two years, in 2013 and 2015, to track awareness levels and will be reported in the program’s annual reports. The program will target a total paint program awareness level of 71% by 2013 and 73% by 2015.

10. Performance Measures and Targets – Overview

This section provides an overview of the performance measures and targets committed to in the relevant sections of the plan for the years 2012-2016. The program's annual reports will provide an update on each performance measure and relevant targets.

10.1 Collection System

Performance Measures:

- Number of paint depots, paint plus depots and one day events

Targets:

- Annual increase of one new paint plus depots per year.

10.2 Management of Collected Materials

Performance Measures:

- Residual recovery volume collected for each product category
- Container recovery volume for each product category
- Number of tubskids collected in each regional district
- Recovery rate for each product category
- Percent of collected paint reused and recycled (latex, oil-based and total)
- Number of paint depots offering paint exchange
- Percent of program products and containers managed by recycling, energy recovery or disposal methods

Targets:

- Annual increase of 4% of total collected volumes (container capacity volume) for the paint product categories
- Annual increase of 4% of total collected volumes (container capacity volume) for the flammable liquids and pesticides category.
- Maintain annual pesticide collection volume to 2011 baseline (container capacity volume)
- Increase volume of paint being managed through reuse to 2.5% of paint collected by 2016.
- Maintain rate of 100% recycling of latex paint.
- Continue to look for options for the recycling of oil-based paint.
- Maintain rate of 100% recycling of metal and #2 plastic paint containers.
- Maintain rate of 100% of plastic and metal gasoline containers being recycled.

10.3 Consumer Awareness

Performance Measures:

- Percent of British Columbians aware of a program to collect and recycle program products

Targets:

- Total paint program awareness level of 71% by 2013 and 73% by 2015.

11. Public Consultation

A stakeholder consultation process was conducted in May and June, 2011 as a prerequisite to the filing of this plan with the BC Ministry of Environment. The consultation included:

- Web based consultation using the www.productcare.org website
- Email communication to stakeholders and notification through the RCBC member advisory service, as well as other organizations
- Regional consultations held in Kelowna, Prince George, Nanaimo and New Westminster, in conjunction with three other stewardship agencies
- A web-based conference call on June 1, 2011
- Written submission provided by stakeholders

Results of the consultation meetings are documented, summarized and included in Appendix B.

Appendix A – Program Members

The following list of program members is valid as of July 19, 2012.

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| 3M Company | Mac's Convenience Stores Inc |
| 7-Eleven Canada Inc | Martin & Associates Ind |
| Ace Hardware Corporation | Michaels Stores Inc |
| Acklands Grainger | Modern Sales Co-op-Auto Sense Parts |
| Acton Super-Save Gas Stations Ltd. | Mohawk Western Finishing Supplies |
| Agrium Advanced Technologies | Mopac Auto Supply Ltd. |
| Akzo Nobel Canada Inc | Mountain Equipment Co-op |
| Alexandra Moulding | Nissan Canada Inc. |
| Amway Canada Corp | Oatey Canada Supply Chain Services |
| Auto-Moto Canada INC | Parkland Fuel Corporation |
| B & C Auto Detail Supply Ltd. | Peavey Industries Ltd. |
| Behr Process Corp. | Peinture Laurentide Inc |
| Benjamin Moore & Co. Ltd. | Peintures MF Paints |
| Brock White Construction Materials | Permatex Canada Inc. |
| Calibre Environmental | Plasti Kote Inc. (Valspar) |
| Canada Safeway Ltd. | Polymer Science Corp. |
| Canadian Tire | PPG Canada Inc. |
| Cansel Survey Equipment | Premier Tech Home & Garden |
| Cdn Building Restoration Prod. | Princess Auto Ltd. |
| CGC Inc | Pro Form Products Limited |
| Chalifour Canada | Produits de Plancher Finitec Inc |
| Chevron Canada Limited | Qualichem Industrial Products Ltd. |
| Chrysler Canada Inc. | R. Cameron Industries Ltd. |
| Cloverdale Paint Inc. | R.W. Packaging Ltd. |
| Coast Fiber-Tek Products Ltd. | Radiator Specialty Co. of Canada |
| Commerical Solutions Inc | Reckitt Benckiser (Canada) Inc. |
| Complementary Coatings Corp | Recochem (B.C.) Inc. |
| Consolidated Coatings Corporation | Richelieu Hardware |
| Costco Wholesale | Rona Halifax (4434901 Canada Inc.) |
| CRC Canada Inc. | Rona Revy Inc |
| Denalt Paints | Rudd Company, Inc. |
| Domo Gasoline Corporation Ltd. | Rust-Oleum Consumer Brands |
| Ducan Sales Inc. | S.C. Johnson & Son, Limited |
| Duckback Products | Saman(3777472 Canada Inc.) |
| Dynamic Paint Products Inc. | Sansin Corporation |
| E.B. Peerless | Schwartz Chemicals |
| Elmer's Products Canada Inc | Scott-Bathgate Ltd. |
| Fabrikem Manufacturing Ltd. | Scotts Canada Ltd. |
| Farrow & Ball | Selectone Paints Limited |

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| <p>Federated Co-operatives Limited Fibre Glass-Evercoat Co. of Cda Finning Canada Ford Motor Company of Canada Forrest Paint Co. General Motors Corporation General Paint Corp. Gregg Distributors (B.C.) Ltd. GTC Industries Ltd. Guillevin International Inc. Henkel Cda Corp. Consumer Adhesives Henry Company, Canada, Inc Homax Products Home Hardware Hudson's Bay Company Inc. (HBC) Husky Oil Marketing Company IKEA Canada Imperial Oil - Gasoline Stations Imperial Oil - Solvents Industries Pepin Limitee Innovative Manufacturing Interlakes Distribution Ltd. IRL Supplies Ltd ISL Equipment J & R Home Products Ltd. JIG-A-LOO Canada Inc. Kamloops Paint & Wallpaper Inc. Kent Building Supplies K-G Spray-Pak Inc King Home & Garden Inc. Kleen-Flo Tumbler Industries Ltd. Laurentide re-sources Inc Les Produits Techni-Seal Inc. Liquidation World Inc. Loblaw Companies Ltd Lowe's Companies Canada ULC LPS Canada - Division of LPS Laboratories M G Chemicals Ltd. Macandale's Rentals Ltd</p> | <p>Seymour of Sycamore Inc. Shell Canada Products Ltd. Sherwin-Williams Co Shrader Canada Limited Sika Canada Suncor Canada Suzuki Canada Inc. Swing Paint Tesco Trading Co. The Flood Company of Canada The Home Depot Canada The North West Company LP Timber Pro Coatings Ltd. Toyota Canada Inc. Trinitec Distribution Inc. TruServ. Canada Inc. United Petroleum Products Inc. Valley Traffic Systems Inc. Vancouver Island Colormart Volkswagen Canada Inc. WalMart Canada WD-40 Products (Canada) Ltd. West Wind Hardwood Inc Westec Distributors Inc. Western Equipment Ltd Western Grocers Ltd. Wood Essence Distributing Xim Products Inc</p> |
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Appendix B – Summary of Consultations

Feedback received at the consultation events and via email is summarized in the table below. The left-hand column outlines the specific question or comment and the right-hand column outlines the applicable response.

| Comment:* | Response: |
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| Program Products: | |
| The program should expand its operations to include other types of hazardous waste outlined in the Canada-wide Action Plan for EPR, including pressurized containers, fertilizers, corrosives, environmentally hazardous materials etc. Producers of these products should be engaged to get ahead of the regulatory curve. | Product Care will consider the adoption of additional hazardous waste products if and when they are regulated in BC. Product care continues to liaise with the BC Ministry of Environment and applicable producers on this issue. |
| Collection System: | |
| Strong support for commitment to increase the number of collection sites on an annual basis. | A large number of paint depots were added to the program in 2011 after the program consultation had been completed. |
| Additional collection sites should be added in the City of Vancouver. | The City of Vancouver continues to be a challenging area in which to site depots, however two new paint depots were added to the program in 2011 after the program consultation had been completed |
| The word “minimum” should be added to the proposed collection site targets. | The word minimum was added to the proposed paint plus depot target in response to this suggestion. |
| How will collection points be compensated for collecting program products? (3) Collection points should be fairly compensated for their services and the program should not rely on voluntary partners. (1) | The program enters into a contract with all collection sites, requiring appropriate service levels etc., and notice periods in case of discontinuation of service. An increasing number of Product Care collection sites are retailers, which many consumers find to be a convenient option. Compensation is determined between the program and the collection site. |
| Every retail store that sells program products should be required to accept them for return. (1) | An increasing number of Product Care collection sites are retailers, which many consumers find to be a convenient option; however it is the choice of the retailer to participate in this way. The program is not able to require retailers to participate as collection site.. |
| Regional Districts should be compensated for managing program products that end up in regional landfills. (1) | The program’s aim is to create and operate an accessible collection network for program products and a communication strategy to inform consumers of the program. It is the action of the consumer that causes the products to end up in landfill. Product Care participates in waste audits to determine the degree to which this occurs. There is also a role for local governments to have landfill bans for stewardship products, and to communicate and enforce that policy. |

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| <p>The public wants “one stop shops” so that all the materials they have can be dropped off in one location. (1)</p> | <p>Product Care’s collection system consists primarily of retailers, local government and private businesses (including bottle depots). For some consumers convenience is “one stop” and for others it is “return to retail”. Local governments and bottle depots tend to be multi-product collection sites. The program will continue to explore opportunities to work with collection points that are accepting a range of products and materials from the public.</p> |
| <p>Will there be limits on how many program products a consumer can drop off at once? (1)</p> | <p>The application of return limits is generally at the instance of the collection site, and adequate to cover the needs of the vast majority of consumers who are returning products. The purpose of the return limits is generally to enable the collection sites to serve the greatest number of consumers by having available collection container space. The program does identify specific locations able to accept large volumes, and also provides direct pick up service.</p> |
| <p>An adequate number of drop-off facilities are required in rural communities. Service levels should be based on population centres. (2)</p> | <p>The program aims to provide reasonable levels of access to all British Columbians, including those living in rural communities. The program participates in a number of one day collection events for this purpose. The program continues to meet with the Product Stewardship Council to identify solutions to this issue.</p> |
| <p>Product Life Cycle:</p> | |
| <p>The program should include commitments to work with local governments to develop appropriate targets related to sewerage and storm water systems, and to include these messages in communications campaigns.</p> | <p>An important part of the program’s consumer messaging is to return liquid program products to collection sites, and to keep them out of waterways.</p> |
| <p>Section 6.4 should include commitments and performance measures/targets.</p> | <p>A commitment to report on efforts of individual producers to reduce the environmental impact and increases recyclability of their products and packaging has been added.</p> |
| <p>The program should commit to offer financial incentives to support local paint reproducers and stimulate market demand.</p> | <p>The program directly manages the collected paint, sorting it by type and quality and colour and bulking it into shipping containers at significant cost. The program contracts with a number of downstream businesses that utilize this semi-processed product, including local suppliers, who have the required marketing expertise. The program does not considers that it would be useful to provide incentives beyond the cost of semi-processing and the payments already made to vendors.</p> |
| <p>Plastic containers that must be landfilled should be phased out by an established target date.</p> | <p>The program was successful in finding a recycling option for pesticide containers in 2011.</p> |
| <p>Processing:</p> | |
| <p>The program should commit to reporting consistently on how packaging is managed.</p> | <p>The program’s annual reports will provide details on how program packaging was managed on an annual basis.</p> |
| <p>The program should provide further details on the recycling of latex paint, including the percentage that was recycled into paint compared to concrete/cement.</p> | <p>The program will provide more information about the paint recycling options. Due to the limited number of options and vendors, the program prefers not to publish percentage breakdown for different methods.</p> |
| <p>With the recent addition of packaging and</p> | <p>Product Care will work with new stewardship agencies formed to</p> |

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| printed materials to the Recycling Regulation, the program should develop procedures to collect and recycle residuals packaging, including empty containers. | manage packaging to ensure all related packaging is captured by an applicable program. |
| Consumer Awareness: | |
| Consumer awareness targets should be set for pesticides, flammable liquids and gasoline, given that awareness for these products is lower than paint. | The program acknowledges that awareness levels for these products are lower than for paint for example, however this relates at least in part to the relatively small quantities of these products, and the different nature of the products, ie. they are not intuitively “grouped” by consumers as a product category. Fewer people were aware of the program, but also fewer had the need to use the program. As Product Care adds products and programs it will endeavour to build greater awareness of the “suite” of products managed. |
| The necessary resources should be devoted to earned and bought media to advertise the program and the program should also explore social media tools. | The plan outlines a commitment to devote more resources to earned and bought media, and will explore social media tools that could be used to promote the program. |
| The program should work with other stewardship agencies in BC to develop promotional materials aimed at the general public. | This is underway, and the program will continue to work with other stewardship agencies and will explore opportunities to develop common promotional materials. |
| Point-of-sale promotional materials should be required to be displayed at any retail store selling program products. (1) | The program will work with retail partners to assist in the promotion of the program, including the display of point-of-sale materials. Ultimately, the program is not able to require retailers to participate in this way. |
| Incentives like deposits and coupons should be used to boost return rates. (1) | While specific incentives like deposits and coupons are not being considered at this time, the program will monitor return rates over time and adjust its strategy accordingly. |
| Stickers placed on the packaging of program products could be used to advertise the program. (1) | The program does supply stickers to be applied to paint containers at time of sale. However other products are not individually handled by store personnel in the same way as paint containers. The program will continue to explore this option. |
| The plan should include a commitment to advertising the program in newspapers (2) and partner with Metro Vancouver Recycles (1). | The program has advertised in newspapers and will continue to do so, as well as other media. The program will work with Metro Vancouver to ensure the program’s collection sites are listed. |
| The program should not rely on voluntary partners (regional districts, fire halls etc.) to advertise the program. (1) | The program will partner with organizations and companies that have an interest in assisting in the promotion of the program. These partnerships remain voluntary for outside parties and will not represent the entirety of the program’s communication strategy. |
| Performance Measures: | |
| The plan should include a commitment to work with local governments to research the problem of abandoned paint and hazardous waste, and develop a strategy to address this issue. | The program is committed to working with local governments and other stewardship agencies to better understand the problem of abandoned waste and explore opportunities to address this issue. |

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| Performance measures and targets should be developed in relation to abandoned waste. | |
| Waste composition studies/audits should be used to track program performance. (2) | The program participates in waste audits, and will consider the utilization of the waste audit results as a performance indicator; however the quantity of program products recovered may not be statistically significant. |
| The number of units collected annually should be compared to the number of demo/renovation permits in that year. This would put the number of units collected in context and could be used by stakeholders to gage the program's performance. (1) | The program will study how this option could be used to assist in measuring the performance of the program. |

*Number in brackets refers to the number of times the issue was raised