EPR AND STEWARDSHIP MODEL REVIEW AND ANALYSIS

Final Report
September 25, 2013

Client: Halifax Regional Municipality

Project Number: 13-7510

Project Manager: Sarah Devereaux, M.Eng., P.Eng.

Submitted by
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September 25, 2013

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Attention: Ms. Laurie Lewis
Diversion Planning Coordinator

Subject: Final Report on EPR and Stewardship Model Review and Analysis

Dear Ms. Lewis:

We are pleased to submit this Final Report for the review and analysis of Extended Producer Responsibility (EPR) and Stewardship Models. This report includes summaries of existing programs within Nova Scotia and existing and future Canadian programs of interest to HRM. Through our sub-consultant, BIO Intelligence Service, we have included a European perspective on EPR and stewardship programs.

We thank you for the opportunity to work with you on this very timely study.

Yours truly,

DILLON CONSULTING LIMITED

Sarah Devereaux, M.Eng., P.Eng., FEC
Project Manager

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EXECUTIVE SUMMARY

Nova Scotia is considered to be a pioneer in waste diversion. The province set an aggressive target to reduce the per capita disposal rate to 300 kg/person by 2015. Regulated stewardship programs have been in-place since 1996 and expansion into other material streams (e.g., paint, household hazardous waste (HHW)) has occurred over time, in most cases involving some form of Extended Producer Responsibility (EPR). Complementing the existing EPR and stewardship programs, established municipal curbside recycling programs are in place that provide residents with a convenient way to recycle printed paper and packaging (newspapers, steel cans, plastic containers, cardboard, beverage containers).

Other Canadian jurisdictions are beginning to develop or modify programs similar to those in Nova Scotia (e.g., paint, HHW, electronic waste) and are expanding beyond to cover other material streams (e.g., printed paper and packaging (PPP), small appliances, mercury-containing lights, pesticides and flammable liquids). Industry-funded programs are becoming more prevalent in central and western Canada.

Halifax Regional Municipality (HRM) is interested in assisting the Province in expanding and exploring new EPR programs, particularly those that recognize the role of municipal governments, given that municipalities collect and process the majority of waste in Nova Scotia. Curbside collection programs are well established and offer the most convenience to residents which drive higher participation and recovery rates and therefore decreased disposal rates. The objective of the EPR and Stewardship Model Review and Analysis is to review the programs currently being implemented in other jurisdictions to determine alternatives that are most applicable to the Nova Scotia and HRM context.

The evaluation of the EPR programs was conducted through a number of different steps as there are a number of components of an EPR program to be considered. Firstly, a questionnaire was prepared to solicit relevant information from EPR stakeholders. Different methods were used to solicit answers to the questionnaire which included online research, review of legislation and available stewardship program plans and phone calls to EPR stakeholders (e.g., stewardship agencies, municipalities, federal government). The questionnaire was populated for HHW, mercury-containing lights and PPP. Summaries of the focused research on specific aspects of the beverage container programs and the analysis on the European perspective are also provided.

Based on the research, the trends indicate that industry stewards are taking on a greater share of responsibility for the recycling of their products. Nova Scotia has an established depot collection system (e.g., ENVIRO-DEPOTS^{TM}) that currently accepts refundable containers and used paint. This depot network could potentially be expanded to accept other products. Introduction of new and modification of existing programs will likely require regulatory changes, extensive stakeholder consultation, establishment of collection and processing systems and identification of end markets. It is expected that significant time and effort would be required for the planning of expansion of these programs.

The findings from the study allowed for the identification of both potential enhancements/refinements to existing programs and new EPR and stewardship programs for consideration in Nova Scotia. These opportunities include:

- Include paint containers in Product Care's HHW program.
- Research processing capacity and end markets within or near Nova Scotia to manage HHW and mercury-containing products generated from residential and/or IC&I sectors.
- Assess the existing depot network and retail stores to determine potential for expansion and interest to participate in expanded services.
- Conduct consultation with relevant stakeholders.
- Designate other HHW as stewarded material under the Solid Waste-Resource Management Regulations and expand Product Care program.
- Designate lights and/or lighting products as stewarded material under the Solid Waste-Resource Management Regulations.
- Monitor the implementation of new PPP EPR programs in British Columbia and Ontario and work with Province and/or other Atlantic provinces to develop a PPP EPR program.
- Monitor curbside collection of PPP integrated with EPR.
- Consider expansion of depot network (or return-to-retail) for separate collection of polyethylene film and/or polystyrene foam.
- Potential changes to the beverage container program could include:
    - Keep the deposit-refund system and retain or revise fees.
    - Revise the compensation formula with respect to funding that municipalities receive from the RRFB.
    - Keep the deposit-refund system and introduce non-refundable environmental handling fees, as in several other jurisdictions.
    - Eliminate the deposit refund system and transition beverage container collection to curbside, with or without an environmental handling fee.
    - Review potential approaches to improve collection at 'away-from-home' locations (e.g., at public spaces, institutions, etc.).
    - Introduce a partial or full industry-funded program for PPP.

DEFINITIONS

Brand Owners: a person who (a) manufactures the item in the province and sells, offers for sale or distributes in that province; (b) is the owner or licensee in the province of a registered or unregistered trademark under which the item is sold, offered for sale, or distributed; or (c) brings paint into the province for sale or distribution.

Canada-wide Action Plan for EPR: prepared by the Canadian Council of Ministers of the Environment (CCME) in October 2009; aims to increase diversion and recycling of municipal solid waste by better coordinating provincial EPR programs and by extending the application of the principle of EPR as a part of Canadian waste policy.

Collective organization: also referred to as producer responsibility organization; designated by producers or through legislation, after which the organization becomes responsible for meeting the recovery and recycling obligations of individual producers. They arrange for the collection, transportation, and environmentally sound recycling or disposal of end-of-life products at different collection sites across the jurisdiction.

Environmental Goals and Sustainable Prosperity Act (EGSPA): 2007 legislation with an objective for Nova Scotia to achieve international recognition for having one of the cleanest and most sustainable environments in the world by 2020. One of the 21 goals of the Act is that the solid waste disposal rate will be no greater than 300 kilograms per person per year by 2015 through development of new programs and product stewardship regulations.

Electronic-waste (E-waste): electronic products that have reached the end of their useful life. Schedule B of the Nova Scotia Waste-Resource Management Regulations includes designated materials that are electronic products: televisions; computers and their components and peripherals; audio/video playback and recording systems; telephones and fax machines; and cell phones and other wireless devices.

Extended Producer Responsibility (EPR): is a policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life cycle.

Green Dot Program: European program whereby producers of packaging material financially contribute to the cost of recovery and recycling. Green Dot symbol appears on products and represents that the producer participates in the program and complies with the European Commission Packaging Waste Directive.

Individual EPR: Producer bears an individual financial responsibility when that producer pays for the end-of-life management of its own products.

Invisible Fee: Fees included in the cost of a product but not listed on the consumer's receipt.

Mandatory Stewardship Program: EPR Programs that are made mandatory through legislation (*Environment Canada*).

Printed Paper and Packaging (PPP): Printed Paper is defined as all types of paper (regardless of fiber source) provided to the consumer, mailed to the consumer, or purchased by the consumer. Packaging is defined as any combination of paper, glass, metal, or plastics used for the containment, protection, handling, delivery, and presentation of products that are supplied to the consumer.

Producer Responsibility Organization (PRO): usually a not-for-profit organization or an industry association; is the entity designated by a producer or producers to act on their behalf to administer an extended producer responsibility or product stewardship program. In Canada, a PRO may also be referred to as a "stewardship organization," an "industry funding organization" or a "delegated administrative organization".

Product Stewardship: product stewardship initiatives are end-of-life management programs for designated products, in which producers (i.e. brand owners, importers or manufacturers) are neither directly responsible for program funding or operations; programs financed through public funds or through revenues generated by legislated fees at the point of sales.

Resource Recovery Fund Board (RRFB): Resource Recovery Fund Board Inc. (RRFB Nova Scotia) is a non-profit corporation working in partnership with Nova Scotians to improve the province's environment, economy and quality of life by reducing, reusing, recycling and recovering resources.

Visible Fee: Fees charged at the retail level and shown on the consumer's receipt (*BC MOE*).

Voluntary Stewardship Program: EPR Programs that are voluntarily adapted (*Environment Canada*).

ABBREVIATIONS AND ACRONYMS

Acronym	Meaning
ACES	Atlantic Canada Electronics Stewardship
AMO	Association of Municipalities of Ontario
BDL	Brewers Distributors Ltd
BIO	BIO Intelligence Services
CBCRA	Canadian Beverage Container Recycling Association
CCME	Canadian Council of Ministers of the Environment
CFL	Compact Fluorescent lights
CIF	Continuous Improvement Fund
COTREP	French Technical Committee for the Recycling of Plastic Packaging
CRF	Container Recycling Fees
CWTA	Canadian Wireless and Telecommunications Association
DBBW	Designated Blue Box Waste
ECO	Environmental Commissioner of Ontario
EGSPA	Environmental Goals and Sustainable Prosperity Act
EHC	Environmental Handling Charge
EHF	Environmental Handling Fees
ELIPSO	professional association representing producers of plastic and flexible packaging
EPR	Extended Producer Responsibility
g	Gram
HHW	Household Hazardous Waste
HID	High-Intensity Discharge
HRM	Halifax Regional Municipality
IC&I	Industrial, Commercial and Institutional
IFO	Industry Funding Organizations
IWMC	Island Waste Management Corporation
kg	Kilogram
L	Litre
LCBO	Liquor Control Board of Ontario
LDPE	Low-density polyethylene
LED	Light Emitting diodes
MHSW	Municipal Hazardous and Special Waste
ml	Millilitre
MMBC	Multi-Materials British Columbia
MMSB	Multi-Materials Stewardship Board
MMSB	Multi Materials Stewardship Board (Newfoundland and Labrador)
MMSM	Multi-Materials Stewardship Manitoba
MMSW	Multi-Material Stewardship Western (Saskatchewan)
MOE	Ministry of the Environment

Acronym	Meaning
MRF	Material Recovery Facility
MWA	Municipal Waste Association
ODRP	Ontario Deposit Return Program
OECD	Organisation for Economic Co-operation and Development
OWMA	Ontario Waste Management Association
PEI	Prince Edward Island
PET	Polyethylene terephthalate
PIM	Pay-in Model
PPP	Printed Paper and Packaging
PRO	Producer Responsibility Organization
RCO	Recycling Council of Ontario
REOI	Request for Expressions of Interest
RFP	Request for Proposal
RIAS	Regulatory Impact Analysis Statement
RPWCO	Regional Public Works Commissioners of Ontario
RRFB	Resource Recovery Fund Board
SARC	Saskatchewan Association of Rehabilitation Centres
SARCAN	Recycling organization founded by SARC
TBS	The Beer Store
UHP	Ultra High Performance
WDA	Waste Diversion Act
WDO	Waste Diversion Ontario
WEEE	Waste Electronics and Electronic Equipment
WRA	Waste Reduction Authority
WRS	Waste Recycling Strategy

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1. INTRODUCTION

The Halifax Regional Municipality (HRM) is a recognized leader in delivering successful waste management programs to encourage residents to reduce, reuse and recycle the waste they generate. Like other municipalities in Nova Scotia, HRM delivers the majority of waste management programs and funds the programs primarily through municipal taxes even though taxpayers and HRM have little to no control over the recyclability of wastes they generate or manage.

The Nova Scotia government started to ban designated materials from disposal in 1996 (e.g., beverage containers, newsprint, lead-acid batteries, leaf and yard waste) until 2009 (e.g., cell phones, audio and video playback and recording systems). It is expected that additional bans will be forthcoming (e.g., select construction and demolition debris). To further motivate municipalities to divert material, the Environmental Goals and Sustainable Prosperity Act (EGSPA) established a target to reduce the quantity of waste disposed to 300 kg per capita by 2015. It is expected that the implementation of product stewardship programs will be necessary to help achieve that goal.

Extended Producer Responsibility (EPR) involves shifting the responsibility of waste management programs from the municipal taxpayers to the companies that produce the product/waste. Nova Scotia currently has different types of stewardship programs for a select group of materials (e.g., milk containers, newspapers, telephone directories, electronic waste (e-waste) and paint). Some of these programs acknowledge and compensate municipalities for their contribution to recovering the materials (e.g., curbside collection, municipal collection facilities) but in most cases, the amount is not sufficient to cover the cost of managing the materials. In addition, the current programs cover only a small proportion of the municipal waste stream.

The federal government has been in discussion for some time about developing national programs for select materials including packaging and mercury-containing lamps, lights and fixtures. While waiting for a national program, some provinces have moved forward with their own extended producer responsibility (EPR) programs.

HRM is interested in assisting the Province in expanding and exploring new EPR programs, particularly those that recognize the role of municipal governments, given that municipalities collect and process the majority of waste in Nova Scotia. Curbside collection programs are well established and offer convenience to residents which drives higher participation and recovery rates and therefore decreased disposal rates.

1.1. Scope and Objectives

The review of EPR and product stewardship programs is a timely subject area as some jurisdictions are actively seeking to drive change in the way waste is managed and financed and push more responsibility for the costs associated with waste disposal to the companies that produce the products/waste. EPR and product stewardship programs vary across the country in terms of type of program, materials managed, financing, operational logistics (e.g., drop-off depots, return to retail, curbside collection), among others. HRM is seeking to find components of EPR that are most applicable to municipalities in Nova Scotia; that recognize existing municipal collection and processing systems; and ensure the maximum benefit from revenues generated goes towards municipal recovery and processing programs.

Dillon Consulting Limited (Dillon) was tasked with conducting a jurisdictional review of EPR programs across Canada and then reviewing relevant European programs with the assistance of BIO Intelligence Services (BIO). The objectives were further refined following the Project Initiation Meeting to focus on the following materials of particular interest and priority to HRM:

- *Existing stewardship programs in Nova Scotia*
- *HHW under Product Care*
- *Mercury-containing lights*
- *Printed Paper and Packaging*
- *Beverage Containers*

The initial review involved considering the elements of existing and future Canadian programs that are of interest to HRM and then evaluating similar examples in Europe. The European review focused on: 1) researching France's EPR programs for packaging and furniture, 2) identifying programs that incentivise producers to use readily accessible, easy to handle and marketable packaging materials, and 3) describing programs/initiatives to manage glass and plastic film.

2. APPROACH

The evaluation of the EPR programs was conducted through a number of different steps as there are a number of components of an EPR program to be considered. The first step in conducting the review was to prepare a questionnaire for EPR stakeholders that contained the necessary questions to solicit relevant information. The questions covered demographics, collection, processing, funding models, reporting and administration requirements, level of municipal involvement and future plans. The draft questionnaire was prepared and reviewed by HRM. Following HRM staff review and a project team meeting, the questionnaire was revised and finalized. A copy of the questionnaire is provided in *Appendix A*.

Different methods were used to solicit answers to the questionnaire which are summarized in *Table 1*. Regulations and the majority of stewardship program plans were readily accessible from online sources. However, many regulations and program plans did not include information or direction on the relationship towards municipalities. Due to the specific interest on this linkage for HRM, calls were made directly to Product Care, regulators (e.g., Environment Canada) and select municipalities to acquire the additional detail. As many of the programs are relatively new, there was no information on quantities managed and recovery rates in some jurisdictions.

The questionnaire was populated for HHW, mercury-containing lights and PPP. The research for beverage containers and the European perspective was more focused so textual summaries were provided instead of populating the detailed spreadsheet. A list of the online and individual references is provided in *Section 8*.

Table 1: Methods Used to Solicit Information

Nova Scotia Programs	HHW under Product Care	Mercury-Containing Lights under Product Care	Printed Paper and Packaging (PPP)	Beverage Containers (included under PPP program in some cases)
o Online research o Review of program plans o Review of relevant provincial regulations	o Online research o Review of program plans o Review of relevant regulations o Phone calls with Product Care o Phone calls with select municipalities	o Online research o Review of program plans o Review of relevant provincial and federal regulations o Phone calls with Product Care o Phone calls with Environment Canada	o Online research o Review of MMBC program plan and draft Ontario Waste Reduction Strategy o Review of relevant regulations (both current and proposed) o Phone calls with select municipalities o Participation in MMBC webinar	o Online research o Review of various programs plans and annual reports o Review of relevant regulations

3. CURRENT OPERATING ENVIRONMENT

3.1. Nova Scotia Regulations and Programs

The first task involved reviewing existing documents and websites related to waste management in the Province of Nova Scotia. A description of each document is provided below. Online references to the documents are provided in *Section 8*.

3.1.1. Solid Waste Strategy – Our Path Forward

In 2011, the Province released *Our Path Forward: Building on the Success of Nova Scotia's Solid Waste Resource Management Strategy* which provides direction on how Nova Scotia can maintain its place as a leader in solid waste management and how to meet the waste disposal target of 300 kg/person/year by 2015.

The idea of polluter-pays, stewardship and sharing responsibilities is referenced in the 1995 *Environment Act*. In 2009, stakeholder consultations were completed as part of the *Our Path Forward* and stakeholders reaffirmed the importance that producers and consumers must pay for recycling and disposal costs. From the stakeholder consultations, *Our Path Forward* developed the following six goals:

- Goal 1 – Increase participation in waste prevention and diversion;
- Goal 2 – Improve compliance and education programs;
- Goal 3 – Increase waste diversion;
- Goal 4 – Increase cost effectiveness of diversion programs;
- Goal 5 – Increase producer responsibility for end-of-life management of products and materials; and
- Goal 6 – Increase diversion of construction and demolition waste.

This study supports the fifth goal by identifying ways to increase producer responsibility for materials currently managed by municipalities. In 2009, Nova Scotia endorsed the Canadian Council of Ministers of the Environment (CCME) Canada-wide Action Plan for EPR.

Our Path Forward stated that the government of Nova Scotia will ensure that the regulatory environment supports product

CCME Canada-wide Action Plan – Principles of EPR

- Encourage producers to design products to minimize the impacts to the environment and human health
- Transfer end-of-life responsibility for waste products or materials from taxpayers to producers and importers
- Give government the responsibility for setting performance targets, creating a level playing field for producers and importers, and ensuring public has free and open access
- Give producers and importers the responsibility for program design, operation, and funding

stewardship and will develop an EPR Action Plan. This would be completed by reviewing existing stewardship/EPR programs, identifying which materials could be managed under the EPR model, identifying an implementation plan for materials identified in Phase 1 of the CCME Canada-wide Action Plan on EPR (packaging, printed materials, mercury-containing lamps and other mercury-containing products, e-waste, HHW and automotive products) and developing a framework for product stewardship including EPR.

3.1.2. Solid Waste-Resource Management Regulations

In February 1996, Nova Scotia passed the Solid Waste-Resource Management Regulations. The regulations cover solid waste reduction (e.g., resource recovery, industry stewardship), disposal (e.g., bans, regulated activities), requirements for regional waste-resource management plans and financial assistance.

Clauses 4 to 11 relate to the Resource Recovery Fund Board (RRFB). The RRFB administers the Resource Recovery Fund, and it has a five-part mandate:

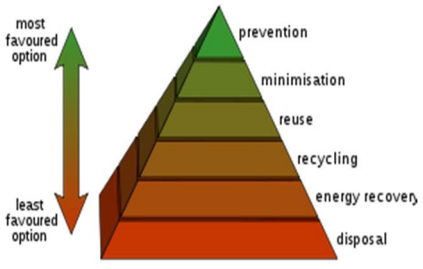
a) to develop and implement industry stewardship programs;
b) to fund municipal or regional diversion programs;
c) to develop and operate a deposit-refund system for beverage containers
d) to develop education and awareness of source reduction, reuse, recycling and composting; and
e) to promote the development of value-added manufacturing in the Province.

A minimum of 50% of the net revenues from the fund is to be divided among municipalities or regions based on their waste diversion achievements.

Clauses 12 to 18 cover industry stewardship programs for designated materials including beverage containers, used tires, consumer paint products and electronic products. The Regulations provide direction and requirements for brand owners, including registration, annual reporting, collection facilities (e.g., retail, depots), promotion and education and environmental targets.

3.1.3. Electronic Waste Stewardship Plan

Through the Solid Waste Resource Management Regulations certain e-waste (e.g., TVs, computers, printers) was banned from disposal in 2008. In 2009, more e-waste was added to the disposal ban (e.g., telephones, cell phones, recording systems).



The Electronic Waste Stewardship Plan is an example of a full EPR program whereby brand owners are responsible for the collection, transportation, reuse and recycling of electronic products and, if required, disposal of residual components. The principles of pollution prevention hierarchy are incorporated as disposal is

replaced with reuse and recycling. The Atlantic Canada Electronics Stewardship (ACES) and Electronic Products Recycling Association (EPRA), industry associations, are responsible for the development and implementation of the program. The program transitioned to EPRA in August 2012. Although this program has been in place for some time, some e-waste still ends up in municipal waste streams.

3.1.4. Nova Scotia Product Stewardship and EPR Programs

This section provides a summary of EPR and stewardship programs in Nova Scotia (both provincial and national programs), including the program type, name, materials managed and category (*Table 2*). Programs are grouped into two categories:

1. Regulated – The Nova Scotia Solid Waste-Resource Management Regulations includes a list of designated materials and requires that an industry stewardship program be in place for these materials. Stewardship of other materials may be subject to other regulations.
2. Voluntary – Stewardship program operated with or without an agreement between various parties, but without regulatory requirements.

Table 2: Summary of Existing Stewardship and EPR Programs in Nova Scotia

Program Type	Program and Organization Names	Materials Managed	Category of Program	Collection	Funding Model
Beverage Containers	Deposit-Return	Most ready-to-serve beverage containers, with some exceptions (e.g. milk containers managed through separate Nova Scotia Milk Packaging Stewardship Agreement)	Regulated	Drop-off at network of over 80 Enviro-Depots™. Municipal curbside collection	Deposit-Return program. Consumers pay a deposit at point of purchase and receive half of it back when return containers to Enviro-Depots™ ("Half-back" model). $0.10 or $0.20 deposit, depending on container size Beer industry funds refillable bottle collection – full refund received for this product. Municipalities are compensated for handling and storing beverage containers collected at the curbside, and send these containers through the RRFB system. At least 50% of RRFB net revenues provided to the municipal regions in the form of diversion credits to help with diversion programs. HRM noted that in 2013 the funding formula was modified, with less funding available to municipalities. The available funding was reduced by approximately 40%.
Electronics	Atlantic Canada Electronics Stewardship (ACES) Transition to the Electronic Products Recycling Association (EPRA) in August 2012.	Electronics, including TVs, computer monitors and peripherals, printers, scanners, audio video playback and recording systems, telephone and fax machines	Regulated	Drop-off centres (approximately 40 centres). Various collection events	Funded by industry stewards through an Environmental Handling Fee (EHF) that varies among electronic products. The EHF is visible to consumers. This is an industry-led program and EPRA manages the funds. RRFB may provide some services to EPRA through an agreement. Municipalities may be compensated if acting as a collection point. In HRM, e-waste set out at the curbside is tagged by collectors to inform residents that it is not acceptable for landfill. No compensation for the labour time to tag e-waste is provided to any municipalities. The process does not allow for capture of e-waste at landfill which may result in e-waste going into landfill
	Recycle My Cell Canadian Wireless and Telecommunications Association (CWTA)	Cell phones	Regulated	Return-to-retail, municipal and educational facilities, mail-back program.	Various brand owners represented by the CWTA. No fees charged to consumers recycling mobile devices. Financial reporting is not made public.

Program Type	Program and Organization Names	Materials Managed	Category of Program	Collection	Funding Model
Paint	Paint Recycling Program Resource Recovery Fund Board (RRFB)/Product Care	Nova Scotia Paint Recycling Program accepts most household paints and all paint aerosols.	Regulated	Enviro-Depots™ Various collection events	Funded by recycling fees remitted to Product Care for every container Municipalities are compensated for acting as collection points (e.g. HHW Depot), through a handling fee. 18 municipal collection facilities as of June 30, 2012 (date of Product Care Program Plan). Product Care contracts directly with ENVIRO-DEPOTS™
Tires	Used Tire Management Program Resource Recovery Fund Board (RRFB)	Used Tire Management program accepts various sizes of passenger and truck tires.	Regulated	Tire retailers are required to accept up to four tires. RRFB arranges collection from retailers, salvage yards and designated municipal facilities.	Distributors and retailers of certain tires must collect an Environmental Handling Fee (EHF) at point of purchase. RRFB collects the fees and manages the stewardship program. Municipalities may segregate any used tires received at landfill and contact RRFB to arrange transport at no cost however they do not receive compensation for segregation/handling.
Used Oil	Used Oil Return program	According to the Used Oil Regulations (Section 84 of the *Environment Act*), every seller of crankcase oil shall provide a used oil return facility at the seller's premises or contract with a person who operates a used oil return facility located within 5 km of the seller's premises.	Regulated	Retailers or depots.	Used oil is returned to HHW facilities and is managed by municipalities. Municipalities are not provided with additional funding to manage the used oil. There is no stewardship agreement and no defined program model/monitoring.
Milk Packaging	Nova Scotia Milk Packaging Stewardship Agreement	Agreement between NS Environment, the Atlantic Dairy Council and the seven solid waste management regions to manage fluid milk packaging produced in the Province.	Voluntary, with stewardship agreement	Residential curbside programs and municipal recycling facilities.	Per tonne costs of recycling reimbursed directly to municipal regions.
Newspapers	Nova Scotia Daily Newspapers Stewardship Agreement	Industry stewardship agreement between the Nova Scotia Department of Environment and Labour and producers and marketers of newspapers.	Regulated (newsprint banned under Schedule B of the Regulations).	Residential curbside programs and municipal recycling facilities.	In-kind newspaper credits channeled to the RRFB. No direct compensation to municipalities.
Yellow Pages Directories	Nova Scotia Yellow Pages Directories Stewardship Agreement	Voluntary stewardship agreement between NS Environment, Aliant ActiMedia, the seven waste management regions and the RRFB.	Regulated (newsprint banned under Schedule B of the Regulations).	Municipalities encouraged to include directories in curbside recycling programs.	Provides in-kind advertising to municipal regions for solid waste management information.

Program Type	Program and Organization Names	Materials Managed	Category of Program	Collection	Funding Model
Medical Needles, Syringes or Lancets	Safe Sharps Bring Back Program Pharmacy Association of Nova Scotia (PANS) and Resource Recovery Fund Board (RRFB) Nova Scotia Department of Environment	Voluntary program to manage needles, syringes and lancets. The program does not include used sharps from medical, dental or veterinary clinics, home care professionals, intravenous drug users, or farms.	Voluntary	Container to take home provided at a local pharmacy. Nova Scotians return the container to a pharmacy when the container is full.	The program is administered by the Pharmacy Association of Nova Scotia, and funded by Nova Scotia pharmacies, sharps manufacturers and distributors.
Expired Medication (Pharmaceuticals)	Medication Disposal Program Pharmacy Association of Nova Scotia (PANS)	Consumers can return pharmaceuticals to provincial community pharmacies for safe disposal. Administered by the Pharmacy Association of Nova Scotia (PANS) and paid for by pharmaceutical companies.	Voluntary	Pharmacies	Funded by pharmaceutical companies.
Batteries	Call2Recycle	National program for recycling batteries and cell phones. The program is voluntary in Nova Scotia.	Voluntary	Retail stores, institutions.	Staff separate and repackage batteries that are received at HHW Depots. Municipalities can use bulk shipping of drums. Additional compensation for labour associated with separating and repackaging waste is not provided to municipalities.
Pesticides	Obsolete Pesticide Collection Program CleanFARMS	National Program - CleanFARMS, an industry stewardship organization, “collects and disposes of obsolete or otherwise unwanted agricultural pesticides.” Offered in each province every 3 years, with the next program in Nova Scotia in 2015.	Voluntary	Farmers drop off obsolete pesticides designated collection sites (12 indicated on CleanFARMS website).	Industry stewardship program funded by agricultural companies. Based on the research conducted for this report, municipalities do not receive compensation related to this program.
	Pesticide Container Recycling Program CleanFARMS	National Program - CleanFARMS “partners with ag-retailers and municipalities to collect empty commercial pesticide and fertilizer containers from farmers across the country”.	Voluntary	Farmers drop off empty pesticide containers at designated collection sites (12 indicated on CleanFARMS website).	Industry stewardship program funded by agricultural companies. Based on the research conducted for this report, municipalities do not receive compensation related to this program.

4. EXISTING CANADIAN EPR PROGRAMS

4.1. Household Hazardous Waste

Dillon was directed to review provincial HHW stewardship programs run by Product Care, a non-profit industry association. Product Care administers product stewardship programs for household hazardous waste and other products. The programs are funded by fees remitted to Product Care by obligated stewards based on unit sales. Provinces where Product Care is active, and the materials managed are provided in *Table 3*.

Table 3: Product Care HHW Programs in Canada

Materials	BC	SK	MB	NB	NS	PEI	NL
Used Paint	✓	✓	✓	✓	✓	✓	✓
Paint Containers	✓	✓	✓	✓	✗	✓	✓
Pesticides & Flammables	✓	✗	✓	✗	✗	✗	✗

Product Care is also contracted to manage recycling programs for not-for-profit stewardship agencies in British Columbia for major appliances, smoke and carbon monoxide alarms, small appliances and power tools and outdoor power equipment. This section focuses on Product Care programs for paint, pesticides and flammable materials.

There are slight variations in Product Care paint fees (effective as of 2012) among provinces as shown in *Table 4*.

Table 4: Provincial Product Care Paint Fees

Size of Container	BC	SK	MB	NB	NS	PEI	N&L
100 ml to 250 ml	$0.20	$0.10	$0.20	$0.20	$0.20	$0.20	$0.30
251 ml to 1 litre	$0.25	$0.25	$0.25	$0.35	$0.35	$0.35	$0.50
1.01 litres to 5 litres	$0.60	$0.60	$0.60	$0.70	$0.70	$0.70	$1.10
5.01 litres to 23 litres	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$2.50
Aerosol paint (any size)	$0.25	$0.10	$0.25	$0.20	$0.20	$0.20	$0.30

The following summary for each province includes:

- An overview of the context and summary of the overarching HHW regulations;
- Product Care program details;
- Impact to municipalities, based on an interview with a representative of a select municipality similar in size to HRM (no interviews were conducted in Nova Scotia); and
- Future plans for the Product Care program, if available.

Additional detail is provided in *Appendix B* and a summary table is presented at the end of *Section 4.1*

4.1.1. Nova Scotia

Nova Scotia's population is 921,727, with 390,280 households (Statistics Canada, 2011 Census). The HHW program is governed under the Solid Waste-Resource Management Regulations, made under Section 102 of the *Environment Act*, 1994-95. The Regulations ban paint from disposal in provincial landfills. Sections 18B to 18I apply to a consumer paint product stewardship program. Product Care is the paint brand owners' agent under the Regulations. The Regulations state that brand owners shall ensure that 70% of the reusable and recyclable portion of the post-consumer paint products collected at the return collection facility is reused or recycled.

Product Care Program Plan

The Nova Scotia paint recycling program began in 2002 in response to the Regulations, administered by the RRFB and Product Care, with Product Care primarily responsible for revenue and interaction with brand owners and RRFB primarily responsible for operations, including outreach and education.

The latest Product Care Nova Scotia Paint Stewardship Program Plan (2012-2017), approved in 2012, replaces the two existing paint stewardship plans[1]. It outlines responsibilities for all aspects of the program, including promotion and education, collection, processing, disposal and marketing. The Program Plan has a performance target of 70% annual reuse and recycling as required by the Regulations. Annual reports for each calendar year are to be submitted by June 30 of the following year.

The Product Care program in Nova Scotia includes paint only. Paint, including most household paints and all paint aerosols, is accepted at "Enviro-Depots™" and select municipal collection facilities. As of June 30, 2012, when the 2012-2017 Program Plan was submitted, there were 82 Enviro-Depots™ and 18 municipal collection facilities in Nova Scotia. The program accepts paint from any consumer/user of Program products, including businesses. The maximum container size is 660 g (24 oz.) for paint aerosols and 25L for other paint containers accepted by the program.

According to a review of Product Care Program Plans and through discussion with Product Care, Nova Scotia is the only province in Canada where already empty paint containers are not accepted as part of the program. Section 5.1.3 of Product Care's Program Plan states that *"The Program does not accept already empty paint containers but does generate empty paint containers when the containers are emptied during the recycling process".*

Industry members fund the program by remitting fees to Product Care based on unit sales in the Province. The Regulations permit fees at point of purchase to be visible or non-visible (optional for industry).

[1] http://www.productcare.org/documents/ns-paint/NS-Paint-Program-Plan-2012.pdf

The Program Plan describes the management of collected paint. Non-aerosol latex paints are processed for reuse or recycling as a first priority, and sold through various channels. Alkyd (oil based) paint is "utilized for its energy value" as a first priority. Paints that are not of suitable quality for recycling are sent for disposal. Aerosol containers are punctured and residual paint is disposed. Empty containers generated during the paint recycling process are recycled. Containers that cannot be recycled are sent for disposal.

The Program Plan includes a plan for education and awareness, including a program website, partnerships with local governments for promotion, point of sale materials and various media.

The 2012 RRFB Annual Report[2] provides the following performance data in 2012 and 2011:

- Containers on which deposits were received: 1.95 million (2.15 million in 2011)
- Containers collected: 432,900 units (389,900 units in 2011)
- Paint collected: 447,994 litres (450,708 litres in 2011)
- Used paint container recovery rate: 22.1% (18.2% in 2011)
- Non-program materials: 41,616 units (33,519 in 2011)

Impact on Municipalities

- Product Care provides compensation, through a handling fee, to the 18 municipal collection facilities.
- No other potential sources of municipal compensation were identified.
- Municipalities must cover the cost for paint unacceptable in the program (i.e. unlabelled containers, other paint unacceptable to Product Care based on their criteria)

Future Plans

Product Care intends to add collection facilities at participating retailers.

4.1.2. Newfoundland and Labrador

The province of Newfoundland and Labrador has a total population of 514,536 with 208,840 households (Statistics Canada, 2011 Census). The HHW program is governed under the Newfoundland and Labrador Waste Management Regulations, Part IV (Waste Paint), under the *Environmental Protection Act*, 2002.

The Regulations state that a brand owner shall ensure that it achieves a reuse rate for waste paint of at least 70% within one year after the coming into force of the regulations, and that it achieves an annual reuse rate for waste paint of at least 70% in every subsequent year.

Product Care Program Plan

[2] http://www.rrfb.com/uploads/file/RRFB_AR_2012.pdf

The Newfoundland and Labrador Paint Program (PaintRecycle) is operated by Product Care in response to the Waste Management Regulations, and overseen by the Multi-Materials Stewardship Board (MMSB). Paint brand owners obligated under the Regulations have appointed Product Care as their agent.

The Product Care program plan was approved in 2012 and will apply for 3 years following the commencement of the program. Annual reports for each calendar year will be submitted by May 1 of the following year. Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications.

The Product Care program in Newfoundland and Labrador includes paint and paint containers. Paint, including most household paints and all paint aerosols, is accepted at approximately 50 drop-off locations, including "Green Depots" and retail stores. Based on a review of collection sites available on Product Care's website, the Robin Hood Bay Facility is the only municipal collection site.

The program accepts paint from any consumer/user of Program products, including businesses, although large volumes are not accepted at every collection site. The maximum container size is 660 g (24 oz.) for paint aerosols and 25L for other paint containers accepted by the program.

Industry members fund the program by remitting fees to Product Care based on unit sales in the Province. The fee is considered to be part of the price of the regulated product; visible fees are not permitted by the Regulation.

The Program Plan describes the management of collected paint. The first priority for latex and oil based paint is a paint exchange program. In this program, paints meeting certain criteria are given away for reuse in the original container. The next priority is reprocessing (recycled paint). Latex paint that is not suitable for exchange or reprocessing is either included as a raw material in manufacturing or disposed. Oil based paint undergoes energy recovery, through use as an alternative fuel or incineration. Aerosol containers are punctured and contents incinerated if energy recovery is not an option. Empty containers generated during the paint recycling process are recycled. Containers that cannot be recycled are sent for disposal.

The Program Plan includes a plan for education and awareness, including a program website, partnerships with local governments for promotion, point of sale materials and various media.

The Program Plan specifies that the program will use a number of performance measures, including capture rates and recovery rates, reuse rates, historical comparison, benchmarking, waste audits and consumer awareness. The Annual Report will contain reporting on measures required by the Regulation.

According to a news release on the Newfoundland and Labrador website[3], over 80% of paint collection in the first year of the program was reused or recycled by Product Care.

Impact on Municipalities

Dillon conducted an interview with two members of the City of St. John's Waste Management Division: the Manager of Waste Management and the Waste Diversion Supervisor to explore the impact of the Product Care program to municipalities. Key findings from the interviews are as follows:

- They were not aware that any money is exchanged between Product Care and the municipality.
- Paint used to represent over 50% of HHW costs but now paint is set aside for collection at municipal facilities by Product Care's contractor.
- It is challenging to estimate how much designated material by-passes Product Care's system (e.g., brought to a facility and ends up in municipality's HHW system). Estimated that approximately one 205 L drum of paint unacceptable to the Product Care program goes through the municipal HHW system every day the facility is open.
- The consumer was used to going to the HHW depot, so there is no visible difference following implementation of Product Care. Consumers are familiar with a one-stop-shop for all HHW.
- The municipality does not advertise the Product Care program directly. The MMSB was involved in a media roll-out in 2012.

Future Plans

The Program Plan includes various future plans for the program including increasing the number of collection points, assessing the feasibility of reprocessing or partially processing leftover paint within the Province, and working with MMSB where possible for promotion and education and increasing consumer awareness of the program.

4.1.3. New Brunswick

The province of New Brunswick has a total population of 739,900 with 314,010 households (Statistics Canada, 2011 Census). The HHW program is governed under the New Brunswick Regulation 2008-54, under the *Clean Environment Act*, 2008. Part 5 (Designated Material – Paint). Sections 34 to 50 of the Regulation include the requirements for paint stewardship.

Section 44 (Reuse Rate) states that a brand owner shall ensure a reuse rate for waste paint of at least 70% within one year after the commencement of the Regulation, and in each subsequent calendar year. Section 47 (Passing on of costs) requires that no brand owner shall charge a retailer and no retailer shall charge a consumer any separate fee with respect to costs associated with implementing or operating a paint stewardship plan.

[3] http://www.releases.gov.nl.ca/releases/2013/env/0628n07.htm

Product Care Program Plan

The New Brunswick Paint Stewardship Program is operated by Product Care in response to the Regulation under the *Clean Environment Act*. The Regulation requires brand owners to register with Recycle New Brunswick (a multi-materials stewardship board). Various brand owners have appointed Product Care as their agent to submit a paint stewardship plan.

The Product Care Program Plan[4] was approved in 2009. Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications. The Program Plan has an objective to achieve a 70% reuse rate as required by the Regulation and discusses factors affecting the reuse rate.

The Product Care program in New Brunswick includes paint and paint containers. Paint, including most household paints and all paint aerosols, is accepted at various drop-off locations, including depots and stores. There are approximately 60 paint drop-off locations – a handful of these are managed by solid waste commissions. The program accepts paint from any consumer/user of Program products, including businesses. The maximum container size is 660 g (24 oz.) for paint aerosols and 25 L for other paint containers accepted by the program.

Industry members fund the program by remitting fees to Product Care based on unit sales in the Province. The fee is considered to be part of the price of the regulated product. Visible fees are not permitted by the New Brunswick Regulation.

The Program Plan describes the management of collected paint in New Brunswick. The options are similar to those described above for Newfoundland and Labrador. The Program Plan specifies that the program will use a number of performance measures, including recovery rates, reuse rates, historical comparison, benchmarking, containers recovered, waste audits, consumer awareness survey and number of collection sites. The Annual Report contains reporting on measures required by the Regulation.

The Program Plan includes a plan for education and awareness, including a program website, partnerships with local governments for promotion, point of sale and point of return materials and various media.

The Product Care Annual Report was not reviewed for this report as it was not available online.

[4] http://recyclenb.com/images/uploads/ProductCarePaintPlanEN.pdf

Impact on Municipalities

Dillon conducted an interview with a representative from Fundy Region Solid Waste, which is responsible for solid waste disposal and diversion in the Greater Saint John area. The following points were noted:

- Fundy Region Solid Waste receives a per unit handling fee from Product Care for paint collected at its depot. An agreement with Product Care specifies the fee and collection requirements. According to a call with Product Care, the fees are generally consistent within a province, but may not be consistent from one province to another.
- They were not aware of data about quantity of stewarded materials ending up in municipal landfills, or that municipalities are compensated for this.
- Opportunity for more collection points, as some residents have to drive a significant distance to drop off paint and other HHW.
- Product Care accepts empty paint containers in its tub skids.
- Product Care could do more promotion. Fundy Region Solid Waste does a lot of promotion.

Future Plans

The Program Plan includes various future plans for the program including analyzing of data on accessibility of collection sites, increasing consumer awareness and conducting a consumer awareness survey every two years.

4.1.4. Prince Edward Island

The province of Prince Edward Island (PEI) has a total population of 140,204 with 56,460 households (Statistics Canada, 2011 Census). The HHW program is governed under the Materials Recycling Regulations, Part IV – Paint Stewardship, made under the *Environmental Protection Act,* R.S.P.E.I, 1988. No brand owner or retailer in PEI can sell or otherwise distribute paint unless the brand owner or agent of the brand owner operates a paint stewardship program. Product Care has been appointed by the brand owners as their agent under the Regulations.

Section 28.13 of the Regulations does not allow visible eco-fees: "no retailer shall charge a consumer any separate fee with respect to the costs associated with implementing or operating a paint stewardship plan."

Product Care Program Plan

The PEI Paint Program is operated by Product Care in response to the Materials Recycling Regulations. Product Care reports directly to the PEI government and there is no multi-materials stewardship board.

The Program Plan was approved in 2012 and covers the years 2012-2017. Product Care administers various aspects of the program, including collection, transportation and logistics, processing and

recycling, tracking, risk management, administration, performance measures and communications. Neither the Regulations nor the Program Plan include performance targets.

The Product Care program in PEI includes paint and paint containers. Paint, including most household paints and all paint aerosols, is accepted at Waste Watch Drop-Off Centres throughout the Province. The program accepts paint from any consumer/user of Program products, including businesses. The maximum container size is 660 g (24 oz.) for paint aerosols and 25 L for other paint containers accepted by the program.

Industry members fund the program by remitting fees to Product Care based on unit sales in the Province. The fee is considered to be part of the price of the regulated product; the Regulation does not permit visible fees.

The Program Plan describes the management of collected paint in PEI which are similar to those described above for Newfoundland and Labrador.

Program Communications are described in the Program Plan, and include a program website, local partnerships with the Island Waste Management Corporation (IWMC) to promote the program, Point of Sale and collection facility materials and the annual report.

Impact on Municipalities

Dillon conducted an interview with the Disposal Manager at the Island Waste Management Corporation (IWMC), a provincial Crown corporation that administers and provides solid waste management services in PEI. The purpose was to explore the impact of the Product Care program to municipalities. Key findings from the interview are as follows:

- IWMC is reimbursed for handling and storing paint at the Waste Watch Drop Off Centers, based on the total quantity of material managed. According to the Product Care website, Waste Watch Drop-Off Centres are the only collection locations.
- Product Care provides tub skids and drums (for aerosol paints) and contracts out transportation of paint to processing facility in Nova Scotia.
- IWMC sends Product Care a report each month providing the number of tub skids/drums on site.
- IWMC is reimbursed based on a per tub skid/drum basis.
- Product Care pays IWMC storage fees on a per tub skid basis.
- Paint cans should not end up in the municipal waste stream, but some do in practice.
- Paint that is collected at the facility but is not acceptable for the Product Care stream is put into the HHW stream at the same facility. Not aware of a way to quantify how much paint makes it into the Product Care stream, since unacceptable paint is combined with other hazardous waste for processing and recycling.

- Existing collection points were in place prior to Product Care (for residents only), so it is not a large adjustment for the public.
- Empty paint containers are processed through the Product Care stream as a first priority. However, due to the high volume of empty paint containers received, some go directly to scrap metal recycling.
- Product Care pays to use IWMC's communication tools, including the website, columns in newspapers, bi-annual newsletter, calendar, etc.[5]
- Prior to Product Care, businesses had to contract directly with a hazardous waste carrier to dispose all hazardous waste, including paint. Now businesses can bring paint to the depot to be managed by Product Care.

Future Plans

Future plans for the program, as described in the Program Plan, include increasing the number of collection points and increasing consumer awareness of the program.

4.1.5. Manitoba

The province of Manitoba has a total population of 1,208,268 with 466,140 households (Statistics Canada, 2011 Census). The HHW program is governed under the Household Hazardous Material and Prescribed Material Stewardship Regulation, made under the *Manitoba Waste Reduction and Prevention Act* (1989-90). Paint Products are a designated material in the Schedule to the Regulation. The Regulation requires a material stewardship program for all designated materials.

Product Care Program Plan

The Manitoba Household Hazardous Waste Stewardship Program Plan is operated by Product Care in response to the Household Hazardous Material and Prescribed Material Stewardship Regulation. Product Care has submitted the plan on behalf of obligated stewards.

The Product Care program plan was approved in 2011 and covers the years 2011 to 2016. Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications. The Regulation does not require performance targets. Product Care advised by email on April 15, 2013 that the first Annual Report has been submitted to Manitoba Conservation and Water Stewardship, and once tabled by the Minister, will be posted on the Product Care and Green Manitoba websites.

Unlike the majority of other provincial Product Care programs, the program in Manitoba includes more than paint products: fluorescent lights, physically hazardous materials, pesticide, paint, flammable liquid, corrosive materials, toxic materials and environmentally hazardous materials are also included.

[5] According to a phone conversation on July 19, 2013, compensation to municipalities for communications is done on a case-by-case basis.

The Program Plan provides further definitions of products that fall into these categories, noting that not all products designated in the Regulation are included in the Program Plan. Further details of the program to recycle fluorescent lights are included in *Section 4.5.1*.

The Plan provides estimates for the quantity sold, available for collection and capture and recovery rates, based on 2009 BC Program Plan data adjusted for Manitoba's population.

The program has been implemented in two phases. Phase One, implemented May 1, 2012, included household paint and residential-use fluorescent bulbs and tubes. Phase Two was implemented in October 2012, with the list of products expanded to include flammable liquids and waste gasoline, pesticides, various toxic and corrosive products, and physically hazardous cylinders.

The Product Care website includes a list of collection facilities as of July 17, 2013. There are three types of collection facilities: "Paint Depots", "Lights Depots" and "HHW Depots". Product Care has its own internal criteria to determine which categories potential collection sites will fall under. Most collection facilities accept paint and lights. According to the list of collection sites posted online by Product Care, out of 77 collection sites, 9 appear to be municipal facilities.[6] The Program Plan recognizes that an improved collection system would be challenging in Manitoba because of the initial lack of collection infrastructure compared to other provinces.

Industry members fund the program by remitting Environmental Handling Fees (EHFs) to Product Care based on unit sales in the Province. The EHF is considered to be part of the price of the regulated product; manufacturers or retailers may choose to build the fee into the product price, or display to consumers at the point of sale. Paint fees are shown above in *Table 4. F*ees for fluorescent lamps (part of Phase 1) are shown below in *Table 5* (fees effective May 1, 2012) and fees for products covered under Phase 2 are shown below in *Tables 6 and 7* (fees effective November 1, 2012).

Table 5: Manitoba Fluorescent Lamps EHFs (Phase 1)

Light Type (sales for residential use)	Common type	Fee per unit
Compact Fluorescent Light	CFL	$0.15
Tubes measuring less than or equal to 2 feet	2 feet	$0.20
Tubes measuring greater than 2 feet and up to or equal to 4 feet	4 feet	$0.40
Tubes measuring greater than 4 feet	8 feet	$0.55

[6] http://www.productcare.org/documents/mb-hhw/MB-Paint-Lights-All-Collection-Sites.pdf

Table 6: Manitoba Flammables, Toxics, Corrosives and Pesticides EHFs (Phase 2)

Size of Container	Fee per Container
0.750 L or less	$0.05
0.751 L to 1 L	$0.10
1.01 L to 2 L	$0.20
2.01 L to 4 L	$0.40
4.01 L to 10 L	$1.00
Aerosols	
1 to 75 ml	$0.01
76 ml to 200 ml	$0.05
201 ml and over	$0.10
Pesticides	
Less than 10 ml or g	$0.01
0.01 to 0.89 L or kg	$0.60
0.9 to 1.79 L or kg	$1.20
1.8 to 10 L or kg	$2.40

Table 7: Manitoba Physically Hazardous & Gasoline EHFs (Phase 2)

Unit	Fee per unit
Per unit of physically hazardous materials	$0.50
Per gasoline station in Manitoba	$11.25 per month

The Program Plan acknowledges that processing and recycling options will vary by program product. For many products, such as pesticides, toxics and corrosives, there are no known recycling options. The Plan recognizes that initially there is limited local service provider infrastructure for HHW drop off. Product Care and the City of Winnipeg intend to investigate new infrastructure options.

Program performance and targets will be measured using recovery and capture rates, consumer awareness and other performance measures, including accessibility of the collection system and progress of product management against the pollution prevention hierarchy.

Impact on Municipalities

Dillon spoke with the Manager of Solid Waste Services at the City of Winnipeg. The following summarizes the key points from the discussion.

- The municipality is remunerated for acting as a collection point (landfill), based on a per tub skid handling fee. It is expected that this may not cover the full costs to handle the material (e.g. staffing to ensure only Product Care acceptable material is collected).
- Prior to the EPR program, HHW was managed by the province and a site operated by a private contractor was open once or twice a month for residential drop off in Winnipeg. HHW was not collected at the municipal landfill and there were often long lines at the private HHW facility.
- Some data exists on paint ending up in municipal landfills, but the municipality does not have data on how much is sold in the province, recovered, etc., making performance difficult to track
- The number of collection points is not sufficient for the average resident.
- As part of the City, waste reduction plan, the City is in the process of building four community resource depots that will act as collection points for many materials, including paints and other HHW.
- The municipality does not do significant advertising for the Product Care program. It is anticipated that the municipality will increase advertising once the community resource depots are built.

Future Plans

Section 14 of the Program Plan includes visions, strategies and actions to improve program performance. The three key visions include:

- To continually increase collection of available products through a network of accessible, well-run collection sites.
- To have all consumers of the products aware of the program, where to find depot location information and how to safely handle the product.
- To continually improve the program and conduct research and development to achieve this.

The Program Plan states that due to the lack of comparable programs when the project first began, the program "plans to collect Manitoba-specific data from stewards and determine the most appropriate way to measure program performance with regards to collection" The program proposes to conduct a consumer awareness survey periodically, starting in year 2, to track consumer awareness of the program and product handling.

Product Care identified by email on April 17, 2013 that it is in the early stages of establishing a network of full-service collection sites throughout the province. Potential funding arrangements between Product Care and other partners was not investigated for this report.

4.1.6. Saskatchewan

The province of Saskatchewan has a total population of 1,033,381 with 409,645 households (Statistics Canada, 2011 Census). The HHW program is governed under the Saskatchewan Waste Paint Management Regulations, Chapter E-10.21 Reg 3, Effective Nov 1, 2005, made under *The Environmental Management and Protection Act,* 2002. Every seller of paint in the province must operate an approved

paint management program, or enter into an agreement with a person to operate the program on the seller's behalf.

Product Care Program Plan

The Saskatchewan Paint Program is managed by Product Care in response to the Waste Paint Management Regulations. Product Care reports to the Saskatchewan Ministry of the Environment and contracts with SARCAN Recycling (founded by Saskatchewan Association of Rehabilitation Centres) to provide collection services. SARCAN is further described in Section 4.4.3.

Information for this section was obtained from online research and the 2011 Product Care Annual Report.

Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications.

The Product Care program in Saskatchewan includes paint and paint containers. Paint, including most household paints and all paint aerosols, is accepted at any of the 71 SARCAN depots throughout the Province. SARCAN depots also collect beverage containers, milk containers and electronics. According to the 2011 Annual Report, 11 retailer sites also collect paint. The program accepts paint from any consumer/user of Program products, including businesses. The maximum container size is 660 g (24 oz.) for paint aerosols and 23L for other paint containers accepted by the program.

Industry members fund the program by remitting fees to Product Care based on unit sales in the Province. The fee is considered to be part of the price of the regulated product.

Table 8 shows collection volumes for the Saskatchewan program, as provided in the 2011 Annual Report. The amount of paint collected has steadily increased since 2006.

Table 8: Collection Volumes for 2011 and Comparative Data from Previous Years

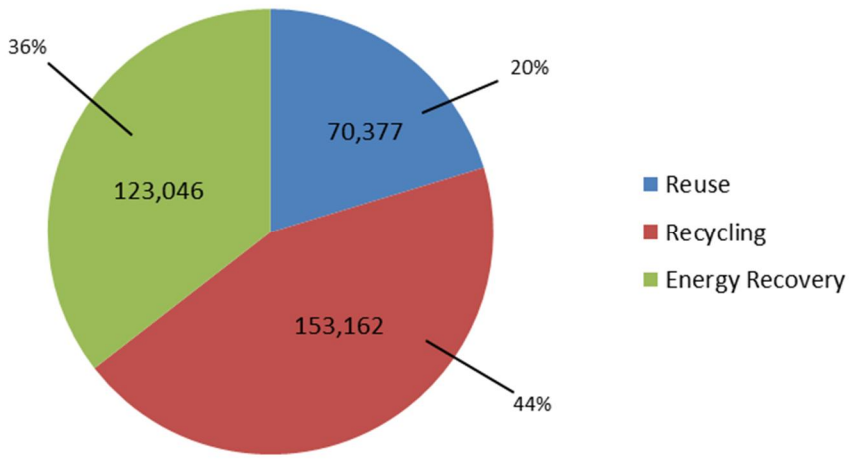
Litres of Product Collected (Non-aerosol)	2007	2008	2009	2010	2011
Water-based paint	110,930	154,015	158,608	204,019	211,542
Solvent-based paint	89,818	118,371	123,200	128,707	138,118
Total	200,748	272,748	281,808	332,726	349,660

Source: Product Care Saskatchewan Paint Stewardship Program: 2011 Annual Report. The above data includes paint given away for reuse. The program also collected 25,000 aerosol paint cans in the above period; actual volume of residual paint recovered from the aerosol containers is not available.

Figure 1 summarizes the fate of paints collected through the program that are reused, recycled or undergo energy recovery. Results for other product management options are summarized in the annual

report, including treatment/incineration/landfill. No paint collected during the 2011 reporting period was disposed of in landfills. Data is provided in the report on the amount of paint containers recycled.

Figure 1: Saskatchewan Program Product Management Activities, reuse, recycling and energy recovery, in Liters (2011)



Source: Product Care Saskatchewan Paint Stewardship Program: 2011 Annual Report

The annual report also summarizes public education and communication initiatives and financial information.

Impact on Municipalities

Dillon conducted an interview with the Environmental Coordinator at the City of Saskatoon. The purpose was to explore the impact of the Product Care program to municipalities. Key findings from the interview are as follows:

- Not aware that the municipality receives any funding from Product Care.
- Currently completing a waste audit, part of which involves estimating the amount of paint in the municipal waste stream.
- From the City of Saskatoon's perspective, there is no issue with the number of collection points.
- Collaboration is limited between Product Care and the City of Saskatoon. Opportunity for more collaboration.
- Product Care came into existence using an established provincial depot network (SARCAN). The public was used to going to these depots for products other than paint.
- Not aware of significant negative media attention about eco-fees.

Future Plans

Future plans for the program were not reviewed as part of this report as the Program Plan was not available online.

4.1.7. British Columbia

The province of British Columbia has a total population of 4,400,057 with 1,764,635 households (Statistics Canada, 2011 Census). The HHW program is governed under the Recycling Regulation B.C. Reg 449/2004, made under the *Environmental Management Act,* 2003. Product Care administers a product stewardship plan for various products, including those listed under Schedule 2 (Residual Product Category) and Schedule 3 (Electronic and Electrical Product Category). The Regulation includes that the director may approve a product stewardship plan if satisfied with various provisions in the plan, including provisions related to achieving a 75% recovery rate or other target established by the director.

Product Care Program Plan

The British Columbia HHW Stewardship Program Plan is operated by Product Care in response to the Recycling Regulation. Product Care manages numerous product stewardship programs in British Columbia, including:

- Paint, Pesticides and Flammables;
- Light Recycle – Lights, lamps, ballasts and fixtures;
- AlarmRecycle – Smoke and Carbon Monoxide Alarms;
- ElectroRecycle – Small Appliances and Power Tools;
- OPEIC – Outdoor Power Equipment; and
- MARR – Major Appliances.

This report focuses on the first two programs. The Paint, Pesticides and Flammables programs are summarized in this section. The Light Recycle program is summarized in the following section.

Paint stewardship was introduced in BC in 1994, with regulation for flammable liquids, pesticide and gasoline introduced in 1997. For this report we reviewed Product Care's 2006-2011 product stewardship plan for paint, pesticides and flammables (supplementary information was provided in a 2007 addendum). This plan was reviewed for comparison to the 2011 Annual Report.

Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications. There are approximately 177 paint collection sites located throughout British Columbia[7]. Some are "Paint Depots", which collect only paint (65 locations), "Paint Plus Depots", which also take flammables, pesticides and gasoline (66 locations), "Paint Exchange" locations, which make

[7] http://www.productcare.org/documents/bc-paint/All-BC-Paint-Locations.pdf

free leftover paint available to the public (93 locations), and "For Paint Contractors" locations, which also accept larger volumes of paint (3 locations). Depots are typically co-located with other facilities, such as municipal recycling centres, bottle depots and private businesses. The type of depot that is set up is determined through Product Care's internal standards.

Industry members fund the program by remitting Eco Fees to Product Care based on unit sales in the Province. The fee is considered to be part of the price of the regulated product; manufacturers or retailers may choose to build the fee into the product price, or display to consumers at the point of sale. Fees for the paint program are provided in *Table 4* above and fees for the HHW program are shown below in *Tables 9* and *10* (fees effective May 1, 2012).

Table 9: BC Product Care Flammable Liquids and Pesticides Fees

Size of Container	Fee per Container
Flammable Liquids	
0.750 L or less	$0.05
0.751 L to 1 L	$0.10
1.01 L to 2 L	$0.20
2.01 L to 4 L	$0.40
4.01 L to 10 L	$1.00
Aerosols	
1 to 75 ml	$0.01
76 ml to 200 ml	$0.05
201 ml and over	$0.10
Household Pesticides	
Less than 10 ml or g	$0.01
0.01 to 0.89 L or kg	$0.60
0.9 to 1.79 L or kg	$1.20
1.8 to 10 L or kg	$2.40

Table 10: BC Product Care Gasoline Fees

Unit	Fee per unit
Per gasoline station in BC	$11.25 per month

Product Care "endeavors to manage collected products in accordance with the pollution prevention hierarchy", according to the Program Plan. The program includes reuse through a "paint exchange" program, whereby paints meeting certain requirements are given away to customers. Recycling includes reprocessing paint into paint and coating products; using latex paint as raw material in the manufacture of Portland cement; and extraction of solvent from alkyd paints. Alkyd paints that cannot be reused or recycled undergo energy recovery. No paint products are disposed as part of the program.

Management of other program products includes:

- Flammables – energy recovery as alternative fuels.
- Pesticides – No reuse or recycling option available; all are incinerated.
- Gasoline – Managed as an alternative fuel.
- Containers - Program only accepts empty paint containers; does not accept empty containers that contained flammables, pesticides and gasoline. Empty container recycling options vary with market conditions.

The 2007 addendum to the 2006-2011 Program Plan included a combined target for reuse and recycling of paint of 85%. According to the 2011 Annual Report, this target was not met in 2011, in large part due to lack of recycling options for oil based paint. 34% of the paint collected in 2011 was oil based, but there continues to be limited demand for reuse and recycling of oil based paint. The 2011 Annual Report states that the 2012-2017 Program Plan will have different targets for the two paint types. According to the 2011 Annual Report, the fate of other materials managed by the program is summarized as follows:

- No collected materials sent to landfill.
- 2.1% given to consumers through "paint exchange".
- 100% of latex paint reprocessed.
- 100% of the oil based paint and flammables were used in energy recovery (e.g., permitted incinerators).
- All pesticides were incinerated. Currently no reuse or recycling option available for pesticides.
- Metal and plastic paint containers were either recycled or underwent energy recovery (incinerators or cement kilns).

Table 12 of the 2011 Annual Report provides a summary of the planned targets in the 2007 addendum to the approved Program Plan and the level to which the Program met these targets.

<u>Impact on Municipalities</u>

Dillon contacted and received feedback from the Township of Langley and Metro Vancouver.

The Township of Langley advised it does not receive any funding for the Product Care program. However, the Township of Langley holds an annual HHW event where Product Care provides their staff at no cost to the Township. Product Care works with the Township in partnership on this with 'in-kind' (staffing) funding and is responsible for transportation and processing of materials collected

The Township of Langley provided the following additional feedback:

- Product Care does not work with municipalities to determine where collection points should be located. In the Township of Langley there are an insufficient number of locations. Currently, one of

the locations in the Township must be closed and at this time it is unsure if they are going to be able to relocate or close entirely. To the Township's knowledge, there is no formal plan to work with municipalities for siting new locations.

- There is a lack of collaboration with other EPR programs when there should be a more formalized approach. With the current approach, residents are required to travel across the municipality to various locations to drop off all of their EPR materials, rather than one location in the Township. In some areas, Product Care has partnered with Encorp and has expanded to accept more materials than paint. This is confusing for everyone and it is not always clear what locations accept what types of materials. More coordination should also occur between Product Care and municipalities in regards to communication and public awareness. There are too many sources of information being sent out to the public and it needs to be consolidated into one source. By having program stewards partner (e.g., provide funding, cost sharing) with municipalities, their information can be included with communication materials already going out. One of the main benefits to deliver communications through municipal messaging for residents is that the look and feel of the materials is very consistent. The Township has spent considerable time and effort to simplify communication materials so that they are easy to read and very visual for residents. Everything needs to be brought all in together amongst the region rather than everyone (local, regional, and provincial governments, not-for profit organizations, and EPR programs etc.) working on their own individual pieces. Partnerships and more coordination of communication and public awareness could potentially increase recycling rates.

Metro Vancouver provided the following feedback:

- Metro Vancouver acts as a collector/service provider to some EPR programs, and receives compensation from programs for materials that are captured.
- Material that ends up in the landfill is monitored through waste characterization studies.
- Product Care has a wide collection network. From time-to-time, collection depots for some communities close or change locations. The program keeps up to date on these transitions and tries to manage the implications.
- Metro Vancouver is starting to track the types of EPR program materials that are found in abandoned waste.
- They do not have sufficient data to draw any conclusions regarding the number or convenience level of existing depots
- Some member municipalities include information about EPR programs in their collection calendars and/or recycling guides. Metro Vancouver provides links for depot locations on its website.
- Communication and awareness is the regulated responsibility of the EPR programs, so generally local governments are not very involved in promotion and education for the programs.

Future Plans

The 2006-2011 Program Plan includes various future plans for the program such as meeting or exceeding performance targets, increasing collection points and identifying local alternatives for container recycling. Other opportunities include finding management options that are higher on the pollution prevention hierarchy and continuing interaction with manufacturers associations (e.g., Canadian Paint and Coatings Association) regarding the recyclability of paints and containers.

4.1.8. Summary of HHW Programs Under Product Care

Table 11 provides a summary of HHW programs under Product Care.

Table 11: Summary of Product Care Paint and HHW programs

	Nova Scotia	Newfoundland and Labrador	New Brunswick	Prince Edward Island	Manitoba	Saskatchewan	British Columbia
Materials Managed	Paint only; no paint containers	Paint and paint containers	Paint and paint containers	Paint and paint containers	Paint and paint containers and other HHW, including flammables, residential use fluorescent tubes and more.	Paint and paint containers	Paint and paint containers and other HHW, including pesticides and flammables, and all light types, including ballasts and fixtures.
Program Name	Nova Scotia Paint Recycling Program	Newfoundland and Labrador Paint Recycling Program (Paint Recycle)	New Brunswick Paint Recycling Program	Prince Edward Island Paint Program	Manitoba Lights and HHW Program	Saskatchewan Paint Recycling Program	Light Recycle Paint Pesticides and flammables
Collection	82 Enviro-Depots™ and 18 municipal collection facilities as of June 30, 2012.	51 drop-off locations, including "Green Depots" and stores	61 paint drop-off locations – a handful of these are managed by solid waste commissions and some are return-to-retail locations.	6 Waste Watch depots	68 collection sites as of July 17, 2013, including various depots, return-to-retail locations and 9 that appear to be a municipal collection facility	71 SARCAN depots and some return-to-retail locations.	177 collection sites as of November 30, 2012, according to Product Care's website. All accept paint; 66 include Paint Plus, 93 include Paint Exchange and 3 include Large Volume.
Category	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated
Funding Model	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Consumers may see an environmental handling fee on paint receipts. Product Care is the agent of brand owners and contracts with the RRFB for parts of program operations. Municipal and most other collection points, except return-to-retail, are typically remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care is the agent of brand owners. Visible environmental handling fees are not permitted by the Regulations. The program is overseen the Multi-Materials Stewardship Board (MMSB). Municipal and most other collection points, except return-to-retail, are typically remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care is the agent of brand owners. Visible environmental handling fees are not permitted by the Regulation. The program is overseen by Recycle New Brunswick. Municipal and most other collection points, except return-to-retail, are typically remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care is the agent of brand owners. Visible environmental handling fees are not permitted by the Regulation. Island Waste Management Corporation collection points remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care has submitted stewardship plans for some materials designated under the Regulation. The Regulation does not forbid visible environmental handling fees. Municipal and most other collection points, except return-to-retail, are typically remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care reports to the Ministry of Environment and contracts with SARCAN to operate the program. The Regulation does not forbid visible environmental handling fees. Municipal and most other collection points, except return-to-retail, are typically remunerated by handling fees for acting as a collection points.	Funded by fees charged to obligated stewards that are part of the Product Care program, based on unit sales in the province. Product Care administers a Product Stewardship Plan on behalf of paint stewards. The Regulation does not forbid visible environmental handling fees.

	Nova Scotia	Newfoundland and Labrador	New Brunswick	Prince Edward Island	Manitoba	Saskatchewan	British Columbia
Residential and/or IC&I	Residential and IC&I	Residential and IC&I, only municipal sites and Green Depots able to accept larger quantities. Total of 12 large quantity collection sites.	Residential and IC&I, 5 depots collect large quantities	Residential and IC&I; large volumes accepted at all Waste Watch Depots	Commercial, industrial and agricultural products of any kind not accepted.	Residential and IC&I, large volumes only accepted at three depots.	Residential and IC&I, although depot system focuses on consumer volumes. Large volumes only accepted at three depots only.

4.2. Mercury-Containing Products

This section summarizes existing stewardship programs in Canada to manage mercury-containing lamps and related materials. Three programs we reviewed are regulated and administered by Product Care (Quebec, Manitoba and British Columbia) and one program is a voluntary program (Ontario). Additional detail is provided in *Appendix C*.

4.2.1. Quebec

Quebec's Product Care program, called "RecycFluo", applies to mercury-containing lamps. The Quebec program is governed under the "Regulation respecting the recovery and reclamation of products by enterprises". The Regulation includes various requirements for a recovery and reclamation program. Section 35 to 40 relate specifically to mercury-containing lamps.

Instead of a Program Plan, in Quebec the Regulation requires an industry program to have an agreement with RECYC-QUEBEC, the oversight agency responsible for Quebec's product stewardship programs. The current agreement is dated June 5, 2012 and is available only in French.

All consumers (including residential, business, etc.) can take designated replacement mercury-containing lamps to various collection locations. Retailers may participate as a collection point, but this is not mandatory. Large volume generators, including businesses, contractors, schools, etc., can recycle in one of three ways: 1) Pick-up service for whole lamps; 2) Pick-up service for pre-crushed lamps; and 3) Collection sites for drop-off of whole lamps.

Industry members fund the program by remitting recycling fees based on unit sales in the Province. The fees are considered part of the price of the regulated product, but may be visible to consumers. The Quebec regulation limits, but does not prohibit, visible fees applied to consumer sales. *Table 12* provides a summary of the fees.

Table 12: Quebec Product Care Fluorescent Lamps Fees

Light Category	Typical Size	Fee per unit
Fluorescent Tubes measuring ≤2 feet	2 feet	$0.30
Fluorescent Tubes measuring >2 feet and ≤ 4 feet	4 feet	$0.50
Fluorescent Tubes measuring >4 feet	8 feet	$1.00
Compact Fluorescent Lights (CFL)	n/a	$0.20
HID and Other: High Pressure Sodium, Mercury Vapour and Metal Halide, UV, Germicidal and UHP replacement lamps	n/a	$1.10

The program contracts with service providers to transport and collect and/or recycle products. All lights collected by RecycFluo are currently recycled by Aevitas. According to the Aevitas website[8], it operates the only commercial mercury waste treatment system in Canada and has facilities in Ontario, Quebec, Alberta and British Columbia.

Phase 2 of the RecycFluo program began on July 14, 2013. The requirements of the Regulation extend to "component" mercury-containing products sold that are already integrated into products such as fixtures, tools, and other products. Brand owners and first suppliers selling these products in Quebec will be required to either join the RecycFluo program or operate their own program.

4.2.2. Ontario

Ontario has a voluntary program called Take Back the Light (TBTL), led by the Recycling Council of Ontario (RCO). The program began as a pilot project funded by the Ontario Ministry of Environment. It is now a self-sufficient program. The program recovers fluorescent lamps from the industrial, commercial and institutional sectors only. Organizations (i.e., 'buyers' of lights) may participate in the program free of charge, but need to register with the program to participate. Distributors (i.e., 'suppliers' of lights) that participate in the program pay an annual fee based on gross sales. Buyers and suppliers of lamps participating in the TBTL program are listed on the TBTL website[9], and include schools, hospitals, pharmaceutical companies and other organizations. According to the Take Back the Light website, the fees are as shown in *Table 13*.

Table 13: Ontario Take Back the Light Distributor Registration Fees

Annual Gross Sales	Fee per year to participate
<$500,000	$500 per year
$500,000 - $999,999	$1,000 per year
$1,000,000 - $4,999,999	$1,500 per year
$5,000,000	$2,000 per year

Organizations that participate in the program collect lights for recycling. Participants then have two options for recycling, as described on the Take Back the Light website[10]: "Direct-to-Recycler" and "Supplier Responsible". In the Direct–to-Recycler model, a participant completes a Request for Service form and a recycler arranges pick-up and transport of lights for processing. In the Supplier Responsible model, the seller/supplier arranges pick-up and transportation.

Ontario Regulation 347 of the *Environmental Protection Act* was amended in 2007 to allow "common mercury wastes", including fluorescent lamps, to be transported to a mercury waste recovery facility

[8] http://www.aevitas.ca/home.html
[9] http://www.takebackthelight.ca/home
[10] http://www.takebackthelight.ca/recycling

without being registered with the Ministry of Environment and manifested for transport. This change allows lamp distributors to backhaul spent fluorescent lamps from buyer to processor. According to the RCO, many buyers are now including requirements for recycling in purchasing contracts with suppliers. Suppliers have the ability to negotiate with processors, because they are supplying and taking away spent bulbs to many different buyers. Buyers benefit from economies of scale, and receive assurance that spent bulbs are recycled by a TBTL-approved processor.

Lamps collected through the program are recycled at an approved facility (approved processors include Aevitas and Veolia Environmental Services). The RCO has a document "Program requirements for mercury-containing lamps recycling processors," which details the minimum requirements processors must meet to be approved by the RCO (e.g., facilities, equipment, material separation, transportation). According to the document, the requirements "are intended for the recycling of all types of lighting products with a focus on mercury-containing lamps", including but not limited to tubular fluorescent lamps, U-shaped or O-shaped fluorescent lamps, compact fluorescent lamps, UV lamps, High Intensity Discharge (HID) lamps (such as mercury vapour, metal halide, etc.), low pressure sodium lamps and shatter shield lamps. Table 1 in the document summarizes material processing and disposition. Most materials are used as raw material in the production of new products.

4.2.3. Manitoba

As described in Section 4.1.5, the Product Care Program Plan for HHW includes fluorescent lights destined for residential use and is governed under the same regulation. Fluorescent lights were included in Phase One of the HHW program, implemented May 1, 2012. There is a maximum return limit of 16 fluorescent lights at one time to any collection point that accepts fluorescent lights. According to an email from Product Care on September 17, 2013, the maximum return limit is in place to discourage drop-off of commercial material (not part of the program) and for depot efficiency.

As with paint and other HHW managed by Product Care in Manitoba, industry members fund the program by remitting EHFs to Product Care based on unit sales in the Province (see *Table 14*). The fee is considered to be part of the price of the regulated product; manufacturers or retailers may choose to display the fee to consumers at the point of sale.

Table 14: Product Care Manitoba Fluorescent Lamps EHFs

Light Type (sales for residential use)	Common type	Fee per unit
Compact Fluorescent Light	CFL	$0.15
Tubes measuring less than or equal to 2 feet	2 feet	$0.20
Tubes measuring greater than 2 feet and up to or equal to 4 feet	4 feet	$0.40
Tubes measuring greater than 4 feet	8 feet	$0.55

According to an email from Product Care on April 17, 2013, fluorescent lights collected in the Manitoba program are picked up by a contracted courier and shipped to a processor in Ontario. The Program Plan

specifies that the lights will be broken down and components recovered (almost 100% recovery). The plastic bases are consumed in the thermal metal recovery process.

The Program Plan estimated sales for 2010 and projected capture rates. 2010 estimated sales were 500,000 for CFL units and 135,000 for fluorescent tubes. The target capture rate, based on lifespan of units sold in prior years and other information, is 10% in Year 1, rising to 40% in year 5. As described in Section 4.1.5, the first Annual Report has been submitted to Manitoba Conservation and Water Stewardship, and once tabled by the Minister, will be posted on the Product Care and Green Manitoba websites.

4.2.4. British Columbia

Stewardship of lights is governed under the Recycling Regulation B.C. Reg 449/2004, made under the *Environmental Management Act,* 2003. The Regulation includes lamps and lighting equipment as designated material.

In BC, Product Care administers a recycling program called Light Recycle to satisfy steward obligations under the regulation. Product Care's Light Recycle program was launched on July 1, 2010, limited to only residential-use fluorescent lamps. The existing Program Plan was approved in 2012 and covers the period 2012 to 2017. This Program Plan now covers lamps and lighting equipment from both the residential and commercial sectors. Annual reports for each calendar year are submitted by July 1 of the following year. Product Care administers various aspects of the program, including collection, transportation and logistics, processing and recycling, tracking, risk management, administration, performance measures and communications.

The program accepts mercury-containing lighting products, and other lighting equipment:

- Fluorescent tubes (straight, circular, square, etc.)
- UV and germicidal lamps
- Incandescent and halogen bulbs
- Compact Fluorescent lights (CFLs)
- Light Emitting diodes (LEDs)
- Ultra High Performance (UHP) lamps
- High-Intensity Discharge (HID) lamps
- Ballasts and lighting fixtures.

These products are accepted at Light Recycle Collection Sites. According to the 2011 Light Recycle Annual Report[11], there were 197 collection sites, of which 16 were municipal facilities. The number of collection sites has increased in 2012 to 380, according to the 2012 Annual Report[12] This follows the expansion of the program in 2012 to other lighting material and related equipment. The Program Plan states that Product Care is working with existing and potential collection sites to best manage the

[11] http://www.lightrecycle.ca/documents/bc-lights/LightRecycle-Annual-Report-2011.pdf
[12] http://www.productcare.org/documents/2012-Annual-Report-Final-July-2013.pdf

increased volume and different types of materials that will be collected under the 2012-2017 Program Plan.

Industry members fund the program by remitting Eco-fees to Product Care based on unit sales in the Province. The eco-fees, shown in *Table 15* are visible fees.

Table 15: BC Product Care Light/Lamps, Fixtures, Ballast Fees

Product	Fee per unit
Lights/Lamps	
Fluorescent/Induction/Low Intensity UV Tubes measuring ≤2 feet	$0.20
Fluorescent/Induction/Low Intensity UV Tubes measuring >2 feet	$0.40
Fluorescent/Induction/Low Intensity UV Tubes measuring >4 feet	$0.80
Compact Fluorescent Lights (CFL/Screw-In Induction Lamps	$0.15
Light Emitting Diodes (LED)	$0.15
High Intensity Discharge (HID) and Other	$1.10
Incandescent/Halogen	$0.05
Miniature Bulb Package	$0.10
Lighting Fixtures	
Designated Small Fixtures/Decorative Light Strings	$0.15
Fixture Category A (portable, small outdoor, etc.)	$0.85
Fixture Category B (non-linear, commercial and industrial, etc.)	$1.40
Large Outdoor Fixtures	$2.50
Ballast	
Ballasts/Transformers (not integrated into lamps or fixtures	$1.00

Lamps are shipped to a processor, crushed and separated for recycling. Some of the material is shipped to a processor in Ontario and a portion of the lamps are recycled in British Columbia. Mercury is recovered and reused in lighting products. Phosphor powder is reused in paint products, and metal and glass are recycled. The 2012 Annual Report provides information about amounts collected and capture rates. For the first half of 2012, BC LightRecycle accepted residential-use fluorescent lamps only. After July 1, 2012, the program was expanded to include all lamp technologies (e.g., incandescent) and then further expanded on October 1, 2012 to accept materials from IC&I generators.

4.2.5. Summary of Mercury-Containing Lamps Programs

The following table summarizes the mercury-containing lamps programs reviewed for this project.

Table 16: Summary of Product Care Lamp Programs

	Nova Scotia	Quebec	Ontario	Manitoba	British Columbia
Materials Managed	No specific provincial policy or industry stewardship program for recycling/disposal of mercury-containing lamps.	Fluorescent, induction, UV tubes, Compact Fluorescent Lights (CFLs), Screw-in Induction Lamps, High Intensity Discharge lamps (HID), as well lighting fixtures and products as of July 2013.	Various lamps, including tubular fluorescent lamps, U-shaped or O-shaped fluorescent lamps, CFLs, UV lamps, HID lamps, low pressure sodium lamps, shatter shield lamps	Residential-use fluorescent lights and tubes.	All types of lights, as well as some light lighting fixtures and products.
Program Name	N/A	RecycFluo (Product Care)	Take Back the Light	Light Recycling Program (Product Care)	Light Recycle (Product Care)
Collection	N/A	Over 400 collection sites, including hardware stores, depots and other locations. The large volume generator collection system is separate from the consumer system. It operates in one of three ways: pick up service for whole lamps; pick-up service for pre-crushed lamps; collection sites for drop-off of whole lamps. Based on a review of materials conducted for this report, it could not be determined if collection sites are compensated by a handling fee.	Various organizations participate in the program. Buyers include schools boards, hospitals and other organizations. Suppliers are generally electrical supply companies. The exact number of participants was not reviewed for this report.	59 collection sites as of July 17, 2013, including various depots, return-to-retail locations and several municipal facilities.	According to the 2011 LightRecycle Annual Report[13], there were 197 collection sites, of which 16 were municipal facilities. The number of collection sites has increased in 2012 to 380, according to the 2012 Annual Report.
Category	N/A	Regulated	Voluntary	Regulated	Regulated
Funding Model	N/A	Funded by fees charged to obligated stewards of designated lighting products, based on unit sales in the province. Product Care administers the fees reporting on behalf of stewards that are part of the program.	Funding from government grants, events, membership, research funding and corporate sponsors.	Funded by fees charged to obligated stewards of designated lighting products, based on unit sales in the province. Product Care administers the fees reporting on behalf of stewards that are part of the program.	Funded by fees charged to obligated stewards of designated lighting products, based on unit sales in the province. Product Care administers the fees reporting on behalf of stewards that are part of the program.
Residential and/or IC&I	N/A	Residential and IC&I	IC&I only	Residential only	Residential and IC&I

[13] http://www.lightrecycle.ca/documents/bc-lights/LightRecycle-Annual-Report-2011.pdf

4.3. Printed Paper and Packaging

4.3.1. Ontario's Blue Box Program

The Ontario Blue Box program diverts Designated Blue Box Waste (DBBW), generally packaging and printed paper, from landfills. What is collected differs among municipalities.

There are many players involved in the Blue Box program. Waste Diversion Ontario's role in the program is defined as follows: "Waste Diversion Ontario (WDO) provides oversight for the development, implementation, and operation of diversion programs for waste designated by the Minister of the Environment. WDO was created in 2002 through the *Waste Diversion Act* as a non-crown corporation and is funded by Industry Funding Organizations (IFOs) who are responsible for operating the programs. IFOs in turn are funded by the industry whose products are being diverted from Ontario landfills."

The Ministry recently released a draft *Waste Reduction Act* that would eventually replace the *Waste Diversion Act*. This proposed future program is discussed in *Section 5.1.2*.

At present, Stewardship Ontario is the IFO that manages the Blue Box program in conjunction with WDO. Stewardship Ontario collects fees from industry stewards to partially compensate municipalities for collection and recycling of DBBW. *Stewards are obliged under the Waste Diversion Act to pay municipalities 50% of the WDO approved total net costs of the program.*

The Ontario Blue Box program is a "cost recovery" model, and can generally be understood in three parts (see *Appendix D* for Stewardship Ontario Fee Setting Methodology, 2013 Municipal Blue Box Funding Distribution):

1. Program Net Cost - Includes cost and revenues to municipalities, administration costs, and CIF funding (described later). Data, including tonnages, costs and revenues, is obtained from the Municipal Datacall, reviewed and verified. WDO approves a "Steward Obligation" for the year, which is 50% of the approved total net cost of the program. This is the total amount that stewards will have to pay into the program. Subtract administrative and CIF costs and the result is "Available Cash Funding".

2. How much does each steward pay? (Fees) – This depends on total material supplied into the market and material-specific fees, which change every year (the "Blue Box Fee Schedule"). Fees are determined by the PIM ("Pay-in Model", consistent with the methodology used in Quebec and Manitoba). In the PIM, Stewardship Ontario calculates steward fees by allocating costs to individual materials in the Blue Box system based on the recycling rate of each designated

material, the net cost of recycling each material, and a three-factor formula[14]. The fee setting draws on curbside and MRF material composition studies. The PIM results in fee rates (cents per kilogram) for each material. Stewards pay into the program according to the fee rates and the material they supplied into the Ontario marketplace.

3. How much of the available cash funding does each municipality get? – For 2013, cash funding to municipalities is based on Net Cost (50%), Recovered Tonnage (35%) and responses to the Datacall Best Practice Questionnaire (15%):
    a. Net Cost – Municipalities are grouped into nine groupings, based on demographic and program characteristics. Stewardship Ontario determines a maximum net cost per tonne for each group, and recalculates the *"adjusted net cost"* for each municipality.

        *Net Cost Funding = (Adjusted Net Cost of Individual Program/Total Adjusted Net Cost of All Programs) * 50% Available Cash Funding*

    b. Recovered Tonnage – Calculated according to the following formula:

        Recovered Tonnage Funding = (Material Marketed by Individual Program/Total Material Marketed by All Programs) * 35% Available Cash Funding

    c. Datacall Best Practice Questionnaire (see *Appendix D*) - The Datacall includes Best Practice Questions, to determine how well a municipality is implementing initiatives to improve their Blue Box program. The higher a municipality scores on the questionnaire, the higher the cash funding through the program.

        Best Practices Funding = Best Practice Score * (Adjusted Net Cost of Individual Program/Total Adjusted Net Costs of All Programs) * 15% Available Cash Funding

Continuous Improvement Fund

Five percent of the money stewards are obligated to pay into the program is used for the "Continuous Improvement Fund" (CIF). The CIF helps municipalities implement best practices. Funds are allocated through a Request for Expressions of Interest (REOI) process, and based on priorities detailed in the Blue Box Program Strategic Plan (2007) and Operations Plan developed each year. CIF provides various resources for municipalities, including Waste Recycling Strategy (WRS) Guideline and templates (see the CIF website: http://cif.wdo.ca/index.htm).

[14]1. 40% of the cost of the program is assigned to each material category based on how much it costs net to manage each material in the system

2. 35% of the cost of the program is assigned based on the recovery rate achieved by that material

3. 25% of the cost of the program is assigned based on how much it would cost to manage the material if it were recovered at a rate of 60% (only applies to materials achieving less than 60% target rate.

Impact on Municipalities

Throughout the last several years there have been many suggestions on ways to improve the Blue Box program in Ontario. The following provides a summary of the stakeholder events and positions of waste management organizations in Ontario.

Environmental Commissioner of Ontario (ECO) Stakeholder Sessions

In November 22, 2012, the Environmental Commissioner of Ontario (ECO) held a meeting with 30 stakeholders to discuss EPR in Ontario. Stakeholders included producers, municipalities, processors, retailers, IFOs and WDO. MPPs and the MOE attended as observers. The participants considered a number of discussion statements related to EPR in Ontario, and were asked to identify level of support for each statement. Below is a summary of the conclusions that relate particularly to municipalities.

- Several producers expressed concerns about the potentially broad scope of their liability if held fully responsible for all end-of-life management costs, including municipal waste management costs over which they have no control. With respect to costs of designated materials sent to landfill, municipal participants asserted that producers – not municipalities – should be responsible for covering these costs. The Commissioner identified the need for further discussion on this issue.
- Very strong support that elements of the WDA are inadequate.
- Very strong support that a new EPR model should be outcomes-based.
- Very strong support for giving producers the choice to participate in a collective, and also support for the principle that ultimate liability and accountability for meeting outcomes should remain with individual producers, even within a collective.
- Very strong support that the MOE should continue to be responsible for establishing environmental protection standards, and enforce compliance standards.
- Some producers were opposed to the idea of penalties, expressing concern about being held accountable for meeting outcomes (e.g., diversion targets) in an uncertain world with unknown variables.
- Further discussion is needed about how to enforce compliance with achieving performance measures.
- Very strong support for the statement "To support broader waste policy goals and EPR performance outcomes, MOE should employ additional regulatory measures or economic instruments." Further discussion required to determine tools (e.g., landfill surcharge, disposal ban, etc.) that would best achieve this.
- Very strong support for harmonizing Ontario's EPR program with EPR programs in other Canadian jurisdictions.

Association of Municipalities of Ontario, Municipal Waste Association and Regional Public Works Commissioners of Ontario

The Association of Municipalities of Ontario (AMO), Municipal Waste Association (MWA), and Regional Public Works Commissioners of Ontario (RPWCO) met with WDO on June 19, 2012. Key points discussed during the meeting, as summarized in a letter to WDO on July 11, 2012, include:

- Support from municipalities for WDO oversight mandate.
- Support for progression towards full EPR (actual cost of end of life management).
- Re-assess funding methodology to truly reflect extended producer's responsibilities for actual cost of service.
- Priority for municipalities to receive actual cost recovery for MHSW program.

Recycling Council of Ontario (RCO) and Ontario Waste Management Association (OWMA)
The RCO and OWMA published a press release on April 24, 2013 which is summarized as follows:

The RCO and OWMA called for new waste diversion legislation, arguing that the Waste Diversion Act "lacks accountability, transparency, oversight and effective enforcement mechanisms," The Director of Policy at the OWMA observed that "numerous controversies over eco fees, repeatedly missed diversion targets, and major marketplace disruptions illustrate that the current legislation is unworkable."

The two organizations call for a simplified and streamlined approach to EPR:

- Focus responsibility on individual companies. Get rid of agencies that allow producers to 'outsource' their costs and responsibility and allow them to do what they do best: innovate and compete.
    - Restrict point-of-sale fees. Recycling costs are a new cost of doing business in Ontario and should be considered in the price of the product, not added at the checkout.
    - Government should set the rules (standards, targets) and enforce them with penalties.

The OWMA released a report in March 2013 entitled "*Rethink Waste: A Blue Print for Harnessing the Economic Benefits of Resource Management in Ontario*". The report outlines 10 recommendations with the first recommendation being the development of a "long-term economic strategy based on sound data and utilizing various economic instruments such as disposal bans and EPR".

4.4. Beverage Containers

This section of the report provides an overview of beverage container recycling programs in Nova Scotia and in select other provinces. Four Canadian provinces were reviewed in detail: Nova Scotia, Ontario, Saskatchewan, and British Columbia. The Newfoundland and Labrador and Manitoba programs were also briefly reviewed. In general, there are three models, which may operate alone or in parallel with the others:

1. Industry (steward) funding to partially compensate for municipal collection (Ontario, Manitoba, planned in Saskatchewan and BC);
2. Deposit-return system, where the deposit is partially refunded (Nova Scotia, New Brunswick, Newfoundland). The difference, along with unredeemed deposits is used to fund various initiatives; and
3. Deposit-return system with refund, but the consumer has to pay a non-refundable environmental fee (Saskatchewan, BC). The Saskatchewan program includes a government grant. An industry program in Manitoba includes an environmental fee at point of purchase, but no deposit-return.

CM consulting completed a report in 2012 entitled Who Pays What: An Analysis of Beverage Container Collection and Costs in Canada (the Who Pays What Report). Key conclusions from that research with respect to this report include:

- Estimated collection rates are significantly higher in jurisdictions with deposit-return programs (84%), compared to those without such programs (52%). Data applies to all Canadian programs.
- The beverage industry, with the exception of the brewing industry for refillable beer containers, incurs no cost for programs for provincial programs in BC, Saskatchewan, Manitoba, Nova Scotia and Newfoundland.
- In Ontario, producers or first importers of most beverages must pay fees on materials supplied into the residential stream. Funding is directed to municipalities to cover their waste management costs, amounting to approximately 50% of total costs.
- No provinces reviewed for this report have systems in which milk containers are deposit-bearing, although in some provinces (Newfoundland and Saskatchewan), milk containers can be voluntarily recycled at most beverage container collection locations. Collection rates for Saskatchewan and Nova Scotia are discussed. Collection rates in other provinces reviewed were not reported.
- Collection agents (e.g. depots) charge handling fees in most jurisdictions. The handling fees per province in cents per unit recovered are included in *Appendix E*.

Table 17 summarizes the beverage container programs reviewed for this report.

4.4.1. Nova Scotia Beverage Container Deposit Refund Program

Nova Scotia's beverage container program is managed by the RRFB under the Solid Waste-Resource Management Regulations. The Regulations define which containers are included in the program (most ready-to-serve beverage containers). Milk containers are not included in the program; they are recycled under a separate voluntary stewardship agreement with the milk industry.

The deposit-return program has been in place for over 15 years and is a "half-back" program. Consumers pay a deposit (10 or 20 cents, depending on container size) at the point of purchase and receive half of the deposit back when they return the container to an Enviro-Depot™. The RRFB uses the difference to compensate Enviro-Depots™ for handling the material and also to provide waste diversion program funding to municipalities/regions and for other aspects of the RRFB's mandate. The beer industry is responsible for funding refillable beer bottle recycling; customers receive a full refund when returning domestic beer bottles.

Enviro-Depots™ are privately owned and operated. In addition to the handling fees paid to the Enviro-Depot™ operators, RRFB's overhead includes the transportation of collected materials, processing at the Material Recovery Facility (MRF) and marketing to end markets. The RRFB receives funds from the sale of recycled material. Residents are encouraged to return beverage containers to depots however they are also able to place them at curbside for municipal collection. Municipalities receive the refund for materials sent through the RRFB system in addition to the handling fee for materials collected at curbside.

The RRFB provides promotion and education directly, and through education contracts with the solid waste management regions. The 2012 RRFB Annual Report provides further details on financial support to municipalities for education and promotion.

According to the RRFB 2012 Annual Report, the program achieved an overall recovery rate of about 81% in 2012 for all containers. The Who Pays What report states that according to data received from Nova Scotia Environment, collection rates in 2010-2011 were 64.2% for gable top milk cartons and 85.4% for HDPE milk jugs.

<u>Impact on Municipalities</u>

The Regulation requires the RRFB to direct at least 50% of its net revenues to the seven waste management regions. Net revenue is calculated after RRFB expenses and distributions to waste management regions. Distribution to regions is based on a Nova Scotia Environment diversion formula that considers tonnages of material diverted from landfill. According to HRM, funding to support municipalities has been dwindling over the past few years.

Future Plans

The 2011 Hogg Report[15] expressed concern about the ability of the RRFB's current system to financially sustain its activities beyond 2016. In early 2013, the Nova Scotia Department of the Environment invited stakeholders to comment on the RRFB deposit-refund program. HRM has reviewed the projected reduction in funding to HRM from the RRFB and proposed to eliminate the drop-off deposit-return system, replacing it with a $0.05 levy and transitioning all beverage container collection to the curbside. The RRFB has responded that it will take HRM's Council Report on the issue into consideration.[16]

4.4.2. Ontario's Blue Box Program and The Beer Store

Ontario's Blue Box program includes the collection of both alcoholic and non-alcoholic beverage containers and is partially funded by industry. The funding model is described in Section 4.3.1. Alcoholic beverage containers (e.g., beer bottles and cans, wine bottles) can be placed for curbside pickup, but most are collected at The Beer Store (TBS) locations through a voluntary deposit-return program ($0.10 or $0.20 per container, depending on container size, with full refund). The Beer Store is run by Brewers Retail. Since 2007, imported beer, wine and liquor containers are also collected at TBS (since TBS already had the infrastructure at retail stores to do bottle returns), through agreement with the Liquor Control Board of Ontario (LCBO). The program is called the Ontario Deposit Return Program (ODRP).

Beverage container recycling in Ontario is therefore a mixed system. The Beer Store operates as a drop-off collection site, while municipalities provide or contract out curbside collection, and are reimbursed according to the Blue Box municipal reimbursement model.

Refillable containers collected by TBS are sent to be washed and then reused multiple times throughout their useable lifetime. Once no longer refillable they are sent for recycling. Other containers are not reused (e.g. cans) and are sent to end market processors. Containers collected through the Blue Box program are sent to Material Recovery Facilities and then various end market processors for use in new products.

Promotion and education for the Blue Box program are conducted by municipalities, Stewardship Ontario and Waste Diversion Ontario (WDO), and other parties. WDO provides funding to municipalities, which can be used for promotion and education programs. The Beer Store conducts its own promotion and education programming.

According to the 2011-2012 Annual Report[17], the Beer Store achieved an overall return rate of 95% for glass beer bottles. The ODRP program overall return rate was 81%. A report by CM Consulting[18] put the

[15] William D. Hogg. (2011). Organizational Review of the Resource Recovery Fund Board, prepared for the Nova Scotia Department of the Environment, pg. 33

[16] Op-Ed: Nova Scotia's beverage container deposit-refund system and funding for waste diversion. February 15, 2013. http://www.rrfb.com/news.asp?id=48

[17] http://www.thebeerstore.ca/tbs-environmental-report.html

overall Ontario curbside (i.e. Blue Box) recycling collection rate for beverage containers at 54% in 2010. The 2012 Stewardship Ontario Annual Report[19] has the Blue Box performance rate at about 50% for all packaging. WDO provides financial incentives to improve Blue Box program performance for municipalities that implement best practices in their recycling programs.

Impact on Municipalities

Prior to the introduction of industry-funded stewardship, municipalities had to cover all costs of recycling Blue Box products. In the existing program municipalities are compensated for curbside collection according to the Blue Box funding formula, and can apply specifically for funding to improve diversion planning and programming. The proposed changes to waste diversion programming in Ontario include increasing industry's 50% share of overall Blue Box costs.

The Beer Store's deposit-return program diverts most alcoholic beverage containers otherwise destined for the municipal waste stream. Municipalities report on estimated tonnages of beverage container packaging sent through TBS in the annual municipal datacall. TBS does not pay municipalities for bottles/cans that end up in the municipal waste stream. In practice, some municipalities may separate received containers at the MRF.

Future Plans

Proposed changes to waste diversion in Ontario, including the Blue Box program, are described in *Section 5.1.2*. Major changes to the ODRP are not anticipated.

4.4.3. Saskatchewan – SARCAN program

In Saskatchewan, beverage container recycling was regulated under the *Litter Control Act*, 1978, and the Saskatchewan Designated Container Regulations, 1990. The *Environmental Management and Protection Act,* 2002, also contains provisions related to beverage containers. A new *Environmental Management and Protection Act*, 2010, repealed the above legislation and amalgamated it into the new Act.

Most beverage containers are included under the Regulations. SARCAN has an exclusive contract with the province of Saskatchewan to operate the beverage container program through a network of depots. SARCAN Recycling was founded in 1988 by the Saskatchewan Association of Rehabilitation Centres (SARC), which provides supports and services to people with disabilities in Saskatchewan.

Customers pay a fully-refundable deposit at the time of purchase (between $0.05 and $0.40, depending on container size) and also pay a non-refundable Environmental Handling Charge (EHC), which varies from $0.03 to $0.07, again depending on container size. The EHC is reviewed and adjusted annually.

[18] CM Consulting (2012). Who Pays What: An Analysis of Beverage Container Collection and Costs in Canada, pg. 39.

[19] http://www.stewardshipontario.ca/download/2012-stewardship-ontario-annual-report/

There is no EHC on refillable beer bottles; the brewing industry operates its own recycling program. The brewing industry program is similar to those in other provinces (e.g., deposit with full return).

The SARCAN program is funded by revenue from empty beverage container sales and a grant from the Saskatchewan government. Retailers remit the deposit and EHC directly to the Saskatchewan government, rather than a Board or stewardship organization as is the case in most other jurisdictions. A milk container recycling program is a voluntary program called the Unified Dairy Recycling System. The dairy industry contracts with SARCAN to provide collection at SARCAN depots, but there is no deposit on milk containers.

SARCAN operates 71 depots where consumers can drop-off containers included in the program for a full refund on the deposit originally paid (the EHC is non-refundable). SARCAN processes materials at its own processing facilities and ships materials to various end markets.

Promotion and education is conducted by several groups. SARCAN does promotion and education for the program, as do various municipalities, government and non-profit organizations (i.e., by indicating to consumers through websites). Funding for this promotion and education comes from various sources.

The 2012 Annual Report[20] gives a total return rate of 87% for all containers collected through the deposit-return program. According to the Annual Report, return rates for milk containers were lower: 46.1% for plastic milk jugs and 24.6% for paper milk cartons.

Impact on Municipalities

Many municipalities in Saskatchewan do not offer curbside recycling. However, some, including Saskatoon and Regina, have recently introduced programs. The City of Regina's curbside program is being introduced in July 2013. According to a SARCAN press release[21], SARCAN does not expect the curbside program to negatively impact their operations. Consumers will be able to return containers to the SARCAN depot for deposit return, or place them in curbside bins and not receive the deposit back. According to the press release, containers collected at the curbside will still go to SARCAN, but deposit refunds will be collected by the City's private recycling processor. SARCAN has a contract with private sector processors. The processors receive material previously collected at the curbside and return to SARCAN to obtain the deposit refund. According to a phone call with SARCAN on September 17, 2013, a municipality may have a cost-sharing agreement with the processor. Specific arrangements were not discussed in the context of this report.

[20] http://issuu.com/sarcsarcan/docs/2012-2013_sarc_and_sarcan_recycling

[21] Curbside Recycling Launches in Regina; SARCAN will not be negatively affected (February 13, 2013). http://www.sarcan.ca/blog/posts/curbside_recycling_launches_in_regina_sarcan_will_not_be_negatively_affected

Future Plans

Multi-Material Stewardship Western, Inc. (MMSW) was formed in 2010[22]. With the Household Packaging and Paper Stewardship Program Regulations of the *Environmental Management and Protection Act*, 2002, responsibility for financing up to 75% of residential PPP recycling will be transferred from municipalities to industry stewards. Stewards can be part of the MMSW program plan or make their own. The MMSW draft Waste Packaging and Paper Stewardship Plan, dated August 1, 2013, is available online.[23]

A Frequently Asked Question document on the Saskatchewan Environment website states that the existing SARCAN program is not being replaced by the MMSW program. Containers under deposit are not included in the program. Consumers will be able to recycle beverage containers through the curbside program, but will lose the deposit refund.

4.4.4. British Columbia

Two stewardship organizations operate in British Columbia for beverage containers: Encorp Pacific (Encorp) and Brewers Distributors Ltd. (BDL). These product stewardship agencies operate according to their Product Stewardship Plans approved under the BC Recycling Regulation (B.C. Reg 448/204). The Regulation establishes a minimum collection rate of 75%. The Regulation exempts milk containers; however, the BC Dairy Council operates a voluntary milk container recycling program.

Encorp's program is a full deposit-return system with non-refundable Container Recycling Fees (CRF). It includes most non-alcoholic beverage containers, as well as containers for wines, spirits and non-refillable beer and cooler glass containers. Revenues are generated to Encorp from three sources: sale of recycled materials, unredeemed deposits and the CRF. The CRF is reviewed and adjusted on an annual basis.

The BDL Program, a deposit-return program with full refund, is responsible for refillable glass beer and cooler bottles and aluminum beer cans. Its program is funded by fees charged to brewers, unredeemed deposits, revenues from sale of collected materials, and fees that brewers may build into the price of their products. The 2009-2014 BDL Product Stewardship Plan (BDL 2009-2014 Plan) is available online[24].

According to its 2012 Annual Report[25], Encorp operates a variety of collection locations, including 171 "Return It" Depots, five mobile collectors in Vancouver, elementary and high school collection programs, and a pilot program with specialty bins in Vancouver and bins in 14 BC parks. More than 50% of depots accept IC&I materials. Section 6(2) of Schedule 1 of the Recycling Regulation requires mandatory return-

[22] http://mmsk.ca/

[23] http://mmsk.ca/sites/default/files/documents/pdf/plan/MMSW-WPP-Stewardship-Plan-Aug1-2013.pdf

[24] http://www.env.gov.bc.ca/epd/recycling/bev/reports/pdf/brewers-stewplan-nov09.pdf

[25] http://www.return-it.ca/ar2012/report.html

to-retail in BC, a unique requirement in Canada. The draft 2014-2018 Draft Stewardship Plan[26] (Encorp 2014-2018 Plan) states that despite the presumed convenience of return-to-retail, only 7% of containers in its program are returned this this way, a declining share. Encorp pays a per unit handling fee to depots based on containers collected.

BDL currently has over 1250 return locations, including depots, licensee retail stores, government liquor stores, and rural agency stores. BDL has various contractual arrangements with the return locations, and some locations not under contract with BDL may accept returns, but not provide full deposit refund. Section VI (d) (ii) of the BDL 2009-2014 Plan provides more information.

Encorp contracts out collection, transportation and processing. BDL (through its own trucking fleet or by contracted carrier) transports materials from collection points to either contracted bottle depots or BDL warehouses. Containers are either sent for reuse where applicable or sent for recycling. Encorp funds its own promotion and education programs. Other promotion and education is provided by various organizations (e.g. municipalities with details of where to recycle, links to the Encorp website, etc.). The Encorp 2014-2018 Plan includes consumer research and awareness goals. BDL also conducts consumer education and awareness activities, and sets performance targets for awareness and satisfaction.

BDL's program had an overall return rate in 2010 of 94% according to its 2010 Annual Report[27]. Encorp's overall recovery rate was about 79% in 2012. The Encorp 2014-2018 Plan states that Encorp will target an overall recycling recovery rate of 82% for beverage containers included in the B.C. Recycling Regulation that are under Encorp's Stewardship plan.

Impact on Municipalities

Based on the research conducted for this report, neither Encorp nor BDL provides direct funding to municipalities. The Infrastructure Assets and Solid Waste Manager from the Township of Langley said that the Township does not receive compensation for deposit refund containers that are collected by their collection hauler.

Future Plans

The Stewardship Plans for both Encorp and BDL contains various performance measures and future plans for the program. These plans can be consulted for more information. Multi-Materials British Columbia (MMBC) submitted a stewardship plan for PPP in April 2013, as summarized in Section 5.1.1. According to the MMBC website, Schedule 1 beverage containers (managed under the provincial deposit return program) will not be included in MMBC's PPP stewardship plan. Details on what will happen should these containers end up at MRFs is unclear as MMBC has not yet secured post-collection services (RFP for post-collection services expected to be released in September/October 2013).

[26] http://www.return-it.ca/stewardshipplan/

[27] http://www.env.gov.bc.ca/epd/recycling/bev/reports/pdf/brewers-2010.pdf

4.4.5. Other Programs

Newfoundland and Labrador

Newfoundland and Labrador's Beverage Container Recycling Program is a deposit-refund system operated by the Multi-Materials Stewardship Board (MMSB), a Crown agency of the Newfoundland and Labrador government. The mandate of the MMSB is derived from the *Environmental Protection Act,* 2012 and Waste Management Regulations. The program includes containers for most ready-to-drink beverages, with some exceptions, including milk containers and refillable beer bottles.

Customers pay a $0.08 deposit on a non-alcoholic container and get a $0.05 refund for returning it to a Green Depot. The deposit is $0.20 for alcoholic containers, with a $0.10 refund. Domestic beer bottles are not part of the program, and as a result, Green Depots are not paid a handling fee by the MMSB to collect them. Some Green Depots accept them, possibly at a reduced refund. According to the 2012 Annual Report, the program achieved a recovery rate of 66%.

The Supervisor of Waste Diversion from the City of St. John's commented that the Region is compensated by the MMSB through a handling fee for handling the deposit return containers.

Operating surpluses are invested in the Newfoundland and Labrador Waste Management Trust Fund. These funds are used to support implementation of the province's Solid Waste Management Strategy. Some of the funds are used to support municipal initiatives. Further details are available in the MMSB 2011-2012 Annual Report[28] and on the MMSB website.[29]

Manitoba

Beverage container recycling in Manitoba includes a deposit-refund program operated by the brewing industry, a residential PPP Blue Box system and a primarily 'away-from-home' program funded by industry stewards that also funds obligations for the beverage industry under the PPP program. The PPP program is managed by Multi-Material Stewardship Manitoba (MMSM)[30], an industry-funded stewardship organization. It is similar in concept to the Ontario Blue Box system, with levies covering 80% of total program costs, as opposed to 50% in Ontario. The 'away-from-home' beverage container program (described in following paragraph) is managed by the Canadian Beverage Container Recycling Association (CBCRA)[31]. Both respond to the PPP Stewardship Regulation under the *Waste Reduction and Prevention Act* (WRAP Act).

[28] http://www.mmsb.nl.ca/uploads/file/2011-2012%20Annual%20Report%20(_pdf).pdf

[29] http://www.mmsb.nl.ca/

[30] http://www.stewardshipmanitoba.org/index.php

[31] http://www.cbcra-acrcb.org/

Stewards fund 80% of the costs of the MMSM program based on a fee-setting methodology. Details are included in the MMSM program plan[32]. The PPP guidelines under the WRAP Act include a requirement only for the beverage sector – that stewards of beverage containers must achieve 75% diversion. According to the CBCRA Program Plan[33], the beverage sector realized that the residential Blue Box system alone would not achieve the 75% target. The beverage sector then created the CBCRA, which promotes residential collection and established an 'away from home' collection channel. These include public spaces, educational institutions, and more.

Beverage producers pay a Container Recycling Fee (CRF) on unit sales in the province. Fees are typically passed down to consumers. The CBCRA uses part of the total CRFs collected to cover the stewards' obligation under the MMSM program for residential collection. The CBCRA discharges the stewards' beverage container–related obligations under the WRAP Act. The rest of the CRF funding pays for the 'away-from-home' program and CRF administrative costs. The CBCRA 2013 Annual Report[34] states that 53% of beverage containers were recovered in Manitoba as of December 31, 2012. The CBCRA's target for 2013 is 60%.

32 http://www.stewardshipmanitoba.org/stewards/files/MMSM_PPP_Program_Plan_June_22_09_Plan_and_Appendices.pdf

33 http://cbcra-acrcb.org/sites/default/files/pdf/cbcra-acrcb-program-plan-2011.pdf

34 http://www.cbcra-acrcb.org/annual-reports

Table 17: Summary of Beverage Container Recycling Programs

	Nova Scotia	Newfoundland and Labrador	Ontario	Manitoba	Saskatchewan	British Columbia
Materials Managed	Most beverage containers. Milk containers covered under a separate voluntary stewardship program. The beer industry operates a deposit-refund program.	Most beverage containers, with the notable exception of milk and milk substitutes. The beer industry operates a deposit-refund program.	Most beverage containers are collected at the curbside. Alcoholic beverage industry and provincial liquor control board operate a deposit-return program. There is no industry-funded program for milk specifically (curbside collection through Blue Box program).	Most beverage containers, including milk containers are collected at the curbside. Milk containers are not covered under the industry-funded beverage container program. The beer industry operates a deposit-refund program.	Most beverage containers. Milk containers are not included under the Regulations. The dairy industry contracts with SARCAN (and other recyclers) to provide collection and recycling of milk containers in the SARCAN beverage depots, and are paid a per tonne fee.	Most beverage containers. Milk containers are not included under the Regulations but are collected through a voluntary program by Encorp.
Program Names	Resource Recovery Fund Board (RRFB) Beverage Container Program. RRFB is a non-profit corporation set up by the Nova Scotia government. Atlantic Dairy Council is the steward for milk containers.	Multi-Materials Stewardship Board (MMSB) Used Beverage Container Recycling Program. MMSM is Crown agency of the Newfoundland and Labrador Government. The beer industry is the steward for beer containers, similar to other provinces.	Brewers Retail Inc. (The Beer Store) for beer containers. The Liquor Control Board of Ontario (LCBO) is the steward for wine and spirits. Ontario Blue Box Program for all other containers, managed by Waste Diversion Ontario (WDO), a non-crown corporation and Stewardship Ontario, an industry funding organization.	Multi-Materials Stewardship Manitoba (MMSM) PPP program. MMSM is an industry-funded stewardship organization. Canadian Beverage Container Recycling Association (CBCRA) is also an industry-funded stewardship organization specifically for beverage containers. Brewers Distributors Ltd. (beer containers)	Saskatchewan Beverage Container Collection and Recycling Program. The Saskatchewan government contracts operations to SARCAN, a division of the Saskatchewan Association of Rehabilitation Centres (SARC). Brewers Distributors Ltd. (beer containers)	Brewers Distributors Ltd. (beer containers) Encorp Pacific Ltd. (all other regulated beverage containers) Both are product stewardship agencies.
Collection	Drop-off at network of over 80 Enviro-Depots™. Curbside collection managed by municipalities.	Drop-off collection at 39 Green Depots, 17 sub depots and 15 mobile collection services. Curbside collection managed by municipalities.	The Beer Store has return-to-retail locations across Ontario for beer, wine and spirit containers. The Blue Box system is a residential curbside collection system managed by municipalities.	MMSM – materials collected through the municipal waste stream. MMSM does not manage a depot drop-off system. CBCRA works with various partners (including municipalities) to provide collection bins in public spaces, restaurants, educational institutions, etc.	Collection at SARCAN's 71 depots. Curbside collection managed by municipalities.	Encorp: 171 "Return It" Depots, 5 mobile collectors in Vancouver, elementary and high school collection programs, and a pilot program with specialty bins in Vancouver and bins in 14 BC parks. BDL: over 1250 return locations, including depots, licensee retail stores, government liquor stores, and rural agency stores

	Nova Scotia	Newfoundland and Labrador	Ontario	Manitoba	Saskatchewan	British Columbia
Category	Regulated. *Solid Waste-Resource Management Regulations.*	Regulated. *Environmental Protection Act*, 2002.	Regulated. *Waste Diversion Act*, 2002.	Regulated. Packaging and Printed Paper Regulations, under the *Waste Reduction and Prevention Act* (WRAP). CBCRA program put in place voluntarily.	Regulated. *Designated Container Regulations*.	Regulated. *B.C. Recycling Regulations*.
Funding Model	Deposit-Refund (not full refund)	Deposit-Refund (not full refund)	Deposit-Refund (alcohol only, full refund) and industry contribution to municipal program.	Deposit-Refund (alcohol only, full refund); industry contribution to municipal program; industry-funded voluntary 'away-from-home' program	Deposit-Refund (full), with non-refundable Environmental Handling Charge (EHC) and grant from Saskatchewan government.	Deposit-Refund (full), with non-refundable Container Recycling Fee (CRF).
Funding Model Details	Consumers pay a deposit at point of purchase and receive half of it back when return containers to Enviro-Depots™ ("Half-back" model). $0.10 or $0.20 deposit, depending on container size Beer industry funds refillable bottle collection – full refund received for this product. RRFB pays handling fees to Enviro-Depots™ and is responsible for management of collected material Minimum 50% of RRFB net revenue to municipalities to support waste diversion programs. Atlantic Dairy Council contributes $407 per tonne to municipalities to offset milk packaging recycling costs, according to the 2012 report by CM Consulting, Who Pays What.	Consumers pay a deposit at point of purchase and receive some amount back at return to a Green Depot. Refillable bottles are not accepted, although some depot operators may accept, possibly at a reduced refund. $0.08 deposit on non-alcoholic containers (and beer cans, imported beer and some other alcoholic beverages), with a $0.05 refund. $0.20 deposit on alcoholic containers, with a $0.10 refund. Green Depots are paid a per-container handling fee. MMSB operating surpluses go into a Waste Management Trust Fund, some of which may support municipal initiatives.	Fully-refundable deposit at the time of purchase for alcoholic beverage containers. The Beer Store's collection program is funded by industry and through unredeemed deposits. For the Blue Box system, municipalities report to WDO on recycling costs and recovery volumes. Stewards report sales of designated materials into Ontario. Fees for each type of PPP are determined, as well as the total steward obligation. Industry funds 50% of total program costs. Individual municipalities are compensated based on the Municipal Funding Allocation Model. Municipalities can apply to a Continuous Improvement Fund to improve their Blue Box program.	The MMSM program in Manitoba is similar to the Ontario Blue Box program, with industry funding of 80% of total program costs. The CBCRA collects the Container Recycling Fees (CRFs) from stewards, applied to all beverage containers sold in Manitoba. Fees are typically passed down to consumers. Part of the total funds collected goes to the MMSM to cover municipal residential collection. The rest is used to fund an 'away-from home' collection program (bins in public places, IC&I, etc.) and administrative costs.	Fully-refundable deposit at the time of purchase (between $0.05 and $0.40, depending on container) Non-refundable Environmental Handling Charge (EHC) (between $0.03 and $0.07, depending on container) The EHC varies from year to year, based on what is needed to cover program costs. Grant from the Saskatchewan government, which may vary from year to year. Dairy industry contracts with SARCAN and other recyclers for collection and processing of containers and pays them between $150 and $420 for gable top dairy containers and plastic milk jugs, according to the 2012 Who Pays What report by CM Consulting. The dairy industry funds through a levy on large milk containers.	Fully-refundable deposit at the time of purchase (ranges from $0.05 to $0.20, depending on container) The CRF ($0.01 to $0.25, depending on container) may vary from year to year depending on what is needed to cover the costs of the program. The BDL Program is a deposit-return program with full refund, funded by fees charged to brewers, unredeemed deposits, revenues from sale of collected materials, and fees that brewers may build into the price of their products.

5. FUTURE CANADIAN EPR PROGRAMS

5.1. Printed Paper and Packaging (PPP)

5.1.1. Multi-Materials British Columbia

As per the BC Recycling Regulation (B.C. Reg 448/2004) under the *Environmental Management Act*, as of May 2014 every producer of PPP must operate, or be a member of an approved plan for management of their PPP materials at the end of use. This includes producers that wish to sell, offer for sale or distribute products to residents in BC. If an organization or company has residency in BC, or supplies any PPP into the BC residential market, or is a brand owner, then they are considered to be a producer. Therefore, the PPP materials may not necessarily be processed within BC to fall under the recycling regulation. It is currently estimated that there are 350,000 to 400,000 tonnes of PPP that enters BC households annually and only 50% to 57% of the PPP is recycled in BC.

MMBC Program Plan

In response to the requirements of the regulation Multi-Material British Columbia (MMBC), a not-for-profit organization, formed to develop and implement a residential stewardship plan for PPP. MMBC acts as the stewardship agency on behalf of producers. This plan was formally accepted by the BC MOE on April 22, 2013. A summary of the Future MMBC program is provided in *Appendix F*.

As per the plan, qualified collectors will be offered financial incentives for PPP collection. MMBC will pay the collectors once the PPP that they have collected has been accepted for processing by a primary processor under contract with MMBC. MMBC is planning on providing local governments the option first for the collection of PPP for curbside, central and depot areas. Local governments will be offered a financial incentive for the collection. In the event that local governments choose not to participate as the collector, MMBC will put out an RFP for private contractors to bid on. The per household (HH) financial incentives were released for discussion in late May 2013 (*Table 18*) for the collection of PPP with the exception of PE film packaging and PS foam packaging (to be collected at depots). We note that of the municipalities Dillon works with, most do not include film but do include glass in their curbside collection program. Take back depots are available that accept plastic bags in Metro Vancouver.

Table 18: MMBC Curbside Collection Financial Incentive

Material or Material Stream	$/HH
Single-stream – curbside PPP (excluding glass)	
>2 HH/ha	$32
0.2 to 2 HH/ha	$34
<0.2 HH/ha	$36
Multi-stream – curbside fibres and containers (excluding glass)	
>2 HH/ha	$35
0.2 to 2 HH/ha	$37
<0.2 HH/ha	$39
Glass collected separately	
	$80/tonne

Source: MMBC, Collection Financial Incentives, May 31, 2013.

Performance bonuses will be awarded to municipalities that increase capture of PPP from residents while maintaining material quality (*Table 19*).

Table 19: MMBC Curbside Collection Performance Bonus

Quantity of PPP collected per HH per year (kg/HH/year)	Performance Bonus ($/HH)
180-199	$1
200-219	$2
220-239	$3
>240	$4

Source: MMBC, Collection Financial Incentives, May 31, 2013.

Costs will be recovered through 1) producers who are members of MMBC, 2) producers who supply PPP that are currently recyclable in the PPP plan and 3) producers who supply PPP that is not currently recyclable in the PPP plan. It is anticipated that producers who choose to be members of MMBC will not apply a fee at the point of sale of products as the unit cost of PPP is low.

Promotion and education to residents is also a component of MMBC and the delivery depends on who the qualified collector is. If the local government is the qualified collector than the local government provides promotion and education. However, if the qualified collector is a private company then MMBC provides promotion and education through their own means. Resident education top-up allowances are offered to the local government to support resident promotion and education. Additionally, a service administration top-up allowance is provided to local governments who act as the first point of contact for residents for the PPP collection.

As of June 14, 2013, MMBC has posted their collection financial incentives response form and sample collector contract for BC local governments to respond to either accept or decline the curbside collection incentive. Additionally, local governments and private companies can respond that they are interested to apply to be qualified as multi-family building collectors and as depot collectors. The deadline for this is September 16, 2013. MMBC will finalize and issue post collection RFPs in September/ October with a deadline of December for primary processors to respond. Evaluation of the RFP submissions and award of contracts will occur by January 2014, with a program launch of May 19, 2014.

Impact on Municipalities

MMBC released a series of materials on May 31, 2013 including an information piece for local governments considering collection financial incentives. MMBC intends to build on existing collection infrastructure and services in BC to minimize disruption to residents and those currently operating the waste management system. The information piece lists the advantages for local governments to accept the financial incentive including *self-determinacy* (e.g., ability to determine collection program, integrate PPP collection with garbage and/or organic waste, deliver promotion and education, be residents' point of contact), *contracting flexibility* (e.g., ability to honour existing collection contracts, reconsider contract with MMBC upon expiration) and *avoiding cost and risk* (e.g., avoid processing procurement costs, avoid conducting research and development on new materials to the PPP collection stream, avoid risks of fluctuating commodity prices and changes in PPP design). Should the municipal costs to collect PPP be higher than the collection financial incentive, the local government will incur the costs to cover the gap and can recover this cost gap from residents.

A webinar was held on June 7, 2013 that outlined the collection financial incentives and the next steps. Members of the Dillon team attended the webinar and the dominant concern was related to MMBC's schedule. Municipalities were concerned that there is not enough time to review, analyse and seek Council support before the September 16, 2013 deadline. There was also concern related to the pricing for collection in rural and northern municipalities which is notably higher than urban collection.

Through our discussions with select BC local governments, they indicate that the intentions of MMBC are right, as they are holding the right people responsible for PPP. However, the way that the plan is set out, it does not encourage reduction, it only focuses on recovering. There is an incentive on quantities so that the more PPP that is generated, the more funding is received. Additionally, education incentives are minimal, and for smaller local governments the funding received per household will not cover much as there are base costs associated with local radio and newspaper advertisement, development of pamphlets/education resources and education campaigns.

For multi-family buildings who currently receive collection from their local government, the way that the MMBC plan is set out, if the local governments decide to stop once MMBC comes on board, individual haulers will be able to provide the level of service to the multi-family buildings. As a result, for these

municipalities there will be more trucks on the roads from various haulers where previously there were only one to two of the local governments' trucks.

As the program is still young, some local governments are continuing with their current hauler where they have a contract in place and may continue to extend that contract. This will allow these local governments to see what happens/changes over the next few years with local governments who start with MMBC on the program launch date.

5.1.2. Ontario Waste Reduction Act

On June 6, 2013, the Ontario Government carried the first reading of Bill 91, the *Waste Reduction Act* 2013 and the accompanying draft Waste Reduction Strategy. Both items are currently under a 90-day comment period which will close on September 4, 2013.

As mentioned in Section 4.3.1, there were many concerns with the *Waste Diversion Act* and for years, the different groups involved had voiced concerns most of which appear to be addressed in the proposed *Waste Reduction Act*. The Act is broken into seven parts: 1) General (purpose); 2) Waste Reduction Authority; 3) Responsibility of Producers and Intermediaries (e.g., producers responsibilities to municipalities); 4) Integrated Pricing; 5) Enforcement; 6) Regulations, and 7) Existing Waste Diversion Programs and Existing Industry Funding Organizations. The main concepts and components of the *Waste Reduction Act* are as follows:

1. *Individual producer responsibility* – establish requirements relating to the diversion of end of life products which result in designated wastes. The Act would enable the setting of standards related to waste diversion and services. Producers would have the flexibility to determine how best to meet the standards. It would make producers and those persons related to a producer or group of producers equally responsible for meeting the set standards.

2. *All-in pricing* - ensure consumer protection by requiring all-in pricing for designated wastes under the Act. The Act would also require any seller displaying waste diversion costs, embedded in the price of a product, to be stated in a transparent and accurate manner. False or misleading representations would be an offence under the Act. The new Waste Reduction Authority would be responsible for enforcing the all-in pricing provisions of the Act.

3. *Municipal costs* - require producers to reimburse a municipality for the municipality's collection and handling costs for designated wastes.

4. *Waste Reduction Authority* - transform Waste Diversion Ontario into the new Waste Reduction Authority (WRA) with responsibility to oversee the compliance and enforcement of the new individual producer responsibility regime. It would operate a registry, allow for inspections and enforcement, and be able to issue monetary penalties for non-compliance with the Act and

regulations. The Authority would be financed by fees and administrative penalties, determined through future regulations.

5. *Transition of Existing Diversion Programs* – transition of existing programs under the *Waste Diversion Act* to the proposed *Waste Reduction Act* in a timely and smooth manner, ensuring services are maintained. This would include consultation on gradual increases to producer funding for the Blue Box.

6. *Designate additional wastes* - increase the diversion of a wider range of wastes, including as a first step the designation of paper and packaging from the IC&I sector. This would include consultation on the use of disposal bans to support diversion; a strategy to increase diversion of organics; and developing and implementing new standards for end-of-life vehicles.

The supplemental Waste Reduction Strategy describes results sought, strategies and tools to achieve results and proposed implementation timelines. In terms of the role of municipalities, the Strategy proposes two options for the compensation system for municipalities that collect designated wastes as follows: 1) compensation is determined through a negotiated agreement between the producer and the municipality, or 2) WRA develops and implements a compensation formula to apply to producers and municipalities who are unable to reach their own agreement on costs. WRA will also assist in resolution of disputes. The proposed Act states that the compensation formula can apply to one or more designated wastes and to a particular municipality or a class of municipalities. The formula will consider the reasonable costs related to collection, handling, transportation and storage of the waste. If an Act or regulation requires the municipality to process the designated waste, then the formula will consider the reasonable costs to process and dispose of the waste.

Existing programs would continue to operate as-is until the new programs are in place. In the short term (i.e. 1-2 years after the legislation has passed), consultation and planning will be of focus and transition of the Waste Electronics and Electronic Equipment (WEEE) program will begin. Through the medium term (i.e. 2-4 years after the legislation has passed) is when increased Blue Box producer funding from the current 50% and producer responsibility will begin, transition of the Municipal Hazardous or Special Waste program will take place, begin transition of the Used Tires and Blue Box programs, begin phasing-in producer responsibility for PPP supplied into the IC&I sectors, designate new wastes (potentially carpets and additional WEEE) and ban WEEE from disposal.

5.2. Mercury-Containing Products

5.2.1. Federal Program

HRM asked Dillon to review the status of federal programs for mercury-containing products. Based on our research, three federal regulations in particular would impact the stewardship, recycling and use of CFL bulbs in Canada:

1. Regulations Amending the Energy Efficiency Regulations, made under the *Energy Efficiency Act,* 1992 (currently being finalized).
2. Regulations Respecting Products Containing Certain Substances Listed in Schedule 1 to the *Canadian Environmental Protection Act*, 1999 (currently being finalized).
3. Federal EPR regulation relating to mercury-containing lamps (federal approach, that may include regulation, currently under development).

In April 2007, the federal government proposed new energy efficiency regulations that would create new efficiency standards and effectively phase out incandescent bulbs. The amendments will not make CFL bulbs mandatory (there are other lighting options). The regulations were published in the Canada Gazette in 2011, and were to come into force on January 1, 2012. They were later delayed until 2014 due to consumer concerns. Dillon spoke with the Director of Equipment Division at Natural Resources on June 1, 2013 about the status of the regulations. The Director confirmed that Phase One (including 75/100W bulbs) will come into force in January 2014 and Phase Two (including 60/40W bulbs) in December 2014. He could not provide details about the final version of the regulation.

According to an article in the Canada Gazette (February 2011), the Regulations Respecting Products Containing Certain Substances Listed in Schedule 1 to the *Canadian Environmental Protection Act*, 1999 would impose limits on the amount of mercury permitted in each CFL and would "…control manufacture, import and export of mercury-containing products and…contribute towards a comprehensive risk management strategy…" Dillon spoke with the Manager of the Product Division at Environment Canada on May 29, 2013 about the status of the program. The Manager advised that the regulations have undergone public consultation and are in process of being finalized.

The Canada Gazette article mentioned above refers to an EPR program for mercury-containing products under development by Environment Canada. Dillon spoke with the Head of Section, Waste Reduction Division at Environment Canada on June 2, 2013 about the status of the EPR program.

According to the phone conversation and subsequent clarifications received from Environment Canada, the federal EPR program is still in the early stages of development. Environment Canada is looking at how to best approach EPR for CFL bulbs at the federal level. Any draft regulation that is released would have to go through a public consultation process involving publication in the Canada Gazette, Part I. Environment Canada is not in a position to comment on the timeline for release of a draft regulation.

Environment Canada is reviewing existing programs to inform development of the federal approach to EPR with the objective of avoiding duplication. A province could decide to move ahead with a provincially-regulated program. As part of any regulation, Environment Canada prepares a Regulatory Impact Analysis Statement (RIAS). This would consider impacts to various stakeholders, including municipalities. Any federal approach would focus on preventing the release of mercury to the environment, and not financial aspects such as compensation to municipalities.

6. EUROPEAN PERSPECTIVE

Dillon's consulting team included BIO Intelligence Services (BIO) who provided information regarding European waste management programs. Following the review of the Draft Report, HRM requested that BIO be engaged to review the three following areas:

1. Municipalities involved in the collection of waste (either curbside or depot) that receive compensation for managing wastes that are managed through an EPR program.
2. Governmental regulations that force or give an incentive for producers to use readily accessible, easy to handle and marketable materials for product packaging.
3. Collection and processing of difficult-to-manage waste (e.g., glass, film plastic, polystyrene).

6.1. EPR Programs

In Europe, many EPR programs have chosen to fulfill their obligation by giving compensation to municipalities that collect waste. Two such programs operate in France for packaging and furniture.

6.1.1. Packaging EPR Program in France

The EPR packaging program in France is the responsibility of companies who bring packaging into the French market and includes any packaging used to contain a product. The European Commission Packaging Waste Directive was developed to harmonize national measures concerning the management of packaging and packaging waste to provide a high level of environmental protection and ensure the functioning of the internal market[35]. The Directive provides targets and member countries, including France, can elect how to meet the targets. France's legislation *Article L.541-10 of the "Code de l'environnement"* and the August 2009 law 2009-967 were developed in response to the EC Directive. Fees for the program are recovered through eco-taxes (also known as the Green Dot contribution) which are taxes paid by producers to Producer Responsibility Organizations (PROs) which fulfill the producers' obligation of collection and treatment of their waste.

Table 20 provides an overview of the Packaging Program in France and is further described below.

Table 20: Overview of France's Packaging Program

Component of EPR Program	Description
System characteristics and stakeholders	• Collective schemes (also called PROs or eco-organizations) for residential packaging waste are Eco-Emballages and Adelphe (of which Eco-Emballages is the majority shareholder). • Local authorities (i.e., municipalities) are responsible for collection and sorting of household packaging waste and are then reimbursed by collective schemes.

[35] http://europa.eu/legislation_summaries/environment/waste_management/l21207_en.htm

Component of EPR Program	Description
	• Industrial packaging is not subject to an EPR scheme.
Targets (federally set)	• Recovery rate objective for household packaging waste of 75% by 2016. • The PROs must provide up to 80% of municipal program costs.
Performance	• Collection rate for packaging (all materials): 55% (2011). • Household packaging recycling rate (all materials): 67% of total available recyclables (2011). • Industry (through Eco-Emballages and Adelphe) is currently covering 70% of the costs to manage household packaging waste (collection, sorting, recycling, treatment).
Control of the system	• Reporting obligations: Packaging producers that are adhering to either Eco-Emballages or to Adelphe must report the tonnages put on the market. • Free riders: the percentage of free-riders (i.e., producers who are not fulfilling their obligation of the Packaging Directive) can be estimated to be low with regards to the 1.6% of the tonnages not declared. • Penalties: Article L541-10 III of the Environmental Code defines the penalties. This could be a fine of € 1,500 for a company producing packaging and € 7,500 per unit of packaging produced (for packaging composed of separable parts such as a top).
Governance of PROs	• Requirements for packaging PROs in France derive from the law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives. It stipulates that PROs are submitted to a state censor ("censeur d'Etat"), they are required to be a non-profit organization and to undertake a mission of general interest.
Competition	• PROs: No competition since the two PROs are essentially partners. • Collection and treatment operators: Competition does exist between collection and processing service providers.
Other	• Impact on consumers: The two PROs and the local authorities organize communication and awareness raising campaigns and regularly publish information on packaging in France (i.e. annual activity report).
Promotion & Education	• The messages from PROs and local authorities are very similar: to increase the awareness of citizens for recycling. They often work together because local authorities like to be able to customize the leaflets and posters with their municipal logos and colors, and PROs want to make sure that the messages delivered are correct and unified at the national scale. • Many PROs help the municipalities to communicate by providing them with pre-designed posters that can be customized.
Advantages of the system	• Eco-Emballages gives financial support to local authorities primarily according to tonnages collected.

Component of EPR Program	Description
	• Tariffs are differentiated between materials and increase with recycling performances of the local authorities. • The system gives incentives for good recycling performances.
Disadvantages of the system	• The overall system could be better optimized to lower the costs related to it – e.g., there are many sorting centres in France because they depend on local authorities. • The system relies on reference costs. However, these costs are not representative of the heterogeneity across the many local authorities. • Costs of the services undertaken by local authorities are not transparent.
Golden rules and best practices	• The system gives incentives for good recycling performances (tariffs are differentiated between materials and increase with recycling performances of the local authorities). • The Green Dot contribution rewards eco-design efforts by lowering the contribution of packaging that encourages eco-design in the construction process. • Make costs of the service undertaken by local authorities more transparent.

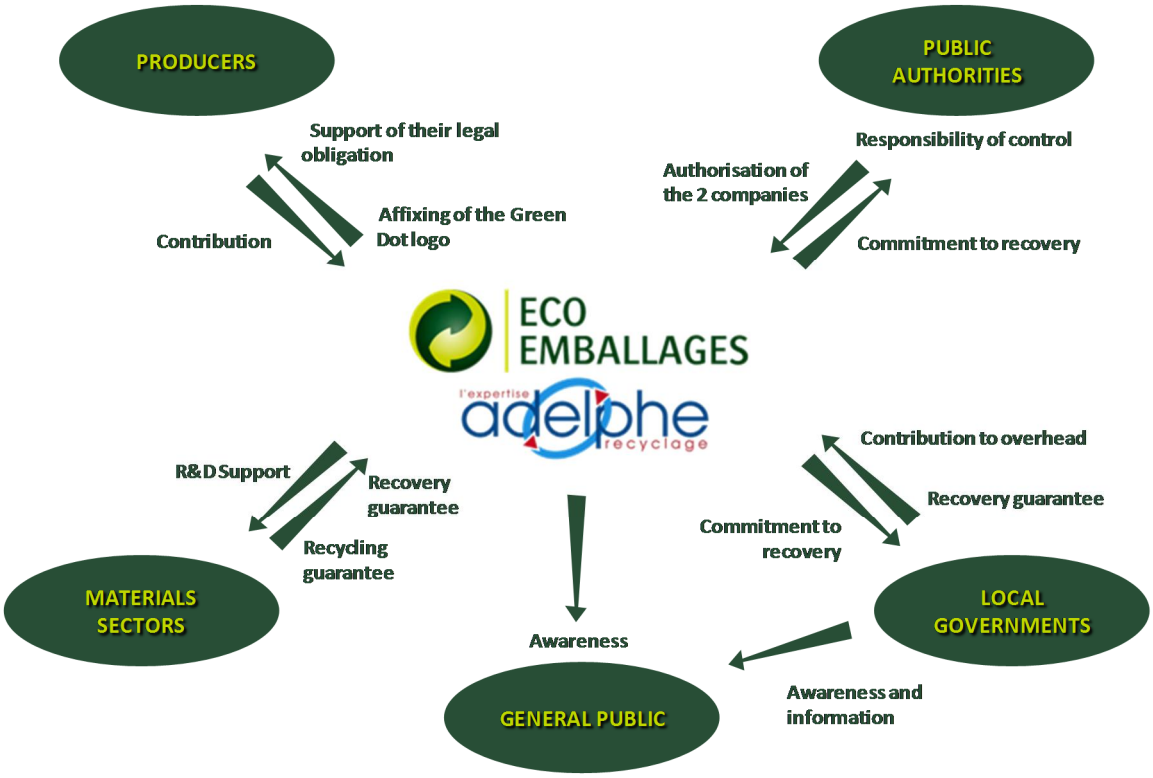
6.1.2. Role of System Players

In France, public waste disposal falls under the jurisdiction of local governments[36] or municipalities. They organize and manage the collection of household waste in their specific territories. Gradually, they have set up separate collections of packaging with the support of Eco-Emballages. Accredited by the government since 1992, this PRO has been charged with the mission of organizing, supervising, and financing the collection, sorting, and recycling of household packaging in France as dictated by the principle of EPR[37]. The diagram below demonstrates how the organization links the process's various actors.

[36] Article L2224-13 from the « Code Général des Collectivités Territoriales ».

[37] Extended Producer Responsibility : "environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle", OECD definition

Figure 2: Organization and Roles of Stakeholders in France's EPR Program[38],[39]



6.1.3. Compensation to Municipalities

Eco-Emballages provides financial support to the local authorities (for collection and sorting costs, including collection carts) mainly according to the tonnages collected. In 2012, the total cost for managing the system was € 750 million, among which € 549 million were transferred from the collective schemes to the local authorities. By 2016, this support will increase to cover 80% of the costs of the local authorities. According to Eco-Emballages and Adelphe, this objective should be reached in 2014.

The financial support of the EPR program (through Eco-Emballages and Adelphe) to municipalities is composed of two distinct parts:

- A financial support for the collection and sorting of packaging waste;
- The confirmation of a price for sorted packaging waste that is greater than 0€/tonne paid by the end market. Municipalities can choose between three modes of recovery for the removal and recycling of their collected and sorted waste. For one of these three modes of recovery, there is no minimum price for the waste.

[38] Adelphe, PRO created at the same time as Eco-emballages by the wine and alcohol producers sector. In 2005, it joined Eco-Emballages.

[39] Source: modified from www.ecoemballages.fr

Financial Support for Collection and Sorting of Packaging Waste

Municipalities must fulfill the following two conditions to be eligible for financial support:

- Produce a waste quality that is suitable for recycling. The waste is compared to a quality standard, which is specific to each waste stream (Eco-Emballages defines quality standards as "general characteristics regarding the composition (number of flows, moisture and impurity rates) and the packaging (bulk, bales or packages) of household packaging waste collected and sorted for recycling);
- Provide the receipt given by the recycler that attests that the waste has been recycled.

The tariffs (i.e., the financial support paid from PROs to municipalities) depend on the following parameters[40]:

- The type of packaging waste;
- The amount of packaging waste collected by the municipality;
- The effective recycling recovery rate;
- Recognition of improvements made to the municipal waste management system;
- Education and communication actions developed by municipalities to its residents; and
- The action developed by municipalities to increase the sustainable (economical, social and environmental) collection and sorting of packaging wastes.

The parameter that has the most impact on the financial support that municipalities will receive is the recovery rate.

Presentation of Modes of Recovery of Wastes Collected by Municipalities

Local governments have the following three options for material recovery/recycling:[41]

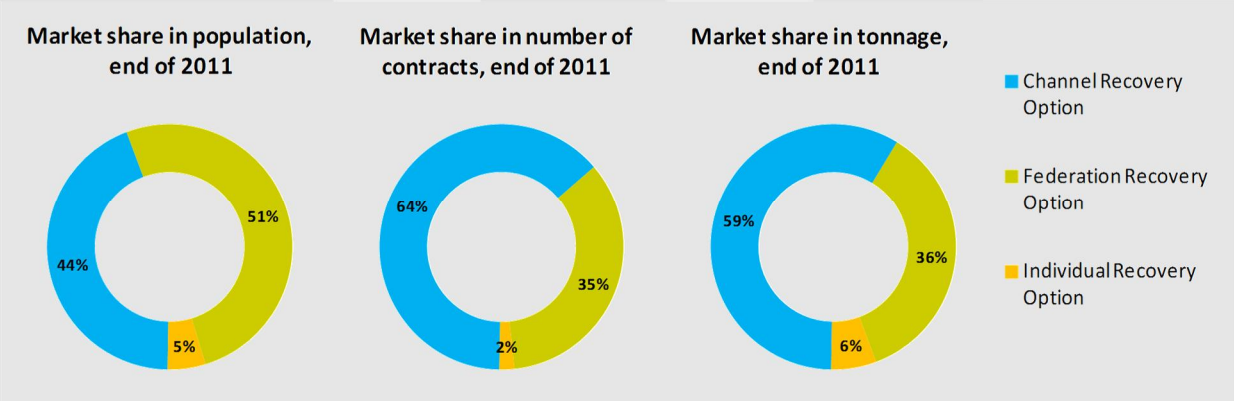
- Channel Recovery Option: this recovery mode is supported by Eco-Emballages and is implemented by organizations dedicated to each material (Valorplast for plastics, Arcelor Packaging International for metals, etc.).
- Federation Recovery Option: this option is supported by trade recycler organizations and implemented by their members.
- Individual Recovery Option: professionals directly selected by the local governments to implement waste recovery.

[40] More information can be found on this link (in French only): http://www.cg71.fr/jahia/webdav/site/internet_cg71_v2/shared/03_missions/03_engagementdurable/01_Protection_environnement/02_Dechets/Pr%C3%A9sentation%20Bar%C3%A8me%20E.pdf

[41] (http://www.ecoemballages.fr/fileadmin/contribution/pdf/collectivites-locales/reprise/vademecum_bareme_E.pdf), Eco-Emballages, January 2011

The municipalities freely choose among these three options of recovery. The figures below illustrate the market share in population, in number of contracts, and in tonnage per plastic recovery option as selected by local municipalities.

Figure 3: Distribution of Municipal Options for Plastic Recovery[42]



With the Channel Recovery and Federation Recovery options, municipalities can choose to have a fixed price, which is guaranteed to be positive (i.e., more than 0€/t) if the waste reaches the quality standards. With the Individual Recovery option, the municipality negotiates the price for recovery directly with the selected companies.

6.1.4. France's Furniture EPR Program

In France an EPR program for furniture waste was created in 2010 and implemented less than a year ago. The distributors and manufacturers created a dedicated PRO called Eco-mobilier. It is state-approved, since January 1st, 2013, and intended for all companies selling furniture in France to organize the collection, recycling, and recovery of household furniture.

According to the conditions imposed by the French government, for the creation of a PRO aimed at organizing the collection and recovery of household furniture, Eco-mobilier proposed the following two contract options to municipalities to manage their furniture waste:

- An operational contract: for municipalities that collect waste but prefer to let Eco-mobilier handle the sorting and valorization of the furniture collected;
- A financial contract: for municipalities that prefer to keep control of collection, sorting and recovery of their waste.

The financial support is different for each type of contract, but generally involves:

- Providing incentive for municipalities to reuse and recycle furniture waste by reducing the financial support for municipalities that send furniture waste for disposal (i.e., landfill or incinerate) instead of reusing or recycling;

[42] Source: www.ecoemballages.fr

- Providing incentive for municipalities to choose the operational contract by providing a higher financial support for this type of arrangement. In order to make the management of materials more economically feasible, a sufficient number of municipalities need to select this contract. Larger quantities of materials will also facilitate the ability of Eco-mobilier to negotiate with recycling companies.

Financial Support for an Operational Contract

The support for the municipality is based on the following parameters:

- Financial support for collection of waste:
  - Annual fixed support for each collection point;
  - Support per tonne of waste collected that depends on the collection method (by depot or curbside).
- Additional support per tonne of waste collected separately for reuse. (The program is new and data is not yet available. It is anticipated that humanitarian companies will report to the PRO on the quantity of furniture collected, repaired and re-sold).
- Support for communication actions that depends on the resident population within the municipality.
- An initial short-term financial support (1.5 years) for municipalities to build necessary infrastructure which depends primarily on the number of collection points.

Financial Support for a Financial Contract

The support for the municipality is based on the following parameters:

- Annual fixed financial support for collection of wastes based on the number of collection points;
- Additional support per tonne of waste collected separately for reuse;
- Support for communication actions that depends on the resident population within the municipality;
- High support per tonne of waste recycled that depends on the collection method (depot or curbside);
- Support per tonne of waste incinerated (with energy recovery) that depends on:
  - the collection process (collection by depot or curbside);
  - the type of incinerator: high support for incinerators with the most stringent air emission limits (still lower than the support for reusing or recycling wastes) and lower support for incinerators that are not as stringent.
- Very low support for each tonne of waste landfilled.

6.2. Incentives for Producers to Use Better Packaging

From a general point of view, the two main incentives for producers to adapt their product to collecting, recycling process, or market issues are:

- To increase the eco-tax for products that increase these issues;
- To give subsidies and promote eco-design initiatives from the producers.

These incentives are intended to lead producers to substitute the materials that are the source of these issues.

6.2.1. Modulated Producer Eco-Tax Fees

The principle of the eco-tax fee (i.e., Green Dot contribution) is to reward eco-design efforts by lowering the contribution of packaging that: 1) encourages consumers to recycle and 2) considers eco-design in the construction process.

The contribution that producers have to pay is calculated per unit, weight and type(s) of packaging. It is updated every year and could either be:

- A contribution depending on the weight of the product and the type of material used.
- A contribution per packaging units that can be separated from the main packaging, such as the lid (e.g., glass bottle with removable cap). The contribution depends on its weight.

A modulation of this basic contribution based on the weight of packaging is applied:

- A 50% increase is applied to the basic contribution when the packaging is considered to be not easily recyclable. Packaging considered to be not easily recycled include:
    - Glass containers with a cover/cap made of porcelain or ceramic;
    - Paperboard containers for liquids that comprise of less than 50% fibres; and
    - Bottles whose main component is PET and contains aluminium, plastic PVC, or silicone (with a density higher than 1).
- On the contrary, a bonus (e.g. 2% of the basic contribution) is attributed for packaging that includes eco-design conception.
- A 100% increase of the basic contribution is applied to packaging that is not recyclable or for which no recycling market can be found (e.g., stoneware, porcelain, and ceramic).
- A bonus of 10% of the contribution for paper and cardboard packaging that include at least 50% of recycled material.

These measures of eco-tax modulation help to decrease the amount of materials that cannot be recycled and to increase the demand for recycled materials.

6.2.2. Promotion of Eco-Designed Products

The main incentives of France's Eco-Emballages and Adelphe to promote Eco-design include:

- The creation of COTREP[43] (French Technical Committee for the Recycling of Plastic Packaging) whose purpose is to promote the integration of new packaging with a goal of economic development and environmental compliance with legislation, while allowing innovation.
- To support producers with training and tools to help them optimize the design of their packaging and its recyclability.

COTREP Support

COTREP is a technical committee that gathers Eco-Emballages, Valorplast (company in charge of implementing plastic packaging recovery) and ELIPSO (professional association representing producers of plastic and flexible packaging). COTREP aims at providing generous technical advice and guidance to plastic packaging producers, based on the following actions:

- Posting *General Notices* on their website that explains the impacts of various components on recycling (ink, varnish, glue, closure system, etc.). For example, a General Notice was issued to explain the problems caused by polystyrene labels or sleeves during the recycling of PET bottles[44]. COTREP works with every player in the plastic packaging chain to study the impact of the packaging's components on its recycling. The knowledge base thus created through General Notices is intended as a tool to be used by manufacturers when designing new packaging.
- Assessing the recyclability of a packaging product or component through a *Technical Notice* at the manufacturer's request. These notices enable the applicant to assess the compliance of its packaging product or component with other collection, sorting and recycling systems in Europe.
- Assessing the recyclability of a packaging product or component through a *Simplified Notice* at the manufacturer's request. Contrary to the Technical Notices, the applicant is then free to keep this document confidential without publishing on the website.

Recommendations are half funded by COTREP and half funded by the manufacturer making the request. Rates are in the range of 5,000 to 15,000€, depending on the nature of the packaging and the complexity of the tests.

In addition, COTREP contributes to the compilation of the list of packaging that are considered to be not easily recyclable and for which a 50% increase is applied to the eco-tax paid by producers to Eco-Emballages.

Other Eco-Design Support

Eco-Emballages and Adelphe support producers with training and tools to help them optimize the design and recyclability of their packaging.

[43] http://www.cotrep.fr/?L=1

[44] http://www.cotrep.fr/fileadmin/contribution/mediatheque/avis-generaux/anglais/labels-and-sleeves/AG42_-_Behaviour_of_PS_labels_or_sleeves_during_the_recycling_of_PET_bottles.pdf

This support can take different forms. For instance, experts can prepare, on demand, a diagnosis of the packaging products. A software program available online[45] (called BEE or Bilan Environnemental des Emballages), was also created to calculate the environmental impact of packaging products and to help the producer to limit it. All the costs of such actions are covered by the PROs.

6.3. Processing of Difficult-to-Recycle Materials

6.3.1. Collective Returnable Glass Bottles (Swedish example)

In Europe, glass bottles are collected mainly by curbside collection, at fixed collection points, or return to retail for reuse (any store that sells the same type of glass bottle).

In Sweden for example, glass bottles with a volume higher than half a liter and are non-reusable (representing less than 5% of the market) are collected separately for recycling; while other glass bottles (the remaining 95%) are cleaned and refilled. This system, which was introduced in 1886 for beer bottles, has proven its efficiency with a current average of 97% of glass bottles being returned (of the 95% of refillable bottles in the market). A PRO called Svensk Glasåtervinning is in charge of the collection, reuse and recycling of glass bottles.

Description of the system:

- The consumer is charged a deposit when they buy a glass bottle;
- The consumer can return the bottle to any place that sells this type of packaging, whatever the brand or its origin. Automatic terminals are installed at such selling points to collect the bottles at any time of the day, and refund the deposit to the consumer. The automatic terminal can read the label and the barcode of the bottle to register the type and number of bottles collected;
- Beer producers had to agree to use a similar type of glass bottle (33cl in glass) to facilitate the sorting and collection of refillable bottles;
- Collected bottles are then cleaned and refilled. Since the same type of bottle is being used, the bottles can be transported to the closest cleaning company.

6.3.2. Private Returnable Glass Bottles (Bofferding Brewery Example)

Description of the system in place:

- The brewery sells the beers in Luxembourg, Belgium and France;
- Refillable bottles represent 20% of the packaging (80% are non-refillable);
- Consumers can return the bottles to any place that sells Bofferding beers;
- The brewery set a fixed price of the deposit at 4,5€/24 bottles;
- The cleaning process is done at the brewery and includes a mechanical inspection of bottles to detect any weakness in the glass; and

[45] http://bee.ecoemballages.fr/

- Labels are put on the bottles using glues made from water and caseins that easily dissolve during the cleaning process. The same glue is used for non-refillable beer bottles.

The results and benefits of this refillable system include:

- A recovery rate of more than 95%;
- Bottles can be reused up to 19 years;
- Bottle are returned to the brewery for cleaning after 2 months on average, so they can be reused 6 to 7 times per year;
- An economical benchmark of the cost of the refillable and non-reusable beer bottles showed that refillable bottles are nearly 7 times less expensive! Non-reusable bottles are still being used because some consumers do not want to use refillable bottles; and
- The use of refillable bottles also reduces the amount of wastes from 5 kg to 0.07 kg per 24 bottles.

6.3.3. Plastic Film in Europe

When studying the potential for recovery of plastic film it is important to make a distinction between the three origins of plastic film waste: 1) from household wastes; 2) from agricultural sources; and 3) from industries (supermarkets mainly).

Plastic film from supermarkets is relatively easy to collect separately and clean (since material is not usually polluted by other wastes or contaminants). Therefore, they are easy to recycle into LDPE granulates that will be used to produce new plastic film. Plastic film coming from the agriculture sector are easy to collect separately but are often polluted by soil and needs to be washed (sometimes twice) before being recycled[46]. This process of washing then drying the plastic film increases the cost of recycling because of the potential degradation of the films and the superior energy demand.

The plastic film from these two origins represents the main source of recycled plastic films in Europe. Indeed, around 100 companies recycle plastic film but only 15 claims to recycle plastic film from household wastes, and no evidence could be found that they actually use plastics from such wastes. The recycling of household plastic film does not represent significant technical problems at the newer sorting facilities since agricultural and industrial (e.g., retail plastic bags) are separately collected. In France and Germany the current plants have a recycling capacity between 25 kt (metric kilotonne) and 40 kt per year. The waste come from the whole country and the cost of transport is significant.

There was no information that indicated that plastic film from household waste are being recycled except in France. In France, plastic film represent a third of plastic waste from the residential sector. At the moment, these wastes are not collected separately but approximately 90% end up at disposal sites

[46] http://www.sita.fr/fr/expertises/valorisation-matiere/le-recyclage-des-plastiques/le-process-sopave-et-sita-recycling-polymers/

(landfill, incineration). The other 10% of plastic film in recycled. Experiments have been launched in some municipalities to see if these wastes could be collected separately from other household wastes.

In this context, Régéfilms was created in 2008 for recycling these wastes. In June 2013, the company went bankrupt. The main reason was the over capacity of the recycling plant because they could not get enough plastic film from high technology sorting plants. They expected that the separate collection of plastic films would be in place to provide them an economically viable amount of plastic by 2013.

The price paid for the pre-sorted plastic film from sorting plants and the costs for sorting, cleaning, and producing the granulate, were too high to allow the plant to work under its potential capacity. As a consequence the price for producing the recycled LDPE was 15% to 20% higher than the market price for LDPE granulates. However, it is important to note that the technology to produce high quality recycled LDPE granulates is available.

7. CONCLUSIONS

Based on the research detailed in the above, the trends indicate that industry stewards are taking on a greater share of responsibility for the recycling of their products. Nova Scotia has an established curbside collection program that currently accepts paper products and containers and a depot collection system (e.g., ENVIRO-DEPOTS™) that currently accepts refundable containers and used paint. As *Table 2* demonstrates, there are numerous stewardship programs currently operating within Nova Scotia, however the program structures, compensation to municipalities and systems to manage the materials vary significantly.

The research and analysis provided above identified both potential enhancements/refinements to existing programs and new EPR and stewardship programs for consideration in Nova Scotia. These opportunities are summarized in *Table 21*. Introduction of new and modification of existing programs will require regulatory changes, extensive stakeholder consultation, establishment of collection and processing systems and identification of end markets. It is anticipated that considerable time and effort will be necessary for the planning of these potential programs.

The research conducted for this study was restricted by the following limitations:

- Findings were primarily based on information available on websites and where possible, through direct contact with stewardship agencies and governmental representatives.
- Programs tend to vary municipality-to-municipality and feedback was only available from select individuals. The scope and timeframe of the study did not allow for confirmation of some information from the individuals interviewed.
- Details on certain aspects of the programs (e.g., funding formula, selection of depot locations) were not readily available.
- There was minimal data available to determine how/if municipalities could be compensated for managing EPR stewarded materials that end up in the municipal waste stream.
- Certain existing programs are relatively new and therefore data (e.g., tonnes collected, recovery rates) on the effectiveness of the program was not available and comparison to other programs was not achievable.

Table 21. Potential Stewardship and EPR Program Opportunities in Nova Scotia

Product	Existing in Nova Scotia	Observations and Opportunities from Reference Jurisdictions	Potential Opportunities in Nova Scotia
Paint and Other HHW (not including Mercury-Containing Lights)	Product Care/RRFB Paint Recycling Program	• Other Product Care programs reviewed for this report operate on a similar funding model to Nova Scotia, responding to a recycling regulation. • Product Care operates a stewardship program on behalf of obligated industry stewards, and is typically overseen by a multi-materials stewardship board. Fees are charged to stewards based on materials sold in the province. These fees are used to pay for management of the stewarded materials. Stewards typically pass these costs on to the consumer. • Nova Scotia is the only jurisdiction in which already-empty paint containers are not accepted by the program. • Paint is most commonly returned through a depot drop-off system. Municipal and most other collection points are compensated though handling fees for acting as a collection point. • Among the Product Care programs reviewed for this study, Manitoba and British Columbia have expanded HHW programs that include materials such as pesticides, flammable liquids and toxics. • Performance indicators for materials such as paint and other HHW are difficult to measure and track because the material is consumed and may not be returned until many years after purchase.	• Include paint containers in Product Care's HHW program and empty paint containers in municipal curbside/depot collection programs. • Expand Product Care's HHW program to include pesticides, flammable materials, etc. and designating these materials under the Solid Waste Resource Management Regulations. • Expansion of ENVIRO-DEPOTS to accept additional HHW materials. • Include municipal HHW depot in compensation model.
Mercury-Containing Lights	No specific provincial policy or industry stewardship program for recycling/disposal of mercury-containing lamps.	• Quebec and British Columbia have very developed fluorescent light stewardship programs, with collection through a depot drop-off and return-to-retail system. • The British Columbia and Quebec programs have expanded to include products that contain lights, such as fixtures and ballasts. The Manitoba program accepts only residential fluorescent lights and tubes. • A federal approach to EPR for mercury-containing lamps is still in relatively early stages of development. Nova Scotia could proceed with its own stewardship program. • Processing facility exists within Nova Scotia.	• Research processing capacity and end markets within or near Nova Scotia to manage products generated from residential and/or IC&I sectors. • Assess existing depot network and retail stores in terms of space available and interest to participate. • Conduct consultation with relevant stakeholders. • Designate lights and/or lighting products as stewarded material under the Solid Waste Resource Management Regulations.
Printed Paper and Packaging (PPP)	Curbside collection in seven waste management regions. Residents are encouraged to return beverage containers for refund at depots however, they are still accepted at curbside. Minimum 50% of RRFB net revenue to waste management regions to support waste diversion programs. Industry funding for in-kind newspaper advertising credits.	Many provinces in central and western Canada have implemented industry-funded PPP programs or will be doing so in the future. Two of the provinces reviewed have moved towards partial industry funding for PPP recycling, responding to regulatory requirements: • Ontario Blue Box program (current form under *Waste Diversion Act*, 2002): 50% of total program costs, with funds allocated to municipalities according to a funding allocation model. Managed by Stewardship Ontario and Waste Diversion Ontario. The proposed changes to the Waste Diversion Act suggest a gradual increase in the portion funded by industry. Proposed timelines are included in *Appendix G.* • Manitoba Multi-Materials Stewardship Manitoba (MMSM) program, program plan approved in 2009: 80% of total program costs, with funds allocated to municipalities according to a funding allocation model. In Saskatchewan, the Multi-Material Stewardship Western, Inc. (MMSW) was formed in 2010. The program plan was submitted to the Minister of the Environment in early August, 2013 and implementation is expected in 2014. Under the Regulations, responsibility for financing up to 75% of residential PPP recycling will be transferred from municipalities to	• Work with the Province to move to an EPR program for PPP. • Evaluate impact of curbside collection polyethylene film and/or polystyrene foam and consider expansion of depot network for separate collection of these materials (at waste depots and/or at retail establishments). • Consider consistent collection of PPP within Province. • Conduct further research on how Nova Scotia can move to an EPR program for PPP. • Monitor program development and implementation federally and in BC, Ontario and Saskatchewan.

Product	Existing in Nova Scotia	Observations and Opportunities from Reference Jurisdictions	Potential Opportunities in Nova Scotia
		industry stewards. Stewards can be part of the MMSW program plan or make their own. British Columbia's *Recycling Regulation* was amended in May 2011 to include PPP. Producers of PPP will be responsible for the life-cycle management of their products and were required to submit a stewardship plan to MOE in 2012 (further details about proposed timelines are included in *Appendix G*. Multi-Materials British Columbia (MMBC) submitted a PPP Stewardship Plan and MOE approved it in April 2013. Over 1,200 producers have registered with MMBC as of June 2013. MMBC will be responsible for collection (through contracting with local governments and other qualified collectors for single-family, multi-family and depots) and post-collection services (through a competitive procurement process) The program is to be implemented by May 2014 and stakeholder engagement is ongoing. Other components of the MMBC program plan include: • Collection incentive will be offered to collect polyethylene film and polystyrene foam separately at depots. • Glass may be collected with a per tonne collection incentive at curbside and at multi-family buildings as long as it is kept separate from other PPP. • The materials accepted in the recycling program will be consistent throughout the province however, the type of collection program (e.g., single-stream, multi-stream), collection frequency and container types can be determined by local governments. France's EPR program for packaging waste was developed in response to the *European Commission Packaging Waste Directive*. Municipalities receive funding (target is 80%, currently at about 70% of the costs) from PROs to manage the residential packaging waste collection and processing program. Municipalities have a target of recovering 75% of packaging waste by 2016. Opportunities and observations from this program include: • The Green Dot contribution is paid by producers to the PROs which fulfills the producers' obligation of collection and treatment of their waste. The contribution is dependent on packaging type, weight and volume. • The percentage of producers not contributing to the program is estimated at 1.6% of the tonnages not declared. • Fees (or tariffs) paid to municipalities largely depend on the recycling performance of the municipal collection and processing system. Also taken into consideration is how much a municipal waste management system has improved with time, the promotion and education effort and the effort put towards creating a sustainable collection and processing system for packaging waste. • Municipalities have three different contractual options for processing and marketing of collected packaging waste. • Municipalities work with PROs to develop promotion and education materials. PROs want to make sure the message is getting across accurately and municipalities want to deliver consistent messaging (e.g., logos, colour schemes). Many PROs provide municipalities with posters that can then be customized by the municipalities. • PROs work to educate producers on the recyclability of their packaging waste through COTREP (committee that provides technical advice and guidance to plastic packaging producers) by publishing notices on the impacts of packaging materials at MRFs and assessing or testing the recyclability of the packaging product (half funded by COTREP and the other half funded by the manufacturer requesting the assessment or test). A software package was also developed where manufactures can calculate the environmental impact of the packaging product and provide advice on how to limit packaging waste.	

Product	Existing in Nova Scotia	Observations and Opportunities from Reference Jurisdictions	Potential Opportunities in Nova Scotia
Beverage Containers	RRFB-operated beverage container recycling program, based on a deposit-return "half-back" system. Consumers pay a deposit at point of purchase and receive half of it back when returning containers to Enviro-Depots™. $0.10 or $0.20 deposit, depending on container size. Minimum 50% of RRFB net revenue to waste management regions to support waste diversion programs. Milk packaging per tonne costs reimbursed to municipal regions.	Beverage container programs vary between provinces. All provinces reviewed have separate stewardship programs managed by the brewing industry for alcoholic containers based on deposit with full refund upon return of refillable containers (programs may also accept some non-refillable containers). Milk containers are not deposit-bearing containers in other provinces. They are typically collected in municipal curbside programs or may be accepted at depots, but not for refund. Observations and opportunities from other jurisdictions are as follows: <u>Newfoundland</u> • Deposit-return system similar to Nova Scotia's, with some different fees • Funds managed by the MMSB, with part directed to a Waste Management Trust Fund (which may support municipal waste diversion initiatives) <u>Ontario</u> • Deposit-return system only on refillable alcohol containers and some other alcohol containers (for beer, liquor, wine, spirits), collected through The Beer Store (depot drop-off). Funds managed by the brewing industry (Brewers Retail, Inc.) • Other beverage containers are collected through Blue Box municipal waste collection, as for PPP above. Municipality funded directly. <u>Manitoba</u> • Beverage containers collected through municipal recycling programs, with industry steward funding allocated to municipalities as for PPP. Municipality funded directly. • The Canadian Beverage Container Recycling Association (CBCRA) works with various partners (including municipalities) to provide collection bins in public spaces, restaurants, educational institutions, etc. and supports residential collection programs. The CBCRA collects the Container Recycling Fees (CRFs) from stewards, applied to all beverage containers sold in Manitoba. Part of the total funds collected goes to the MMSM to cover municipal residential collection. The rest is used to fund an 'away-from home' collection program (bins in public places, IC&I, etc.) and administrative costs. <u>Saskatchewan</u> • Fully-refundable deposit-return program with non-refundable Environmental Handling Charge (EHC). The CRF varies to cover the costs of the program. The program receives a grant from the Saskatchewan government. • Drop-off of containers at depots operated by SARCAN and municipal curbside collection where available. • SARCAN-operated beverage container program to remain in place following implementation of MMSW PPP stewardship program partly funded by industry.	Opportunities to implement changes to beverage container management in Nova Scotia could include: • Keep the deposit-refund system and retain or revise fees. • Revise the compensation formula with respect to funding that municipalities receive from the RRFB. • Keep the deposit-refund system and introduce non-refundable environmental handling fees, as in several other jurisdictions. • Eliminate the deposit refund system and transition beverage container collection to curbside, with or without an environmental handling fee. • Review potential approaches to improve collection at 'away-from-home' locations, with a focus on the Manitoba CBCRA program. • Introduce a partial or full industry-funded program for PPP. Considerations: • Deposit-return fees are included in the Regulations. • Beverage container recycling programs have been most successful in jurisdictions with deposit-refund programs (including Nova Scotia). Transition to a non-deposit-refund system would likely reduce return rates. • Other provinces with depot-based systems that have introduced industry-funded PPP programs appear to retain deposit-return depot-based system.

Product	Existing in Nova Scotia	Observations and Opportunities from Reference Jurisdictions	Potential Opportunities in Nova Scotia
		<u>British Columbia</u> • Fully-refundable deposit-return program with non-refundable Container Recycling Fee (CRF). The EHC varies to cover the costs of the program. • Beverage containers are still to be managed through a deposit-return system and are not included in MMBC's PPP Stewardship Plan. Milk containers are included in MMBC program plan. <u>Sweden</u> • A PRO is responsible for the collection, reuse and recycling of glass bottles. • Current recovery rate of 97%. • Bottle producers agreed to use a similar glass bottle type to facilitate the collection and sorting of refillable bottles. • Bottles can be returned for refund to any place that sells the same bottle type or taken to automated terminals (at any time of day) that read the barcode to register the type and number of bottles collected. • Since the same bottles are used, collected bottles are transported to the nearest cleaning facility.	

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APPENDIX A

Questionnaire Template

Halifax Regional Municipality

Extended Producer Responsibility and Stewardship Model Review and Analysis

Questionnaire – Rev 2

No.	Question	Detailed Response
	Name of Province / Territory	
	Population/Households / Number of Industrial, Commercial or Institutional Entities Served	
	Contact Information and/or weblinks	
	Material/Product (eg. milk cartons, tires, paper packaging) (fill out separate sheets for different materials/products if different structures)	
	Number of brand owner(s) covered under the plan.	
	How is material collected (e.g. curbside, drop off depot, retail take-back)? Number of collection points.	
	How are costs for programs recovered (e.g. invisible fee, environmental fee, deposit/return)?	
	Where is the material/product processed (city, country) and what is the end use(s) of the product?	
	Provide data (if available) from last 3 years on:	
	Participation Rates	
	Capture Rates	
	Tonnages (total in system and total collected)	
	Program costs (total, net)	
	Program cost per tonne of material	

No.	Question	Detailed Response
	Who (federal, municipal, province, name of stewardship agency) is responsible for the delivery of (provide description, may be more than one agency involved):	
	Promotion and Education	
	Collection	
	Processing	
	Disposal	
	Marketing	
	Who (F, M, P, S, taxpayers) is responsible for funding of (provide description of funding formula);	
	Promotion and Education	
	Collection	
	Processing	
	Disposal	
	Marketing	
	What policies and criteria exist for the delivery of stewardship programs? Can a copy of the plan be provided? What legislation or policy is in place that enables the EPR program?	
	Describe provincial policies and criteria used for evaluation of stewardship plan. Is ongoing monitoring required by the province?	
	What enforcement tools are in place if industry does not meet its obligations as set out in their plan?	
	Describe the administration and reporting models.	

No.	Question	Detailed Response
	How has the EPR program impacted existing curbside recycling and composting programs?	
	How do you manage EPR program materials that end up in the in the garbage, recycling or compost stream? How does it impact the municipality?	
	Does the municipality receive funding for managing EPR stewarded products, if so, what is the funding model and criteria?	
	How are existing municipal recycling and recovery programs considered in the execution of stewardship programs?	
	Are there future plans to enhance or modify this program? If so, describe.	
	Are there plans to pursue a full EPR program? Why or why not? (e.g. waiting for a national program)	

Note: We will evaluate consistency of other programs to the Nova Scotia content during the evaluation phase of the project.

APPENDIX B

Summary of Existing HHW Programs

		Newfoundland and Labrador	Nova Scotia	New Brunswick	PEI
Statistics	Population	514,536 (2011 Census)	921,727 (2011 Census)	739,900 (2011 Census)	140,204 (2011 Census)
	Households	390,280 (2011 Census)	390,280 (2011 Census)	314,010 (2011 Census)	56,460 (2011 Census)
Contact Information and/or weblinks		www.productcare.org/Newfoundland	www.productcare.org/Nova-Scotia	www.productcard.org/New-Brunswick	www.ProductCare.org/PEI
Material/ Product (eg. milk cartons, tires, paper packaging) (fill out separate sheets for different materials/ products if different structures)		• Maximum paint container size: 25L • Interior and exterior paint • Deck coatings and floor paints (including elastomeric) • Varnishes and urethanes (single component) • Concrete/masonry paints • Drywall paints • Primers (metal, wood) • Undercoats • Stucco paints • Marine paints • 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 (all types; max 660grams or 24oz)	• Max paint container size: 25L • Interior and exterior paints • Latex, acrylic, water-based paints • Alkyd, enamel, oil-based paints • Deck coatings, floor paints • Single component varnishes and urethanes • Concrete, masonry, drywall and stucco paints • Metal and wood primers • Undercoats • Marine paint • Melamine, metal and anti-rust paint, stains, shellac • Single component swimming pool paint • Stain blocking paint • Block fillers • Wood, masonry, driveway sealers, water repellents • Paint aerosols (consumer, industrial, automotive) max 660g (24oz)	• Maximum paint container size: 25L • Architectural house paint • Deck, porch and floor paints and coatings • Driveway sealers (non bitumen or tar based) • Drywall paints & sealers • Marine enamel (non antifouling • Masonry & wood water sealers and repellents • Melamine paint • Rust paints and decorative metal paints • Shellacs • Stain blocking paints • Stucco paints • Swimming pool paints • Textured paints • Varnishes • Urethanes (single component) • Wood finishing oils	• Max paint container size: 25L • Interior & exterior: latex, acrylic, water-based, alkyd, enamel, oil-based consumer paints • Deck coatings and floor paints • Varnishes and urethanes (single component) • Concrete/masonry paints • Drywall paints • Primers (metal, wood) • Undercoats • Stucco paint • Marine paints • Wood finishing oils • Wood preservatives • Melamine, metal & anti-rust paints, stains, shellac • Swimming pool paint • Already empty paint containers • Stain blocking paint • Textured paints • Block fillers • Wood, masonry, driveway sealers or water repellents • Paint aerosols of all types, max container size: 660g (24oz)
Number of brand owner(s) covered under the plan.		As of June 14, 2011, there are 65 brand owners that have appointed Product Care as their agent for the Newfoundland and Labrador paint stewardship program. Brand owners must apply to the Multi-Materials Stewardship Board (MMSB).	63 Brand Owners are registered as of March 21, 2013. Updated monthly.	The Regulation requires all paint brand owners to register with Recycle New Brunswick and to submit a program plan. The number of brand owners was not determined for this report.	32 Brand Owners with Product Care
How is material collected (e.g. curbside, drop off depot, retail take-back)? Number of collection points.		51 drop-off locations, including "Green Depots" and retail locations.	Drop off locations and retail take-back As of June 30, 2012, the Program collection system included 82 Enviro-Depot and 18 municipal collection facilities located throughout the seven Solid Waste-Resource Management Regions (SWRMSRs)	In 2013, 61 drop off depots and retail return locations in New Brunswick.	6 Drop-off locations at "Waste Watch Depots" run by the Island Waste Management Corporation (IWMC).
How are costs for programs recovered (e.g. invisible fee, environmental fee, deposit / return)?	Fee Type	Fees charged to obligated stewards based on unit sales. Visible fees at point of purchase are not permitted by the regulation.	Fees charged to obligated stewards based on unit sales. Some retailers show the recycling fee separately at point of purchase, some include it in product price.	Fees charged to obligated stewards based on unit sales. Visible fees at point of purchase are not permitted by the regulation.	Fees charged to obligated stewards based on unit sales. Visible fees at point of purchase are not permitted by the regulation.
	100mL to 250mL	$0.30	$0.20	$0.20	$0.20
	251mL to 1.00L	$0.50	$0.35	$0.35	$0.35
	1.01L to 5.00L	$1.10	$0.70	$0.70	$0.70
	5.01L to 23.00L	$2.50	$1.50	$1.50	$1.50
	Aerosol Paint	$0.30	$0.20	$0.20	$0.20

		Newfoundland and Labrador	Nova Scotia	New Brunswick	PEI
Where is the material/product processed (city, country) and what is the end use(s) of the product?		According to the Program Plan: · Paint exchange program · Latex paint: paint exchange, reprocessing as paint, raw material in other processes, engineered landfill · Oil Based paint: paint exchange, preprocessing as paint, energy recovery (blended with other hydrocarbons as an alternative fuel in facilities), incineration · Aerosol paint: energy recovery, incineration · Paint Containers: recycling, energy recovery (plastics), landfill; metal paint containers are baled and forwarded to a scrap metal recycler; plastic containers are recycled · Leftover paint is processed by Laurentide Atlantic. Laurentide has a paint bulking facility in Springhill, Nova Scotia and a paint bulking and reprocessing facility in Victoriaville, Quebec. Laurentide markets recycled paint through a number of channels, including the "Boomerang" brand of recycled paint sold in Canada.	According to the Program Plan: • Latex paint: reprocessing as paint; appropriate disposal facility • Oil based paint: energy recovery; appropriate disposal facility • Aerosol Paint: energy recovery; appropriate disposal facility; steel containers recycled • Emptied paint containers: recycling; appropriate disposal facility.	According to the Program Plan: • Paint Exchange Program • Majority of recycled paint manufactured in Canada is sold overseas • At time of Program Plan (2008) Product Care intended to contract with Preferred Environment – Societe Laurentide as the primary reprocessor of leftover paint • Laurentide operates a paint bulking facility in Springhill, Nova Scotia and a paint bulking and reprocessing facility in Victoriaville, Quebec. • Latex paint goes to engineered landfill • Oil based paint will be blended with other hydrocarbons as an alternative fuel in facilities such as cement kilns and high level air quality controls • Paint aerosols will be punctured and contents drained; steel container will be recycled ; if no reuse/recycling options are available, the contents will be used for energy recovery through traditional hazardous waste management companies • Empty paint containers recycled by the reprocessing facility, where available • Metal paint containers sent by Laurentide Atlantic to Little Forks Landfill, Nova Scotia, for bailing, then forwarded to a scrap metal recycler • Plastic containers are sent to White Star Plastics in Waverly, Nova Scotia for recycling.	According to the Program Plan: • Latex paint: Paint exchange, reprocessing as paint, engineered landfill • Oil based paint: Paint exchange, energy recovery • Aerosol Paint: Paint exchange, incineration; steel containers recycled • Empty Paint Containers: Recycling, engineered landfill.
Provide data (if available) from last 3 years on:	Participation Rates	Not available as launch date was April 18, 2012.	Not available specific to current Program Plan as the Product Care program began in 2012. The 2012 RRFB Annual provides the following 2012 and 2011 performance data: • Beverage containers on which deposits were received: 1.95 million (2.15 million in 2011) • Beverage containers collected: 432,900 units (389,900 units in 2011) • Paint collected: 447,994 litres (450,708 litres in 2011) • Used paint container recovery rate: 22.1% (18.2% in 2011) • Non-program materials: 41,616 units (33,519 in 2011).	In its first year of operation, NB captured a recovery rate of 2.9% In 2010: • Paint Sales: 5,468,549 • Volume Recovered: 261,199 • The leftover paint recovery rate based on sales volume: 4.8%.	Not available as launch date was September 1, 2012.
	Capture Rates				
	Tonnages (total in system and total collected)				
	Program costs (total, net)				
	Program cost per tonne of material				
Who (federal, municipal, province, name of stewardship agency) is responsible for the delivery of (provide description, may be more than one agency involved):	Promotion and Education	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.
	Collection				
	Processing				
	Disposal				
	Marketing				
Who (F, M, P, S, taxpayers) is responsible for funding of (provide description of funding formula);	Promotion and Education	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Recycling fees (eco-fees) paid by members based on their unit sales
	Collection				
	Processing				
	Disposal				
	Marketing				

	Newfoundland and Labrador	Nova Scotia	New Brunswick	PEI
What policies and criteria exist for the delivery of stewardship programs? Can a copy of the plan be provided? What legislation or policy is in place that enables the EPR program?	Amendment to *Waste Management Regulations* under the *Environmental Protection Act* to include Part IV: Waste Paint Newfoundland's Product Care Paint Stewardship Program Plan was approved by MMSB on December 20, 2011.	Sections 18B-18I of the Solid Waste-Resource Management Regulations made under Section 102 of the *Environment Act* Product Care Nova Scotia Paint Stewardship Program Plan 2012-2017.	The Designated Materials Regulation – under the New Brunswick *Clean Environment Act* by Order-in-Council 2008-180 dated April 25, 2008 Product Care will follow their Paint Program Plan.	*Environmental Protection Act* R.S.P.E.I 1988, Cap. E-9; Materials Recycling Regulations – Paint Stewardship Prince Edward Island Paint Stewardship Program Plan (April 2012) 2012-2017.
Describe provincial policies and criteria used for evaluation of stewardship plan. Is ongoing monitoring required by the province?	Amendment to *Waste Management Regulations* under the *Environmental Protection Act* to include Part IV: Waste Paint: • Section 31.2(2) "A brand owner shall submit a paint stewardship plan with its application for registration for the approval of the board" • Section 31.6 shows the contents of the paint stewardship plan • Section 31.9: (1) A brand owner shall implement and comply with the paint stewardship plan as approved or imposed by the board under • Section31.7; (2) A brand owner who fails to comply with the paint stewardship plan as approved or imposed by the board under section 31.7 commits and offence • Section 31.12(1) "A brand owner shall, before May 1 in each year, provide the board with an annual report detailing the effectiveness of the paint stewardship plan during the previous calendar year including…"	From Sections 18B-18I of the Solid Waste-Resource Management Regulations made under Section 102 of the Environment Act: • 18E(1): A brand owner shall submit a proposal for a consumer paint product stewardship program • 18F(1): Every brand owner shall, on or before June 30 in each year or on some other date agreed upon in writing by the Administer with an annual report on their consumer paint product stewardship program during the previous fiscal year • 18I: No person shall falsify, render misleading, unlawfully alter or fail to provide any information, report or record required in accordance with Sections 18B to 18H	New Brunswick Regulation 2008-54 under the Clean Environment Act (O.C. 2008-180) Filed April 25, 2008: • Part 5 Designated Material Paint: Section 37i: "A brand owner shall, with its application for registration under this Regulation, submit a paint stewardship plan for approval of the Board" • Part 5 Section 39 details what is required in the paint stewardship plan • Part 5 Section 41: "A brand owner shall implement and comply with the paint stewardship plan as approved or imposed by the Border under section 40" • Part 5 Section 45: "Subject to subsection (2.1), on or before April 30 in each year, a brand owner shall provide the Board with an annual report detailing the effectiveness of the paint stewardship plan during the previous calendar year…"	Materials Recycling Regulations - Paint Stewardship: • 28.9(1): "A brand owner who wishes to apply for approval of a consumer paint material stewardship program shall file with the Minister a completed application on a form approved by the minister" • 28.9(3): "An applicant shall submit with an application made under subsection (1) or (2) a detailed written proposal outlining…" • 28.10(1): "A brand owner or agent who operates a consumer paint material stewardship program shall, on or before July 31 of each year, pay the annual fee prescribed" • 28.10(2): "The annual fee for a consumer paint material stewardship program is $10,000 and shall be made payable to the Minister of Finance, Energy and Municipal Affairs" • 28.16: "A brand owner or an agent who operates a consumer paint material stewardship program shall, on or before June 30 of each year, or on or before the date set by the Minister, inform the Minister in writing of the total quantity of consumer paint products collected during the previous calendar year"
What enforcement tools are in place if industry does not meet its obligations as set out in their plan?	Not reviewed as information was not readily available.	Not reviewed as information was not readily available.	Not reviewed as information was not readily available.	A brand owner who fails to comply with the regulations is subject to financial penalties and failure to meet the obligations of the approved stewardship plan may result in revoking of approval by the Minister (the brand owner is the one that is obligated, not the stewardship agent)
Describe the administration and reporting models.	Annual Reporting, as well as due diligence reviews of depots, transporters and recyclers (initial processors and downstream) to ensure compliance and for tracking system verification, conducted by third party auditor or in-house.	The Program Plan contains information about administration and reporting: • Product Care will submit an annual report for each calendar year of the program to the Minister on behalf of the brand owners by June 30 of the following year • The program will utilize a database tracking and control system to record and track waste materials managed from point of collection to recycle and disposal • Data collected to track volume of paint containers • Data required of all processors and recyclers to track residual volumes collected by the program and how these volumes are managed • Due diligence reviews of depots, transporters and recyclers (initial processors and downstream) to ensure compliance and for tracking system verification, conducted by third party auditor or in-house.	The Program Plan contains information about administration and reporting: • Product Care is responsible for the tracking system to ensure accountability of the waste paint collected including audits of collection sites and service providers. • Product care will utilize a database tracking and control system to record and track waste materials managed from point of collection to recycling/disposal. The system requires record keeping and reporting by every point of collection, by the transporters and processors and tracks only waste paint originating from New Brunswick • All processors and recyclers will be required to track residual volumes collected by the program and how these volumes are managed • Product Care is responsible for the administration which includes collection fees from brand owners based on sales in New Brunswick, member relations, and reporting to Recycle New Brunswick • Due diligence reviews of depots, transporters and recyclers (initial processors and downstream) to ensure compliance and for tracking system verification, conducted by third party auditor or in-house.	The Program Plan contains information about administration and reporting: • Product Care will utilize a database tracking and control system to record and track waste materials managed from point of collection to recycling and disposal • Data collected to track volume of paint containers managed by collection system • Data required of all processors and recyclers to determine the residual paint volumes collected by the program and quantities of paint managed by each of the recycling or disposal methods • Due diligence reviews of depots, transporters and recyclers (initial processors and downstream) to ensure compliance and for tracking system verification, conducted by third party auditor or in-house.

	Newfoundland and Labrador	Nova Scotia	New Brunswick	PEI
How has the EPR program impacted existing curbside recycling and composting programs?				Based on an interview with the Disposal Manager at the Island Waste Management Corporation: • IWMC is reimbursed for handling and storing paint at the Waste Watch Drop Off Centers, based on the total quantity of material managed. • Product Care provides tub skids and drums (for aerosol paints) and contracts out transportation of paint to processing facility in Nova Scotia. • IWMC sends Product Care a report each month providing the number of tub skids/drums on site. • IWMC is reimbursed based on a per tub skid/drum basis. • Product Care pays IWMC storage fees on a per tub skid basis. • Paint cans should not end up in the municipal waste stream, but some do in practice. • Paint that is collected at the facility but is not acceptable for the Product Care stream is put into the HHW stream at the same facility. Not aware of a way to quantify how much paint makes it into the Product Care stream, since paint is combined with other hazardous waste for processing and recycling. • Existing collection points were in place prior to Product Care (for residents only), so it is not a large adjustment for the public. • Empty paint containers are processed through the Product Care stream as a first priority. However, due to the high volume of empty paint containers received, some go directly to scrap metal recycling. • Product Care pays to use IWMC's communication tools, including the website, columns in newspapers, bi-annual newsletter, calendar, etc. • Prior to Product Care, businesses had to contract directly with a hazardous waste carrier to dispose all hazardous waste. Now businesses can bring paint to the depot to be managed by Product Care.
How do you manage EPR program materials that end up in the in the garbage, recycling or compost stream? How does it impact the municipality?				
Does the municipality receive funding for managing EPR stewarded products, if so, what is the funding model and criteria?	Based on interviews with two waste management staff at the City of St. John's: • They were not aware that any money is exchanged between Product and the municipality • Paint used to represent over 50% of HHW costs but now paint is set aside for collection at the municipal facility by Product Care's contractor • The public was used to going to the municipal HHW depot, so there is no visible difference following implementation of Product Care's program. • It is challenging to estimate how much designated materials by-pass Product Care's system. Estimated that approximately one 205 L drum of paint unacceptable to the Product Care program goes through the municipal HHW system.	Municipalities and most other collection points, except return-to-retail locations, are typically remunerated by handling fees for acting as collection points. Paint and paint containers may end up in the municipal garbage stream, and the cost of managing these materials is borne by the municipalities.	Based on an interview with Fundy Region Solid Waste: • Receives a per unit handling fee from Product Care for paint collected at its depot. An agreement with Product Care specifies the fee and collection requirements • Were not aware of data about quantity of stewarded materials ending up in municipal landfills, or that municipalities are compensated for this. • Opportunity for more collection points, as some residents have to drive a significant distance to drop off paint and other HHW. • Product Care does accept empty paint containers in its tub skids. • Product Care could do more promotion. Fundy Region Solid Waste does a lot of promotion.	
How are existing municipal recycling and recovery programs considered in the execution of stewardship programs?				
Are there future plans to enhance or modify this program? If so, describe.	The Program Plan includes various future plans for the program including increasing the number of collection points, assessing the feasibility of reprocessing or partially processing leftover paint within the Province, and working with MMSB where possible for promotion and education and increasing consumer awareness of the program.	• the Regulation states that an annual 70% reuse and recycling rate must be achieved by the program • Product Care Program intends to add collection facilities at participating retailers • Product Care plans to develop "recycler standards" as necessary • Product Care plans the development of best management practices, including training, reporting and guidelines for collection facilities and transporters	• Product Care Program has a goal to reach at least 70% diversion • Increase consumer awareness of the program through various avenues • Increase collection locations • Increase consumer convenience to dispose of leftover paint • Product Care plans to develop "recycler standards" as necessary • Product Care plans the development of best management practices, including training, reporting and guidelines for collection facilities and transporters	• Increase consumer awareness of the program through various avenues • Increase collection locations
Are there plans to pursue a full EPR program? Why or why not? (e.g. waiting for a national program)	This is a full EPR program for paint.	This is a full EPR program for paint.	This is a full EPR program for paint.	This is a full EPR program for paint.

		Manitoba (Paint)	Manitoba (Other HHW)	Saskatchewan	British Columbia (Paint)	British Columbia (Other HHW)
Statistics	Population	1,208,268 (2011 Census)	1,208,268 (2011 Census)	1,033,381 (2011 Census)	4,400,057 (2011 Census)	4,400,057 (2011 Census)
	Households	466,140 (2011 Census)	466,140 (2011 Census)	409,645 (2011 Census)	1,764,635 (2011 Census)	1,764,635 (2011 Census)
Contact Information and/or weblinks		www.productcare.org/Manitoba	www.productcare.org/Manitoba http://greenmanitoba.ca/pros/	www.ProductCare.org/Saskatchewan	BC Paint and HHW Program http://www.productcare.org/British-Columbia	BC Paint and HHW Program http://www.productcare.org/British-Columbia
Material/ Product (eg. milk cartons, tires, paper packaging) (fill out separate sheets for different materials/ products if different structures)		• Latex, oil and solvent based architectural coatings, whether tinted or untinted, including paints and stains for commercial and homeowner use, but not including unpressurized coatings supplied in containers with a capacity of more than 30L • Paints and stains sold in pressurized aerosol containers with a capacity of no more than 600g	• Flammable liquids that display flammable symbol and is a liquid or aerosol (e.g. methanol, paint stripper, varnish, varsol, gasoline, BBQ lighter fluid, kerosene). Maximum flammable liquid container size: 10L or 24 oz for aerosols. Maximum gasoline container size: 25L • Pesticides products that have poison symbol, Pest Control Product (PCP) number and word "Domestic" on it. Liquid and solid pesticides and aerosol containers. • Toxics products that display the poison symbol, says "Danger" and is a liquid or aerosol (furniture stripper, automotive additives, lubricants, tar and bug remover). Maximum container size is 10L or 24 oz. for aerosols. • Corrosive products that display the corrosive symbol and is a liquid, aerosol or solid (rust remover, masonry cleaner, pool and hot tub cleaners, grout cleaner). Maximum container size is 10L or 24 oz. for aerosols. • Non-refillable fuel gas cylinders that display both the flammable and explosive symbols (fuel, camping and butane cylinders). Maximum container size is 5 kg. • Gasoline in approved ULC containers • Maximum gasoline container size: 25L	• Max paint container size: 23L (5Gal) • Interior & exterior: latex, acrylic, water-based, alkyd, enamel, oil-based consumer paints • Deck coatings & floor paints (including elastomeric) • Varnishes & urethanes (single component) • Concrete/masonry paints • Drywall paints • Primers & undercoats • Stucco paint • Marine paints • Wood finishing oils • Wood preservatives • Melamine, metal & anti-rust paints, stains, shellac • Swimming pool paints (single component) • Stain blocking paints • Textured paints • Block fillers • Wood, masonry, driveway sealers or water repellents (non tar based or bitumen based) • All paint aerosols max size: 660g (24oz)	• Max paint container size: 25L • Interior & Exterior Paint • Deck coatings and floor paints • Varnishes and urethanes • Concrete/masonry paints • Drywall paints • Primers (metal, wood) • Undercoats • Stucco Paint • Marine Paints • Wood finishing oils • Wood preservatives • Melamine, metal & anti-rust paints, stains, shellac • Swimming pool • Empty paint containers • Stain blocking paints • Textured paints • Block fillers • Wood, masonry, driveway sealers or water repellents • Paint aerosols max (660g or 24oz)	• Flammable liquid (must have a flame symbol or phrase similar to "keep away from open spark or flame" on the label) • Kerosene max container size: 9L • Other flammable liquid max container size: 10L • Domestic Pesticides (consumer pesticides that have both the poisonous symbol and Pest Control Product (PCP) number) • Max pesticide container size: 10L • Gasoline in approved ULC containers • Maximum gasoline container size: 25L
Number of brand owner(s) covered under the plan.		62 Brand Owners with Product Care	The number of brand owners could not be determined for this report.	66 Brand Owners covered by Product Care	127 Paint and Aerosol Brand Owners with Product Care	19 Pesticide Brand Owners. 20 Gasoline Bran d Owners. 124 Solvent Brand Owners. All registered with Product Care
How is material collected (e.g. curbside, drop off depot, retail take-back)? Number of collection points.		68 collection sites as of July 17, 2013, including various depots, return-to-retail locations and 9 that appear to be a municipal collection facility. Some collection points accept only paint; others accept other HHW and/or lights.	68 collection sites as of July 17, 2013, including various depots, return-to-retail locations and 9 that appear to be a municipal collection facility. Some collection points accept only paint; others accept other HHW and/or lights.	71 recycling depots provided by SARCAN and some return-to-retail locations.	177 Collection Locations (drop off depot and retail take-back) for these products throughout BC (as of November 30, 2012). All accept paint; 66 include Paint and other designated materials; 93 include paint exchange and 3 are large volume depots.	177 Collection Locations (drop off depot and retail take-back) for these products throughout BC (as of November 30, 2012). All accept paint; 66 include Paint and other designated materials; 93 include paint exchange and 3 are large volume depots.
How are costs for programs recovered (e.g. invisible fee, environmental fee, deposit / return)?	Fee Type	Fees charged to obligated stewards based on unit sales. Some retailers show the recycling fee separately at point of purchase, some include it in product price.	Fees charged to obligated stewards based on unit sales. Most retailers show the eco-fee separately at the point of purchase.		Fees charged to obligated stewards based on unit sales. Some retailers show the recycling fee separately at point of purchase, some include it in product price.	
	100mL to 250mL	$0.20	See separate sheet for Manitoba fees for Other HHW.	$0.10	$0.20	See separate sheet for BC fees for Other HHW.
	251mL to 1.00L	$0.25		$0.25	$0.25	
	1.01L to 5.00L	$0.60		$0.60	$0.60	
	5.01L to 23.00L	$1.50		$1.50	$1.50	
	Aerosol Paint	$0.25		$0.10	$0.25	

		Manitoba (Paint)	Manitoba (Other HHW)	Saskatchewan	British Columbia (Paint)	British Columbia (Other HHW)
Where is the material/product processed (city, country) and what is the end use(s) of the product?		According to the Program Plan: • Paint exchange program • Miller Environmental has been contracted by Product care to collect all other materials from the collection sites and transport them to the company's processing facility in southern Manitoba • Latex paint containers are re-packaged at the Miller facility and shipped to a retailer in the USA • Other products are typically recycled or treated for disposal at Miller's facility.	According to the Program Plan: In process of investigating new processing options and until those are identified, many products will be "downcycled" (i.e. lower on the pollution prevention hierarchy - disposal). Pesticides will be disposed through high temperature incineration under controlled conditions. Corrosives - physical or chemical treatment is current management option.	Paints typically are either reused, recycled or undergo energy recovery. Management options for other HHW, beyond the options above, include treatment, incineration and landfill. According to the 2011 Annual Report, no paint collected during the 2011 reporting period was disposed of in landfills.	According to the Program Plan: • Reusable paint is given away at no charge through the Paint Exchange program • 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 • Alkyd paints used for energy recovery • Metal containers recycled as scrap metal • Plastic containers are triple rinsed and sent for plastics recycling • Plastic (polypropylene) one US gallon size paint cans are managed through plastics to plastics recycling, plastics to plastic wood recycling, or utilized for energy value as solid fuel in permitted waste to energy incinerators or cement kilns.	According to the Program Plan: • Used as an alternative energy source in applications such as permitted incinerators • All pesticides are incinerated at high temperature government regulated and permitted incinerators • Gasoline is managed as an alternative fuel for energy recovery at permitted facilities.
Provide data (if available) from last 3 years on:	Participation Rates	Program began in 2011. Product Care just submitted their first annual report to the Manitoba Conservation and Water Stewardship for review. HHW 2011-2016 Plan (Section 6) estimated in 2011 8.8 million L sold, 10% or 880k L available for collection, 264k L (or 3%) collected.	HHW 2011-2016 Plan (Section 4) 2011-2012 estimated for flammables: ~900,000 L sold and ~16,000 L (2%) collected; corrosives: 1.5 million L sold and 30,400 (2%) L collected; pesticides: 43,200 L sold and 2,600 L (6%) collected.	Separate sheet provided for Saskatchewan data.	Separate sheet provided for BC data.	
	Capture Rates					
	Tonnages (total in system and total collected)					
	Program costs (total, net)					
	Program cost per tonne of material					
Who (federal, municipal, province, name of stewardship agency) is responsible for the delivery of (provide description, may be more than one agency involved):	Promotion and Education	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.	Product Care, who may contract with others to transport, collect and process.	
	Collection					
	Processing					
	Disposal					
	Marketing					
Who (F, M, P, S, taxpayers) is responsible for funding of (provide description of funding formula);	Promotion and Education	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	Funded by eco-fees paid by obligated stewards based on unit sales in the province.	
	Collection					
	Processing					
	Disposal					
	Marketing					

	Manitoba (Paint)	Manitoba (Other HHW)	Saskatchewan	British Columbia (Paint)	British Columbia (Other HHW)
What policies and criteria exist for the delivery of stewardship programs? Can a copy of the plan be provided? What legislation or policy is in place that enables the EPR program?	Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation. Product Care Manitoba Household Hazardous Waste Stewardship Plan	Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation Product Care Manitoba Household Hazardous Waste Stewardship Plan	Saskatchewan Waste Paint Management Regulations Chapter E-10.21 Reg 3, Effective Nov 1, 2005	Recycling Regulation B.C. Reg 449/2004 Product Care Stewardship Plan 2006, with amendment in 2007.	
Describe provincial policies and criteria used for evaluation of stewardship plan. Is ongoing monitoring required by the province?	Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation • 5(1): "A person who intends to operate a household hazardous material or prescribed material stewardship program must submit a plan for the program and apply to the minister for approval of the plan" • 11(1): "The minister may suspend or cancel the approval of a plan for a household hazardous material or prescribed material stewardship program where the operator is in breach of any provision of the Act or this regulation" 16(1): "Within 90 days after the end of the fiscal year, an operator must provide to the minister an annual report summarizing the program activities of the operator in the fiscal year and containing audited financial statements covering the program for the fiscal year"	Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation • 5(1): "A person who intends to operate a household hazardous material or prescribed material stewardship program must submit a plan for the program and apply to the minister for approval of the plan" • 11(1): "The minister may suspend or cancel the approval of a plan for a household hazardous material or prescribed material stewardship program where the operator is in breach of any provision of the Act or this regulation" 16(1): "Within 90 days after the end of the fiscal year, an operator must provide to the minister an annual report summarizing the program activities of the operator in the fiscal year and containing audited financial statements covering the program for the fiscal year"	Waste Paint Management Regulations Chapter E-10.21 Reg 3, Effective Nov 1, 2005: • 4(1): "Every first seller must: (a) operate a product management program approved by the minister; or (b) enter into an agreement with a person to operate, on the first seller's behalf, a product management program approved by the minister" • 8(1): "Reporting period" means period commencing on January 1 in one year and ending on December 31 of that same year" • 8(2): "On or before June 30 in each year, every first seller operating a product management program, and every person operating a product management program on the first seller's behalf must prepare and submit to the minister a written annual report"	Recycling Regulation B.C. Reg 449/2004: • Section 4: "A producer must submit a product stewardship plan, at the time specified in the applicable Schedule, if any, and in a manner and format satisfactory to a director, for the products within the product category of the product the producer sells, offers for sale, distributes or uses in a commercial enterprise in British Columbia" • Section 6: "A producer must review its approved plan and (a) submit to a director proposed amendments… or (b) advise a director in writing that no amendments … are necessary, not later than the date that is 5 years after the date the approved plan was originally approved under this section and every 5 years thereafter" • Section 8(1) On or before July 1 in each year, a producer with an approved plan must (a) provide to a director a report respecting the one-year period ending not later than March 31 of that year or Dec 31 of previous year…"	
What enforcement tools are in place if industry does not meet its obligations as set out in their plan?	Manitoba Conservation enforces the WRAP Act, which has a number of general enforcement and penalty clauses. In addition, the ministerial approval of the Product Care plan contained specific terms and conditions. The Minister has the authority to revise or suspend the program if these terms are not met.	Manitoba Conservation enforces the WRAP Act, which has a number of general enforcement and penalty clauses. In addition, the ministerial approval of the Product Care plan contained specific terms and conditions. The Minister has the authority to revise or suspend the program if these terms are not met.	Not reviewed as information was not readily available.	Recycling Regulation B.C. Reg 449/2004 states in Section 16: "A person who contravenes (a) sections 2(1), (2), or (3), 6, 8, or 17(2), or (b) sections 5(1) and (2), 6(1), 7(1) or (2), or 8(1) or (2) of Schedule 1, commits an offence and is liable to a fine not exceeding $200,000"	
Describe the administration and reporting models.	Reporting and payments are monthly. Report aggregate numbers for confidentiality purposes. Manitoba Draft Guidelines requires following information for Annual Report: 1) Educational materials and strategies, 2) collection facilities, 3) reducing environmental impacts, 4) consistency with 4Rs hierarchy, 5) recovery rates, 6) independently audited financial statements. Lack of Manitoba-specific sales data but have provisional targets.		The Program Plan for Saskatchewan was not available online.	A tracking system will be developed to track the program products from the point of collection to the processors Members must submit an annual report to the Directory by July 1 each year and post a copy of the report on the program website.	

	Manitoba (Paint)	Manitoba (Other HHW)	Saskatchewan	British Columbia (Paint)	British Columbia (Other HHW)
How has the EPR program impacted existing curbside recycling and composting programs?	Based on an interview with the Manager of Solid Waste Services at the City of Winnipeg: • Municipality is remunerated for acting as a collection point (landfill), based on a per tub skid handling fee. Expect that this may not cover the full costs to handle the material. • Prior to the EPR program, HHW was managed by the province and a site operated by a private contractor was open once or twice a month for residential drop off in Winnipeg. HHW was not collected at the municipal landfill and there were often long lines at the private HHW facility. • Some data exists on paint ending up in municipal landfills, but the municipality does not have data on how much is sold in the province, recovered, etc., making performance difficult to track • The number of collection points is not sufficient for the average resident. • As part of the City, waste reduction plan, the City is in the process of building four community resource depots that will act as collection points for many materials, including paints and other HHW. • The municipality does not do significant advertising for the Product Care program. It is anticipated that the municipality will increase advertising once the community resource depots are built.		Based on an interview with the Environmental Coordinator at the City of Saskatoon: • Not aware that the municipality receives any funding from Product Care. • Currently completing a waste audit, part of which involves estimating the amount of paint in the municipal waste stream. • From the City of Saskatoon's perspective, there is no issue with the number of collection points. • Collaboration is limited between Product Care and the City of Saskatoon. Opportunity for more collaboration. • Product Care came into existence using an established provincial depot network (SARCAN). The public was used to going to these depots for products other than paint. • Not aware of significant negative media attention about eco-fees.	The Township of Langley advised it does not receive any funding for the Product Care program. However, the Township of Langley holds an annual HHW event where Product Care provides their staff at no cost to the Township. Product Care works with the Township in partnership on this with 'in-kind' (staffing) funding and is responsible for transportation and processing of materials collected The Township of Langley provided the following additional feedback: • Product Care does not work with municipalities to determine where collection points should be located. In the Township of Langley there are an insufficient number of locations. Currently, one of the locations in the Township must be closed and at this time it is unsure if they are going to be able to relocate or close entirely. To the Township's knowledge, there is no formal plan to work with municipalities for siting new locations. • There is a lack of collaboration with other EPR programs when there should be a more formalized approach. With the current approach, residents are required to travel across the municipality to various locations to drop off all of their EPR materials, rather than one location in the Township. In some areas, Product Care has partnered with Encorp and has expanded to accept more materials than paint. This is confusing for everyone and it is not always clear what locations accept what types of materials. More coordination should also occur between Product Care and municipalities in regards to communication and public awareness. There are too many sources of information being sent out to the public and it needs to be consolidated into one source. By having program stewards partner (e.g., provide funding, cost sharing) with municipalities, their information can be included with communication materials already going out. One of the main benefits to deliver communications through municipal messaging for residents is that the look and feel of the materials is very consistent. The Township has spent considerable time and effort to simplify communication materials so that they are easy to read and very visual for residents. Everything needs to be brought all in together amongst the region rather than everyone (local, regional, and provincial governments, NFPs, and EPR programs etc.) working on their own individual pieces. Partnerships and more coordination of communication and public awareness could potentially increase recycling rates. Metro Vancouver provided the following feedback: • Metro Vancouver acts as a collector / service provider to some EPR programs, and receives compensation from programs for materials that are captured. • Material that ends up in the landfill is monitored through waste characterization studies. • Product Care has a wide collection network. From time-to-time, collection depots for some communities close or change locations. The program keeps up to date on these transitions and tries to manage the implications. • Metro Vancouver is starting to track the types of EPR program materials that are found in abandoned waste. • The do not have sufficient data to draw any conclusions regarding the number or convenience level of existing depots • Some member municipalities include information about EPR programs in their collection calendars and/or recycling guides. Metro Vancouver provides links for depot locations on its website. • Communication and awareness is the regulated responsibility of the EPR programs, so generally local governments are not very involved in promotion and education for the programs.	
How do you manage EPR program materials that end up in the in the garbage, recycling or compost stream? How does it impact the municipality?					
Does the municipality receive funding for managing EPR stewarded products, if so, what is the funding model and criteria?					
How are existing municipal recycling and recovery programs considered in the execution of stewardship programs?					
Are there future plans to enhance or modify this program? If so, describe.	Section 14 of HHW 2011-2016 Plan lists strategies and goals for improvement. 1) Increase collection points, 2) increase consumer awareness on program, depot locations and 3) safe handling of product, conduct R&D to continually improve the program. Plan to collect Manitoba-specific data from stewards and determine way to measure program performance with regards to collection. Product Care will actively search for, identify and recruit stewards of program products.		Future plans for the program were not reviewed as part of this report as the Program Plan was not available online.	• Increase number of depots overall • Increase number of Paint Plus depots • Increase 'Paint Exchange' program at existing depots and other locations • Increase consumer awareness • Continue to interact with manufacturer associations such as Canadian Paint and Coatings Association to provide feedback to manufacturers regarding recyclability of both products and containers	
Are there plans to pursue a full EPR program? Why or why not? (e.g. waiting for a national program)	This is a full EPR program for paint and other HHW. Stewardship programs for materials other than those covered under Product Care's program were not reviewed for this report.		This is a full EPR program for paint and other HHW. Stewardship programs for materials other than those covered under Product Care's program were not reviewed for this report.		

Product Care Association British Columbia (BC Data)

2013 Product Care Fee Table

BC Paint Fees

100 ml to 250 ml	20¢
251 ml to 1 litre	25¢
1.01 litres to 5 litres	60¢
5.01 litres to 23 litres	$1.50
Aerosol paint (any size)	25¢

Household Pesticides

Less than 10 ml or g	1¢
0.01 litres to .89 litres or kg	60¢
0.9 litres to 1.79 litres or kg	$1.20
1.8 litres to 10 litres or kg	$2.40

Flammable Liquids

750 ml or less	5¢
751 ml to 1 litre	10¢
1.01 litres to 2 litre	20¢
2.01 litres to 4 litres	40¢
4.01 litres to 10 litres	$1.00

Aerosol Flammable Liquids

1 to 75 ml	1¢
76 to 200 ml	5¢
201 ml and over	10¢

BC Gasoline

Per gasoline station in B.C.	$11.25 per month

Source: Product Care website. http://www.productcare.org/BC-Eco-Fees

Product Care Association British Columbia (BC Data)

2011 ANNUAL REPORT DATA

Paint, Solvent and Flammables, Pesticides and Gasoline

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**

Container Capacity Volume in Litres

	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

Sales Volume in Litres

	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

Percentage Recovery Rate

	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%

Product Care Association Manitoba (MB Data)

2013 Environmental Handling Fee Table

MB Paint and Fluorescent Lights Environmental Handling Fees Effective May 1, 2012:

MB Paint EHF

100 ml to 250 ml	20¢
251 ml to 1 litre	25¢
1.01 litres to 5 litres	60¢
5.01 litres to 23 litres	$1.50
Aerosol paint (any size)	25¢

MB HHW Environmental Handling Fees Effective November 1, 2012:

MB Flammables EHF

Container size/type	Fee per unit ($)
0.750 L or less	$0.05
0.751 L to 1 L	$0.10
1.01 L to 2 L	$0.20
2.01 L to 4 L	$0.40
4.01 L to 10 L	$1.00
Aerosols	
1 to 75 ml	$0.01
76 ml to 200 ml	$0.05
201 ml and over	$0.10

Note: MB flammables fee rates are the same as Product Care's BC program.

MB Pesticides EHF

Container size/type	Fee per unit ($)
Less than 10 ml or g	$0.01
0.01 to 0.89 L or kg	$0.60
0.9 to 1.79 L or kg	$1.20
1.8 to 10 L or kg	$2.40

Note: MB pesticide fee rates are the same as Product Care's BC program.

MB Toxics EHF

Container size/type	Fee per unit ($)
0.750 L or kg or less	$0.05
0.751 to 1 L or kg	$0.10
1.01 to 2 L or kg	$0.20
2.01 to 4 L or kg	$0.40
4.01 to 10 L or kg	$1.00
Aerosols	
1 to 75 ml or g	$0.01
76 to 200 ml or g	$0.05
Over 201 ml or g	$0.10

MB Corrosives EHF

Container size/type	Fee per unit ($)
0.750 L or kg or less	$0.05
0.751 to 1 L or kg	$0.10
1.01 to 2 L or kg	$0.20
2.01 to 4 L or kg	$0.40
4.01 to 10 L or kg	$1.00
Aerosols	
1 to 75 ml or g	$0.01
76 to 200 ml or g	$0.05
Over 201 ml or g	$0.10

MB Physically Hazardous EHF

Container size/type	Fee per unit ($)
per unit	$0.50

MB Gasoline

Per gasoline station in M.B.	$11.25 per month

Source: Product Care website http://www.productcare.org/manitoba-hhw-fees

Product Care Association Saskatchewan

2011 ANNUAL REPORT DATA

Litres of Product Collected (Non-Aerosol)	2011	2010	2009	2008	2007	2006 (9 months)
Water-based paint	211,542	204,019	158,608	154,015	110,930	68,884
Solvent-based paint	138,118	128,707	123,200	118,371	89,818	52,631
Total	349,660	332,726	281,808	272,386	200,748	121,515

Product Management	2011	2010	2009	2008	2007	2006 (9 months)
Reuse- Paint Exchange program: Litres of the latex and solvent-based paint collected and reused through the Paint Exchange program (calculation based on an average volume of 3 L per 3.78 L container).	70,377	82,230	63,405	52,792	33,060	16,359
Recycling: Litres of the latex paint collected and recycled as a raw material in the manufacture of Portland cement.	153,162	135,961	114,225	110,578	81,507	52,525
Energy Recovery: Litres of the solvent-based (alkyd) paint collected and used as an alternative energy source in applications such as permitted incinerators.	123,046	114,535	102,978	108,636	85,182	52,631
Treatment/Incineration/Landfill: Litres of solvent-based paint incinerated as result of PCB contamination.	3,075	0	1,200	200	1,000	n/a
Container Recycling: *Metal*- Tonnes of metal paint cans sent to scrap metal dealers and in turn sent to a metal smelter for recycling.	102.1	92.7	96.9	81.9	72.5	43.8
Plastic- Tonnes of plastic paint containers sent for recycling into plastic lumber.	5.0	8.5	5.6	3.3	3.1	1.2

2011 Financial Information and comparative data for previous years	Jan-Dec 2011	Jan – Dec 2010	Jan – Dec 2009	Jan Dec 2008	Jan – Dec 2007	Apr – Dec 2006 (9 months)
Total Revenue- eco-fees collected	**$975,673**	**$767,824**	**$727,904**	**$768,087**	**$734,698**	**$515,185**
Program operations	$743,017	$627,789	$572,167	$538,594	$360,572	$225,452
Program administration	$55,908	$73,937	$80,735	$83,611	$77,604	$42,140
Communications	$60,516	$71,370	$41,597	$48,428	$19,268	$46,155
Total Program Expenditures	**$859,441**	**$773,097**	**$694,500**	**$670,634**	**$457,444**	**$313,747**
Surplus (deficit) – Current Year	$116,232	($5,272)	$33,404	$97,454	$277,254	$201,438
Accumulated Surplus	$720,510	$604,278	$609,550	$576,146	$478,692	$201,438

Source: http://www.productcare.org/documents/sk-paint/SK-Paint-Annual-Report-2011.pdf

APPENDIX C

Summary of Existing Mercury-Containing Lights Programs

Product Care Programs Reviewed for Mercury-containing Fluorescent Tubes, Lamps and Fixtures

		Quebec - Product Care	Ontario - Take Back the Light	Manitoba - Product Care	British Columbia - Product Care
Statistics	Population	7,815,955 (2011 Census)	12,722,065 (2011 Census)	1,2208,268 (2011 Census)	4,400,057 (2011 Census)
	Households	3,395,340 (2011 Stats Canada)	4,887,510 (2011 Census)	466,140 (2011 Census)	1,764,635 (2011 Census)
Residential or IC&I Program		Residential and IC&I	IC&I	Residential	Residential and IC&I
Regulated or Voluntary		Regulated	Voluntary	Regulated	Regulated
Contact Information and/or weblinks		www.productcare.org/Quebec www.recycfluo.ca/en	www.takebackthelight.ca Sarah Miller; phone: 416-657-2797 ext 7; email: sarah@rco.on.ca Residential Program: Ministry of the Environment Phase II	www.productcare.org/Manitoba	www.lightrecycle.ca http://www.lightrecycle.ca/documents/bc-lights/BC-Lamps-Lighting-Equipment-Stewardship-Plan-March-9-12.pdf
Material/ Product (eg. milk cartons, tires, paper packaging) (fill out separate sheets for different materials/ products if different structures)		• Fluorescent/Induction/UV Tubes • Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps • High Intensity Discharge (HID) Expanded to include some lighting fixtures and products in July 2013.	• Tubular Fluorescent lamps • U-shaped or O-shaped Fluorescent lamps • Compact fluorescent lamps • UV lamps • High Intensity Discharge (HID) lamps (such as Mercury Vapour, Metal Halide) • Low Pressure Sodium lamps • Shatter Shield lamps	Residential-use fluorescent lights and tubes (max 8ft)	• Fluorescent tubes (straight, curved, U, circular, square, etc) • UV and germicidal lamps • Incandescent and halogen bulbs • Compact fluorescent lights (CFLs) • Light emitting diodes (LEDs) • Ultra High Performance (UHP) lamps • High-intensity discharge lamps (HIDs) • Ballasts and lighting fixtures
Number of brand owner(s) covered under the plan.		163 Brand Owners registered	Not available	66 Brand Owners registered to collect lights	353 Brand Owners registered to collect lights
How is material collected (e.g. curbside, drop off depot, retail take-back)? Number of collection points.		Over 400 collection sites Large volume generators (businesses, contractors, relampers, schools, building managers) can be recycled in 1 of 3 ways: • Pick-up Service for whole lamps • Pick-up Service for Pre-Crushed lamps • Collection sites for drop-off of whole lamps	Return-to-retail (RONA, Canadian Tire, and Ikea) and municipality drop-off locations and events	59 drop off and retail take-back locations as of July 17, 2013. Includes some municipal facilities.	As of 2012, there are over 200 LightRecycle Collection sites for consumers to drop of household quantities of burnt-out lights and over 80 collection sites to drop off light fixtures. There are over 40 collection sites for large volume generators (IC&I). According to the 2012 Annual Report, the number of collection sites has increased in 2012 to 380.
How are costs for programs recovered (e.g. invisible fee, environmental fee, deposit/return)?	Fee Type	Eco-fees applied to the sale or supply of new applicable products on a per-unit sold basis after the effective fee collection start date (Oct 1, 2012). Quebec law limits the use of visible fees	The Government of Ontario provided funding for 2 years, and now TBTL is a self-sufficient program. Suppliers pay a fee ($500 to $2000) to register with program.	Eco-fees applied to the sale or supply of new applicable products on a per-unit sold basis after the effective fee collection start date (May 1, 2012). The eco-fees are visible fees.	Eco-fees applied to the sale or supply of new applicable products on a per-unit sold basis after the effective fee collection start date (Oct 1, 2012). The eco-fees are visible fees.
	Fluorescent tubes less than 2ft	$0.30	n/a	$0.20	$0.20
	Fluorescent tubes 2ft to 4ft	$0.50	n/a	$0.40	$0.40
	Fluorescent tubes greater than 4ft	$1.00	n/a	$0.55	$0.80
	CFL	$0.20	n/a	$0.15	$0.15
	HD and Other	$1.10	n/a		$1.1.0
	Notes	Fees for lighting products and fixtures not available at the time of this report.			Fees for fixtures and ballasts included in the body of the report.

Product Care Programs Reviewed for Mercury-containing Fluorescent Tubes, Lamps and Fixtures

		Quebec - Product Care	Ontario - Take Back the Light	Manitoba - Product Care	British Columbia - Product Care
Where is the material/product processed (city, country) and what is the end use(s) of the product?		All lights collected by RecycFluo are recycled by Aevitas. According to the Aevitas website, it operates the only commercial mercury waste treatment system in Canada and has facilities in Ontario, Quebec, Alberta and British Columbia. http://www.aevitas.ca/lamp_recycling.html http://www.aevitas.ca/mercury_waste.html	RCO developed "Program requirements for mercury-containing lamps recycling processors" Includes requirements for H&S, administration, facilities & equipment, material separation, transportation & export. Table 1 in the report provides acceptable and unacceptable processes and final disposition methods for different materials (metals, glass, Hg, etc.). Mostly requires recovered materials to be used as raw material in production of new products. Lights are recycled through Aevitas. http://www.aevitas.ca/lamp_recycling.html http://www.aevitas.ca/mercury_waste.html	Fluorescent lights collected in Manitoba program are picked up by a contracted courier and shipped directly to the processor in Ontario. Miller Environmental has been contracted by Product Care to collect all other materials from the collection sites and transport them to the company's processing facility in southern Manitoba. Fluorescent lights will be broken down into their component parts. Glass, mercury and other components will be recovered and put back into the market. Almost 100% of materials can be recycled for fluorescent tubes but the plastic bases of the CFLs are consumed in the thermal metal recovery processes where they contribute to the energy used to heat the system and ceramic bases end up as aggregate or waste.	The Product Care program plan describes that lamps are shipped to a processor, crushed and separated for recycling. Mercury is recovered and reused in lighting products. Phosphor powder is reused in paint products, and metal and glass are recycled.
Provide data (if available) from last 3 years on:	Participation Rates	RecycFluo Annual Report was not available online.	Lamps Recycled to Date (June 18, 2008 to April 12, 2013): 5,309,224 In 2012, 1.6 million lamps were recycled.	Program began in 2011. Product Care just submitted their first annual report to the Manitoba Conservation and Water Stewardship for review. HHW 2011-2016 plan (Section 7) 2010 estimated sales were 500,000 for CFL units and 135,000 for fluorescent tubes. Estimate that in Year 1 82,800 of CFL and 46,200 tubes are available for collection and capture rates of 10%.	See separate sheet for BC data available from the 2011 Annual Report. The 2012 Annual Report is available on the Product Care website.
	Capture Rates				
	Tonnages (total in system and total collected)				
	Program costs (total, net)				
	Program cost per tonne of material				
Who (federal, municipal, province, name of stewardship agency) is responsible for the delivery of (provide description, may be more than one agency involved):	Promotion and Education	Product Care, who may contract with others to transport, collect and/or recycle lighting products.	Take Back the Light Program led by the Recycling Council of Ontario (a not-for-profit, non-government, membership-based environmental organization). This is a voluntary program marketed on buyers working with the suppliers. TBTL encourages buyers to work with suppliers that are part of TBTL.	Product Care, who may contract with others to transport, collect and/or recycle lighting products.	Product Care, who may contract with others to transport, collect and/or recycle lighting products.
	Collection				
	Processing				
	Disposal				
	Marketing				
Who (F, M, P, S, taxpayers) is responsible for funding of (provide description of funding formula);	Promotion and Education	The program is funded through eco-fees paid to Product Care by its program members on every unit sold in Quebec.	Program funded provided by Ontario Ministry of Environment (government funding), events, membership, research funding and corporate sponsors. Suppliers pay fees to RCO TBTL program.	The program is funded through eco-fees paid to Product Care by its program members on every unit sold in Manitoba.	The program is funded through eco-fees paid to Product Care by its program members on every unit sold in British Columbia.
	Collection				
	Processing				
	Disposal				
	Marketing				

	Quebec - Product Care	Ontario - Take Back the Light	Manitoba - Product Care	British Columbia - Product Care
What policies and criteria exist for the delivery of stewardship programs? Can a copy of the plan be provided? What legislation or policy is in place that enables the EPR program?	Quebec Regulation Respecting the Recovery and Reclamation of Products by Enterprises.	RCO – Take Back the Light – Program Requirements for Mercury Containing Lamps Recycling Processors Municipal Hazardous and Special Waste subject to Waste Diversion Act Reg 347 (General – Waste Management) of Environmental Protection Act.	Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation Product Care Manitoba Household Hazardous Waste Stewardship Plan.	Product Care's LightRecycle - BC Lamps and Lighting Equipment Stewardship Plan Recycling Regulation B.C. Reg 449/2004.
Describe provincial policies and criteria used for evaluation of stewardship plan. Is ongoing monitoring required by the province?	Quebec Regulation Respecting the Recovery and Reclamation of Products by Enterprises: • Chapter III (9): "Not later than 30 April of each year or, if applicable, within 4 months of the termination of a program, an enterprise referred to in section 2 or 3 must submit to the Minister a report assessing the performance of its recovery and reclamation program for the preceding calendar year" • Division 3 (39): "As of 2015, the minimum recovery rates that must be attained yearly by an enterprise referred to in section 2 or 3 that markets products referred to in section 35 must be equal to the following percentages: (1) in the case of products referred to in paragraphs 1 and 3, the minimum rate for all the products in each subcategory is 40%, which is increased by 5% per year until an 80% rate is attained; and (2) in the case of products referred to in paragraph 2, the minimum rate for all the products in that subcategory is 30%, which is increased by 5% per year until an 80% rate is attained"	Waste Diversion Act, 2002 - O.Reg. 542/06 Municipal Hazardous or Special Waste includes fluorescent light bulbs or tubes, switches containing Hg and measuring devices containing Hg.	From the Manitoba Waste Reduction and Prevention Act – Household Hazardous Material and Prescribed Material Stewardship Regulation • 5(1): "A person who intends to operate a household hazardous material or prescribed material stewardship program must submit a plan for the program and apply to the minister for approval of the plan" • 11(1): "The minister may suspend or cancel the approval of a plan for a household hazardous material or prescribed material stewardship program where the operator is in breach of any provision of the Act or this regulation" • 16(1): "Within 90 days after the end of the fiscal year, an operator must provide to the minister an annual report summarizing the program activities of the operator in the fiscal year and containing audited financial statements covering the program for the fiscal year"	Recycling Regulation B.C. Reg 449/2004: • Section 4: "A producer must submit a product stewardship plan, at the time specified in the applicable Schedule, if any, and in a manner and format satisfactory to a director, for the products within the product category of the product the producer sells, offers for sale, distributes or uses in a commercial enterprise in British Columbia" • Section 6: "A producer must review its approved plan and (a) submit to a director proposed amendments… or (b) advise a director in writing that no amendments … are necessary, not later than the date that is 5 years after the date the approved plan was originally approved under this section and every 5 years thereafter" • Section 8(1) On or before July 1 in each year, a producer with an approved plan must (a) provide to a director a report respecting the one-year period ending not later than March 31 of that year or Dec 31 of previous year…"

Product Care Programs Reviewed for Mercury-containing Fluorescent Tubes, Lamps and Fixtures

	Quebec - Product Care	Ontario - Take Back the Light	Manitoba - Product Care	British Columbia - Product Care
What enforcement tools are in place if industry does not meet its obligations as set out in their plan?	Enforcement tools in Quebec were not reviewed.	No enforcement tools are in effect as this is a voluntary program. The Government of Ontario has plans to make it a required program but this has not happened yet.	Manitoba Conservation enforces the WRAP Act, which has a number of general enforcement and penalty clauses. In addition, the ministerial approval of the Product Care plan contained specific terms and conditions. The Minister has the authority to revise or suspend the program if these terms are not met.	Recycling Regulation B.C. Reg 449/2004 states in Section 16: "A person who contravenes (a) sections 2(1), (2), or (3), 6, 8, or 17(2), or (b) sections 5(1) and (2), 6(1), 7(1) or (2), or 8(1) or (2) of Schedule 1, commits an offence and is liable to a fine not exceeding $200,000"
Describe the administration and reporting models.	• Members are to submit their recycling fee reports for sales each month. Members log into www.ecofeereporting.com at the beginning of each month to record the number of mercury-containing lamps sold in the previous month • Members who have recycling fees of less than $10,000 per calendar year qualify for quarterly reporting.	Administration handled by the Recycling Council of Ontario.	Product Care must submit an Annual Reports Manitoba Conservation and Water Stewardship.	Members must submit an Annual Report by July 1 each year and post a copy of the report on the program website.
How has the EPR program impacted existing curbside recycling and composting programs?	Based on a review of materials conducted for this report, it could not be determined if municipalities receive compensation (e.g. handling fees) for managing lighting products at municipal waste facilities, or through other compensation formula. No interview was conducted with a Quebec municipality.	Program has removed some mercury-containing lamps that might otherwise end up in the curbside recycling program. Management of materials that end up in the garbage stream could not be determined for this report. No interview was conducted with an Ontario municipality.	Program has provided additional collection points for mercury-containing lamps, a few of which are municipal facilities. According to the City of Winnipeg, some data exists on materials that end up in landfill, but the municipality does not have data on how much is sold and recovered in the province, making performance difficult to track. Municipal facilities are compensated by Product Care through an agreement that includes handling and storage fees (as applicable).	Materials ending up in landfill are monitored through waste characterization studies. Based on the research conducted for this report, no funding is received from Product Care for materials ending up in municipal landfills. The representative from the Township of Langley was not aware of receiving any funding from Product Care. Metro Vancouver advised that it acts as a collector and service provider for some EPR programs, and would receive compensation for materials captured.
How are EPR program materials managed that end up in the garbage, recycling or compost stream? How does it impact the municipality?				
Does the municipality receive funding for managing EPR stewarded products, if so, what is the funding model and criteria?				
How are existing municipal recycling and recovery programs considered in the execution of stewardship programs?				
Are there future plans to enhance or modify this program? If so, describe.	Effective July 14, 2013, phase 2 of the RecycFluo program is extended to include "component" mercury-containing lamps sold integrated into products.	Since approximately 90% of suppliers are Canada-wide suppliers and processors are around Canada, RCO has expressed interest in a national scope for the Take Back the Light program.	The HHW Program Plan contains visions, strategies and actions to improve program performance. More information is provided in the report. Product Care is working with various stakeholders in Manitoba to establish a network of full service collection sites throughout the province. Potential funding arrangements between Product Care and other partners was not investigated for this report.	• Increase collection sites; • Establish accessibility standard - 30 min drive or less in urban area, 45 min or less for communities with pop. Of <4,000. • Increase consumer awareness (website visits, hotline calls, surveys) • Absolute collection rate targets will be established after 18 months of program operation has occurred (July 2012-Dec 2013). Amended program plan will be submitted to BC MOE by April 1, 2014.

Product Care Programs Reviewed for Mercury-containing Fluorescent Tubes, Lamps and Fixtures

	Quebec - Product Care	Ontario - Take Back the Light	Manitoba - Product Care	British Columbia - Product Care
Are there plans to pursue a full EPR program? Why or why not? (e.g. waiting for a national program)	This is a full EPR program	The Ontario Government has talked about making this a mandatory program, however this has not happened yet.	This is a full EPR program Note - Heating, Refrigeration and A/C Institute of Canada manages mercury-containing thermostats	This is a full EPR program

Product Care Association British Columbia (BC Data)

Product	Recycling Fee / Unit
Lights / Lamps	
1. Fluorescent/Induction/Low Intensity UV Tubes measuring ≤ 2 feet (typical size: 2 feet)	$0.20
2. Fluorescent/Induction/Low Intensity UV Tubes measuring > 2 feet and ≤ 4 feet (typical size: 4 feet)	$0.40
3. Fluorescent/Induction/Low Intensity UV Tubes measuring > 4 feet (typical size: 8 feet)	$0.80
4. Compact Fluorescent Lights (CFL)/ Screw-In Induction Lamps	$0.15
5. Light Emitting Diodes (LED)	$0.15
6. High Intensity Discharge (HID) and Other: *HID, UV, Germicidal, UHP, Neon etc.*	$1.10
7. Incandescent / Halogen	$0.05
8. Miniature Bulb Package	$0.10
Lighting Fixtures	
9. Designated Small Fixtures / Decorative Light Strings: *flashlights, bike lights, night lights, Christmas light strings etc.*	$0.15
10. Fixture Category A: *portable, small outdoor, decorative, light commercial, emergency, chandeliers, ceiling fans, linear fixtures etc.*	$0.85
11. Fixture Category B: *non-linear, commercial and industrial etc.*	$1.40
12. Large Outdoor Fixtures: *flood, sports, highway, street etc.*	$2.50
Ballasts	
13. Ballasts/Transformers (not integrated into lamps or fixtures)	$1.00

Source: Product Care LightRecycle Website (http://www.lightrecycle.ca/large-volume/program-funding)

Product Care Association British Columbia (BC Data)

2011 ANNUAL REPORT DATA

LightRecycle - Fluorescent Light Recycling Progam

Units Collected by Regional District, 2011

Regional District	CFL	2-4ft Tubes	8ft Tubes	Total Units
Alberni Clayoquot	598	1,914	213	2,725
Bulkley Nechako	256	555	15	826
Capital Regional District	11,104	14,761	1,232	27,098
Cariboo	427	2,025	304	2,757
Central Coast	-	-	-	-
Central Kootenay	940	943	183	2,066
Central Okanagan	10,250	11,820	1,385	23,454
Columbia Shuswap	1,281	1,776	380	3,437
Comox Strathcona	5,808	3,912	517	10,238
Cowichan Valley	4,100	12,097	2,937	19,134
East Kootenay	1,110	2,830	411	4,351
Fraser Fort George	1,879	1,942	137	3,958
Fraser Valley	7,090	16,120	2,419	25,629
GVRD	83,880	103,299	11,107	198,286
Kitimat Stikine	513	1,942	533	2,987
Kootenay Boundary	427	2,331	152	2,910
Mt. Waddington	256	2,386	335	2,977
Nanaimo Regional District	9,481	18,756	2,495	30,733
North Okanagan	4,100	7,103	867	12,070
Northern Rockies[2]	-	-	-	-
Okanagan Similkameen	342	3,108	517	3,967
Peace River	769	1,110	335	2,213
Powell River Regional District	940	499	61	1,500
Skeena-Queen Charlotte	342	1,110	46	1,497
Squamish Lillooet	2,306	1,332	228	3,866
Sunshine Coast	683	1,554	198	2,435
Thompson Nicola	4,613	2,997	350	7,959
TOTAL	**153,495**	**218,223**	**27,357**	**399,075**

Weights Collected, January-December 2011

Unit Type	Units Collected	Average Weight[1]	Weight Collected
Compact Fluorescent Lamps (CFLs)	153,495	100 g	15,349.5 kg
2-4 Foot Tubes	218,223	272 g	59,356.6 kg
8 Foot Tubes	27,357	375 g	10,258.9 kg
TOTAL	**399,075**		**84,965 kg**

[1]Estimated average weight provided by Electro Federation of Canada, assuming 100% T12 fluorescent tubes and 99% 4 ft/1% 2 ft return split. Sales of T12 tubes are declining and being replaced with smaller diameter tubes, but the majority of returns are still T12.

Product Sales, January-December 2011

Unit Type	Units Sold
Compact Fluorescent Lamps (CFLs)	3,563,914
Fluorescent Tubes < or = 2 feet	118,012
Fluorescent Tubes > 2 feet and < or = 4 feet	571,633
Fluorescent Tubes > 4 feet	55,556
TOTAL Fluorescent Tubes	745,201
TOTAL	**4,309,115**

Capture Rate 2010 - 2011 Comparison

	2010 -6 months (July- Dec)	2011- 12 months (Jan-Dec)
Capture Rate target, CFLs and tubes[1]	**10-12%**	**16-25%**
CFL Actual Capture Rate[3]	**10.3%**	**31.8%**
CFL Units Collected[2]	**32,666**	**153,495**
CFL Available to Collect	318,650	483,000
Tube actual Capture Rate[3]	**20.6%**	**65.8%**
Tube units Collected[2]	**60,225**	**245,580**
Tubes Available to Collect	292,625	373,500

Product Care Association Manitoba (MB Data)

2013 Environmental Handling Fee Table

MB Fluorescent Lamps EHF

Light type (sales for residential use)	Common type	Fee per unit
Compact Fluorescent Light	CFL	15¢
Tubes measuring less than or equal to 2 feet	2 feet	20¢
Tubes measuring greater than 2 feet and up to or equal to 4 feet	4 feet	40¢
Tubes measuring greater than 4 feet	8 feet	55¢

Note: tubes include linear, U-shape and circ-line lights and length is calculated for the length of the tube if straightened

Source: Product Care website http://www.productcare.org/manitoba-hhw-fees

APPENDIX D

Background Information on Ontario's Blue Box Program

Thinking beyond the box

Stewardship Ontario

Blue Box Fee Setting Process and Data Inputs

Stewardship Ontario sets steward fees each year for industry to fund their share of the Blue Box Program to recycle printed paper and packaging.

The objectives of the Blue Box Program are:

- To deliver curbside recycling to consumers with the most effective and efficient material management at all levels of the program
- Ensure the widest range of printed paper and packaging is recycled
- Make the stewards' and municipalities' experience with the program partnership as positive as possible

The objectives of the Blue Box Program fee setting process are to:

- Share all of the program costs equitably among stewards
- Provide signals and incentives to increase the diversion of all materials

The principles of the methodology Stewardship Ontario uses to set fees, are based on:

- Fees should meet the policy objectives of the WDA
- All materials will contribute to support the cost of the program
- Fees should reflect the cost of managing each material or group of similar materials in the Blue Box system
- Fees should reflect the recovery rates of each material within the Blue Box system
- There should be no arbitrary cross subsidization of cost among materials
- The fee setting process will be transparent to all stewards

The PIM (Pay-in model) is a proven and effective way to allocate the obligated costs of operating the program to stewards of the various printed paper and packaging materials, and has been in use since the commencement of the program. It has been reviewed and updated periodically to reflect the ever-changing dynamic of the Blue Box Program. It ensures that all materials share the cost of supporting the program and is consistent with the methodology used in Quebec and Manitoba.

The fee setting process contains three main stages, of which the various waste studies (Activity Based Cost Allocation Study, Curbside Material Composition Study and MRF Material Composition Study) form a major part.

Thinking beyond the box
Stewardship Ontario

The fee setting process has three broad steps:

1. Determine all program costs
2. Allocate costs to individual materials
3. Determine fee rates

Each of these steps depends on key information about the program and recycling system. These are provided by stewards and municipalities, as well as studies undertaken by third parties on behalf of Stewardship Ontario.

1. **Determining program costs** includes:
    i. The cost of municipal BB recycling programs (stewards share responsibility for the net cost of the recycling system) is calculated in the following way:
        i. Municipalities report the volume of each material managed under the Blue Box Program that they collected and marketed through the Blue Box, and also the cost incurred in doing so. This information is reported through an annual on-line survey, the Waste Diversion Ontario (WDO) Datacall
        ii. Representatives from Stewardship Ontario, Association of Municipalities of Ontario (AMO) and the City of Toronto meet to review the data and together determine a 'Best Practice' cost, which is used to negotiate the stewards' obligation to municipalities for their share of the cost of running the Blue Box Program. The agreed amount is recommended to WDO who formally approves the stewards' obligation for a given year
    ii. MOE and WDO charges for program support – The MOE provides support for compliance and enforcement and WDO provides program oversight and administers the municipal Datacall
    iii. Stewardship Ontario program costs for program delivery, including monitoring and data gathering as well as investments in program efficiency and market development if required
2. **Allocating costs to individual materials** is based on the actual cost to manage each material in the municipal Blue Box system and on the recovery rate for each material according to a three-factor formula[1]. These calculations draw on material composition studies, including:

[1] - 40% of the cost of the program is assigned to each material category based on how much it costs to manage each material in the system

- 35% of the cost of the program is assigned based on the recovery rate achieved by the material

- 25% of the cost of the program is assigned based on how much it would cost to manage the material, if it were recovered at a rate of 60%

i. The results of the **Activity-Based Cost Allocation Study** of the cost of managing individual materials in municipal recycling operations
ii. **Curbside Material Composition Study** of materials put out by Ontario residents for recycling and in the garbage
iii. **MRF Material Composition Study** of the processed recyclables sold by municipalities to re-processors
iv. Steward reports of sales into the Ontario market

3. **Determining the fee rates** involves two steps:
   i. Spreading the costs allocated to each material over the quantity of materials supplied into the Ontario market, as reported by stewards, and
   ii. Aggregating the fee rates for some materials as applicable:, i.e. for printed paper, some paper packaging and some plastic packaging

The activity based cost allocation study, curbside and MRF material composition studies are critical components of fee setting as they inform the cost to manage each type of material, and their respective recovery rates for the purpose of setting fees.

Curbside and MRF material composition studies are undertaken every year, and the activity based cost allocation study every three or four years. This assures that fees are being set using the most recent and relevant data on municipal recycling operational costs, changes in what residents are recycling in their Blue Box and discarding in their garbage, and changes to the way materials are sorted and sold and shipped to market for reprocessing into new materials.

A description is provided of the methodology for each of three types of waste studies undertaken by Stewardship Ontario. As well, a summary is provided of the main findings for each of the studies undertaken in 2012 that in large part informed the fee setting for 2013 fees.

2013 Municipal Blue Box Funding Distribution

Determining the Value of 2013 Municipal Blue Box Funding

Waste Diversion Ontario (WDO) is responsible for verifying Blue Box system data reported by municipalities, calculating the gross and net negotiated system cost for each calendar year and determining the obligation of Blue Box stewards to municipalities for the next funding year.

The 2011 Blue Box negotiated system cost and 2013 Blue Box steward obligation are set out in the following table.

2011 Blue Box Negotiated Gross System Cost	$293,352,857
Less Three-Year Average Revenue (Including Prior year Revenue Adjustments)	$94,936,862
2011 Blue Box Negotiated Net System Cost	$198,415,995
Less 50% of Prior Year Cost Adjustments	-$2,214,633
2011 Negotiated Net System Cost + 50% of prior year cost adjustments	$196,201,362
2013 Stewards Obligation at 50% before correction	$98,100,681
Plus 100% of Correction to 2012 Stewards Obligation	$400,000
2013 Blue Box Steward Obligation	$98,500,681

For more information, refer to the 2011 Blue Box Financial Datacall Highlights.

2013 Funding Distribution

The obligation to municipalities by stewards who are newspaper publishers and members of the Canadian Newspaper Association and the Ontario Community Newspapers Association (CNA/OCNA) is met through an in-kind contribution of newspaper lineage which, for the 2013 funding year, is $6,140,409.

Through an agreement between WDO, the Association of Municipalities of Ontario (AMO), City of Toronto and Stewardship Ontario, 5% of the Blue Box steward obligation to municipalities is directed to the Continuous Improvement Fund[1] (CIF). The CIF is a program developed through WDO, the Association of Municipalities of Ontario, the City of Toronto and Stewardship Ontario to fund municipal blue box programs to improve effectiveness and efficiency. The CIF's role is to also identify and assist in the implementation of Best Practices, emerging technologies and innovation that will lead to increased recovery of blue box material while promoting cost effectiveness.

Due to a significant rise in the CNA/OCNA in-kind contribution for 2013, there was a one-time transfer of funds from the CIF to the municipal cash payout for 2013.

The following table sets out the funding distribution to municipalities in 2013:

2013 Blue Box Municipal Funding		
A	2011 Blue Box Steward Obligation	$98,500,681
B	CNA/OCNA In-Kind Contribution	$6,140,409

[1] For more information on the CIF, refer to http://www.wdo.ca/cif/.

2013 Municipal Blue Box Funding Distribution

C	Continuous Improvement Fund Contribution	$4,618,014	(A-B) × 5%
D	CIF Balancing Funding to offset CNA/OCNA Increase	$3,450,000	
E	Cash Funding to Municipalities	$91,192,258	A - B - C + D

At the stewards' obligation negotiation in 2011, MIPC decided to develop a new payout model and that municipal-MIPC would be responsible for this task. In early 2012, AMO representatives conducted a number of consultations throughout the province to assist with developing the new model.

As a result of this work, the cash funding to municipalities in 2013 will be distributed as follows:

- 50% based on net cost;
- 35% based on recovered tonnage; and
- 15% based on responses to 2011 Datacall Best Practice questions.

2013 Blue Box Municipal Cash Funding			
Based on Net Cost	50%	$45,596,129	E × 50%
Based on Recovered Tonnage	35%	$31,917,290	E × 35%
Based on Responses to 2011 Datacall Best Practice Questions	15%	$13,678,839	E × 15%
Total	100%	$91,192,258	

Funding Distribution Based on Net Cost

There are nine municipal groupings by which municipalities are compared for the purposes of determining Blue Box funding, based on such demographic and program characteristics as:

- Population;
- Population density;
- Location; and
- Proportion of residents with access to curbside collection.

Within each of the nine groupings, analysis of net costs/tonne by group resulted in an upper limit net cost per tonne representing the least cost 90% of the tonnage in each group. Programs with net costs per tonne in excess of this group limit were limited to this maximum net cost per tonne and an adjusted net cost was calculated for these programs by multiplying their reported tonnages by the group limit. All other net costs were accepted as reported. The model used the adjusted net costs for all subsequent calculations.

For each program, net cost funding is calculated by dividing adjusted net costs for the individual programs by the total adjusted net costs for all programs, then multiplying by the total net cost funding to yield the net cost funding for each municipal program.

Net Cost Funding = Adjusted Net Cost of Individual Program/Total Adjusted Net Cost of All Programs * 50% Available Cash Funding

2013 Municipal Blue Box Funding Distribution

Funding Distribution Based on Recovered Tonnage

To determine the amount of funding based on recovered tonnes, the amount of material marketed by each program is divided by the total amount of material marketed by all programs, then multiplied by the total recovered tonnage funding to yield the recovered tonnage funding for each municipal program.

Recovered Tonnage Funding = Marketed by Individual Program/Total Material Marketed by All Programs * 35% Available Cash Funding

Funding Distribution Based on Responses to 2011 Datacall Best Practice Questions

The seven Best Practice questions included in the 2011 Datacall were assigned points as follows:

- Questions # 2 and # 7 - 25% each for a total of 50%;
- Questions # 1 and # 4 - 12.5% each for a total of 25%; and
- Questions # 3, # 5 and # 6 - 8.3% each for a total of 25%.

A Best Practice Score was calculated for each municipal program by dividing the number of points earned by that program by the total points available. For example, if a municipal program scored 35 out of a possible 100 points, their Best Practice Score is 35%.

The municipal program's Best Practice score was then multiplied by the proportion of the program's adjusted net costs of the total adjusted net costs for all programs to determine the municipal program's percentage share of the funding for Best Practice questions. This percentage is then multiplied by the total Best Practice funding to yield the Best Practice funding for each municipal program.

Since not all municipalities scored 100% on their Best Practice questions, some funding remained in the Best Practices fund after this calculation. These remaining funds were then distributed in proportion to an individual program's funding subtotal in relation to the overall funding subtotal for all programs.

Best Practices Funding = Best Practice Score * (Adjusted Net Cost of Individual Program/Total Adjusted Net Costs of All Programs) * 15% Available Cash Funding

Maximum Funding Adjustment

In May 2009, MIPC decided that no program should receive in excess of 75% of its reported net costs. Therefore, any funding above and beyond this threshold was allocated to the other programs[2].

2013 Funding Distribution Summary

Considering all three components of the funding distribution methodology, Net Cost, Recovered Tonnage and Best Practice Questions, municipal programs received funding between 28.8% and 75% of their adjusted net costs.

[2] There were four instances of this occurring.

2013 Municipal Blue Box Funding Distribution

If all municipal programs were paid on the basis of net cost only, each program would have received 47.9% of its reported net cost.

Prior Year Adjustments

Additionally, the funding distribution is adjusted according to changes in net costs resulting from data verification and the auditor's examinations of reported costs, revenues and tonnages from the 2009 and 2010 program years.

Additional details on the new methodology for determining the 2013 funding distribution developed by municipal MIPC is available here.

2011 Datacall Best Practice Scoring Framework

(Questions in bold are used for purposes of Best Practice funding in 2013)

Best Practice Activity Questions		Evaluation Scoring	
1.	**Development and implementation of an up-to-date blue box recycling plan**	**12.5%**	
a)	**Does the municipality have a blue box recycling plan that has been prepared or revised since2007?** [1]	**NO**	**YES**
i)	Title of recycling or waste management plan	Text Box	
ii)	By-law / Council resolution or board report reference number / link to public document of this plan	Text Box	
iii)	By-law / Council resolution / board report reference date	Text Box	
b)	**Does the plan define and establish Blue Box Program goals and objectives that are in line with your overall waste diversion and integrated waste management goals?**	**NO**	**YES**
c)	**Does the plan require performance monitoring against Blue Box diversion targets?**	**NO**	**YES**
i)	Date of most recent Blue Box recycling plan where performance monitoring is tracked	Numerical Box	
d)	**Was a monitoring report presented to Council/Committee/board in 2011?**	**NO**	**YES**
i)	Committee or board report reference or link to public document of this monitoring report	Text Box	
2.	**Establishing defined performance measures including diversion targets, monitoring objectives and a continuous improvement program**	**25%**	
a)	**Does your program set defined objectives and targets for recycling programs that are implemented and**	**NO**	**YES**

[1] Key elements of this plan must include: (1) collection method rationale/ efficiencies (2) processing method rationale/efficiencies (3) promotion and education plan (4) methods of enforcement for diversion policies (5) capture rate targets (6) diversion targets.

Best Practice Activity Questions		Evaluation Scoring	
	evaluated within a defined time period, and part of a defined recycling plan?[2]		
i)	If so, provide the by-law resolution, committee or board report, or council resolution number of the document, or link to public document	Text Box	
b)	**Does your program collect specific program data to evaluate the effectiveness of recycling programs before and after implementation?**	**NO**	**YES**
i)	If so, provide the by-law resolution, committee or board report, or council resolution number of the document, or link to public document	Text Box	
c)	**Have the results of the monitoring been used to identify and analyze the factors that influence your program's ability to meet established objectives and targets within the years of 2007 to 2011?**	**NO**	**YES**

3.	**Multi-municipal planning approach to collection and processing of recyclables**	**8.3%**				
a)	Is your municipality a(n) _____ tiered municipality		Upper	Lower	Single	
b)	**Does your municipality deliver and/or provide recyclable material collection services jointly with one or more other municipalities through an agreement?**	**NO**			**YES**	
i)	If so, with what municipality(ies) do you share the collection services with? List one example.	Text Box				
ii)	If so, provide the agreement, contract, by-law resolution, committee or board report, or council resolution number of the document containing the	Text Box				

[2] Defined performance measurements include capture rates, participation rates, residue rates, set-out rates, and waste audits/compositions. **Set-out Rate** is the percentage of households that put Blue Boxes (or specified collection containers) out for collection on a given collection cycle. It is calculated by dividing the total number of Blue Boxes set out for collection in the area by the total number of residential units in the area that could possibly have set out a recycling container. **Participation Rate** is the percentage of households that put Blue Boxes (or specified collection containers) out for collection during the study period in the study area. **Capture Rate** is the percent of the total waste stream that is collected in Blue Box collection system. **Residue Rate** is the percent of residual waste left over after Blue Box materials have been processed at the MRF.

Best Practice Activity Questions		Evaluation Scoring	
	agreement		
c)	**Does your municipality deliver and/or provide Blue Box recyclable material processing services jointly with one or more other municipalities through an agreement?**	**NO**	**YES**
i)	If so, with what municipality(ies) do you share the processing services with? List one example.	Text Box	
ii)	If so, provide the agreement, contract, by-law resolution, committee or board report, or council resolution number of the document containing the agreement	Text Box	
d)	**Does your municipality deliver and/or provide Blue Box public education services jointly with one or more other municipalities through an agreement?**	**NO**	**YES**
i)	If so, with what municipality(ies) do you share the transfer/depot services with? List one example.	Text Box	
ii)	If so, provide the agreement, contract, by-law resolution, committee or board report, or council resolution number of the document containing the agreement	Text Box	
e)	**Has your program synchronized the expiry date of its recycling contract with the recycling contracts of neighbouring municipalities?**	**NO**	**YES**
f)	**Has your municipality approached other municipalities about increasing joint provision of recycling (collection, processing, depot/transfer, marketing, and/or promotion and education) services?**	**NO**	**YES**
4.	**Optimization of operations in collections and processing by following generally accepted principles (GAP) for effective procurement and contract management**	**12.5%**	
a)	**Does your operation use municipal staff for collection/processing?**	**NO**	**YES**
b)	**Does your operation use contract staff for collection/processing?**	**NO**	**YES**
i)	In the development of your last contract for Collection or Processing did you have legal review	NO	YES

Best Practice Activity Questions		Evaluation Scoring	
	or use a contract template?		
c)	**Did you do an Efficiency Audit in 2010, 2011 or 2012?**	**NO**	**YES**
d)	**Were Audit Recommendations Implemented?**	**NO**	**YES**
i)	Date Audit Reported to Council/Board	Text Box	
ii)	Resolution Number	Text Box	
e)	**Do you have capital assets in this area?**	**NO**	**YES**
f)	**Have you applied for CIF or E&E funding for optimization projects in this area in 2010 2011 or 2012?**	**NO**	**YES**
5.	**Training of key program staff in core competencies**	**8.3%**	
a)	**Have staff responsible for blue box recycling attended recycling-specific workshops or courses, as a participant or instructor, since 2009?**	**NO**	**YES**
b)	**Identify areas of training:**	**Text Box**	
	Who provided training?	Text Box	
	Did you get a certificate?	NO	YES
6.	**Appropriately planned, designed, and funded promotion and education program**	**8.3%**	
a)	**Does your program currently have a communications plan[3] (either a stand-alone plan or as part of a larger plan document), with identified goals and measurable objectives that is regularly updated?**	**NO**	**YES**
b)	**Does your plan include a monitoring and evaluation component (an example would be: identification of 'spikes' in recovery or overall annual tonnages coinciding with specific P&E efforts)?**	**NO**	**YES**
7.	**Established and enforced policies that induce waste diversion**	**25%**	
a)	**Does your program provide Blue Boxes (or the equivalent) or replacement Blue Boxes (or the equivalent) free of charge, or below cost?**	**NO**	**YES**
b)	**Does your program have <u>any</u> of the following policies in**		

[3] Key elements of a communications plan must include: (1) a multi-tiered approach to promotion and education which includes radio components, TV, calendars, or website offerings, (2) measurements of the effectiveness of the communications plan, (3) a work plan that will be monitored and revised annually.

Best Practice Activity Questions		Evaluation Scoring	
place			
i)	Bag limits	NO	YES
ii)	Pay As You Throw (PAYT) program	NO	YES
iii)	Garbage collection frequency less than recycling collection frequency	NO	YES
iv)	Recycling incentive program for households that rewards increased recycling, set-out, and participation	NO	YES
v)	Has your program commenced a reduction in garbage collection frequency (i.e. less than once per week)	NO	YES
vi)	Requirement for clear bags in the last year?	NO	YES
vii)	A tag and leave policy for unacceptable blue box (or the equivalent) set-outs?	NO	YES
viii)	Supervised recycling bins at depots?	NO	YES
Total Best Practice Funding Distribution Points		**100%**	

APPENDIX E

Handling Fees for Beverage Containers

Table 14: Handling fees paid in provinces in cents per unit recovered (as of June 15, 2012)

Province	BC	AB	SK[3]	MB	QC	NS	NB	NF	PEI	YK	NWT
Aluminum Cans	3.26	3.02			2	3.99	4.059	4.15	3.975	2.5	2.2
PET (up to 1 L)	4.9	4.076			2	3.99	4.059	4.15	3.975	4.0	2.2
PET (over 1 L)	7.61	8.782			2	3.99	4.059	4.15	3.975	7.5	4.5
PVC (up to 1 L)	4.9	5.79				3.99	4.059	4.15	3.975	4.0	2.2
PVC (over 1 L)	7.61	11.36				3.99	4.059	4.15	3.975	7.5	4.5
HDPE (up to 1 L)	4.9	5.79				3.99	4.059	4.15	3.975	4.0	2.2
HDPE (over 1 L)	7.61	10.6				3.99	4.059	4.15	3.975	7.5	4.5
Polypropylene (up to 1 L)	4.9	5.79				3.99	4.059	4.15	3.975	4.0	2.2
Polypropylene (over 1 L)	7.61	11.36				3.99	4.059	4.15	3.975	7.5	4.5
Polystyrene (up to 1 L)	4.9	5.79				3.99	4.059	4.15	3.975	4.0	2.2
Polystyrene (over 1 L)	7.61	11.36				3.99	4.059	4.15	3.975	7.5	4.5
Pouch (up to 1 L in AL)	4.35	4.08				3.99	4.059	4.15	3.975	4.0	2.2
Plastic (up to 500 ml)	4.9					3.99	4.059	4.15	3.975	4.0	2.2
Plastic (501 ml to 1 L)	4.9					3.99	4.059	4.15	3.975	4.0	2.2
Plastic (over 1 L)	7.61					3.99	4.059	4.15	3.975	7.5	4.5
Glass Bottles (up to 1 L)	6.53	6.48			2	3.99	4.059	4.15	3.975	4.0	3.5
Glass Bottles (over 1 L)	7.61	10.4			2	3.99	4.059	4.15	3.975	7.5	3.5
Drink Boxes (up to 500 ml)	4.9	4.54				3.99	4.059	4.15	3.975	4.0	2.2
Drink Boxes (501 ml to 1 L)	5.98	4.54				3.99	4.059	4.15	3.975	4.0	2.2
Drink Boxes (over 1 L)		19.75				3.99	4.059	4.15	3.975	7.5	4.5
Gable Top Cartons (up to 1 L)	6.53	5,64				3.99	4.059	4.15	3.975		2.2
Gable Top Cartons (over 1 L)	10.65	9.42				3.99	4.059	4.15	3.975		4.5
Bag-in-the-Box Containers (over 1 L)	10.88	20				3.99	4.059	4.15	3.975		3.5
Bi-Metal Containers (up to 1 L)	4.9	6.76				3.99	4.059	4.15	3.975	4.0	2.2
Bi-Metal Containers (over 1 L)	10.88	12.35				3.99	4.059	4.15	3.975	7.5	4.5
Imported Beer Bottles	4.9	6.48				3.99	4.059	4.15	3.975	4.0	3.5
Liquor and Wine Ceramic Containers						3.99	4.059	4.15	3.975		
Sleeman Bottles		5				3.0	4.059	4.15	3.975		
Moosehead Green Bottles						2.568					
Imported Beer Containers (up to 1 L)		6.48				3.99	4.059	4.15	3.975		
Imported Bi-Metal Beer Cans		6.76				3.99	4.059	4.15	3.975		
Refillable Beer Containers (ISB)	[1]	3.974	2.6 [4]	2.67	0.5	2.735	2.899	5 [4]	2.814	2.5	
Beer Cans		3.02		2.04							
Milk Containers (up to 1 L)											2.0
Milk Containers (over 1 L)											3.5
Milk Jugs	~2.7 [2]		$420 per tonne [5]			$407 per tonne					
Milk Cartons	~4.09 [2]		$150 per tonne								

Container included in another category

Category not applicable

[1] In BC, bottle depots independently negotiate handling fees directly with the beer industry. The average rate is about 29 cents per dozen or 2.42cents per bottle.
[2] The tilde (~) indicates an approximation. About 166 depots in BC are paid a handling fee for collecting milk jugs and cartons. They are paid $2.25 per bag for jugs and $3.00 per bag
[3] Saskatchewan does not charge handling fees. SARCAN depots are paid a contracted rate per year, which is generated through the environmental handling charge (EHC).
[4] In SK and NL, a handling fee charged on refillable beer containers is charged at the back end, i.e., it is taken from the refund. In SK it is 6 cents at SARCAN depots and 2 cents at SLGA stores, which also receive an additional subsidy of 2.6 cents per ISB bottle from BDL. In NL it is 5 cents.
[5] In SK, a variable rate paid to recyclers for milk jugs is based on 80% of the salvage value for that month. The average for a 12-month period ending in June 2012 is approximately $420/tonne.

From CM Consulting, Who Pays What: An Analysis of Beverage Container Collection and Costs in Canada, August 2012; reference provided in report.

APPENDIX F

Summary of Future MMBC Program

Halifax Regional Municipality

Extended Producer Responsibility and Stewardship Model Review and Analysis

Multi Materials British Columbia (MMBC) – BC Recycling Regulation

No.	Question	Detailed Response
	Name of Province / Territory	British Columbia
	Population/Households /Number of Industrial, Commercial or Institutional Entities Served	4,400,057[1] (2011) 1,764,637 occupied private dwellings[2] (2011) *Addresses residential premises (SF, MF dwellings) and municipal property (sidewalks, parks, plazas and time squares) that is not an IC&I property.*
	Contact Information and/or weblinks	• http://multimaterialbc.ca/mmbc/sites/default/files/documents/pdf/plan/MMBC-PPP-Stewardship-Plan-Apr8-2013.pdf • http://multimaterialbc.ca/producers/information-session • http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/449_2004
	Material/Product (e.g. milk cartons, tires, paper packaging)	Residential packaging and printed paper (PPP): • Paper – gable top containers, aseptic containers, paper laminates, OCC, boxboard, other paper packaging • Printed Paper – newsprint, magazines and catalogues, directories, other printed matter • Plastic – PET bottles & jars, HDPE bottles, jugs and jars, LDPE/HDPE film including carry out bags, polystyrene, plastic laminate, biodegradable plastic packaging, other plastic packaging • Steel and other metal packaging – food containers, aerosol containers, other steel and bi-metal containers and packaging • Aluminum – food containers, aerosol containers, other aluminum packaging • Glass – clear glass containers, coloured glass *Does not include items covered by other stewardship programs, non-PPP items or PPP items*

[1] BC Stats http://www.bcstats.gov.bc.ca/StatisticsBySubject/Census/2011Census/PopulationHousing/BCCanada.aspx Taken from Statistics Canada 2011 Census
[2] BC Stats http://www.bcstats.gov.bc.ca/StatisticsBySubject/Census/2011Census/PopulationHousing/MunicipalitiesByRegionalDistrict.aspx Taken from Statistics Canada 2011 Census

No.	Question	Detailed Response
		used solely in IC&I facilities.
	Number of brand owner(s) covered under the plan.	As of April 23, 2013 there were 873 brand owners signed on to MMBC's plan [3]
	How is material collected (e.g. curbside, drop off depot, retail take-back)? Number of collection points.	Qualified collectors will be offered financial incentives for PPP collection and the value offered will be established as *market-clearing prices* (prices at which the market will deliver the service required by MMBC). An effective market-clearing price should reward and encourage efficient services to those who can deliver below the price and encourage those exceeding the price to reduce costs. For collection, the m-c price has two components: 1) clear definition of outcome being priced (e.g. $/tonne processed, $/household serviced) and 2) price level or quantity of financial incentive (determined from research into collection service performance and service delivery costs across BC). Market-clearing prices may change to accommodate changing fuel prices or other circumstances that change over time. MMBC will pay the collectors once the PPP that they have collected has been accepted for processing by a primary processor under contract with MMBC. MMBC will establish collector qualification standards that will include basic qualifications and requirements for tracking and reporting sources and quantities of collected PPP. MMBC will engage qualified collectors for the following: • **Curbside for SF and MF** – offer a financial incentive to local gov't or First Nations (FN) gov't for provision of services that include PPP curbside collection, public education, promo and first point of contact. If gov't declines the offer then MMBC will implement a competitive procurement process for collection services and will select the service provider to provide PPP collection services and will provide public education, promotion and management of collection service customers through its own means. • **Central storage area for MF** – MMBC will offer financial incentives for MF building PPP collection services to any interested parties such as: local gov't that accepts offer of financial incentive. An additional incentive will be offered to provide public education, promotion and first point of contact for customers. Or a private company who accepts

[3] http://multimaterialbc.ca/producers/registered-producers

No.	Question	Detailed Response
		the offer of the financial incentive, MMBC will provide public education, promotion and management of collection service customers through its own means. • **Depot operation for receiving PPP from SF and MF residents** – MMBC will offer a financial incentive to any interested party that is able to comply with collector qualification standards: either local gov't that accepts offer of financial incentive. An additional incentive will be offered to provide public education, promotion and first point of contact for customers, or a private company who accepts the offer of the financial incentive, MMBC will provide public education, promotion and management of collection service customers through own means. • **Streetscapes meeting the reasonable access criteria**: MMBC will offer a financial incentive to the local gov't for service that include PPP collection services, public education, promotion and first point of contact for collection service customers. If the local gov't declines then MMBC may implement a competitive procurement for PPP streetscape collection services and may select a service provider and may provide public education, promotion and management of collection service customers through own means (subject to reaching agreement with local government on management of garbage component of streetscape system). For a copy of households receiving theses service levels already, refer to attached table at the end of the document. MMBC is planning on putting out RFPs for the collection of PPP for curbside, central and depot areas with local gov't's first and private contractors if the local gov't is not interested. For post-collection activities, MMBC will contract directly for these services which include: receiving PPP from collection vehicles, picking up PPP from depots, consolidating and transferring PPP where required, handling and sorting PPP, preparing PPP for shipment to end-markets or downstream processors, marketing PPP to maximize commodity revenue, appropriately managing residual materials and reporting the quantities of material received and marketed and other metrics to MMBC as required.

No.	Question	Detailed Response
		Collectors will have a contractual relationship with MMBC to receive the market-clearing price for the PPP collection services they provide to MMBC. Processors will also have a contractual relationship with MMBC in order to receive payment for the post-collection services they provide to MMBC.
	How are costs for programs recovered (e.g. invisible fee, environmental fee, deposit/return)?	Costs are recovered through the following means:[4] • Producers pay fees to MMBC to implement the PPP stewardship plan for administration, resident awareness and material management. • Producers who supply types of PPP that are currently recyclable in the PPP stewardship plan will pay fees that cover: equitable share of MMBC admin fees, equitable share of resident awareness costs, contribution of the costs to manage the recyclable PPP that is the basis for the PPP stewardship program. • Producers who supply types of PPP that are not currently recyclable and will not be included in the PPP stewardship plan collection system when the program launches in May 2014 will pay fees that are intended to cover: equitable share of MMBC admin fees, equitable share of resident awareness costs, contribution to the costs to manage the recyclable PPP that is the basis for the PPP stewardship program performance and research and development to resolve technical and market capacity barriers so that the PPP that is currently not recyclable can be included in the collection system over time. • It is anticipated that the producers that choose to be members of MMBC will not apply a fee at the point of sale of products in PPP due to the low cost per unit of PPP (e.g. less than one cent). In the absence of a fee at the point of sale, costs incurred by producers to meet their obligations under the Recycling Regulation, through membership in MMBC would be considered the cost of doing business in BC and would be managed by the producer accordingly. Each individual producer will determine for its own business how it will manage the costs incurred to meet its obligations under the Recycling Regulation through membership in MMBC. • Costs incurred by MMBC to deliver and administer the PPP stewardship plan will be allocated among producers based on the following principles: encourage reduction, redesign and recyclability; program delivery costs (using cost allocation model based on

[4] Page 16 http://multimaterialbc.ca/mmbc/sites/default/files/documents/pdf/plan/MMBC-PPP-Stewardship-Plan-Feb25-2013.pdf

No.	Question	Detailed Response
		waste audits, cost allocation studies); and admin fees.
	Where is the material/product processed (city, country) and what is the end use(s) of the product?	Step 1) Issue REOI to gauge processing capacity to receive, process and market a defined list of PPP through an REOI. Step 2) Issue RFP for PPP processors able to manage the defined list of PPP. Processors will be provided with the names and locations of qualified collectors participating in the program to make arrangements to respond to the RFP. Processors will have to meet the processor qualification standards set by MMBC. The RFP will also solicit bid prices for post-collection services. Evaluation criteria will consider price, location, capability, capacity, output to recycling end-markets per tonne received and material revenue received. Primary processors will be tasked to find the 'best' markets for materials (i.e. reliable markets that command the highest commodity prices) and agreements will incorporate mechanisms to share market revenue and commodity risk. Since processors will benefit from maximized commodity values, processors have a strong incentive to maximize the quantity of PPP marketed and its commodity value. Collectors will have a contractual relationship with MMBC to receive the market-clearing price for the PPP collection services they provide to MMBC. Processors will also have a contractual relationship with MMBC in order to receive payment for the post-collection services they provide to MMBC. If an organization or company has residency in BC or supplies any PPP in to the BC residential market or is a brand owner, first importer or franchise then they are considered to fall under the recycling regulation. Therefore, the PPP materials could be processed in any city or country. The end use for all of the products is residential packaging (ends up at the consumers household) or printed paper.
	Provide data (if available) from last 3 years on:	Program to begin in May 2014.
	Participation Rates	N/A

No.	Question	Detailed Response
	Capture Rates	N/A *MMBC estimates that 50% to 57% of PPP was recycled in BC in 2011.* [5] *Recycling Regulation specifies a 75% recovery rate.*
	Tonnages (total in system and total collected)	N/A *MMBC estimates that there are approximately 350,000 to 400,000 tonnes of PPP that enters BC households annually and that 200,000 tonnes of PPP were recycled in 2011.* [6]
	Program costs (total, net)	N/A
	Program cost per tonne of material	N/A
	Who (federal, municipal, province, name of stewardship agency) is responsible for the delivery of (provide description, may be more than one agency involved):	MMBC is responsible for the delivery of the program. MMBC is a not-for-profit agency established under the BC Society Act formed in anticipation of the requirement to develop, submit and implement a stewardship plan for packaging and printed paper. MMBC is acting as a stewardship agency on behalf of ~900 producers in order to discharge their obligations under the Recycling Regulations.
	Promotion and Education	Delivery of promotion and education is arranged through MMBC via a competitive procurement process. Actually delivery is determined based on the following: **Curbside** – if the qualified collector is the local gov't then the local gov't will provide. If the qualified collector is a private company then MMBC will provide through their own means. **Central Storage Area** - if the qualified collector is the local gov't then the local gov't will provide. If the qualified collector is a private company then MMBC will provide through their own means. **Depots** - if the qualified collector is the local gov't then the local gov't will provide. If the qualified collector is a private company then MMBC will provide through their own means. **Streetscapes** - if the qualified collector is the local gov't then the local gov't will provide. If the qualified collector is a private company then MMBC will provide through their own means. There is a P&E plan that focusses on understanding MMBC's audience, designing effective communication and P&E, collaborating with other agencies/NGOs, retailers, etc., establishing measurement metrics, use of different communication and P&E tactics and engaging audience

[5] Page 17 http://multimaterialbc.ca/mmbc/sites/default/files/documents/pdf/info-session/slides-march2013-1pp.pdf
[6] Pages 17, 19 http://multimaterialbc.ca/mmbc/sites/default/files/documents/pdf/info-session/slides-march2013-1pp.pdf

No.	Question	Detailed Response
		to elicit feedback. MMBC will do research by 2015 to establish a resident awareness benchmark by 2016 and resident awareness target by 2017.
	Collection	MMBC selects the qualified collector through a competitive procurement process and offers market-clearing prices. For curbside, central collection area, depots and streetscapes the local gov't is provided with the option to collect first. If they decide not to then a private collector will be selected by MMBC.
	Processing	MMBC – through a competitive procurement process for post-collection
	Disposal	MMBC – through a competitive procurement process for post-collection. Processor will be responsible for appropriately managing residual materials.
	Marketing	Preparing PPP for shipment to end-markets or downstream processors, marketing PPP to end-markets, tracking materials received and shipped by the processor and its downstream processors to final destination will be done through MMBC via a competitive procurement process for post-collection services.
	Who (F, M, P, S, taxpayers) is responsible for funding of (provide description of funding formula):	Different fee structure for producers that supply recyclable PPP and for producers that supply non-recyclable PPP. Funding categories: administration, resident awareness and material management.
	Promotion and Education	Producers (through fees to MMBC)
	Collection	Producers (through fees to MMBC)
	Processing	Producers (through fees to MMBC)
	Disposal	Producers (through fees to MMBC)
	Marketing	Producers (through fees to MMBC)
	What policies and criteria exist for the delivery of stewardship programs? Can a copy of the plan be provided? What legislation or policy is in place that enables the EPR program?	BC Environmental Management Act Recycling Regulation B.C. Reg 449/2004 (Amended July 2011)[7] Multi-Material British Columbia Stewardship plan[8] Brewers Distributed Limited[9] Legislation or policy in place is from the BC regulation
	Describe provincial policies and	Refer to flow chart at end of document.

[7] http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/449_2004
[8] http://multimaterialbc.ca/mmbc/sites/default/files/documents/pdf/plan/MMBC-PPP-Stewardship-Plan-Apr8-2013.pdf
[9] http://rcbc.bc.ca/files/u7/epr_121122_BDLSchedule5PlanFinalBC2.pdf

No.	Question	Detailed Response
	criteria used for evaluation of stewardship plan. Is ongoing monitoring required by the province?	 Annual report submitted to BC MOE by July 1 each year.
	What enforcement tools are in place if industry does not meet its obligations as set out in their plan?	Producers are required to register with MMBC if they plan to sell or distribute PPP in BC. If they do not register then they are liable for enforcement action under Section 16 of the Recycling Regulation. This includes fines of up to $200,000 upon conviction and/or may be prohibited from selling, offering for sale, distributing or using the product in a commercial enterprise in BC. [10]
	Describe the administration and reporting models.	Producers report the weight of their PPP to MMBC. (Producers are currently reporting their PPP for 2012 for the May 2014 program launch) and MMBC will report annually to BC MOE by July 1st. This allows for MMBC to know how many tonnes of the categories of PPP that businesses have supplied to residents so that accurate and equitable fee calculations are put into place. Processors will provide post-collection services and will report quantities of PPP received and marketed as well as the final destinations of materials processed. With this information, MMBC will report on the performance of the PPP program in an annual report submitted to the BC MOE by July 1st each year. In January 2015, as part of the first year of operation, MMBC will provide a summary of collection services as of December 2014. This will describe: - Local gov't's that accepted the market-clearing price financial incentive for curbside collection service and the households being serviced through agreements between MMBC and local governments - Local gov't's that declined the market-clearing price for curbside collection service and the households for which MMBC is directly providing curbside collection service. - Multi-family buildings being provided with PPP collection services by collectors under contract to MMBC and

[10] http://multimaterialbc.ca/sites/default/files/documents/pdf/BC-MOE-Feb20-Letter-PPP-Producers.pdf

No.	Question	Detailed Response
		- Drop-off depots accepting PPP operated by collectors under contract to MMBC. <u>The MOE requires that MMBC provides third-party audited financial statements prepared in accordance with auditing standards if fees are applied at the point of sale to fund the stewardship plan.</u> During implementation MMBC will also compile data in order to report on the following indicators: - **Accessibility indicators** for SF, MF, with collection service and the number and location of depots - **Operational effectiveness indicators characterizing program performance** e.g. tonnes of PPP collected within each regional district, kg per capita from each regional district, tonnes of PPP recycled and recovered for the province, kg per capita of PPP recycled and recovered for the province, recovery rates - **Management of collected PPP**: tonnes of PPP managed by recycling, recovery or disposal - **Operational efficiency indicators reflecting program performance in terms of costs**: total program cost per tonne recovered, total program cost per households - **Environmental impact measures** - **Resident awareness indicators**: % of residents aware of PPP stewardship program, % of residents reporting use of available collection services and visits to the resident section of MMBC website.
	How has the EPR program impacted existing curbside recycling and composting programs?	NA
	How do you manage EPR program materials that end up in the in the garbage, recycling or compost stream? How does it impact the municipality?	[need to dig deeper on this] Using market-clearing prices as incentive to maximize PPP in the PPP collection stream instead of garbage stream. MMBC plans to set standards for the amount of non-PPP material that will be allowed in the PPP collection system. If standards are not met, there will be penalties or other measures set

No.	Question	Detailed Response
		out in the contract between MMBC and its collectors. [11]
	Does the municipality receive funding for managing EPR stewarded products, if so, what is the funding model and criteria?	A local gov't will only receive a financial incentive for managing PPP if they are the qualified collector for the materials. The local gov't will also receive additional financial incentives if they offer to provide public education, promotion and first point of contact for collection service customers.
	How are existing municipal recycling and recovery programs considered in the execution of stewardship programs?	Existing municipal recycling and recovery programs are considered. If they already exist then it is recommended that the same type of curbside/central storage area/depot service levels continue. Additionally, existing local gov't contracts with collectors are also considered. Any existing contracts that extend beyond implementation of the plan will be factored into implementation.
	Are there future plans to enhance or modify this program? If so, describe.	N/A
	Are there plans to pursue a full EPR program? Why or why not? (e.g. waiting for a national program)	N/A

[11] Page 27 http://multimaterialbc.ca/sites/default/files/documents/pdf/info-session/march2013-info-session-QA.pdf

Current Access for Residents to PPP Collection Services Based[12]

Regional District	Single-Family Households			Multi-Family Households	
	# of Single-Family Households	# of Single-Family Households Receiving PPP Curbside Collection Service[48] [49]	# of Households Receiving Garbage Curbside Collection Service (no PPP curbside collection)[50]	# of Multi-Family Households	# of Multi-Family Households Receiving PPP Collection Service[51] [52]
Alberni Clayoquot RD	10,720	8,999	0	1,454	0
Bulkley-Nechako RD	13,561	450	7,252	989	0
Capital RD	129,653	118,051	0	47,700	41,533
Cariboo RD	23,484	2,450	5,157	1,741	1,000
Central Coast RD	1,170	0	0	15	0
Central Kootenay RD	23,992	9,427	3,690	1,778	0

[48] Source: *Current System for Managing Residential Packaging and Printed Paper in BC*, March 2012, Appendix C. The categories used in the Current System Report were 'single-family' and 'multi-family'. Depending on how individual local governments categorize housing types, the data may have been inconsistently reported. Under the PPP Stewardship Plan, the categories will be 'curbside' and 'multi-family buildings'. These categories may differ from the categories used by local governments in reporting the data presented in the table above.

[49] These single-family households will receive curbside collection of PPP under the PPP Stewardship Plan with the exception of any households where a local government that currently provides curbside collection of PPP declines the market-clearing price and indicates that it wishes to continue to provide the PPP collection service. In this circumstance, MMBC will not be responsible for providing reasonable access to curbside collection of PPP within the jurisdiction.

[50] These single-family households will receive curbside collection of PPP under the PPP Stewardship Plan with the exception of any households where a local government that currently provides curbside collection of garbage declines the market-clearing price and indicates that it prefers depot collection over curbside collection or where a local government declines the market-clearing price without indicating a preference for depot collection and the bid price received by MMBC is higher than the market-clearing price.

[51] Source: *Current System for Managing Residential Packaging and Printed Paper in BC*, March 2012, Appendix C. The categories used in the Current System Report were 'single-family' and 'multi-family'. Depending on how individual local governments categorize housing types, the data may have been inconsistently reported. Under the PPP Stewardship Plan, the categories will be 'curbside' and 'multi-family buildings'. These categories may differ from the categories used by local governments in reporting the data presented in the table above.

[52] These multi-family households will receive collection of PPP under the PPP Stewardship Plan with the exception of any households where a local government that currently provides collection of PPP declines the market-clearing price and indicates that it wishes to continue to provide the PPP collection service. In this circumstance, MMBC will not be responsible for providing reasonable access to collection of PPP to multi-family residents serviced by the local government.

[12] Page 32 http://multimaterialbc.ca/sites/default/files/documents/pdf/plan/MMBC-PPP-Stewardship-Plan-Apr8-2013.pdf

Regional District	Single-Family Households			Multi-Family Households	
	# of Single-Family Households	# of Single-Family Households Receiving PPP Curbside Collection Service[48] [49]	# of Households Receiving Garbage Curbside Collection Service (no PPP curbside collection)[50]	# of Multi-Family Households	# of Multi-Family Households Receiving PPP Collection Service[51] [52]
Central Okanagan RD	53,868	52,000	0	13,000	0
Columbia-Shuswap RD	19,549	5,958	0	1,631	0
Comox - Strathcona RD	37,994	28,496	877	4,986	0
Cowichan Valley RD	27,982	24,125	0	3,283	0
East Kootenay RD	20,774	1,400	12,675	2,646	0
Fraser-Fort George RD	36,375	0	31,030	4,739	0
Fraser Valley RD	76,362	56,922	0	32,510	2,154
Kitimat-Stikine RD	13,335	0	8,166	1,035	0
Kootenay Boundary RD	17,383	11,555	0	3,000	1,009
Metro Vancouver RD	465,971	459,090	1,340	353,979	345,819
Mount Waddington RD	4,319	260	1,752	371	0
Nanaimo RD	51,401	51,401	0	9,041	0
North Okanagan RD	30,807	30,807	0	4,781	0
Northern Rockies RD	2,026	0	0	279	0
Okanagan-Similkameen RD	29,038	28,038	0	6,202	4,652
Peace River RD	19,632	0	13,914	2,703	0
Powell River RD	12,671	5,038	0	1,141	0
Skeena-Queen Charlotte RD	6,946	0	7,574	859	0

Regional District	Single-Family Households			Multi-Family Households	
	# of Single-Family Households	# of Single-Family Households Receiving PPP Curbside Collection Service[48] [49]	# of Households Receiving Garbage Curbside Collection Service (no PPP curbside collection)[50]	# of Multi-Family Households	# of Multi-Family Households Receiving PPP Collection Service[51] [52]
Squamish-Lillooet RD	12,059	5,260	2,367	1,931	0
Stikine RD	495	0	0	0	0
Sunshine Coast RD	10,962	4,192	2,013	1,218	0
Thompson-Nicola RD	50,400	32,200	4,134	9,500	9,500
Totals	1,202,930	936,118	101,941	512,511	405,666

Summary of Performance Measures

Measures	2014	2015	2016	2017	2018	2019
Recovery Target	Maintain, at a minimum, the overall provincial collection rate of 208,700 tonnes as assessed during preparation of the report titled *Current System for Managing Residential Packaging and Printed Paper* (March 2012).[53]			Consult on and submit targets to achieve a 75% recovery rate. Goal to collect all packaging types.		
Recovery/Collection Reporting*		• Tonnes of PPP collected within each Regional District; • Kilograms per capita of PPP collected within each Regional District; • Tonnes of PPP recycled and recovered for the province; • Kilograms per capita of PPP recycled and recovered for the province; and • Recovery rate expressed as a percentage for the province.				
Accessibility Performance	Maintain, at a minimum, single-family and multi-family household service levels, where these households currently receive. PPP collection, across Regional Districts as outlined in Appendix B.					
	Provide curbside collection of PPP to the approximately 102,000 households currently receiving garbage collection. service[54].					
	Maintain depot collection of PPP for the approximately 165,000 single-family households and the approximately 91,000 multi-family households without collection services.[55]					

[53] Subject to adjustments to correct any errors in the Phase 1 survey data identified during program implementation and to reflect any significant changes in the quantity of PPP available for collection

[54] With the exception of any households where a local government that currently provides curbside collection of garbage declines the market-clearing price and indicates that it prefers depot collection over curbside collection or where a local government declines the market-clearing price without indicating a preference for depot collection and the bid price received by MMBC is higher than the market-clearing price.

[55] **Re single-family households**: Appendix C of the report titled *Current System for Managing Residential Packaging and Printed Paper* (March 2012) indicates that 936,118 of the 1,202,930 single-family households are receiving collection service, leaving 266,812 single-family households without curbside collection service, MMBC will be offering PPP curbside collection services to an additional 101,941 single-family households currently receiving curbside garbage collection, leaving 164,871 single-family households reliant on depots. (Appendix C of the *Current System* report identified 217,758 households as having access only to depots.) **Re multi-family households**: Appendix C of the *Current System* report indicates that 405,666 of the 512,511 multi-family households are receiving collection service and 90,096 multi-family households have access only to depots,

APPENDIX G

Proposed Timelines for BC and ON EPR Programs for PPP

Published on *MMBC* (http://multimaterialbc.ca)

Key Milestones & Dates

Multi-Material British Columbia (MMBC) has developed an industry-led Packaging and Printed Paper (PPP) Stewardship Plan. The process began in May 2011 with a program required to roll out on May 19, 2014.

Date	Activity
May 2011	• BC Ministry of Environment adds Schedule 5 Packaging and Printed Paper to Recycling Regulation • Multi-Material British Columbia incorporated
November 2011 to March 2012	Current state analysis and assessment of program design options
April to August 2012	Stewards organizing to support MMBC
September to December 2012	Consultation on stewardship plan development
October 23, 2012	Draft Packaging and Printed Paper Stewardship Plan posted for stakeholder review
October 29, 2012	Consultation meeting and webcast
November 19, 2012	Submission of PPP Stewardship Plan to BC government
February 2013	Submission of updated stewardship plan following completion of consultation
April 2013	Resubmission of updated stewardship plan
March 2013 to May 2014	Prepare for implementation
September 3 to 20, 2013	Stewards to submit first report
May 19, 2014	MMBC program launch
After May 19, 2014	Implementation

September 3 to 20, 2013	Stewards to submit first reports

Source URL: http://multimaterialbc.ca/key-milestones

Path forward

The province intends to roll out its waste reduction framework in an integrated fashion that will maximize opportunities to engage with stakeholders.

ACTION	Short-term (1-2 years)	Medium Term (2-4 years)	Longer Term (4 Years and Beyond)
Consult on gradual increases to Blue Box producer funding	Consult on changes to the Blue Box program funding model and redefining roles and responsibilities.	Continue to consult on changes to the Blue Box program funding model and take first steps toward increasing Blue Box producer funding and producer responsibility in the program.	Continue to make progress toward increasing producer funding for Blue Box program and transition of the program to individual producer responsibility.
Transition existing programs to individual producer responsibility	Consult on tools required to facilitate the transition of waste diversion programs and their IFOs to individual producer responsibility. Waste Reduction Authority begins and oversees transition process of the WEEE program. Waste Reduction Authority begins transition process for the MHSW program.	Waste Reduction Authority oversees transition of the MHSW program. Waste Reduction Authority begins transition process for the Used Tires and Blue Box programs.	Waste Reduction Authority oversees the transition of the Used Tires program. Waste Reduction Authority continues the transition of the Blue Box program.
Begin a review of the 3Rs regulations as they apply to the IC&I sector	Begin consultations on designating paper and packaging wastes supplied into the IC&I sectors under the proposed Waste Reduction Act. Begin a review the 3Rs Regulations as they apply to the IC&I sector.	Begin phasing-in producer responsibility for paper and packaging supplied into the IC&I sectors.	Continue phasing-in producer responsibility for paper and packaging supplied into the IC&I sectors.
Develop new recycling standards for ELVs	Consult on and implement new recycling standards for the diversion of ELVs.	Continue implementation of recycling standards and consult on additional measures to divert ELVs.	Continue to consult on additional measures to divert ELVs.
Designate additional wastes	Consult on additional wastes that could be designated under the proposed Waste Reduction Act.	Designate new wastes under the proposed Waste Reduction Act, possibly including carpets and additional WEEE.	Continue to designate new wastes under the proposed Waste Reduction Act, possibly including non-food organics and bulky items.
Use disposal bans to increase diversion	Consult on the use of disposal bans, including eligible wastes and the timing of bans.	Ban WEEE from disposal once transition to individual producer responsibility is complete.	Ban MHSW from disposal once transition to individual producer responsibility is complete
Develop a strategy to increase organics diversion			Consult on a strategy to increase diversion of organics.

APPENDIX H

List of Study Contacts

Contacts

Dillon Consulting Limited would like to thank the following people, who were interviewed for this project, with apologies to anyone we may have forgotten.

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