

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

January 16, 2013  
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September 25, 2012  
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**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**DATE AND TIME OF MEETING:** January 24, 2013 2:00pm-2:30pm

**ATTENDEES:** Minister Terry Lake, Graham Knox and Jim Hofweber  
UBCM Environmental Committee

**ISSUE:** To provide an overview of the Land Based Spill Preparedness and Response in British Columbia Intentions Paper, released November 28th for public consultation.

**BACKGROUND:**

On November 28, 2012 the ministry released an intentions paper on the review of British Columbia's (BC) spill preparedness and response regime. This document is currently posted for public consultation and feedback is encouraged until February 15, 2013.

This paper is the first step in the review of spill preparedness and response in BC. The ministry will continue to engage with industry, local governments, First Nations and other key stakeholders as we continue to work on enhancing BC's spill preparedness and response regime.

One of the corner stone elements of this paper is the goal to implement a polluter-pays system for high spill risk industries in BC, meaning that those presenting the risk of spills are responsible for funding spill response, including such instances where the spiller is unknown or unable to respond. Such instances today tend to fall on the tax payer. A polluter-pays model would make industry more accountable in all spill scenarios.

**DISCUSSION:**

The Ministry of Environment, as the legislatively designated ministry responsible for preparedness, prevention, response and recovery related to spill incidents is not adequately staffed and resourced to meet the existing and growing expectations to address spills.

**The Intentions Paper**

The intentions paper provides an overview of the mandate and responsibilities of the both the provincial and federal government, the current status of BC's program and outlines potential challenges, ministry guiding principles, and a brief review of industry funding models. This paper also illustrates a number of funding mechanisms used in other

jurisdictions that could be used as a model to finance a polluter-pays system for high spill risk industries in BC.

The three areas of focus in the intentions paper are:

1. The first section explores the need for a world leading regime for spill preparedness and response and includes both;
  - The intention for government to develop world leading standards (e.g., minimum response time, cleanup performance expectations). These standards will be built upon risk and will be consulted on during the development process.
  - The intention to work with industry to establish a framework to meet standards, individually or as part of a spill response organization (co-operative), or possibly allow a combination of the two.
2. The second section explores the need to develop effective and efficient rules for restoration of the environment following a spill. These rules, often referred to as natural resource damage assessment (NRDA) should include both the restoration of damaged species and habitats, as well as reconciliation for the loss of public access and use.
3. The third section is to ensure effective government oversight of industry spill response. This section explores three different ideas. These are;
  - Institute a fair and efficient funding mechanism with industry support
  - Establish a provincial spill response fund
  - Enhance government preparedness and response capacity.

### **Consultation/Engagement**

Ministry staff have engaged in preliminary dialogue with a few key industry representatives (Canadian Association of Petroleum Producers, Canadian Fuels Association, Canadian Energy Pipelines Association) and expressed the ministry's interest in working with the regulated community to develop an industry funded model for enhanced spill management in BC.

The intentions paper and feedback opportunity is an open public process and we expect to hear from a variety of stakeholders, including local governments, First Nations, the spill response community and non-government organizations.

Industry has been the key focus of further dialogue during this early stage of consultation, given the industry funded model being proposed. As this policy work develops ministry staff will continue to engage with all affected parties including local governments, the BC Association of Emergency Managers and the members of the emergency response community in BC.

### **NEXT STEPS:**

- The intentions paper will be posted on the Environmental Emergency Program website until February 15, 2013.

- Ministry staff are hosting a preliminary meeting with key industry stakeholders, and others (e.g. UBCM Environment Committee).
- Ministry staff are working on forming an industry government working group to commence following the intentions paper posting.
- The ministry is hosting a symposium on spill preparedness and response. This will be held in the Vancouver area, March 25 – 27, 2013. UBCM representatives have been invited to attend the symposium.

**Attachment:**

Appendix A: Land Based Spill Preparedness and Response in British Columbia Policy Intentions Paper for Consultation

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DMO	VJ	Jan 18/13
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Author/Mgr.	TC	Jan 16/13

## Appendix A

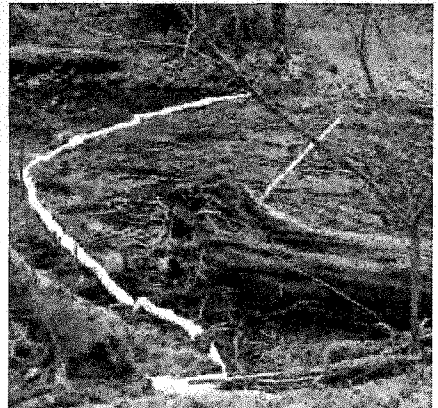
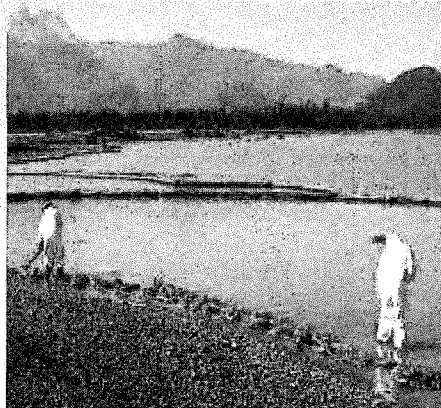
### Land Based Spill Preparedness and Response in British Columbia

**MINISTRY OF ENVIRONMENT**



# **LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA**

**POLICY INTENTIONS PAPER FOR CONSULTATION**





## INTRODUCTION

The Province of British Columbia (B.C.) is committed to a world leading spill preparedness and response regime for land based spills, as expressed most recently in B.C.'s five conditions necessary for support of heavy oil projects. In keeping with the established polluter-pay principle, and recognizing the increase in development activities across the province, the Ministry of Environment (the ministry) is reviewing industry funded options for strengthening B.C.'s spill preparedness and response policies and capacity. Land based spill refers to any spill impacting the terrestrial environment, including coastal shorelines, regardless of the source.

This review addresses three aspects of land based spill preparedness and response:

- » World leading regime for land based spill preparedness and response
- » Effective and efficient rules for restoration of the environment following a spill
- » Effective government oversight and coordination of industry spill response

The review and consultation process consists of five phases:

- 1 Scoping** – including a review of emergency spill management programs in other jurisdictions, identification of current issues and consideration of alternatives for addressing the issues.
- 2 Policy Intentions Paper for Consultation** – (intentions paper) outlining the areas where the ministry is seeking stakeholder feedback on strengthening spill preparedness and response in B.C.
- 3 Consultation** – consulting with affected stakeholders and the general public, using the intentions paper and response forms posted on the ministry website, and other means as appropriate.
- 4 Detailed program and policy development** – drafting of any required regulatory changes for consideration by the Minister and/or Lieutenant Governor-in-Council, and engagement of appropriate parties to design desired funding and/or service delivery mechanisms.
- 5 Implementation of revised program components** – orientation and training of ministry staff and external stakeholders, development of guidelines and/or policies, monitoring and review for effectiveness and efficiency of program components.

The purpose of this intentions paper is to seek responses and comments from stakeholders and the public on the ministry's intentions and next steps in strengthening B.C.'s land based spill preparedness and response system. The intentions paper includes the following information:

- » Background information on B.C.'s land based spill response regime, including mandate and responsibilities and current status, guiding principles and challenges facing the ministry's Environmental Emergency Program
- » Federal responsibilities for spill preparedness and response and industry funded spill response organizations in B.C.
- » Discussion and summary of the ministry's intentions

- » A description of the avenues for providing comment on the ministry's intentions
- » A summary of spill prevention and response programs on the Pacific Coast and neighbouring jurisdictions (Appendix A)

The intentions paper and response form for providing comments to the ministry, as well as further information and links to related legislation, are posted on the ministry's website. The information can be accessed on the [ministry's consultation webpage](#), or from the [Ministry of Environment homepage](#) by following the [Environmental Emergency Program link](#).

## BACKGROUND INFORMATION

### British Columbia's Land Based Spill Response Regime

#### Mandate and Responsibilities

The *B.C. Emergency Program Act* (1996) and its *Emergency Program Management Regulation* identify the hazards for which the Ministry of Environment is the lead provincial agency. The ministry provides central emergency planning and technical support through the Environmental Emergency Program for the following environmental and public safety threats:

- » Oil and hazardous material spills
- » Gas and gas leaks

The ministry also provides support to other provincial agencies in the event of flood hazards, landslides, dam safety issues and seismic threats, as well as clandestine drug lab cleanup, dumping incidents, fires and other events on request.

Scope and responsibilities for environmental emergency prevention, preparedness and response are set out in three key provincial statutes. The *Environmental Management Act* (SBC 2003) sets out requirements for disposal of oil and hazardous materials, spill prevention and reporting, and pollution abatement. The *Spill Cost Recovery Regulation* (B.C. Reg. 250/98) under the Act outlines the process and parameters for recovering costs for responding to spills.

The *Spill Reporting Regulation* (B.C. Reg. 263/90) under the Act outlines the process for reporting spills, as well as the amounts of hazardous materials (such as flammable gases or liquids, chemicals and radioactive materials) that must be reported if they are spilled. Additional information about relevant legislation is provided on the ministry's [Environmental Emergency Program website](#) under the [legislative framework link](#).

#### SHARED RESPONSIBILITY

*Responsibility for emergency preparedness and response in B.C. is shared among federal, provincial and local government agencies, as well as private sector and not for profit organizations.*



## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

### Current status

B.C.'s Environmental Emergency Program has 16 fulltime staff (including ten response officers stationed in seven communities across the province) and about \$2.4 million/year in dedicated funding. In the event of a major spill the program can also draw on support from technical specialists from, and funded by, other government programs. The Environmental Emergency Program covers the inland areas and coastal shoreline of B.C. (an area of 947,800 km<sup>2</sup> with a coastline of 27,000 km).

The ministry receives approximately 3,500 notifications of environmental emergencies per year. Approximately 90% of these are considered to be minor spills and are handled by regionally based environmental emergency response officers working in coordination with the spiller, local emergency response agencies (such as fire departments) and response contractors. For more significant spills, the ministry may invoke one of three **provincial response plans** (hazardous material, inland oil, marine oil) and deploy technical specialists as members of the provincial spill incident management team.

Funding for direct provincial spill response actions is secured through **Emergency Management BC**. The province does not maintain a dedicated spill response fund. If necessary, the Minister of Environment may request and direct withdrawal of funds from provincial consolidated revenues for immediate response to an environmental emergency.



## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

### Guiding Principles

B.C.'s land based spill preparedness and response regime is guided by the following principles:

- » **The polluter-pay principle** – industrial and commercial sectors that pose a risk to the environment and public safety have the responsibility to address risks and impacts to human health and the environment.
- » **Emergency management is a shared responsibility** – stakeholders (businesses, governments) whose interests are directly affected by a spill (or threat) and have a capability to respond have a shared role in emergency preparedness and response.
- » **The level of emergency preparedness is commensurate with known risk** – the level of emergency preparedness by industry and government should be commensurate with the degree of threat which it either creates or is mandated to handle. Risk needs to be assessed and managed. These risks include physical risks (people, property, environment) and institutional risks (political, financial, legal).
- » **Emergency planning and response is in accordance with accepted protocols and standards** – emergency planning, preparedness and response are based on proven and accepted standards and protocols.
- » **Response strives for a net environmental benefit** – most spills degrade the environment. Response actions can also cause environmental impacts. The objective of response is to seek a net environmental benefit whereby the overall response outcome is beneficial to people, property and the environment. Human health and safety is not to be compromised.
- » **Response decisions are based on fairness and transparency** – emergency response is not at "any cost,"<sup>1</sup> nor can unreasonable impacts be transferred from one area (or group of stakeholders) to another. Reasonable costs and inclusiveness in response decisions is a primary principle of effective incident management.
- » **The primary role of a government is to demonstrate and apply governance** – it is government – not the spiller – that has the accountability and responsibility to determine priorities for the public, infrastructure, business and environmental protection, and to establish and monitor response performance.

The ministry is seeking comment on the principles and their application in guiding spill preparedness and response in B.C. Comments and suggestions are also welcome on any gaps in the guiding principles or on strengthening the effectiveness of the principles.

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<sup>1</sup> Response decisions are based on environmental, social and economic considerations with an underlying objective of seeking a net environmental benefit, in keeping with the full set of guiding principles.

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

### Challenges facing B.C.'s land based spill preparedness and response regime

Transport of materials with potential risk to the environment (including petroleum products, chemicals and other materials) can involve highways and roads, marine and air transport, pipelines and rail. Risks to the environment include risks to terrestrial, freshwater aquatic and marine ecosystems and species, as well as risks to human health through contaminated air, water and soil. Spills can also have significant economic, social and cultural impacts for British Columbians.

The safe transport and use of materials is an essential element of B.C.'s economy. The province's growing population and role as a Pacific transportation gateway result in a growing volume of materials being transported, as well as increased volumes of traffic movement. For example, in the past seven years there have been almost half a million large vessel movements along the B.C. coast.<sup>2</sup> Over the next 15 years, large vessel movements of all types along B.C.'s coast are expected to increase. Highway freight, rail and pipeline volumes are also projected to rise as commodities are moved in and out of B.C.'s ports.

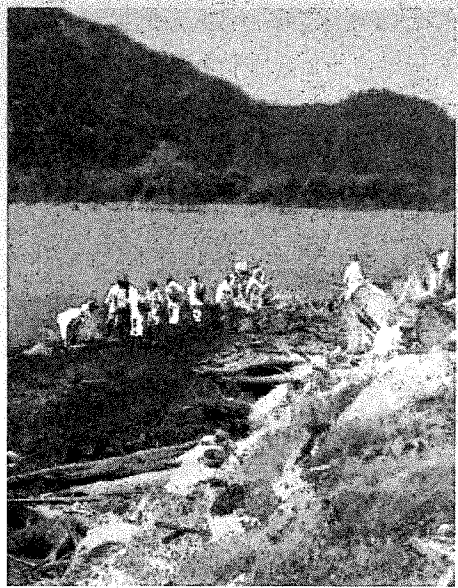
B.C.'s spill response regime emphasizes cooperation with federal, local and industry partners within staff and budget resources. Response is currently focused on higher risk environmental emergencies, limiting support for B.C.'s prevention and preparedness activities (such as training and reviews of operations). Additional challenges include timely response to remote events, access to and transport of specialized equipment, ability to work with local and other provincial emergency response agencies to provide training and support, and ability to monitor and report cleanup and remediation.



<sup>2</sup> Transport Canada figures, see: *Technical Analysis – Requirements for British Columbia to Consider Support for Heavy Oil Pipelines* page 8, footnote 8.

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

### Federal responsibilities for spill preparedness and response



The Government of Canada has responsibilities under federal legislation and international agreements for navigation and shipping, marine fisheries and works connecting provinces. Transport Canada establishes the **regulatory framework and guidelines for preparedness and response to ship-source spills** and the transportation of dangerous goods, as well as **certifying private sector marine response organizations**. The **National Energy Board** regulates construction and operation of inter-provincial pipelines, and as such is the federal lead for spills along these lines. The **Canadian Coast Guard** is the lead federal agency responsible for ensuring the cleanup of ship-sourced spills of oil and other pollutants into Canadian waters. **Environment Canada** is the federal authority for providing environmental advice in the event of a spill and may serve as the lead federal agency for other types and sources of spills.

As the provincial lead for environmental emergencies, the Ministry of Environment works with federal lead agencies for any spills under federal jurisdiction that impact provincial interests.

### Industry funded spill response organizations in British Columbia

Under *Canada Shipping Act* regulations, Transport Canada sets requirements and certifies private sector organizations that provide marine oil spill preparedness and response services. The **Western Canada Marine Response Corporation** is currently the only organization that has been certified to provide these services in B.C.'s navigable waters. The corporation is funded by industry through membership, bulk oil cargo and capital asset fees. The corporation provides training, undertakes response exercises and responds to approximately twenty spills each year. In the 2011 calendar year, the corporation reported revenues of \$5.5 million, expenses of \$5.3 million and a net income of \$200,000.

Petroleum companies operating in northeastern B.C. have established a cooperative to develop and maintain contingency plans, containment equipment and training through **Western Canadian Spill Services**. Revenue for the company is generated through membership (service) fees, and fees are based on number of wells and length of pipeline. Cooperative agreements for spill services cover all of Alberta, and portions of B.C. and Saskatchewan. In 2007 both revenue and expenses for the company were about \$1.6 million.

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

### MINISTRY INTENTIONS

The ministry has undertaken a number of reviews in recent years to identify opportunities and options for strengthening spill preparedness and response in B.C. These include a review of program funding mechanisms, a **technical analysis of requirements for British Columbia to consider support for heavy oil pipelines** and a jurisdictional scan of programs in Pacific and neighbouring jurisdictions (see Appendix A). Environmental Emergency Program staff also participate in regular inter-jurisdictional meetings and incident reviews with the aim of identifying and maintaining best practices. This includes participation in the **Pacific States-British Columbia Oil Spill Task Force**.

Building on this information, the ministry is seeking comment on three specific areas intended to affirm and strengthen spill preparedness and response in B.C.:

- » Establishing a world leading regime for land based spill preparedness and response
- » Developing effective and efficient rules for restoration of the environment following a spill
- » Ensuring effective government oversight and coordination of industry spill response

### **1 Establishing a world leading regime for land based spill preparedness and response**

#### **World leading standards**

The ministry intends to ensure that world leading standards for land based spill preparedness and response are in place and followed across B.C. Standards may include such elements as: minimum response times, equipment requirements, trained personnel requirements, wildlife response, temporary and final waste management, drill and exercise requirements, cleanup performance expectations (e.g., x km of oiled shoreline per day), sampling and monitoring, impact assessment, notification and provision of spill information, and stakeholder engagement.

### **COORDINATION**

*The intention of the ministry is to establish world leading standards for spill preparedness and response in B.C., while at the same time recognizing existing and ongoing emergency management efforts in various sectors that are consistent with and complementary to overarching provincial standards. For example, the BC Oil and Gas Commission is working with other oil and gas regulators from across Canada to develop the first national standard for emergency management within the oil and gas sector.*



## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

Standards and associated response capacity will ensure:

- » A robust capacity to respond to the range of spill incidents that can impact human health and the environment
- » Geographic response plans that consider and address conditions and capacity specific to B.C.'s diverse regions (e.g., terrain, weather, ecosystems, population centres, response capacity, materials)
- » Ability to support and coordinate response with other agencies and across jurisdictions that may affect terrestrial, aquatic, marine and intertidal ecosystems

### **Mechanism to meet standards**

Provincial standards could be met: (1) on an individual (company by company) basis; (2) collectively, through one or more cooperative response organizations; or (3) through a hybrid of options 1 and 2, with obligated parties (i.e., individual companies) able to choose their preferred option. If an industry group achieves standards individually, rather than using a collective approach, greater government capacity would be required to verify standards on a company by company basis.

The ministry supports the establishment of a provincially regulated, industry funded spill response organization for industry sectors that represent significant spill risk. The spill response organization would be required to meet provincial planning and response standards. These would include the responsibility to ensure that region-specific spill response capability and capacity exists, develop and maintain geographic spill response plans to ensure rapid and effective response to spills, and conduct regular drills and exercises to test and verify equipment, training and plans.

The ministry is seeking comment on the suitability of this mechanism for B.C., the range of activities that a provincially regulated response organization would cover and on the next steps that should be taken to consider options and further develop one or more industry funded spill response organizations for B.C.

It is envisioned that funding arrangements for a provincially regulated response organization would be determined and administered directly by the membership of that organization.

## **2 Developing effective and efficient rules for restoration of the environment following a spill**

In the event that provincial environmental resources are impacted as a result of a hazardous material spill, a policy on restoration and public restitution for loss of use is needed. The ministry intends to bolster its policy from one of "removal and remediation" to a more formal process that includes restoration of damaged species, habitats, and loss of public access and use. This process, known as natural resource damage assessment, is well established in neighbouring jurisdictions in the United States (**Washington State** and **Alaska**).

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

The ministry's intention is to develop this policy in collaboration with stakeholders, to both establish a predetermined formula to assess damages to the environment for the majority of hazardous material spills and to establish a more in-depth research based process (that either the province or the spiller can elect) for assessing costs of more significant spills. This policy would provide greater certainty to both industry and the general public and would reinforce the polluter-pay principle.

The ministry is seeking stakeholder feedback on this intended policy development.

### **3 Ensuring effective government oversight and coordination of industry spill response**

#### **Institute a fair and efficient funding mechanism**

The ministry is considering establishing a funding mechanism that ensures an adequate level of annual funding for land based spill preparedness and response based on spill response regime principles (including recognition of risk, responsibilities and the benefits of prevention and preparation). In accordance with the polluter-pay principle, funding should be fair across affected industry sectors. The funding mechanism should address the degree of risk and potential impacts associated with different sources and types of spills – including spills involving the bulk transport of hazardous materials (chemical and hydrocarbons), spills of other types of materials that pose a risk to the environment, and spills of fuel used for propulsion (i.e., vessels, locomotives, transport trucks). The funding would be used for two specific purposes: 1) establishment of a provincial spill response fund; and 2) increased staff and prevention, preparedness and response capacity.

Some examples of fees and amounts levied in other jurisdictions are provided in Appendix A.

#### **Establishment of a provincial spill response fund**

A portion of any levies received could be dedicated to establishing and maintaining a provincial spill response fund to cover operational costs incurred by the province in monitoring, augmenting or taking over a spill incident response. The ministry is considering establishing such a fund – supported by industry levies. Some neighbouring jurisdictions have set a maximum limit of \$50 million, with levies suspended when the response fund meets that limit (see Appendix A). Rules governing the amount and purpose of this fund would address appropriate uses of the fund, such as provincial staff time and equipment usage, contract fees for response or assessment activities, and environmental restoration.

#### **Increased staff and prevention, preparedness and response capacity**

Effective government oversight is necessary to ensure public confidence in B.C.'s spill response regime. The Ministry of Environment's Environmental Emergency Program could be strengthened to ensure spill prevention and preparedness is adequate to address growth in the industrial activity in B.C.

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

Additional program staff and resources could be dedicated to such activities as:

- » Liaison and training support for provincial spill incident management team members, First Nations, local and regional response agencies and organizations
- » Development and dissemination of standards, plans and protocols for prevention, preparation and response
- » Monitoring and compliance activities
- » Spill related research and incident reviews
- » Baseline data acquisition and maintenance
- » Spill response equipment and tools

The ministry is seeking comment on the mechanisms – linked to the production, transport and storage of petroleum products and other hazardous materials – that could be used for collecting funds to support B.C.'s spill preparedness and response regime. Comments are also being sought on the principles by which fees can be collected and used in a fair and efficient manner – relative to the spill risks presented by different industry sectors.

### PROVIDING COMMENT

The ministry intends to proceed with its intentions and prepare recommendations for consideration by the Minister through 2012 and 2013. Comments regarding the ministry's intentions are being solicited and will be carefully considered in the development of the province's spill preparedness and response policies and capacity.

The intentions paper and response form for providing comments to the ministry, as well as further information and links to related legislation, are posted on the ministry's website. The information can be accessed on the **ministry's consultation webpage**, or from the **Ministry of Environment homepage** by following the **Environmental Emergency Program link**.

Those interested are invited to submit comments on the ministry's intentions. All submissions will be reviewed for inclusion in a consultation summary report and comments will be treated as confidential by ministry staff and contractors when preparing consultation reports. Please note that comments you provide and information that identifies you as the source of those comments may be publicly available if a Freedom of Information request is made under the *Freedom of Information and Protection of Privacy Act*.



## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

If you have any questions or comments regarding the consultation process, review the information posted on the ministry website, or contact Cindy Bertram of C. Rankin & Associates, who has been contracted to manage consultation comments, at:

**EMAIL:** cindybertram@shaw.ca

**MAIL:** PO Box 28159  
Westshore RPO  
Victoria B.C. V9B 6K8

**FAX:** (250) 598-9948

**Thank you for your time and comments!**

*Comments to the ministry should be made on or before February 15, 2013.*

### **APPENDIX A: Spill response program funding in neighbouring jurisdictions**

The ministry has undertaken a review of spill response program funding mechanisms in neighbouring jurisdictions (Alaska, Washington, Oregon, California, Hawaii and Alberta) to provide context for the review.

The legislative and administrative framework for preventing and responding to environmental spills is specific to each jurisdiction, however U.S. jurisdictions generally have legislated industry funded mechanisms implementing the polluter-pay principle. U.S. jurisdictions also commonly have separate oil spill prevention response accounts, as well as separate procedures for assessing damages and collecting damages from the spiller.

Both the U.S. and Canada have a federal program addressing marine oil spills. The U.S. Federal Government oversees the Oil Spill Liability Trust Fund for Marine Oil Spills. A tax of 8¢/barrel of oil produced or imported is charged to maintain this fund. In Canada, the Maritime Pollution Claims Fund supported by a 15¢/tonne (2¢/barrel) levy on shipments by sea and movement of oil by water within Canada was in effect between 1972 and 1976. No levy has been charged since 1976. In 1989 the Ship Source Oil Pollution Fund was created and established by a transfer of \$149,618,850 from the Maritime Pollution Claims Fund.

#### **State of Alaska – Department of Environmental Conservation, Spill Prevention & Response Program**

The Oil and Hazardous Substances Release Prevention and Response Fund in Alaska is based on a tax on crude oil production of 5¢/barrel (4¢ is allocated to a “prevention account” and 1¢ is allocated to a “response account”). Cleanup costs incurred by the state are recovered from the spiller and allocated to the prevention account, as well as fines, settlements and penalties. The surcharge allocated to the response fund is suspended when the response account reaches or exceeds \$50 million. Additional information is available at [dec.alaska.gov/spar](http://dec.alaska.gov/spar).

#### **State of Washington – Department of Ecology, fish & Wildlife**

A 5¢/barrel tax is applied to the owner of the oil product that is received into a storage tank by a vessel at a marine terminal (4¢ is deposited into the Oil Spill Prevention Account (OSPA) and 1¢ is deposited into the Oil Spill Response Account (OSRA)). The department seeks reimbursement for all response costs from the oil spiller. These funds are also supported by a 16.6% tax of motor vehicle certification fees and a 0.07% tax on the first in-state possessor of hazardous substances.

Washington also charges a tax to handlers of any toxic substance in the state, including pipelines and railways, which go to the Model Control Toxics Account (MCTA).

In the event of a spill, funds are drawn from both the OSRA and the MCTA.

## LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA

The OSRA is used exclusively for costs associated with responses to oil spills in water that are likely to exceed \$50,000.

Additional information is available at [www.ecy.wa.gov/programs/spills/spills.html](http://www.ecy.wa.gov/programs/spills/spills.html).

### **State of California – Department of Fish & Game, Office of Spill Prevention and Response**

The Oil Spill Prevention and Administration Fund supports the Oil Spill Prevention and Response program and is currently supported by a 6.5¢/barrel tax assessed on petroleum products at marine terminals and a biennial fee for all non-tank vessels up to \$3,250 (USD) per vessel.

The Oil Spill Response Trust Fund is used to clean up oil spills in the marine environment and is supported by a 25¢/barrel tax (that was assessed in 1991) on petroleum products at marine terminals to maintain a Trust Fund of \$50 million (this fee is presently not being charged).

Additional information is available at [www.dfg.ca.gov/ospr](http://www.dfg.ca.gov/ospr).<sup>1</sup>

### **State of Oregon – Department of Environmental Quality, Land Quality Division**

The Marine Spill Prevention Fund is supported by a \$70 (USD) per trip levy on cargo vessels and tank barges and \$1,200 (USD) per trip levy on tank vessels, \$5,900 (USD) annual fee applied to petroleum handling facilities, a daily fee for dredges and an annual fee for facilities and pipelines receiving fuel from tank vessels and barges. A Hazardous Substance Remedial Action Fund is supported by a graduated per tonne fee on disposal of hazardous waste.

Additional information is available at [www.deq.state.or.us/lq/cu/emergency/index.htm](http://www.deq.state.or.us/lq/cu/emergency/index.htm).

### **State of Hawaii – Department of Health, Office of Hazard Evaluation Emergency Response**

The program is funded through an environmental response tax of 5¢/barrel of petroleum product sold by a distributor, and fines and penalties for environmental violations.

In total, a tax of \$1.05/barrel of petroleum product sold by a distributor is charged. This tax is divided among various government funds.

Fees are also collected on the storage of hazardous materials (\$100/year) and shared between emergency planning bodies.

Additional information is available at [hawaii.gov/health/environmental/hazard/spill.html](http://hawaii.gov/health/environmental/hazard/spill.html).

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<sup>1</sup> California has a bill pending to increase fees to 6.8¢/barrel and \$3,500/vessel

## **LAND BASED SPILL PREPAREDNESS AND RESPONSE IN BRITISH COLUMBIA**

### **Province of Alberta – Emergency Response Program**

The Energy Resources Conservation Board, a quasi-judicial agency of the Government of Alberta, uses a cost share model with industry and government contributions addressing spill preparedness and response. The Board regulates several aspects of the energy sector including the requirement for petroleum producers to either have their own emergency response equipment and plan or to join a cooperative group. Western Canadian Spill Services is the only cooperative at this time. Government supported spill response is provided through the Alberta Environment Support and Emergency Response Team (AESERT). AESERT would be engaged in the event of a major spill event and has the authority to take over a spill response event.

Additional information is available at [www.ercb.ca/safety-and-compliance](http://www.ercb.ca/safety-and-compliance).

Note: In western Canada, industry funds Western Canadian Spill Services (WCSS) which addresses petroleum sector spill prevention and response. This voluntary industry organization offers training and maintains spill contingency plans and strategically placed Oil Spill Containment and Recovery units. WCSS has annual revenues and expenses of about \$1.6 million to provide training, support development of spill contingency plans and maintain regional and specialty spill response equipment. WCSS relies primarily on contractors to provide services.

# Tides Canada

## Meeting Bullets

August 29, 2013  
CLIFF: 185582

**Date:** Thursday, January 17, 2013

**Time:** 9:30-10:15am

**Attendees:** Honourable Terry Lake and Merran Smith from Tides Canada will attend in person and James Mack will be attending by conference call.

### Background

- Tides Canada has requested a meeting to discuss climate change and liquefied natural gas (LNG).
- Tides Canada is a national non-profit foundation that links donors with organizations that work towards a healthy planet and just society. They pursue these goals through creating donor-advised funds that channel donations to appropriate organizations, and challenge-focused strategic programs, like the Clean Energy Program, which brings together stakeholders to build a prosperous clean energy future for Canada.
- In October, 2011, Tides Canada released “Building Public Support for Clean Energy in British Columbia”. Among the report’s recommendations were “Maintain a clean electricity identity in BC” and “Build demand for clean energy projects throughout BC”.

### Discussion

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- s.12, s.13

## Proposed Response

s.12, s.13

## **MINISTRY OF ENVIRONMENT INFORMATION NOTE**

Date: January 21, 2013  
File: 50400-25/PACK GEN  
CLIFF/tracking #: 185605

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**DATE AND TIME OF MEETING:** January 23<sup>rd</sup>, 4:30 p.m.

**ATTENDEES:** Minister Lake; Jim Standen, Assistant Deputy Minister, Environmental Protection Division; David Ranson, Executive Director, Environmental Standards Branch; David Lawes, Manager, Waste Prevention Section.

**ISSUE:** Status of the Packaging and Printed Paper (PPP) Stewardship Program

### **BACKGROUND:**

- In May 2011, the Recycling Regulation (the Regulation) was amended to include PPP (all paper printed with text or graphics such as newspapers, flyers, and phonebooks with the exception of bound books).
- Under the amended Regulation, producers of PPP are required to:
  - a) submit a stewardship plan detailing how they will finance and manage the recycling of PPP to the Ministry by November 19, 2012 and
  - b) have, and comply with, an approved stewardship plan by May 19, 2014.
- Two stewardship plans were received by November 19, 2012 deadline. Multi-Materials British Columbia (MMBC) submitted a plan for all packaging and printed paper and Brewers Distributor Limited (BDL) submitted a plan for beer container packaging (e.g. cases, etc). BDL has a longstanding product stewardship program for beer containers.
- MMBC and BDL committed to continue to receive input from stakeholders on their proposed stewardship plans to December 14, 2012 and January 9, 2012 respectively.

### **DISCUSSION:**

- The Director of Waste Management is the statutory decision maker responsible for making decisions on product stewardship plans submitted under the Regulation.

#### **MMBC Plan: Current Status**

- Ministry staff have reviewed and provided MMBC with comments regarding the draft plan submitted November 19, 2012. Comments are related to:
  - a) the need for further scoping of performance measures;
  - b) the need for continued consultation with local governments; and
  - c) The need to clarify that the plan must cover all packaging, not just packaging that can be recycled.
- Ministry staff anticipate MMBC will amend and resubmit the plan for final approval during the first week(s) of February 2013.

- Upon receipt of MMBC's revised plan ministry staff will undertake a final review to ensure the plan meets all Regulatory requirements. A decision on plan approval is anticipated for the final week(s) of February 2013.

#### **Brewer Distributed Limited Plan: Current Status**

- BDL's draft stewardship plan was submitted by November 19, 2012, meeting the deadline requirements of the Regulation. BDL continued to receive stakeholder comments on their stewardship plan to January 9, 2012.
- Ministry staff anticipate BDL will revise and resubmit the plan for final approval during the first week(s) of February 2013.

#### **Local Government Update: Transition to EPR for PPP**

- Local governments have an important stake in the outcome of the transition to industry responsibility as they have been providing various levels of PPP collection and recycling services to their communities as part of their Solid Waste Management Plan activities.
- MMBC is proposing to offer local governments "first right of refusal" for financial compensation to continue to provide these services.
- MMBC and BDL have received input from the UBCM PPP Working Group and individual local governments on the development of their program.
- Several local governments have asked for more time for consultation on the plan without extending the implementation deadline.
- Other local governments have requested additional implementation/operation details and wish to negotiate the financial compensation that will be offered by MMBC before they can make a decision on supporting the plan.

#### **SUMMARY:**

The Ministry is anticipating that the final MMBC and BDL stewardship plans will be submitted during the first week(s) of February 2013 for decision by the Director. Staff are working on a communications package for the Minister's use following a decision on the plans.

#### **Attachment 1: MMBC Plan**

#### **Attachment 2: Draft Brewers Distributor Limited Plan**

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<b>USE FOR NOTES FOR MINISTER</b>		
<b>Approved</b>	<b>Initials</b>	<b>Date</b>
DM		
DMO	VJ	Jan. 22/13
ADM	JS	Jan. 21/13
Dir.	DR	Jan. 21/13
Mgr.	DL	Jan. 21/13



Author	JB	Jan. 21/13
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# Packaging and Printed Paper Stewardship Plan

*November 19, 2012*



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# Packaging and Printed Paper Stewardship Plan

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# Packaging and Printed Paper Stewardship Plan

## 1. Introduction

The British Columbia (BC) Recycling Regulation (B.C. Reg. 449/2004 – the “Regulation”) under the *Environmental Management Act* requires that, as of May 2014, every producer<sup>1</sup> of packaging and printed paper (PPP) product that wishes to sell, offer for sale or distribute their products to residents in British Columbia must operate, or be a member of, an approved plan concerning the end-of-life management of their products. The Regulation further stipulates that producers wishing to receive BC Ministry of Environment approval for such a plan must submit their plan to the Ministry on or before November 19, 2012.

The proposed stewardship plan is unique in that it deals with the residential packaging and printed paper product category that is already being recovered at an estimated 50% to 57%<sup>2</sup> recycling rate through local government and not-for profit and private sector initiatives. This plan is different from other plans developed for BC where limited collection services or no collection services were in place prior to the material being added to the Recycling Regulation.

The PPP Stewardship Plan outlined in this document proposes to build on these existing services in order to minimize economic dislocation for those currently operating the system, to avoid confusion for residents, and to mitigate any potential temporary loss of environmental performance. Building on the current operating recycling system through development of commercial partnerships with existing economic players is considered the most responsible, economically efficient and environmentally prudent approach to maintaining and enhancing the recovery of residential PPP in BC.

## 2. The Stewardship Agency

This proposed stewardship plan for PPP has been developed by Multi-Material British Columbia (MMBC) pursuant to the requirements of the Regulation.

MMBC is a not-for-profit agency established under the British Columbia 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 producers<sup>3</sup> in order to discharge their obligations under Schedule 5 of the Recycling Regulation.

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<sup>1</sup> Section 1 of B.C. Reg. 449/2004 defines “producer” of packaging and printed paper as,

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

<sup>2</sup> Refer to the report titled the *Current System for Managing Residential Packaging and Printed Paper in BC*, March 2012.

<sup>3</sup> Refer also to draft Definition of Producer for Purposes of Obligation and Reporting on MMBC website.

## Packaging and Printed Paper Stewardship Plan

MMBC is governed by a Board of Directors comprising members appointed by the Retail Council of Canada, Food and Consumer Products of Canada, Canadian Federation of Independent Grocers, Canadian Restaurant and Foodservices Association, Loblaw Companies Limited, Overwaitea Food Group, Tim Hortons and McCain Foods.

MMBC is acting on behalf of its members who are producers of PPP in submitting this stewardship plan. For the purposes of the PPP Stewardship Plan, the producer for a specific unit of packaging or printed paper is the supplier of service packaging or the first of the brand owner, the franchisor or the first seller (also known as the first importer).

### 3. Packaging and Printed Paper

In October 2004, the province passed the Recycling Regulation. In May 2011, the Regulation was amended to include Schedule 5 which added packaging<sup>4</sup> and printed paper from residents and streetscapes<sup>5</sup> as product categories.

#### 3.1 Packaging

British Columbia's *Environmental Management Act* defines packaging as "a material, substance or object that is used to protect, contain or transport a commodity or product, or attached to a commodity or product or its container for the purpose of marketing or communicating information about the commodity or product".

Schedule 5 does not further refine the definition of packaging beyond that provided in the *Environmental Management Act* as described above.

Packaging for purposes of producer obligation and reporting<sup>6</sup> under the PPP Stewardship Plan includes:

- (a) Primary packaging i.e. packaging that contains the product at the point of sale to the residential consumer;
- (b) Grouped packaging or secondary packaging that goes to the household<sup>7</sup>;
- (c) Transportation, distribution or tertiary packaging that goes to the household<sup>8</sup>;

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<sup>4</sup> Schedule 1 of the Recycling Regulation addresses beverage containers which are managed under a provincial deposit return program, with the exception of milk containers which are excluded from the deposit return program.

<sup>5</sup> Refer to Section 3.3 for a description of streetscapes.

<sup>6</sup> While producers of packaging described in Section 3.1 are responsible for contributing to the cost of providing reasonable access and achieving a 75% recovery rate, only those types of packaging for which there are recycling end markets are proposed to be collected from residents at program launch in May 2014. Refer to Section 4.1.

<sup>7</sup> Multiple packages of product sold in a unit, often wrapped in film plastic.

<sup>8</sup> May be both the primary packaging for the product and the packaged used to ship the product but is referred to as transportation packaging that goes home with the consumer. For example, household products packaged in corrugated boxes intended for final use or management by the consumer or end user.



## Packaging and Printed Paper Stewardship Plan

- (d) Service packaging designed and intended to be filled at the point of sale and “disposable” items sold, filled or designed and intended to be filled at the point of sale such as:
- Paper or plastic carry-out bags provided at checkout;
  - Bags filled at the shelves with bulk goods, produce, baked goods, etc.;
  - Disposable plates and cups;
  - Take-out and home delivery food service packaging such as pizza boxes, cups, bags, folded cartons, wraps, trays etc.;
  - Flower box/wrap;
  - Food wraps provided by the grocer for meats, fish, cheese, etc.
  - Prescription bottles filled and provided by pharmacists;
  - Paper envelopes for developed photographs;
  - Gift wrapping/tissue paper added by the retailer; and
- (e) Packaging components and ancillary elements integrated into packaging, including ancillary elements directly hung or attached to a product and which perform a packaging function unless they are an integral part of the product and all elements are intended to be consumed or disposed of together<sup>9</sup>.

For the purposes of the PPP Stewardship Plan, paper packaging means all paper materials regardless of the cellulosic fibre source of the material including but not limited to wood, wheat, rice, cotton, bananas, eucalyptus, bamboo, hemp, and sugar cane (bagasse) fibre sources.

The following items are **not** considered packaging for the purposes of the PPP Stewardship Plan:

- Beverage containers governed by Schedule 1 to the Recycling Regulation;
- Empty oil containers as defined by Schedule 2 of the Recycling Regulation;
- Empty<sup>10</sup> architectural coatings, paint and stain containers as defined by Schedule 2 of the Recycling Regulation;
- Empty antifreeze containers as defined by Schedule 2 of the Recycling Regulation;
- Transportation and distribution packaging that is not intended primarily for use or management in the home, for example plastic pallet wrap;
- Industrial or bulk packaging that is not intended for sale or use by residents in the home;
- Other items that are not generally considered to be packaging such as accessories to the product that do not serve a packaging function (e.g., plastic cutlery, straws, paper serviettes) and packaging components sold as product (empty) to the end consumer (e.g., garbage bags, organic waste bags, food storage bags, food storage containers);

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<sup>9</sup> Examples of this kind of packaging include, but are not limited to: labels and lids hung directly on or attached to the packaging; mascara brush which forms part of the container lid; staples, pins, clips; toy on the top of a candy product which forms part of the lid; devices for measuring dosage that form part of the detergent container lid; plastic make-up case; brush contained in the lid of corrective liquid paper; zipper on a plastic film bag containing a product.

<sup>10</sup> Empty container means a container that holds less than 3% residual by volume, as defined in Schedule 2 of the Recycling Regulation.

## Packaging and Printed Paper Stewardship Plan

items that constitute an integral part of the product (e.g., toner cartridges, single use cameras);

- Durable packaging, which is packaging that has a useful life of at least five years and is intended to facilitate storage or transport or to prevent the loss of product components for durable products and which remains with the product throughout its useful life (e.g., CD/DVD cases, packaging used to store pieces of a board game); and
- Wood, ceramic, crystal, rubber and leather packaging.

### 3.2 Printed Paper

Schedule 5 defines printed paper as “paper that is not packaging, but is printed with text or graphics as a medium for communicating information, and includes telephone directories, but does not include other types of bound reference books, bound literary books, or bound text books”.

For the purposes of the PPP Stewardship Plan, printed paper comprises any type of cellulosic fibre source including but not limited to wood, wheat, rice, cotton, bananas, eucalyptus, bamboo, hemp, and sugar cane (bagasse) fibre sources.

### 3.3 Sources of Packaging and Printed Paper

Under Schedule 5 of the Recycling Regulation, the packaging and printed paper program is to address residential premises and municipal property that is not industrial, commercial or institutional property.

Residential premises<sup>11</sup> are:

- Single-family dwellings inhabited year round or seasonally<sup>12</sup>; and
- Multi-family dwellings including rental, co-operative, fractional ownership, time-share, condominium and seniors residences<sup>13</sup>.

Municipal property that is not industrial, commercial or institutional property comprises the following which are collectively referred to as ‘streetscape’ in this stewardship plan:

- Sidewalks which are municipal property, which adjoin buildings in an urban commercial area and which are used for pedestrian traffic;

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<sup>11</sup> Section 1 of the Recycling Regulation defines “residential premises” to include houses, apartments, condominiums, town homes and other premises in which persons reside but does not include institutional accommodations or visitor accommodations.

<sup>12</sup> Vacation facilities, such as hotels, motels, cottages and cabins which are operated as commercial businesses are not included.

<sup>13</sup> Residences at which medical care is provided, such as nursing homes, long-term care facilities and hospices, are considered institutions.

## Packaging and Printed Paper Stewardship Plan

- Plazas or town squares which are municipal property and which are available to the public; and
- Parks which are municipal property.

### 4. Program Design

#### 4.1 BC Packaging and Printed Paper Reverse Supply Chain

BC residents who participate in PPP recycling programs and collectors and processors of PPP can be characterized as a reverse supply-chain that moves PPP from residents to recycling end-markets. The reverse supply-chain comprises millions of BC residents served by hundreds of collectors who deliver PPP to dozens of PPP processors who then market the material to dozens of end-markets both in and outside of British Columbia.

Local governments are currently the primary drivers of residential PPP collection and recycling activity – they either deliver PPP collection and processing directly or contract for those services with private or not-for profit collectors and processors. In some cases, residents contract directly with private collectors for PPP collection or drop off PPP to private or not-for-profit depots for recycling.

Collection and processing of PPP involve varied and complex relationships between private, public and not-for-profit entities to move PPP from residents to recycling end-markets. The role that each plays is described below:

PPP collection is provided by:

- Local governments and First Nations governments delivering PPP collection services directly, supported by public education, promotion and first point of contact for collection service customers;
- Local governments and First Nations governments utilizing not-for profit organizations or private sector companies to provide the collection services, supported by local government or First Nations government delivery of public education, promotion and first point of contact for collection service customers;
- Private sector PPP collectors delivering collection services through subscription;
- Private depots receiving PPP delivered by residents; and
- Not-for-profit depots<sup>14</sup> receiving PPP delivered by residents.

PPP processing is provided by:

- Local governments delivering PPP processing directly;

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<sup>14</sup> Not-for-profit depots may or may not have a funding relationship with their local government.



## Packaging and Printed Paper Stewardship Plan

- Local governments utilizing private sector PPP processors or not-for-profit organizations; and
- Private sector PPP processors which may be vertically integrated with collectors (i.e. the same company provides collection and processing services) or may provide processing services to local government collectors, private collectors, private depots and not-for-profit depots.

### 4.2 Packaging and Printed Paper Program Delivery Principles

Selecting the PPP program design has been driven by one overarching objective – continuous improvement in recovery effectiveness and efficiency without undermining existing PPP recovery efforts in British Columbia.

To achieve the objective of maximizing outcomes while minimizing dislocations, MMBC has developed the following market engagement principles to guide the development of the PPP stewardship plan:

- **Focus on outcomes, not process** – maximize recovery, maximize efficiency, enhance resident service levels while minimizing complexity;
- **Provide economic incentives and set simple rules** – effective economic incentives will drive behaviour that increases recovery activity throughout the PPP reverse supply-chain; simple rules will provide clarity and certainty to those collecting and recycling PPP;
- **Foster interaction, collaboration and competition to drive innovation** – innovation is the result of complex interactions of ideas and efforts among producers and private, public and not-for-profit entities with parties bringing together complimentary skills to collaborate and deliver more value; and
- **Set the stage for evolution** – harness existing activities and build on success through continuous improvement and use of economic incentives to increase collection of PPP and improve system efficiency.

### 4.3 Packaging and Printed Paper Program Delivery Overview

Under the Recycling Regulation, MMBC will assume responsibility for driving residential PPP collection and recycling activity in BC, effectively supplanting the role that local governments have historically played. Accordingly, at the outset, it is assumed that MMBC will largely assume responsibility for the existing BC PPP collection and recycling system and will set conditions for future improvements in effectiveness and efficiency of PPP recovery in BC.

The approach that MMBC has chosen to do this involves direct and separate interaction with collectors and processors based on two core elements:

## Packaging and Printed Paper Stewardship Plan

- An agreement between MMBC and each qualified collector and qualified processor setting out the activities to be performed and the outcomes to be achieved (e.g. collected tonnes successfully delivered to processors, households serviced, tonnes of PPP marketed, etc.); and
- Payment to the service provider upon verification that the outcomes specified in the agreement have been achieved.

The nature of the agreements and how the agreements are entered into differ between collectors and processors, as described below.

### 4.4 Collection of Packaging and Printed Paper from Residents and Streetscapes

The approach to delivery of PPP collection services<sup>15</sup> is based on providing opportunity for those involved in the collection of PPP today to be part of the PPP collection system when producers assume responsibility for the PPP recovery system in May 2014.

Qualified collectors will be offered financial incentives for PPP collection<sup>16</sup>. The value offered will be established as market-clearing prices<sup>17</sup>. Consistent with an outcomes-based approach to program operation, MMBC will pay collectors once the PPP they have collected has been accepted for processing by a primary processor under contract with MMBC.

MMBC will establish a set of collector qualification standards<sup>18</sup> that will include basic qualifications common to all PPP collectors today as well as additional requirements<sup>19</sup> for tracking and reporting sources and quantities of collected PPP. Local governments, private companies and not-for-profit organizations that meet these collector qualification standards will be qualified as MMBC collectors, subject to the following approach.

MMBC will engage qualified collectors as follows:

- **Where single-family and multi-family residents deliver PPP to curbside<sup>20</sup> in areas that meet the reasonable access criteria<sup>21</sup>**

<sup>15</sup> Also refer to Section 5.2 Accessibility.

<sup>16</sup> The financial incentive will be offered for collection services. Collection services are distinct from post-collection activities which include receiving PPP from collection vehicles, picking up PPP from depots and consolidation and transfer where required.

<sup>17</sup> A market-clearing price is a payment available to collection service providers (subject to executing an agreement to provide the collection service, comply with the collector qualification standard on a continuous basis, report specified data on a defined schedule) designed to stimulate collection activities and act as a market clearing mechanism.

<sup>18</sup> Also refer to Section 4.6 Collector and Processor Qualification Standards.

<sup>19</sup> Collectors will be required to provide free access for residents to the collection services being provided by the collector through its agreement with MMBC as part of the qualification standards.

<sup>20</sup> While the majority of PPP diverted is collected in dedicated recycling systems, some local governments accept specific types of PPP, such as soiled paper packaging, in organic waste collection programs. MMBC will undertake research to determine the quantity of PPP in organic waste collection programs and will, if the quantity is significant, develop a market-clearing price financial incentive reflecting the portion of PPP in the organic waste stream. Should local governments decline the offer, MMBC will not directly undertake collection of organic waste given the relatively small portion of PPP compared to food waste in this collection stream.

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- MMBC will offer a financial incentive to a local government or First Nation government for the provision of services that include PPP curbside collection services, public education, promotion and first point of contact for curbside collection service customers; and
- Where the local government or First Nation government declines the offer, MMBC will issue a tender for collection services, will select a service provider to provide PPP collection services<sup>22</sup> and will provide public education, promotion and management of collection service customers through its own means.
- **Where multi-family residents deliver PPP to a central storage area accessible by all residents of the multi-family complex and collection occurs from this central storage area** MMBC will offer a financial incentive for multi-family building PPP collection services to any interested party that is able to comply with the collector qualification standards:
  - Where a local government accepts the offer of the financial incentive, an additional incentive will be offered to provide public education, promotion and first point of contact for collection service customers; and
  - Where a private company accepts the offer of the financial incentive, MMBC will provide public education, promotion and management of collection service customers through its own means.
- **To operate depots for receiving PPP from residents** generated from single-family and multi-family households MMBC will offer a financial incentive to any interested party that is able to comply with the collector qualification standards for PPP collection services contingent on the types of materials accepted from residents:
  - Where a local government accepts the offer of the financial incentive, an additional incentive will be offered to provide public education, promotion and first point of contact for collection service customers; and
  - Where a private company accepts the offer of the financial incentive, MMBC will provide public education, promotion and management of collection service customers through its own means.
- **To service streetscapes in areas that meet the reasonable access criteria<sup>23</sup>**
  - MMBC will offer a financial incentive<sup>24</sup> to the local government for the provision of services that include PPP collection services<sup>25</sup>, public education, promotion and first point of contact for collection service customers; and
  - Where the local government declines the offer, MMBC may issue a tender for PPP streetscape collection services, may select a service provider and may

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<sup>21</sup> Refer to Section 5.2 Accessibility.

<sup>22</sup> MMBC will work with the local government to co-ordinate delivery of PPP collection service by MMBC and delivery of garbage collection service by the local government.

<sup>23</sup> Refer to Section 5.2 Accessibility.

<sup>24</sup> Prior to offering a financial incentive for streetscape collection services, MMBC will conduct audits of PPP and garbage in existing streetscape collection programs and conduct one or more pilot projects in order to develop a preferred approach to streetscape collection and recycling services.

<sup>25</sup> Streetscape collection activities include collection of PPP generated by routine pedestrian traffic and by those participating in public events where waste management services are provided by local governments, rather than event organizers.

## Packaging and Printed Paper Stewardship Plan

provide public education, promotion and management of collection service customers through its own means, subject to reaching agreement with the local government on the management of the garbage component of streetscape system.

Market-clearing prices are the prices at which the market will deliver the service required by MMBC. Setting appropriate market-clearing prices is important to drive effectiveness (i.e. collection of PPP), reward the efficient operator and encourage efficiency among other operators. An effective market-clearing price should reward and encourage continued efficiency by those who can deliver the service at less than the market-clearing price while encouraging initiatives to reduce costs where costs exceed the market-clearing price.

The financial incentives offered to collectors will be determined by establishing market-clearing prices for the collection of PPP from single-family and multi-family households at curbside, from multi-family buildings, at depots and through streetscape collection systems. Establishing the market-clearing prices for collection has two components:

- **A clear definition of the outcome being priced:** The market-clearing price can be set at a flat rate per tonne accepted for processing by a primary processor or at a flat rate per household serviced, or some combination. Market-clearing prices offered as incentives should drive behaviour to maximize PPP placed into the PPP collection stream rather than the garbage stream by all households serviced. Since MMBC's objective is to increase the collection of PPP, the market-clearing price will be benchmarked against a baseline performance standard<sup>26</sup>.
- **The price level or quantity of financial incentive:** The price level will be determined through research into collection service performance (i.e. kilograms collected per household) and service delivery costs across British Columbia. The results of this research will be used to inform a market-clearing price for each type of service for which a market-clearing price will be offered. The market-clearing price will take into account cost drivers and may vary should these cost drivers vary across BC. The market-clearing price will be set taking into consideration any additional requirements of collectors as a result of the PPP Stewardship Plan.

Market-clearing prices may be stratified to accommodate circumstances, such as fuel prices, that change over time. As well, market-clearing prices may be reviewed in relation to the changing characteristics of PPP being supplied by producers to residents<sup>27</sup>. Setting market-clearing prices to drive collection activities is an iterative process that will be monitored and adjusted to reflect changing conditions.

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<sup>26</sup> Measured as kilogram per household served by dividing total tonnes collected by households served.

<sup>27</sup> Changes implemented by producers to the material utilized for packaging (e.g. plastic rather than glass) and/or to the design of a package or a printed paper product can increase the cubic volume of a tonne of PPP collected.

## Packaging and Printed Paper Stewardship Plan

### 4.5 Post-Collection

MMBC will contract directly for post-collection services which include all activities subsequent to the collection of PPP from BC residents through the collection channels described in Section 4.4. Post-collection activities include receiving PPP from collection vehicles, picking up PPP from depots, consolidation and transfer 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.

Primary processors are considered to be the first receivers of collected PPP that market at least some types of processed PPP directly to end markets. Primary processors may engage sub-contractors to provide consolidation, transfer and transportation services to move PPP from the collection location to the processing facility. Primary processors may also engage secondary or downstream processors that can more efficiently or effectively sort, process and market some types of PPP.

MMBC will engage PPP primary processors on a contractual basis using the following process:

1. **Issue a Request for Expressions of Interest (REOI)** to PPP processors to gauge processors' capacity to receive, process and market a defined list of PPP received from collectors.
2. **Issue a Request for Proposals (RFP)** to PPP processors that are able to manage the defined list of PPP.

Processors will be provided with the names and locations of qualified collectors participating in the MMBC program. This information will allow processors to make arrangements with these qualified collectors as required in order to respond to the RFP.

The RFP will solicit information to allow MMBC to confirm a processor's ability to meet processor qualification standards set by MMBC. The RFP will also solicit bid prices for post-collection services, delivered in compliance with the processor qualification standards, including:

- Receiving PPP from vehicles operated by qualified collectors;
- Picking up PPP from depots operated by qualified collectors;
- Consolidating and transferring PPP from qualified collectors where required;
- Preparing PPP for shipment to end-markets or downstream processors;
- Marketing PPP to end-markets;
- Transferring PPP to downstream processors, as required;
- Appropriately managing residual materials;

## Packaging and Printed Paper Stewardship Plan

- Tracking materials received and shipped by the processor and its downstream processors to final destination; and
- Reporting to MMBC as required.

Processors will be qualified based on compliance with the processor qualification standards and evaluation criteria including but not limited to price, location, capability, capacity, output to recycling end-markets per tonne received and material revenue received. In assessing best value, MMBC will also consider the implications of processor and recycling-end market locations on its contract administration activities including, for example, audits and compliance.

In the contractual arrangement between MMBC and primary processors, primary processors will be tasked to find the “best” markets for materials (i.e. reliable markets that command the highest commodity prices) and the agreements will incorporate mechanisms to share market revenue and commodity risk. By building in opportunities for processors to benefit from maximizing commodity values, processors have a strong incentive to maximize both the amount of PPP marketed and its commodity value.

### 4.6 Relationship between Collectors and Processors

Collectors will have a contractual relationship with MMBC in order to receive the market-clearing price for the PPP collection services they provide to MMBC. Similarly, processors will have a contractual relationship with MMBC in order to receive payment for the post-collection services they provide to MMBC.

Collectors and processors are also able to establish relationships with one another. Arrangements between qualified collectors and processors will be left to the discretion of the parties through arrangements made in the free-market. These relationships are expected to be established, on a prospective basis, as processors prepare their bids to respond to the post-collection RFP.

A processor and collector may establish mutually agreeable terms that would take effect should the processor be selected by MMBC to provide post-collection services for the PPP collected by the collector. Such terms might include:

- Delivery procedures and freight arrangements;
- Consolidation and transfer arrangements;
- Capacity to receive materials for processing including service assurance;
- Material quality requirements including degree of commingling, material quality premiums and material contamination surcharges;
- Payments for services outside of MMBC’s scope of service such as management of ICI PPP;
- Other financial arrangements independent of MMBC; and
- Dispute resolution independent of MMBC.

## Packaging and Printed Paper Stewardship Plan

Free-market arrangements between primary processors and collectors offer the best opportunity to maximize the quality of materials received by primary processors and, in turn, maximize the quantity and quality of PPP marketed by processors. As collectors are remunerated by MMBC when primary processors accept their collected PPP, primary processors are able to provide collectors with a strong incentive to ensure that PPP is collected in a manner that maximizes material quality.

### 4.7 Collector and Processor Qualification Standards

Collector and processor qualification standards, including reporting protocols, are the minimum operating standards that a service provider must meet on a continuous basis in order to be eligible to provide collection, depot operation and/or processing services under a contract with MMBC.

Qualification standards will be used by MMBC to support the continued growth of a safe, stable and sustainable PPP collection and processing system across British Columbia. MMBC will incorporate qualification standards into requests for expressions of interest (REOI), request for proposals (RFP) and into agreements with collectors and processors.

Qualification standards<sup>28</sup> will set out basic requirements, such as free collection service to residents, proof of all necessary licenses and permits, compliance with health and safety requirements and specified liability and business insurance coverage. Qualification standards will also include reporting requirements to allow MMBC to meet its reporting requirements to the MOE.

Collectors will be required to report data such as:

- Number of single-family and multi-family households served with curbside collection;
- Number of multi-family buildings and households served with multi-family building collection;
- Number of single-family and multi-family households served by depot collection;
- Number of streetscape collection locations;
- Tonnes of PPP collected through curbside, multi-family building, depot and streetscape collection; and
- Tonnes of PPP delivered to each processor under contract to MMBC.

Processors will be required to report data such as:

- Tonnes of PPP received from each collector under contract to MMBC and, of this amount, tonnes of PPP delivered to downstream processors and recycling end-markets by material type;

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<sup>28</sup> Qualification standards for collectors and processors will be subject to consultation following submission of the PPP Stewardship Plan.

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- Names and locations of recycling end-markets receiving PPP from the primary processor and downstream processors;
- Revenues received for PPP materials marketed;
- Processing residue rates; and
- Names and locations of recovery end-markets and disposal locations.

### 4.8 Dispute Resolution

MMBC will seek to balance the principles of access, efficiency, fairness and equitable outcomes in the design of its dispute resolution mechanisms. Dispute resolution processes will be tailored to the nature of disputes as well as the likely parties to a typical dispute. The objectives of the dispute resolution process are to manage disputes to resolution rather than adjudication, earlier and faster and at a reduced cost to all parties involved.

The following suite of alternative dispute resolution processes will be used:

Dispute Type	Path of Escalation/Resolution
Residents	<ul style="list-style-type: none"><li>• Discussion with MMBC management</li><li>• If unresolved, involvement of MMBC Board</li></ul>
Collectors and processors	<ul style="list-style-type: none"><li>• Discussion with MMBC senior management</li><li>• Facilitation: to prevent escalation and to explore interests/remedies</li><li>• Mediation: to be used if facilitation is unsuccessful process to be specified in commercial agreements regarding selection of mediator, roles of parties, time and place of mediation, conduct of mediation, length, responsibility for fees/costs, confidentiality, conclusion of mediation by agreed settlement or final settlement proposal by the mediator</li><li>• Arbitration: to be used if mediation is unsuccessful; process to be specified in commercial agreements regarding notice of arbitration, submission of written statements, place and conduct of meetings and hearings, the process for rendering and delivering decisions; jurisdiction and powers of the arbitrator, allocation of costs/fees; application of the B.C. Arbitration Act (RSBC 1996)</li></ul>

### 4.9 Communications

The Recycling Regulation requires that, as part of the stewardship plan, MMBC design and deliver an effective resident education program that achieves two overarching objectives:

- Make residents and other target audiences aware of the program features and benefits through communication activities; and



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- Employ promotion and education (P&E) activities to engage and encourage residents to make informed and proper decisions concerning the preparation and management of PPP for collection and recycling.

The design of the PPP stewardship communication activities will be set out in a strategic communication and P&E plan that will be developed following approval of the stewardship plan. The communication and P&E plan will comprise three activity phases: pre-launch, launch and post-launch.

The principles guiding the development of the communication and P&E plan will be:

- **Understand MMBC's resident and stakeholder audiences** – identify the various audiences who will participate in the PPP stewardship program by sorting, collecting, processing and recycling PPP and assessing each group's information and P&E needs;
- **Design effective communication and P&E** – ensure that communication strategies, images, messages and tools reflect needs, are clearly understood, overcome perceptual and real barriers, contain a call to action and motivate appropriate behaviour;
- **Collaboration** – explore opportunities to collaborate with other BC stewardship agencies, local governments, retailers, community-based organizations and others to develop strategies and distribute P&E materials that strive to inform and motivate;
- **Establish measurement metrics** – establish a benchmark measurement of program awareness, perceptions and reported behaviour against which to track and assess changes pertaining to year-over-year performance;
- **Deploy an effective mix of communication and P&E tactics** – develop and disseminate a strategic mix of tactics that ensure residents and stakeholders are effectively exposed to primary and supportive messaging; to undertake this in cooperation with local governments and others who have developed and operate successful, mature recycling programs; and
- **Engage audiences to elicit feedback** – employ contemporary methods of communication interaction (e.g. social media) as well as traditional methods to engage residents and encourage them to provide direct feedback regarding program changes and to ask questions.

The communications plan will be evaluated periodically using various key performance metrics such as its effectiveness in developing consumer awareness and delivering clear, comprehensible P&E messages across geographical and cultural demographics. The communications plan will be updated and enhanced as required.

### 4.10 Administration of the Packaging and Printed Paper Stewardship Plan

MMBC is responsible for implementing this PPP Stewardship Plan on behalf of the producers that have chosen to be members.

## **Packaging and Printed Paper Stewardship Plan**

MMBC will administer the implementation of the PPP Stewardship Plan effectively and efficiently through a combination of in-house and outsourcing of key specialized functions or services. Activities to be administered through out-sourcing include those that will not compromise the relationship between MMBC and BC stakeholders and where effectiveness and efficiency is enhanced by the best practices already incorporated by the service provider that would otherwise be a multi-year continuous improvement effort for MMBC.

MMBC will directly administer collection and processing services including dispute resolution, communications to BC residents and performance reporting to the BC MOE.

MMBC will outsource producer registration, reporting, fee invoicing, payments, audits and compliance in order to facilitate harmonized systems for Canadian producers, whether operating only in BC or in other Canadian provinces.

### **4.11 Program Financing**

MMBC is responsible to the producers that have chosen to be its members to deliver an efficient and effective PPP stewardship program.

Producers that choose to be members of MMBC are responsible to pay fees that are sufficient, in aggregate, to implement the PPP Stewardship Plan. These costs fall into three categories:

- Administration - what it takes to manage the business;
- Resident awareness - what it takes to promote the behaviours that drive collection; and
- Material management - what it takes to manage materials.

Producers that supply types of PPP that are currently recyclable and that will be included in the PPP Stewardship Plan collection system will pay fees that are intended to cover:

- An equitable share of MMBC administration costs;
- An equitable share of resident awareness costs; and
- A contribution to the costs to manage the recyclable PPP that is the basis for the PPP stewardship program performance.

Producers that supply types of PPP that are currently not 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:

- An equitable share of MMBC administration costs;
- An equitable share of resident awareness costs;
- A contribution to the costs to manage the recyclable PPP that is the basis for the PPP stewardship program performance; and

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- Research and development (R&D) 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. R&D efforts will include:
  - Resolving sorting, processing and end-market technical challenges;
  - Establishing processing capacity; and
  - Establishing end-market capacity and demand.

It is anticipated that producers that choose to be members of MMBC will not apply a fee at the point of sale of products in packaging and printed paper, primarily due to the relatively low cost per unit of packaging and printed paper that, for many products, is 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 a 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** - Allocation of program delivery costs to reward producers that supply recyclable PPP for which there is market demand and high commodity value and to encourage producers that supply PPP for which there are no end markets or limited markets with low commodity value to consider reduction, redesign and recyclability;
- **Program delivery costs, subject to the principle above** - Allocation of costs to producers that supplied the PPP for which costs were incurred; Where costs are incurred for commingled materials, allocation of costs to each category of PPP reported by producers using a cost allocation model<sup>29</sup> informed by composition audits, cost allocation studies and other analyses to identify the relative cost share for each category of PPP; and
- **Administration costs** - Equitable sharing of administration costs and common costs by all producers.

## 5. Program Performance

### 5.1 Recovery Target

MMBC's aspiration is to have all PPP supplied into BC households effectively collected and recycled.

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<sup>29</sup> The cost allocation model is subject to modification over time consistent with the principles of continuous improvement.

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Achieving this outcome will involve a number of steps of which the first will be to expand the existing collection system to accommodate a uniform province-wide list of PPP materials. This list will be predicated on the existence of recycling end-markets for each material on the list. Collecting in all areas of the province the full range of PPP for which there are existing markets will require adjustments to the majority of collection programs<sup>30</sup> and by the primary and downstream processors that receive the collected material. It will also require effort to ensure that the additional PPP is effectively marketed with minimal disruption to local commodity market arrangements.

Subsequently, the uniform list of materials will be expanded incrementally over time to ensure collection, processing and marketing of additional materials will not compromise the operation and reliability of the existing collection and recycling system, the quality of materials shipped to end-markets, the viability of these end-markets, the confidence of residents in their recycling program and the environmental performance of the system.

The benefits of this incremental approach to expand the scope of collected materials include:

- It builds on the existing recycling collection and processing system in a logical, environmentally and economically prudent manner;
- It protects the environmental performance of the existing recycling system by ensuring the addition of materials to the list is preceded by requisite investments and operational changes to deliver best use of materials and no degradation to the collection and recycling of materials already on the list; and
- It upholds the pollution prevention hierarchy by ensuring the PPP program focuses on recycling outcomes.

The Recycling Regulation specifies that the PPP stewardship program must achieve, or is capable of achieving within a reasonable time, a 75% recovery rate.

The recovery rate is calculated by dividing the quantity of PPP recovered by the quantity of PPP generated by residents and available for collected. The numerator is based on the quantity of PPP shipped to recycling end-markets and the quantity of system processing residues shipped to recovery end-markets<sup>31</sup> as reported by primary processors and verified by MMBC. The denominator is based on the quantity of PPP supplied to residents as reported by producers<sup>32</sup> and verified by MMBC.

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<sup>30</sup> Approximately 30% of single-family households and less than 15% of multi-family households are currently receiving collection of all rigid plastics.

<sup>31</sup> In compliance with the pollution prevention hierarchy.

<sup>32</sup> Adjusted as required to reflect PPP that is retained by residents for extended periods of times (e.g. magazines) as determined from composition audits of PPP collected.

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Based on surveys carried out in late 2011<sup>33</sup>, it is estimated that approximately 200,000 tonnes of residential PPP were being recycled annually in BC. These 200,000 tonnes represent the numerator for purposes of calculating a baseline PPP recovery rate.

The quantity of PPP supplied to BC households cannot be accurately quantified until producers report to MMBC. In the absence of data on the quantity of PPP supplied by producers to BC residents, MMBC developed an estimate of 350,000 to 400,000 tonnes utilizing quantities supplied in other provincial producer responsibility programs cross-referenced with PPP composition data. These 350,000 to 400,000 tonnes have been used to calculate an estimated baseline PPP recovery rate between 50% and 57%.

To put BC's baseline residential recycling rate into context, both Quebec's PPP stewardship program (established in 2005) and Ontario's PPP stewardship program (established in 2004) are recycling 65% of the province's residential PPP. European stewardship programs<sup>34</sup> are recycling various amounts of the residential materials targeted in the program: France is recycling 63%<sup>35</sup>; Germany is recycling 71%<sup>36</sup>; and Belgium is recycling 93%<sup>37</sup>.

Building on the PPP collection and recycling systems already in place, producers will be required to increase the recovery rate from BC's baseline recycling rate to the 75% target recovery rate. This additional recovery will involve:

- Delivering more collection services;
- Increasing participation by encouraging residents to utilize available collection systems;
- Collaborating with provincial and local governments to implement policies that support PPP collection, such as limits on the quantity of garbage that can be set out for collection, reducing the frequency of garbage collection, charging fees for garbage collection and/or banning PPP from disposal;
- Resolving technical and convenience barriers in multi-family collection systems;
- Increasing capture rates by encouraging residents to place PPP in the PPP collection system rather than the garbage collection system;
- Increasing the effectiveness of processing systems to reduce processing residues and increase the proportion of collected PPP delivered to end-markets; and
- Developing new end-markets and processing capability and capacity to support the addition of more types of PPP to the collection system.

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<sup>33</sup> Refer to the report titled the *Current System for Managing Residential Packaging and Printed Paper in BC*, March 2012.

<sup>34</sup> Refer to report titled *Packaging and Printed Paper Stewardship Program Design Options*, March 2012: Section 4.2.1.

<sup>35</sup> Of glass, paper, steel, aluminum and plastic packaging.

<sup>36</sup> Of paper and packaging made of paper, plastics, metals and glass.

<sup>37</sup> Of glass, paper, steel and aluminum packaging and plastic bottles.

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### ***Getting to 75% Recovery***

MMBC is committed to building the residential PPP collection and recycling system in BC to deliver the required 75% recovery target within a reasonable time and within the framework of the pollution prevention hierarchy.

To estimate the time required to achieve a 75% recovery target, MMBC requires:

- Information from collectors on the time required to modify their collection systems to accept a broader range of PPP and their interest and ability to expand service areas;
- Information from processors on the time required to modify their processing systems to accept a broader range of PPP and larger quantities of PPP;
- Information from recycling end-markets on their ability to manage larger quantities of PPP and their interest and ability to accept new types of PPP; and
- Accurate information from producers on the quantity of PPP being supplied to BC residents.

MMBC will be able to assess the ability of collectors and processors to manage larger quantities of PPP following the market-clearing price offers for collection services and the RFP for post-collection services.

In order to assess the ability of recycling end-markets to manage larger quantities of PPP, MMBC first requires information on the destination of marketed PPP reported by primary processors following program implementation. With this information, MMBC can work collaboratively with these recycling end-markets to assess their capability to manage larger quantities of PPP and to accept new types of PPP.

In order to develop accurate information on the quantity of PPP being supplied to BC residents, producers must determine:

- Which of their products are packaged in packaging that meets MMBC's definition of packaging and is supplied to BC residents;
- The quantity of each of these products actually supplied to BC residents, which is likely a subset of products shipped to distribution centres that service BC and then a subset of products distributed within BC;
- The types of materials used to package each of these products<sup>38</sup>;
- The weight of each of the materials used to package each product;
- Which of the types of printed paper used in their business that meets MMBC's definition of packaging used in their business and is supplied to BC residents; and

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<sup>38</sup> Some products are packaged in multiple types of materials e.g. a boxboard box that contains a container and cap of HDPE with a foil closure below the cap and with product instructions on printed paper.

## Packaging and Printed Paper Stewardship Plan

- The quantity of each of these types of printed paper supplied to BC residents which is likely a subset of products shipped to distribution centres that service BC.

MMBC will be responsible for ensuring that data reported by producers are accurate through validation procedures and periodic auditing. Experience with other Canadian producer responsibility programs suggests that a minimum of three annual reporting cycles is required to develop confidence in the integrity and accuracy of producer reporting systems.

After the first three years of program implementation, MMBC will have:

- Sufficient operating experience to reasonably assess the period of time required by its contracted collectors and processors and by the recycling end-markets utilized by its contracted processors to modify and/or expand their operations in order to manage the quantity of PPP that would be collected at a 75% recovery target; and
- Reasonable confidence in the quantity of PPP supplied to BC residents reported by producers as confirmed by its validation and auditing procedures.

Within six months following the first three years of program implementation, MMBC will develop an estimate of the timeline required to achieve the 75% recovery rate in consultation with its producers, collectors, processors, recycling end-markets and other interested stakeholders.

### 5.2 Accessibility

Section 5(1)(c) of the Recycling Regulation requires that a stewardship plan provide reasonable and free access to collection facilities.

Access by householders to various types of services differs across BC communities, reflecting population density and other factors. The following table sets out current access for residents to PPP collection services based on surveys carried out in late 2011<sup>39</sup>.

	Single-family Households	Multi-family Households	Total Households
Total # of Households	1,202,930	512,511	1,715,441
# of Households Receiving Household Collection Service	936,118	405,666	1,341,784
% of Total Households Receiving Households Collection Service	78%	79%	78%
# of Households (Not Receiving Collection Service) with Access to Depots	217,758	90,096	307,854

<sup>39</sup> Refer to the report titled the *Current System for Managing Residential Packaging and Printed Paper in BC*, March 2012.

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	Single-family Households	Multi-family Households	Total Households
% of Total Households with Access Only to Depots	18%	18%	18%
# of Households Receiving Household Collection Service or with Access to Depots	1,153,876	495,762	1,649,638
% of Total Households Receiving Household Collection Service or with Access to Depots	96%	97%	96%

MMBC will provide reasonable access to collection services for PPP taking into consideration the need for:

- Services in large, urban areas as well as remote, sparsely populated areas;
- Effective and efficient collection services within their geographic and/or demographic context;
- A collection system with sufficient capacity to achieve the recovery target; and
- Predictability for residents wishing to recycle PPP.

Reasonable access to collection services for PPP will be provided:

- For single-family households through
  - Curbside collection in areas currently receiving curbside collection of PPP;
  - Curbside collection in areas currently receiving curbside collection of garbage<sup>40</sup> which can be serviced for the market-clearing price offered by MMBC; and
  - Depot collection for PPP in areas which can be serviced for the market-clearing price offered by MMBC;
- For multi-family households through
  - Curbside collection for PPP where the PPP is placed on public easements for collection on regular single-family curbside routes;
  - Collection services from multi-family dwellings where set-out of PPP is on private property which can be serviced for the market-clearing price offered by MMBC; and
  - Depot collection for PPP in areas which can be serviced for the market-clearing price offered by MMBC;
- For streetscapes, subject to proof of concept through testing effective delivery of streetscape collection systems, through collection
  - In urban commercial areas with business activities that generate large amounts of PPP;
  - Where the local government operates a litter collection system; and

<sup>40</sup> Where a local government prefers depot collection over curbside collection, MMBC will consider this preference.



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- In municipalities with a population of 20,000 or more and a population density of 200 or more people per square kilometre.

### 5.3 Product Life Cycle Management

Section 5(1)(c)(vii) of the Recycling Regulation requires that a stewardship plan adequately provide for eliminating or reducing the environmental impacts of a product throughout the product's life cycle.

The producers that are members of MMBC will contribute to eliminating or reducing the environmental impacts of packaging or printed paper through innovations that affect the stages of its life cycle **before** it reaches the consumer. The following are examples of activities that have been implemented.

#### *Reduction*

- A number of brands, primarily in the home and personal care category, have created refill packs designed to make it very simple for the consumer to refill the original pack with new product. The refill pack is manufactured of a lightweight material producing less waste. This approach addresses the first R in the 3Rs hierarchy by reducing packaging, in some cases, by over 75%.
- Packaging can be reduced through the reformulation of a product, such as concentration, requiring less packaging per use of product. This has been done extensively in the laundry, home care and personal care product categories.

#### *Redesign*

- Plastic packaging can be created with new technology that delivers the same strength and performance but requires less resin. This can be achieved through the use of "micro-bubbles" incorporated into the plastic. This reduces the density of the resin but does not impact performance – an approach to packaging reduction that is often invisible to the consumer.
- Research and development is also being directed at incorporating other materials into product packaging – primarily replacing plastic resin with renewable materials. To minimize plastic use, the redesigned package incorporates fibres such as bamboo, sugarcane and bulrush. Research and market testing has shown that incorporation of these different materials delivers packaging that stays strong under compression and consumer use (opening and closing) and transportation. In some cases the bamboo sugarcane and/ or bulrush has replaced the use of polyvinyl chloride, which is a contaminant if mixed with other types of plastic.
- Several non-food manufacturers have invested in research and development allowing them to utilize 100% post-consumer recycled resin in their plastic packaging.

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- Companies are making commitments to sustainable sourcing of their paper-based packaging. Some companies have committed to purchasing only Forest Stewardship Council certified paper. Others are committing to source paper products only from managed forests and are involved in the replanting of those forests to ensure ongoing regeneration.

The producers that are members of MMBC will contribute to eliminating or reducing the environmental impacts of packaging or printed paper through innovations that affect the stages of its life cycle **after** it reaches the consumer. The following are examples of activities that have been implemented.

### *Recyclability*

- Companies are redesigning packaging so that it is more easily recycled by, for example: harmonizing the plastic resin of a cap with its bottle; providing a removable barrier between the packaging and the product to reduce contamination; or, in the case of paperboard packaging, reducing or removing a coating from the carton making it more easily recyclable.
- Companies are redesigning packaging and closures to allow consumers to get every last drop of the product out of the package. This provides better value to the consumer and results in less contamination in the recycling system.

Implementation of the PPP Stewardship Plan will manage PPP after a resident has placed it into the PPP collection system through recycling, and where recycling options are not available, through recovery or disposal.

MMBC, through implementation of the PPP Stewardship Plan, and the PPP producers that are its members will continue to strive to eliminate or reduce the environmental impacts of PPP supplied to residents in BC throughout the products' life cycle. Information on PPP end-of-life management compiled by MMBC during implementation of the PPP Stewardship Plan will be an additional source of information for PPP producers as they consider opportunities to reduce the quantity of PPP supplied as well as design PPP with the environment and recyclability in mind.

### **5.4 Pollution Prevention Hierarchy**

Section 5(1)(c)(viii) of the Recycling Regulation requires that a stewardship plan adequately provide for the management of the product in adherence to the order of preference in the pollution prevention hierarchy.

The PPP Stewardship Plan will adhere to the pollution prevention hierarchy through the following activities:

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Pollution Prevention Hierarchy	Activity
Reduce the environmental impact of producing the product by eliminating toxic components and increasing energy and resource efficiency	<ul style="list-style-type: none"> <li>Initiatives undertaken by individual producers</li> <li>PPP Stewardship Plan encourages reduction through cost allocation which rewards companies which reduce the weight of PPP sold into the market</li> </ul>
Redesign the product to improve reusability or recyclability	<ul style="list-style-type: none"> <li>Initiatives undertaken by individual producers</li> <li>PPP Stewardship Plan encourages redesign through cost allocation</li> <li>MMBC will provide guidance to producers on design for recyclability</li> </ul>
Eliminate or reduce the generation of unused portions of a product that is consumable	<ul style="list-style-type: none"> <li>Not applicable a packaging and printed paper are not consumable</li> </ul>
Reuse the product	<ul style="list-style-type: none"> <li>Initiatives undertaken by individual producers</li> <li>PPP Stewardship Plan encourages reuse through cost allocation</li> </ul>
Recycle the product	<ul style="list-style-type: none"> <li>PPP Stewardship Plan utilizes payments to service providers to encourage collection of PPP and processing of PPP to meet recycling end-market requirements</li> <li>MMBC will provide guidance to producers on design for recyclability</li> </ul>
Recover material or energy from the product	<ul style="list-style-type: none"> <li>Primary and downstream processors will be encouraged to further process system residues to meet recovery end-market requirements and minimize the amount of residue sent to landfill</li> </ul>
Otherwise dispose of the waste from the product in compliance with the Act	<ul style="list-style-type: none"> <li>Primary and downstream processors will be required to manage residue in compliance with the Act</li> </ul>

### 5.5 Reporting

During implementation of the PPP Stewardship Plan, MMBC will compile data in order to report on the following indicators:

- **Accessibility indicators** to describe access to PPP collection services in the province of BC such as:
  - Single-family and multi-family households receiving household collection service;

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- Number and location of depots accepting PPP;
- **Operational effectiveness indicators** characterizing program performance such as:
  - 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;
  - Recovery rate expressed as a percentage for the province;
- **Management of collected PPP in relation to the pollution prevention hierarchy**
  - Tonnes of PPP managed by recycling;
  - Tonnes of PPP managed by recovery;
  - Tonnes of PPP managed by disposal;
- **Operational efficiency indicators** reflecting program performance in financial terms such as:
  - Total program cost per tonne recovered;
  - Total program cost per household;
- **Environmental impact measures** to characterize actions intended to reduce the environmental impacts of packaging and printed paper by producers who are members of MMBC and by MMBC; and
- **Resident awareness indicators** to assess public awareness and engagement such as:
  - Percentage of residents aware of PPP stewardship program;
  - Percentage of residents reporting use of available collection services; and
  - Visits to the 'resident' section of MMBC website.

MMBC will report on the performance of the PPP program in an annual report submitted to the BC MOE and posted on its website by July 1<sup>st</sup> each year. MMBC will include a reasonable assurance opinion of the accessibility indicators and operational effectiveness indicators by a third-party in its annual report.

The MOE requires that a stewardship agency provide third-party audited financial statements prepared in accordance with generally accepted auditing standards if fees are applied at the point of sale to fund the stewardship plan. It is anticipated that producers that choose to be members of MMBC will not apply a fee at the point of sale of products in packaging and printed paper. Should this be the case, MMBC would not be obligated to provide third-party audited financial statements as part of its annual reporting but reserves the right to choose to do so.

## Packaging and Printed Paper Stewardship Plan

### Appendix A – Glossary

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**Collector**

Entity providing services for collection of PPP from households or from streetscapes under contract with MMBC.

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**Depot**

Facility where residents can drop off PPP under contract to MMBC.

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**Market Clearing Price**

Payment available to collection service providers (subject to executing an agreement to provide the collection service, comply with the collector qualification standard on a continuous basis, report specified data on a defined schedule) designed to stimulate collection activities and act as a market clearing mechanism.

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**ICI**

Industrial, commercial and institutional.

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**Processing**

Manual or mechanical sorting and quality control of PPP for the purpose of shipping to recycling end-markets.

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**Primary Processor**

First receivers of collected PPP that market at least some types of processed PPP directly to end markets. Primary processors may engage downstream processors that can more efficiently or effectively sort, process and market some types of PPP.

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**Qualification Standard**

Minimum operating standard that a service provider must meet on a continuous basis in order to be eligible to provide collection, depot operation and/or processing services under a contract with MMBC.

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**Recovery Rate**

Calculated as a percentage with the numerator representing the quantity of PPP recycled or recovered and the denominator representing the quantity of PPP available for collection.

$$\text{Recovery Rate \%} = \frac{\text{Recovered (material utilization)}}{\text{Available for Collection}} \times 100$$

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**Service Provider**

Entity that collects PPP from single-family or multi-family households or streetscapes, operates a depot or provide post-collection services under contract with MMBC.

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## **Packaging and Printed Paper Stewardship Plan**

### **Appendix B – Producer Members of MMBC**

A total of 215 producers have signed Letters of Intent with MMBC as of submission of the PPP Stewardship Plan. Based on the draft definitions of obligated producer and PPP developed pursuant to the BC Recycling Regulation and Environmental Management Act, these companies have indicated that they intend to join the MMBC PPP Stewardship Plan once it is approved. Producer companies that signed Letters of Intent fall into the following sector categories:

- Food and consumer products
- Retailers (grocers, mass/general merchandisers, hardware/housewares, drug stores and specialty merchandisers)
- Electronic manufacturers/brand owners
- Horticulture and agriculture
- Media and printed paper
- Quick service / take-out restaurants
- Paint and chemical products
- Other/miscellaneous

A list is included below.

MMBC believes that a PPP program that includes all obligated producers, each paying their proportionate share of costs, is the best way to achieve a sustainable PPP program for British Columbia residents that is based on the principles of fairness and a level-playing field. Recruitment efforts will continue past the stewardship plan submission date.

Producers are invited to consult the producer section of the MMBC website at [www.multimaterialbc.ca](http://www.multimaterialbc.ca) for information related to who is an obligated producer and what constitutes obligated packaging and printed paper. A list of frequently asked questions (FAQs) is also provided on the website. Letters of Intent can be downloaded and, when executed, can be sent via email to [producers@multimaterialbc.ca](mailto:producers@multimaterialbc.ca).

MMBC will respond to queries directed to [producers@multimaterialbc.ca](mailto:producers@multimaterialbc.ca) and will arrange telephone consultations with those producers who have questions about the PPP Stewardship Plan and their obligations under the BC Recycling Regulation.

## Packaging and Printed Paper Stewardship Plan

### MMBC Producers

3M	Dare
2 Brilliant Media (The Upper Canadian Magazine)	Darvondan Nurseries
Advance Nursery Co.	Dell Canada Inc.
Agropur	Discovery Islands Organics
Akzo Nobel	Disticor Direct Retailer Services Inc
Amway Canada	DLM Foods
Apple	Dollarama
ASUS Computer International	Dominos
Avalon Dairy	Dream Wave Publishing Inc.
Baum Publications	Dutch Heritage Greenhouse
BC Transit	East Richmond Nurseries Inc.
Bed Bath & Beyond	Eco-Parent Magazine
Behr Process Corporation	Eddi's Wholesale Garden Supplies
Bell	Epson
Benjamin Moore	Estee Lauder Company
Best Buy	Exemplar Horticulture
BIV Media Limited Partnership	Federated Co-operatives Limited
Black Press Group Ltd.	Ferrero
Border Crossings Magazine	Ford Motor Company of Canada
Boulevard Lifestyles Inc.	Fort Nelson News
British Columbia Historical Federation,	Four Corner Publishing
British Columbia Lottery Corporation (BCLC)	Gabriola Sounder Weekly
Bron and Sons Nursery Inc.	Garden Making
Burnbrae Farms	Geez Magazine
Canada Dry Mott's	Geist
Canada Wide Media Limited	General Mills
Canada's History Society	General Motors of Canada
Canadian Dimension	Giant Tiger Stores Ltd.
Canadian Tire Corporation	Glacier Media Group
Canon	Globe and Mail
Cedarrim	Golden Valley Foods Ltd.
CGA Magazine	Greenhouse Delight Foods Inc.
Clearview Horticultural products Inc	Hains Celestial
Clorox	HBC
Clover Leaf	Headlands Garden Plants Limited
Cloverdale Paint	Heinz
Coca Cola Refreshments Canada	Henkel Consumer Goods
Colgate Palmolive	Hershey
Columbia Valley Pioneer	Highliner Foods
ConAgra Foods Canada	Home Depot
Costco Wholesale Canada Ltd.	Home Hardware
Cott Beverages	Horse Community Journals
Cottage Life Media	Horse Country Magazine
CY Growers	Hewlett Packard
Dance Media Group	ICBC
Danone	Ikea
	Indigo
	Inside Track Communications

## Packaging and Printed Paper Stewardship Plan

Irving Consumer Products	Pacific West Perennial Growers
Jac van Klaveren Limited (JVK)	Pageone Publishing
JELD-WEN	Panasonic
Johnson & Johnson	Pepsi Bottling Group (Pepsico Beverage)
Kao	PepsiCo Foods
Kellogg	Pet Connection
Kilipi Road Greenhouses	Plantronics
Kimberley Clark	Poetry Is Dead Magazine Society
Kleen Flo Tumbler	Powell River Living Magazine (Southcott
Kraft	Communications
Kruger Inc.	PPG Architectural Coatings
La Cie McCormick Canada Co.	Premier Tech
Lenovo	PRISM International
LG	Purdy's Chocolates
LMPI (a division of HDS Canada)	Purple Springs Nursery
Loblaws	Quilter's Connection Magazine
London Drugs	Readers Digest Magazines Canada Limited
Lucerne	Reckitt Benckiser
Maple Leaf Foods Inc. (including Canada	Reinhardt Food
Bread)	Rexall
McCain Foods	Rocky Mountain Goat News
Meadowfresh Dairy Corp	RONA
Michael's	Rogers Communications Partnership
Microsoft	Rogers Publishing
Modern Dog Inc.	Room Magazine
Momentum Magazine	Royal BC Museum
Mondelez International	Sad Magazine
Montecristo Magazine	Safeway
MTY Group	Samsung
Neo-opsis Science Fiction Magazine	Saputo
Nestle	SC Johnston
Nestle Purina Pet Care Canada	Scott's Canada
Nintendo of Canada Ltd.	Sears
Nokia	September House Publishing
Northern Gold Foods Ltd.	Sharp Electronics of Canada
Northwest Landscape Supply	Sherwin Williams
Nuvo Magazine	Shopper's Drug Mart
Observer Publications	Shopping Channel (division of Rogers
Ocean Spray International	Broadcasting)
Okanagan Valley Newspaper Group	Smucker's
Old Dutch	Snow Farms
Oliver Chronicle	Sobey's
Olympic Dairy	Sony
Opera Canada	Southern Tip Publishing
Osoyoos Times	St Joseph Media
Outpost Magazine	Starbucks Coffee Canada
Overwaitea	Storck
Owlkids	Studies in Canadian Literature
P&G	Studio Magazine
Pacific Newspaper Group	Sun Products Canada



## Packaging and Printed Paper Stewardship Plan

Taisuco Canada Agricultural Corp  
Target Canada  
Techni-Gro Greenhouses Inc  
TerraLink Horticulture Inc.  
The Brick  
The Capilano Review  
The Natural Gardener  
The Pampered Chef  
The Social Justice Committee of Montreal  
The Source  
The TDL Group Corp.  
The Upper Canada Antiques Showcase  
Thrifty Foods  
TJX Canada  
Toshiba  
Toys "R" Canada  
Transcontinental Inc.  
Unilever  
Van Belle Nursery  
Vancouver 24 Hours (division of Sun Media)  
Vitalis Nutrition  
Walmart Canada  
Watershed Sentinel  
YellowPages Group Corp  
ZoomerMedia Limited



Brewers Distributor Limited

Schedule 5 – Packaging and Printed Paper

Stewardship Plan 2014-2018

**I. INTRODUCTION**

Brewers Distributor Limited (BDL) is a privately-owned distribution and logistics company, operating in the western Canadian provinces of British Columbia, Alberta, Saskatchewan and Manitoba. BDL's operations in BC comprise two primary elements: the warehousing and distribution of beer, cider and coolers for a number of breweries and liquor suppliers to retail locations and licensed establishments throughout BC<sup>1</sup>, for sale to the public ("full goods"); and the collection of certain beer and cider containers (i.e. refillable bottles and cans) and related packaging as the product steward acting on behalf of the majority of brewers and cider manufacturers ("product stewardship").

In its product stewardship activities, under Schedule 1 of the *Recycling Regulation*, BDL is the steward for all refillable glass beer and cider bottles, as well as all metal beer cans. Along with its stewardship duties under Schedule 1, BDL also collects the secondary packaging (i.e. cartons, caps and plastic can rings) associated with beer and cider containers through a variety of collection channels, keeping this secondary packaging out of the municipal curbside recycling stream and out of BC landfills. This product stewardship plan covers BDL's collection of beer and cider secondary packaging (hereafter collectively referred to as "beer secondary packaging") under Schedule 5 of the *Recycling Regulation*.

BDL's mission is to provide quality, cost-effective distribution, as well as container return and secondary packaging collection service, for its customers and the public.

BDL has a long history of strong environmental performance, consistently achieving the highest recovery rate amongst all product stewards operating in the province of British Columbia. BDL and its predecessors have been managing beer containers in BC<sup>2</sup> in an environmentally responsible manner for approximately 80 years. BDL's product stewardship duties are part of a national commitment to collect all beer packaging for recycling or reuse that has been undertaken by Canada's brewing industry in each respective province since the end of Prohibition.

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<sup>1</sup> BDL's customers include pubs, hotels, restaurants, clubs, cabarets, government liquor stores, agency stores (rural agency stores are small general stores in rural areas authorized by the BC Liquor Distribution Branch to sell beer, cider, coolers, wine and spirits with other goods) and licensee retail stores.

<sup>2</sup> In line with its full goods activities in BC, Alberta, Saskatchewan and Manitoba, BDL and its predecessors have also undertaken product stewardship with respect to beer containers and beer secondary packaging throughout the western Canadian provinces, not just in BC.

Over the past four years, **BDL collected an average of 93% of the beer and cider containers** sold under its Schedule 1 program. This recovery rate **exceeds BDL's product stewardship plan target of 85%** and the provincially legislated minimum recovery rate of 75%.

In addition to the strong recovery rate, BDL producers place a major emphasis on the use of refillable containers. With 100% of their recovered containers either re-used or recycled, BDL's system supports the pollution prevention hierarchy with significant energy and pollution reduction benefits. BDL's closed-loop container recovery system also provides manufacturers and retailers with a cost-efficient system for the return and recycling of their containers.

Beer secondary packaging consists primarily of paper<sup>3</sup>, metal<sup>4</sup> and plastic<sup>5</sup>. As part of its regular product stewardship operations for beer and cider containers, BDL already collects this beer secondary packaging. BDL is submitting this product stewardship plan for Schedule 5 of the *Recycling Regulation*, which codifies BDL's existing stewardship activities with respect to secondary packaging.

While this product stewardship plan for beer-related PPP will codify what the industry has already been doing for decades, BDL also looks to build on the strength of its environmentally-effective, consumer-friendly and low-cost container management system. BDL will implement new initiatives to improve customer awareness and enhance consumer convenience, while continuing to work with collection partners to maintain cost-effectiveness and system efficiencies with broad consumer access.

In short, BDL will strive to meet targets in excess of the provincial standard and endeavour to maintain its leadership with respect to product stewardship in British Columbia.

## **I. BDL PPP STEWARDSHIP PLAN HIGHLIGHTS: FISCAL 2014-2018**

### **a. Brand Owners Represented**

BDL is submitting this stewardship plan for the recovery of beer secondary packaging. All of the brewers for whom BDL acts as the product steward under Schedule 1 of the *Recycling Regulation* have been invited to sign a letter of intent to join BDL's program. The producers for whom BDL is the product steward under Schedule 5 will be updated as the plan is implemented. In any event, BDL will be acting as the product steward for the majority of beer secondary packaging generated in the BC marketplace. It should be noted that BDL will act as the product steward for beer secondary packaging for both the domestic and imported brands represented by each of these brewers, cider manufacturers and brewery agents. As a result, BDL product steward brand owners will account for the vast majority of the beer sold in BC.

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<sup>3</sup> Specifically, old corrugated cardboard (OCC) and boxboard materials used as cases for the sale of multi-packs (i.e. 6-packs, 12-packs, 24-packs, etc.) of beer cans or bottles.

<sup>4</sup> Specifically, metal crowns on beer bottles.

<sup>5</sup> Specifically, cone rings used on smaller multi-packs of beer cans. It should be noted that BDL also uses plastic wrap on the delivery of its products. However, as this plastic wrap is removed by the vendor and thus not part of what is sold to the consumer, it will not be accounted for in the stewardship plan at this time. That being said, BDL frequently collects used plastic wrap when collecting empty containers from retail and commercial establishments.

**b. Recovery Targets and Other Plan Highlights**

- BDL will target a minimum 75% recovery rate for the secondary packaging under its program (aggregate basis), to be achieved within 3 years of the program coming into effect in May 2014. This recovery rate will go beyond the requirements of the *Recycling Regulation*, as BDL will collect beer secondary packaging associated with consumer sales (i.e. residential beer secondary packaging), as well as beer secondary packaging associated with licensee sales (i.e. industrial, commercial & industrial beer secondary packaging). BDL's environmentally-effective and cost-efficient closed loop system, whereby BDL collects empty beer containers and beer secondary packaging in the same trip, makes the collection of both residential and IC&I beer secondary packaging possible.
- BDL's Schedule 5 stewardship plan will continue to place a strong emphasis on re-use (similar to BDL's Schedule 1 stewardship for beverage containers). The concept of "Design for the Environment" (DfE) is evident in the secondary packaging produced by the brand owners represented by BDL. Beer cases sold as the packaging for bottles are designed from the start to serve multiple functions throughout their lifecycle.<sup>6</sup> The majority (by weight) of secondary packaging collected by BDL will be these beer cases (also used to return refillable bottles to brewers for re-use).
- Another example of DfE in beer secondary packaging is the brewing industry's use of kegs in commercial sales. Kegs involve no packaging (other than the metal keg container) and replace approximately 170 bottles (and 7 beer cases for 24-pack bottles) or over 160 cans (and approximately 7 beer cases for 24-pack cans), respectively.<sup>7</sup> In calendar year 2011, for example, kegs replaced 5.1 million cases<sup>8</sup> of beer, equivalent to diversion (for containers only) of approximately 900 tonnes of aluminum or 16,900 tonnes of glass. Kegs have very high return rates (over 99%) and are also designed so that they can be repaired over their lifetime and re-used over and over again for an average of 50 years.
- To improve consumer awareness of the brewing industry's DfE in its secondary packaging and to increase the percentage of consumers that voluntarily return their

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<sup>6</sup> A beer case sold as the secondary packaging for beer bottles may serve up to five functions before it is processed and recycled: 1) the receptacle in which the bottles are shipped to a retail location; 2) the receptacle in which the bottles are taken from the retail store to a private home; 3) the receptacle in which bottles are stored for return, once empty; 4) the receptacle in which the consumer transports the empty bottles to their return location; and 5) the receptacle in which the empty bottles are transported back to brewers for re-filling. It is necessary that bottles sent to brewers for refilling are transported in some kind of case to avoid the risk of breakage during transportation. These cases are generally cut off and processed on the bottling line, just before the bottles enter the washer.

<sup>7</sup> Calculations are based on 58 litre kegs and beer bottles having an average volume of 341 mL and beer cans having an average volume of 355 mL. Please note that the actual volumes of bottles and/or cans of specific brands of beer may be lesser or greater than this average volume.

<sup>8</sup> A case of 12 beer.

## **DRAFT – FOR CONSULTATION ONLY**

beer secondary packaging, BDL will undertake a public awareness and education campaign over the period of this stewardship plan (2014-2018). The campaign will begin around May 2014, when BDL's program comes into full effect. The exact nature of the campaign will be shaped by consumer surveying that BDL will undertake in 2013, in order to make the awareness and education campaign as effective as possible. The campaign will include an expanded consumer-oriented website regarding the Canadian beer industry's sustainability efforts, with content specific to British Columbia. BDL will survey the public close to the end of the stewardship plan period to gauge the level of consumer awareness of its program and the success of its consumer education campaign.

- To the extent possible, BDL will expand its annual report to the Ministry of the Environment to include more information on consumer education strategies and program support for reduced environmental impacts and the pollution prevention hierarchy. BDL also intends to combine its annual reports under Schedules 1 and 5 of the *Recycling Regulation* in order to provide stakeholders with a more complete understanding of the BC beer industry's environmental performance.
- During this initial stage of BDL's Schedule 5 program for beer secondary packaging, BDL will conduct an annual consultation with BC local governments, to be arranged with either the Union of BC Municipalities (UBCM) or the BC Product Stewardship Council. This annual consultation will help to improve communications and relations with these key stakeholders, as well as provide BDL with an annual opportunity to learn how its program is operating in various parts of the province.

### **c. Stewardship Agency Contact and Address for Service**

Brian Zeiler-Kligman  
c/o Brewers Distributor Limited  
750 West Pender Street, Suite 1106  
Vancouver, BC V6C 2T8

## **II. STAKEHOLDER CONSULTATION SUMMARY**

Throughout 2012, BDL has been engaging with numerous stakeholders in order to educate these stakeholders about its current product stewardship system. As part of this outreach, BDL's existing stewardship activities with respect to PPP have also been discussed, with feedback sought on ways to improve BDL's existing system and/or to achieve greater environmental performance.

While this stewardship plan largely reflects a codification of existing BDL product stewardship practices, BDL has also been consulting with a variety of stakeholders throughout the process of designing this plan and will continue to undertake further public consultation. In particular, this consultation will include:

## **DRAFT – FOR CONSULTATION ONLY**

- Posting this stewardship plan for comment on multiple websites
- Sending this stewardship plan directly to over 30 stakeholders to solicit their feedback
- A public consultation in Victoria at the Coast Waste Management Conference on Friday, October 26
- A public meeting in downtown Vancouver (date to be confirmed)
- At least one webinar (date to be confirmed)

### **III. COLLECTION SYSTEM AND CONSUMER ACCESS**

The consumer is an integral part of any stewardship plan. Without the consumer's participation, it is impossible to collect the product or achieve any significant environmental performance. From its long history of product stewardship, BDL recognizes that consumer convenience is critical to consumer participation. For this reason, BDL's stewardship plan places its focus on making it easy, convenient and practical for the consumer to return beer secondary packaging.

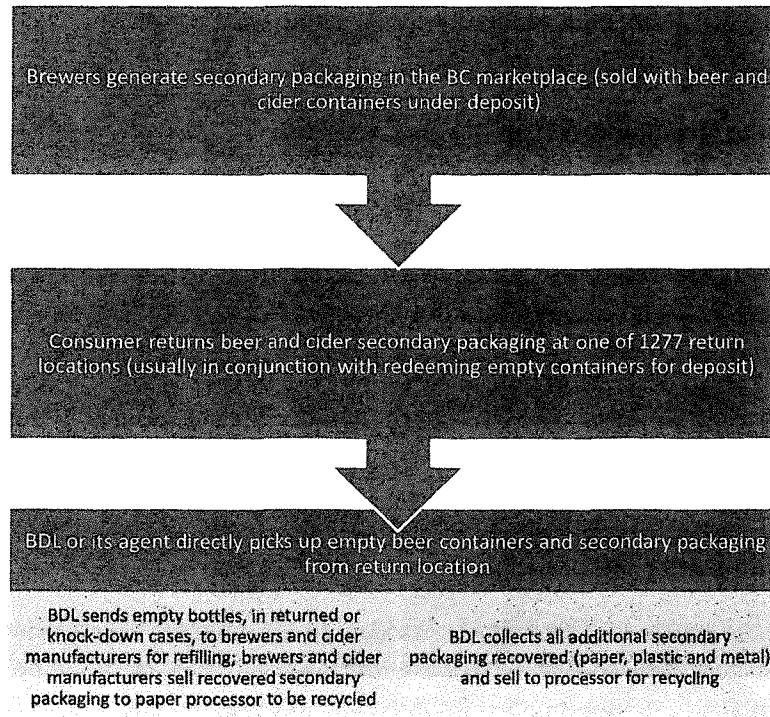
As previously indicated, the collection system proposed in this stewardship plan largely reflects how BDL is currently collecting beer secondary packaging (as consumers are already returning a substantial percentage of beer secondary packaging through these return locations). Consumers have open and easy access to return beer secondary packaging at all of the locations where they can return their empty beer containers.

BDL has had the opportunity to confirm that consumers can return their beer secondary packaging at private retail liquor stores and at selected private bottle depots. BDL hopes to include government liquor stores as a return location for beer secondary packaging and is currently in discussions with the Liquor Distribution Branch to arrange this. These locations include government liquor stores, private retail liquor stores and private bottle depots.

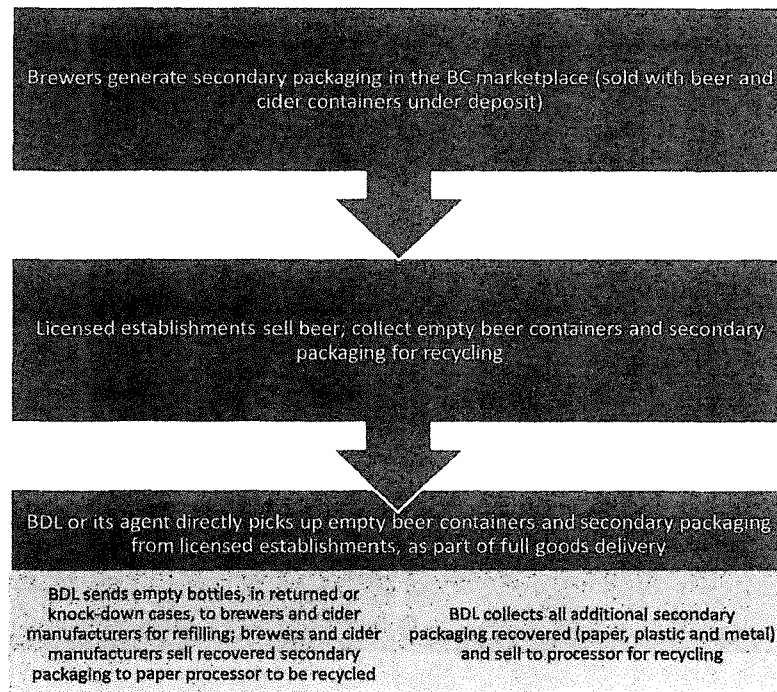
BDL continues to enhance its contracted container return network under Schedule 1 and will utilize this network for its stewardship obligations under Schedule 5 to the extent possible. Seventy-eight percent of BC residents are within 2 km of a contracted return location. With respect to smaller communities and rural areas, BDL could not identify any communities in British Columbia without at least one BDL contracted return location within 15 km.

On the next pages are graphic depictions of the current beer secondary packaging streams from both a consumer (residential sector) and a licensee (IC&I sector) perspective.

Beer Secondary Packaging Flow: Residential Stream



Beer Secondary Packaging Flow: IC&I Stream



Through these many convenient consumer return options, BDL believes the consumer will continue to enthusiastically participate in this collection program and help to improve its already first-rate performance. Since this stewardship plan codifies existing practices, BDL's belief is based on historical experience of consumers' participation, even in the face of alternative recycling and disposal options available to them at residential and retail locations.

Through existing and renewed commercial agreements, BDL will work with its collection partners to ensure that beer secondary packaging that is collected is handled properly in accordance with the pollution prevention hierarchy. Through the new stewardship audit report to the Ministry of the Environment, BDL will confirm the proper handling and disposal of this beer secondary packaging.

#### **IV. STEWARDSHIP PLAN OBJECTIVES**

BDL's primary objective under this stewardship plan is to preserve and improve one of the most effective product stewardship systems in North America. Through consistently high container recovery rates, BDL will drive strong beer secondary packaging recovery as well, in a cost-efficient and environmentally-effective manner. Specific objectives are listed below:



**a. Achieve Legislated Recovery Rates**

For decades, BDL has been recovering beer secondary packaging as part of its beverage container product stewardship program. This recovery has been from the residential as well as the IC&I streams, with BDL reporting on a portion of this recovery in its past two Schedule 1 annual reports. Through this stewardship plan, BDL will undertake to document and calculate a recovery rate for all beer secondary packaging collection.

BDL has been able to achieve very high recovery rates on beverage containers through an efficient low-cost system of return-to-retail that is convenient and popular with consumers, supported by collection depots. This same successful system will be leveraged to achieve improved recovery rates for secondary beer packaging.

**b. Excellent Customer Convenience**

Under this stewardship plan and its stewardship plan for beverage containers, BDL will seek to maintain its extensive network of consumer return locations for beer containers and for beer secondary packaging. BDL will also implement new consumer awareness initiatives during the period covered by this stewardship plan, which will be shaped by consumer surveys to take place in 2013, to improve information about the collection of beer secondary packaging and opportunities for consumers to engage in the re-use of beer secondary packaging as part of their returns of their beer containers by making sure they return their beer cases when returning their empty beer containers.

**c. Maintain Coordination with the Delivery of Full Goods**

The recovery of empty beer containers and beer secondary packaging is closely integrated with the delivery of full goods.<sup>9</sup> Empty beer containers and beer secondary packaging are generally picked up when full goods are delivered. This practice makes sense from both a cost and an environmental perspective because the trucks are always full, cutting down on the number of trips that must be taken. Resources are not wasted driving around empty trucks or making multiple stops to the same retail locations.

**d. Cost-effective Beer Secondary Packaging Collection**

BDL recognizes that it is the consumer who ultimately bears the cost of recovering beer secondary packaging (or any other product or packaging). Accordingly, BDL will continue to work with our product stewardship partners to maintain a cost-effective system that does not result in undue cost increases to the end consumer.

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<sup>9</sup> “Full goods” refer to full bottles, cans and kegs ready for sale to the public.

## V. STEWARDSHIP PLAN DETAILS

### a. Collection system and consumer access

As indicated above, BDL's intention is to ensure that the 1277 return locations available to consumers for empty beer and cider containers will also serve as return locations for beer secondary packaging. All beer secondary packaging will be accepted and collected from these locations, including:

- Cardboard/boxboard cases for bottles and cans
- Can flats
- Metal crowns
- Plastic cone rings
- Plastic shrink wrap

### b. Beer Secondary Packaging Recovery Rate

The beer secondary packaging recovery rate will be calculated on the basis of beer secondary packaging generated/beer secondary packaging collected. The specific methodologies being employed to make this calculation are:

#### Beer Secondary Packaging Generation

The total weight of all beer secondary packaging generated by the brand owners (all import and domestic brands) is being calculated by multiplying the secondary packaging weight for each stock keeping unit (SKU)<sup>10</sup> sold in BC by the number of units of each SKU sold in BC in the calendar year.

For example (sample only – weights not necessarily accurate):

SKU: 12-pack bottles has secondary packaging weight of:

Cardboard (case): 200 grams

Metal (bottle caps): 36 grams (12 x 3 grams)

Total PPP weight: 236 grams

Sales: 1 million units

Secondary Packaging Weight for this SKU: 236,000 kgs.

SKU: 8-pack cans has secondary packaging weight of:

Plastic (hi-cone rings): 8 grams

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<sup>10</sup> Each brand and each of the pack sizes in which it is offered for sale has a separate SKU.

## DRAFT – FOR CONSULTATION ONLY

Cardboard (tray – each tray holds 3 units): 50 grams (1/3 of 150 grams for the tray)

Total PPP Weight: 58 grams

Sales: 800,000 units

Secondary Packaging Weight for this SKU: 46,400 kgs.

BDL has weighed all of the beer secondary packaging associated with all relevant SKUs in BC. Based on sales data for the calendar year and these secondary packaging weights, a total beer secondary packaging weight generated in the calendar year will be calculated. To the extent possible, this beer secondary packaging generation data will be broken down into retail sales (i.e. residential stream) and licensee sales (i.e. IC&I stream).

To verify the accuracy of the beer secondary packaging generation calculation, BDL has also requested brand owners to furnish it with data on the beer secondary packaging they have generated associated with sales of their brands. BDL is working with brand owners to design a reporting tool for the brand owner's suppliers to report secondary packaging weight to them at the time they purchase this secondary packaging.

### Beer Secondary Packaging Collection

Calculating beer secondary packaging collection is more difficult because of the multiple streams through which beer secondary packaging flows and the different uses made of this beer secondary packaging.

The relevant streams through which beer secondary packaging is collected are:

- 1) Licensees (IC&I stream)
- 2) Depots (generally residential stream)
- 3) BC Liquor Stores (GLS) (residential stream)
- 4) Private retail stores (LRS) (residential stream)

In general, collected beer secondary packaging can be divided into two types:

- Returned cardboard/paper beer bottle cases ("refillable bottle cases")
  - o These are stacked on pallets, used for transporting bottles to breweries or bottle wash stations<sup>11</sup> for refilling
  - o Pallets of refillable bottle cases are collected from each of the four streams set out above (but currently no data that identifies the source stream of a pallet)
- All other beer secondary packaging ("other beer secondary packaging")
  - o This secondary packaging consists of paper (e.g. returned boxboard cases from cans), metal (e.g. bottle caps) and plastic (e.g. hi-cone rings)

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<sup>11</sup>Before they can be filled with beer, all bottles (whether new or ones that are being re-used) have to be washed. Many breweries have their own bottle washer that is part of their bottling line. Some breweries, however, do not have a bottle washer. These breweries generally have a commercial arrangement with a bottle wash station – an independent business that offers bottle wash services – to perform this cleaning.

- This secondary packaging is collected through each of the four streams set out above
- Ultimately, other beer secondary packaging collected through these streams will be processed either by BDL (and is captured in the weight of processed materials at BDL's Port Coquitlam warehouse) or through a stewardship depot (and is captured in the processed weight of materials from that depot)

For refillable bottle cases, BDL will obtain data on the weight of beer secondary packaging that has been recycled by the major breweries in BC, bottle wash stations and BDL's stewardship depots. This data will be compared to the secondary packaging weight collected derived from "return factor" calculations<sup>12</sup> to verify the accuracy of the "return factor" calculations.

For other beer secondary packaging, the total amount to be reported will be based on the amount of secondary packaging processed from the BDL warehouse in Port Coquitlam and the amount of beer secondary packaging processed by stewardship depots. To calculate the amount of beer secondary packaging processed by stewardship depots, periodic audits of secondary packaging bales will be conducted to determine what percentage of an average secondary packaging bale is comprised of beer secondary packaging. This percentage will then be applied to the total amount of secondary packaging processed by stewardship depots to arrive at a tonnage for this stream.

#### **c. Consumer awareness**

The high percentage of refillable bottles that are currently returned in their original case is evidence that consumers are already well aware of their ability to return beer secondary packaging when they return their containers. That being said, it is important that consumers are made even more aware of the beer secondary packaging that they can return and how this beer secondary packaging is handled. With greater consumer education and awareness, BDL believes that even higher levels of diversion can be achieved.

As noted earlier, BDL will be undertaking a consumer awareness campaign over the course of this stewardship plan (2014-2018). In 2013, BDL will conduct consumer surveys in order to gauge the level of awareness existing amongst consumers and to identify how this consumer education campaign can be most effectively undertaken. BDL will conduct a follow-up survey near the end of the term of this stewardship plan to gauge the level of consumer awareness of the stewardship program and the success of its consumer education campaign.

#### **d. Management of program costs**

Similar to its product stewardship activities with respect to beer and cider containers, BDL will operate the program on a day-to-day basis, while the BC Brewers' Recycled Container Collection Council (BC BRCCC), a not-for-profit society established by the brewing sector to administer the financial and logistical requirements of BDL's stewardship, will provide governance with respect to

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<sup>12</sup> An audit of pallets routed through the BDL Port Coquitlam warehouse will be undertaken on a periodic basis in order to calculate an average amount of secondary packaging, or a "return factor," that is recovered for each bottle recovered through these multiple streams.

the program funding. The BC BRCCC represents the vast majority of the volume of beer sold in the province in BC, with directors from brand owners (both large and small brewers), BDL and Canada's National Brewers.

The skills possessed by board members range from financial, planning and logistics expertise to customer service, marketing and brand management professionals. The BC BRCCC meets to review audited and projected material revenues, producer costs, BDL collection costs, service levels, environmental standards and measures. On the basis of these costs and revenues, the BC BRCCC will determine the appropriate charge, if any, to be assessed to brand owners for the collection of beer secondary packaging. This charge will be a net rate, based on projected and audited costs and offsetting revenues, which will be charged by BDL to brand owners. This rate will be reviewed periodically and can be adjusted annually as required. The BC BRCCC will monitor and manage the costs associated with beer secondary packaging collection and recycling in a cost-effective manner.

The BC BRCCC was originally formed to provide a governance structure to effectively steward beer and refillable containers in the province. The directors were selected to ensure that both small and large brewers have a voice in the operations and management of the stewardship plan and the financial decisions inherent within. The organization also serves to inform and resolve concerns brought by the directors related to stewardship and/or other facets of the operations to ensure compliance, continual improvement and excellence within the plan.

**e. Management of environmental impacts**

Brand owners make decisions about what type of secondary packaging they wish to use for the sale of their products. The BDL product stewardship plan then facilitates environmentally-friendly life-cycle management of that packaging by providing a cost-effective method to collect and recycle it.

Brewers utilize three main types of secondary packaging: paper, metal and plastic. Each of these material types has a viable commodity market. These markets help to ensure that beer secondary packaging will be diverted from landfill and finally disposed of in compliance with the pollution prevention hierarchy.

As stated above, BDL's product stewardship plan places an emphasis on re-use and recycling. Where possible, BDL will quantify the pollution benefits associated with its product stewardship plan as part of its annual reporting process, including estimates of greenhouse gas emission reductions, reduced energy requirements and reduced pollutants.

**f. Dispute resolution**

**Complaints from Depots/Return Locations**

If the issue involves a return location, BDL will investigate the issue and will make sure the return location is aware of the issue. If a return location is found to be in violation of its contractual commitments or legal obligations, BDL will take appropriate measures to ensure compliance (including potential dispute resolution procedures outlined in written contracts).

### Complaints from consumers

Consumer complaints are directed to the appropriate BDL manager for follow-up and resolution. Through the website [www.EnviroBeerBC.com](http://www.EnviroBeerBC.com), consumers have access to information on BDL's product stewardship plans. The website also provides an e-mail link for consumers who have any questions or complaints regarding either BDL's bottle return or its beer secondary packaging return programs. The website includes an e-mail address, contact phone number and mailing address for public comments on BDL product stewardship activities.

Consumer concerns will generally be addressed in writing (for example, e-mail questions are responded to via e-mail).

### Disputes between BDL and brewers/manufacturers who use our system

Producer compliance issues are anticipated to be minimal under BDL's product stewardship plan because BDL's beer secondary packaging is so closely linked to BDL's container recovery system. BDL's container recovery system is subject to the listing and product approval process related to beer sales in the province under the *Liquor Distribution Act*. As a result of this listing and approval process, most brand owners designate BDL as their product steward for containers prior to selling their products in BC. BDL anticipates that, as a result of the cost-effective and administratively-efficient nature of BDL's product stewardship plan, many of these brand owners will choose to also designate BDL as their product steward for beer secondary packaging as well. Ongoing compliance is monitored through tracking within our accounts receivable and our brand registry systems.

In the event that BDL does encounter a problem with producer compliance, for the purposes of initiating an action with the Ministry of the Environment, non-compliance is defined as a lack of responsiveness from a brand owner after more than two notices on producers' responsibilities have been sent from BDL.

In the event that BDL does not receive a signed agency appointment agreement from the brand owner within the prescribed timeframe, BDL may utilize the following notifications to underscore the importance of compliance with the *Recycling Regulation*:

- 1<sup>st</sup> contact (60 days prior): Letter is sent to brand owner obligated under the *Recycling Regulation*, informing them of their responsibilities
- 2<sup>nd</sup> contact (if no response received within 30 days): A second letter is sent to the brand owner for lack of reply from the previous correspondence. In this letter, BDL will point out that the brand owner is liable if their company contravenes the Act.
- 3<sup>rd</sup> contact (if no response received 30 days after 2<sup>nd</sup> contact): A final letter with a deadline for submitting membership documents is sent by BDL. At this stage, BDL will consider each brand owner on a case-by-case basis to decide whether to proceed to the final stage.
- 4<sup>th</sup> contact (if no response received by deadline stipulated in 3<sup>rd</sup> contact): A request for non-compliance actions is sent to the Ministry of the Environment, with a copy to the brand owner.

**DRAFT – FOR CONSULTATION ONLY**

**g. Performance measurement summary table**

Beer secondary packaging recovery rates will be the core performance target for BDL's stewardship plan. As the plan's environmental benefits all flow from beer secondary packaging that is recovered, this recovery rate is strongly indicative of the program's performance. As consumer awareness will be a main driver of the recovery rate, BDL will also set targets for this performance measure. Other elements of performance, such as pollution prevention benefits, will be reported on annually, but no specific performance targets are planned at this time.

<b>1. Recovery Rate</b>
<u>Goal/Target:</u> Achieve an aggregate recovery rate of 75% on residential and IC&I beer secondary packaging within 3 years of the stewardship plan coming into effect in May 2014.
<u>Rationale:</u> This is the key measure of the program's performance. As the goal in designating PPP is to eliminate these materials from landfill, this goal cannot be achieved unless a high recovery rate is being achieved.
<u>Initiatives developed to support the goal/target:</u> BDL already has a well-established program for the recovery of beer secondary packaging. Consumers, in general, are well educated to return their refillable beer bottles (and, often, also their non-refillable beer bottles) in the cases in which they were purchased. Through this established program, a significant amount of beer secondary packaging has been recovered and diverted for decades. BDL is working with our collection partners to ensure all beer secondary packaging will be accepted at all return locations. BDL is also planning a consumer education campaign, so that consumers are aware that they can return their beer secondary packaging along with their beer containers, as well as the environmental benefits of doing so.
<u>Key performance measures:</u> Target of a 75% recovery rate within three years of the stewardship plan coming into effect in May 2014.
<u>Reporting:</u> Progress with respect to performance targets will be included in BDL's annual report filed under the plan.
<b>2. Consumer Awareness</b>
<u>Goal/Target:</u> Improve consumer awareness with respect to their ability to return beer secondary packaging along with their beer containers, as well as the environmental benefits associated with beer secondary packaging.
<u>Rationale:</u> Consumer awareness is what drives the recovery rate. BC consumers are generally familiar with returning their beer bottles in the cases in which they were purchased, but not as familiar with their ability to return other beer secondary packaging (such as cases sold with beer cans and bottle caps). BDL also believes that greater consumer awareness of brewers' use of DfE and the environmental benefits to be achieved under the BDL stewardship plan, they will be more likely to participate by returning their beer secondary packaging.
<u>Initiatives developed to support the goal/target:</u> BDL will be undertaking a consumer survey in 2013. The results from this survey will help to shape the specific initiatives that BDL will undertake in order to ensure these are as effective as possible. A follow-up survey will take place toward the end of the stewardship plan period to assess the success of the consumer education campaign.
<u>Key performance measures:</u> The success of this work will be measured through consumer research. Target a consumer awareness level of at least 75% in the follow-up survey to be done toward the end of the stewardship plan period.
<u>Reporting:</u> Progress with respect to consumer awareness will be included, as possible, in annual reports filed under the plan. A detailed report on the follow-up survey will be included in the relevant annual report.

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

January 21, 2013  
File: 280-30  
CLIFF/tracking #: 186841

**PREPARED FOR: Honourable Terry Lake, Minister of Environment**

s.12

**BACKGROUND:**

The Ministry of Environment has prepared a draft *Five Year Plan for Species at Risk*.

The Five Year Plan reflects many of the recommendations of the BC Task Force on Species at Risk. Public comment was encouraged during Task Force deliberations in 2010, and upon publication of the Task Force report in 2011. The draft *Five Year Plan for Species at Risk* is ready for posting on the internet to receive public comment on British Columbia's proposed approach to management of species at risk.

Many, but not all of the actions outlined in the draft *Five Year Plan for Species at Risk* are the responsibility of government programs, primarily in the ministries of Environment and Forests, Lands and Natural Resource Operations. However, although the government may lead, all British Columbians have a role in the protection and management of species at risk in British Columbia (BC).

s.12, s.13, s.14



s.12, s.13, s.14

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Reviewed by	Initials	Date
DM		
DMO		
ADM	MZ	
Exec. Dir.	AD	Jan 21/13
Mgr.	JQ	Jan 21/13
Author	LD	Jan 21/13

**MINISTRY OF ENVIRONMENT  
MEETING INFORMATION NOTE**

February 13, 2013  
File: 280-20: CLIFF #187749

**PREPARED FOR:** Honourable Terry Lake, Minister of the Environment

**DATE AND TIME OF MEETING:** February 21, 2013, 10:45am

**ATTENDEES:** Minister Lake, Simon Cummings and Metro Vancouver Delegation

**ISSUE:** Metro Vancouver (MV) update on Fly Ash Management at the Cache Creek Landfill (CCLF); Waste Flow Management; and the process for Waste-to-Energy (W2E) Capacity.

**BACKGROUND:**

**Fly Ash Management at the Cache Creek Landfill**

During July and August 2012, the Burnaby W2E facility, owned by MV and operated by Covanta Energy Corp (CEC), shipped 1800 tonnes of potentially hazardous waste fly ash to the CCLF owned jointly by the Village of Cache Creek and Wastech Services Ltd. The CCLF is not authorized to receive hazardous waste. Since 1999, fly ash has been stabilized using a proprietary system rendering it non-hazardous and subsequently deposited into the CCLF. MV and Covanta claim that the stabilization process has not changed and that a laboratory error caused the inaccurate results in the July and August samples. Wastech and the Village have indicated they plan to remove the July/Aug fly ash in the Spring of 2013 when weather conditions will not hinder the transportation.

**Waste Flow Management in MV**

MV has observed that some haulers servicing multi-family residences and industrial, commercial and institutional facilities (ICI) are taking their garbage loads to cheaper alternatives in the FVRD, with final disposal at Rabanco Landfill in Washington State. Waste volumes are decreasing at regional transfer stations and Vancouver Landfill where tipping fees are high. The high fees at MV facilities have built-in costs for reduction, recycling and energy recovery programs. MV is concerned that reduced revenues will impact their ability to meet all their obligations under their solid waste management plan. MV is proposing a number of options including hauler licensing to limit flow of garbage out of the region.

**Waste to Energy Procurement Process**

MV's approved solid waste management plan, includes the 3R (i.e. reduce, reuse, recycle) management principles which will assist the region achieve a total diversion of 70% by 2015. MV will still require additional disposal capacity of 370,000 tonnes in addition to the current disposal facilities (i.e. Vancouver Landfill, Burnaby W2E Facility and Cache Creek Landfill – note the Cache Creek capacity will be reached by 2016 and MV is not planning to negotiate the use of additional capacity available through the Cache Creek "extension"). As per the Minister's condition, MV must ensure that any new W2E consider the full range of options both in and out of region in an equal and fair

manner and consult with the Fraser Valley Regional District in the event that an in-region site is chosen. As a result MV has developed an 8 phase procurement process which includes working with the FVRD on a consultation plan.

**DISCUSSION:**

s.13

**SUGGESTED RESPONSE:****Contact:**

*Jim Standen*  
*ADM – Env. Protection*  
*250 387-1288*

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*Regional Director*  
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**Prepared by:**

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<b>Reviewed by</b>	<b>Initials</b>	<b>Date</b>
DM		
DMO	VJ - edits	Feb 19/13
ADM	JStanden	Feb 18/13
Dir./Mgr.	JMcGuire	Feb 14/13
Author	ASundher	Feb 13/13

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

Date: February 6, 2013

Date of previous note: N/A

CLIFF/tracking #: 187903

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**DATE AND TIME OF MEETING:** February 18, 2013 - 10:45 a.m.

**ATTENDEES:**

Provincial:

Jim Standen, Assistant Deputy Minister, Environmental Protection Division  
David Ranson, Executive Director, Environmental Standards Branch (ESB)  
David Lawes, Manager, Waste Prevention Section, ESB

Industry:

Peter Legge, Chairman and CEO, Canada Wide Media Limited

**ISSUE:**

Meeting with senior officials from Canada Wide Media Limited to discuss the Recycling Regulation and their concerns as it pertains to the magazine industry.

**BACKGROUND:**

Industry Product Stewardship is a British Columbia (BC) Government strategy to make producers more responsible for their products, including collection and recycling. This strategy benefits British Columbians by creating jobs, diverting waste from landfill and reducing greenhouse gas emissions, according to the report *Economic Impacts of the BC Recycling Regulation (2008)* by Gardener Pinfold Consulting Economists.

The BC Government has developed four key principles that provide the strategic context for all Product Stewardship programs:

1. Producer/User Responsibility- Responsibility for waste management is shifted from general taxpayers to producers and users.
2. Level Playing Field- All brand-owners for a particular product category are subject to the same stewardship responsibilities (including for historical waste).
3. Results based- Programs focus on results and provide brand-owners with flexibility to determine the most cost effective means of achieving the desired outcomes with minimal government involvement.
4. Transparency and Accountability.

The Packaging and Printed Paper (PPP) Product Category was added to the Recycling Regulation (the Regulation) on May 19, 2011. To comply with the Regulation, producers of packaging and printed paper were required to submit, or be part of a stewardship plan submitted, to the Ministry by November 19, 2012, and have an approved stewardship program in place by May 19, 2014.

Multi-Materials BC (MMBC) is one of two stewardship agencies that has submitted a stewardship plan in response to the regulatory requirements. Members of MMBC include the Retail Council of Canada (RCC), Food and Consumer Products of Canada (FCPC), the Canadian Federation of Independent Grocers (CFIG), the Canadian Restaurant and Food Services Association (CRFA), and the Canadian Newspaper Association (CNA).

s.13

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Approved	Initials	Date
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DMO	VJ	Feb 13/13
ADM	JS	Feb 13/13

Exec. Dir.	DR	Feb 12/13
Mgr.	MA	Feb. 7/13
Author	JB	Feb 6/13

#### Attachment 1

Canada Wide Media Limited is Western Canada's largest independently owned magazine publishing company. The company is engaged in magazine publishing (including *BC Business*, *BC Home Garden* and *TV Week*), custom publications, and eNewsletters. In 2012 Canada Wide Media reported over \$30 million in annual sales. (Source: Canada Wide Media Ltd Corporate Website).

#### Data on U.S. Magazine Circulation

Data compiled by Magazines Canada indicates that the U.S. magazine circulation spill within Canada is in a long term decline:

- Magazines Canada reports that 92% of total magazine circulation in Canada is Canadian.
- U.S. spill circulation accounts for just 1.6% of total circulation delivered by the top 100 titles available in Canada.

Source: ABC; CCAB; Canadian Circulation of U.S. Magazines 2011:

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February 6, 2013

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## Member Directory

Member Publications



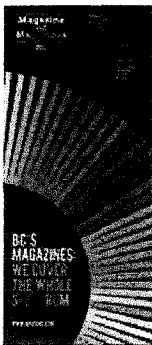
Associate + Affiliate Members



## CONNECT WITH MAGSBC



VIEW THE 2012  
MagsBC MEMBER DIRECTORY



# BC Government Setting Deadlines for Packaging & Paper Stewardship Plan and Recycling

Thursday, August 9, 2012 — MABC

If you are a member, you may already have received a letter (a few times!) notifying you that the producers of printed paper and packaging will be required to become an active participant (and fee-payer) in the collection, disposal and recycling of waste paper in our province

To follow up, here is the letter from the Community Waste Reduction Section, BC Ministry of Environment, with more information on deadlines and regulations regarding this stewardship program.

If you'd like to give input, please contact Scott Wheatley at Canada Wide Media, who is working on behalf of the magazine industry with Multi-Material British Columbia (MMBC) to draft the program [swheatley@canadawide.com](mailto:swheatley@canadawide.com); 604-473-0338.

Deadline for the program submission to the BC government is Nov. 19th, so please contact Scott well before then if you want your voice heard.

## Attachment

1-1-150 Packaging and Printed Paper Compliance Promotion Letter (Magazines) - FINAL.pdf

## Size

220.9 KB

MABC's blog

## Industry Directory

View and add your listing to the Industry Directory



**MINISTRY OF ENVIRONMENT  
MEETING INFORMATION NOTE**

February 6, 2013  
File: 280-20  
X-Reference: 168147  
CLIFF/tracking #: 187905

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment.

**DATE AND TIME OF MEETING:** February 20, 4PM (Room 112).

**ATTENDEES:** MLA Horne and constituents,  
Wes Shoemaker,  
Lori Halls,  
By telephone: Brandin Schultz, Jennie Aikman

**ISSUE(S):** s.12  
s.12

**BACKGROUND:**

Indian Arm Park was established as a Class A park in 1995. In 1998, the Province entered into an agreement with the Tsleil-Waututh Nation (TWN) for the collaborative management of the park. The Indian Arm Park Management Board (the Board) was established and is comprised of two representatives of the Province and two (2) representatives of the Tsleil-Waututh Nation.

At the time the park was established, 29 Crown recreational lease lots were included within the park boundary in error; these Crown land leases were converted to park use permits. There are now 27 permits remaining (two have been cancelled): 20 enhanced park use permits and 7 regular permits. The enhanced permit offers permittees the same rights they had under Crown land lease prior to the park's establishment, which means that they have exclusive rights to the entire property. The fee structure of the enhanced permit is consistent with that of a Crown land lease which is 3% of assessed value. Average annual fees for enhanced permits in Indian Arm Park are approximately \$5,000.00. The annual fee for the regular park use permit is \$500.00.

Since 2003, several of the permittees have persistently pursued exclusion from the park through requests to Ministers and contacting MLA offices. They have sought to be excluded from the park so that they may apply to Crown lands to potentially purchase their recreational lot.

s.12, s.13

s.12, s.13, s.14

s.12, s.13

**Attachment 1: Decision Note 168147 (July 2012)**

**Contact:**

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DM	WS	Feb 14/13
DMO	VJ	Feb 12/13
ADM	LDH	Feb 11/13
A/Exec Dir	JL	Feb 10/13
Dir	BS	Feb 4/13
Author	JA	Feb.4/13

Edits

**MINISTRY OF ENVIRONMENT  
DECISION NOTE**

July 11, 2012  
File: 280-20  
X Reference: 161449 / 161502  
/ 161845 / 155156 / 170851  
CLIFF/tracking #: 168147

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment and Honourable Steve Thomson, Minister of Forests, Lands and Natural Resource Operations

**ISSUE:**

s.12

s.12

**BACKGROUND:**

Indian Arm Park was established as a Class A provincial park in 1995. In January, 1998, BC Parks entered into a collaborative agreement with the Tsleil-Waututh Nation (TWN) for the collaborative management of Indian Arm Park. The Say Nuth Khaw Yum/Indian Arm Park Management Board (the Board) was established and is comprised of two representatives of the Province and two representatives of TWN.

Since 2006, the Board has been aware of the ministry's assertion that 28 recreational lease lots were included in the park in error and that the ministry would like to take steps to remove these properties from the park. This issue has been brought before the Board on a number of occasions.

s.12, s.13

s.12, s.13, s.16

s.12, s.16

**OPTIONS:**

s.12, s.13, s.16

s.12, s.13, s.16

*Option 1 / Terry Lake*

**DECISION & SIGNATURE**

Honourable Terry Lake  
Minister of Environment

*July 17/12*

**DATE SIGNED**

*Option 1 / Steve Thomson*

**DECISION & SIGNATURE**

Honourable Steve Thomson  
Minister of Forests, Lands and Natural Resource Operations

*July 17/2012*

**DATE SIGNED**

**Contact:**

*Lori Halls, ADM*

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**Alternate Contact:**

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**Prepared by:**

*Vickie Jackson, Manager  
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Deputy Minister's office  
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**Attachments:**

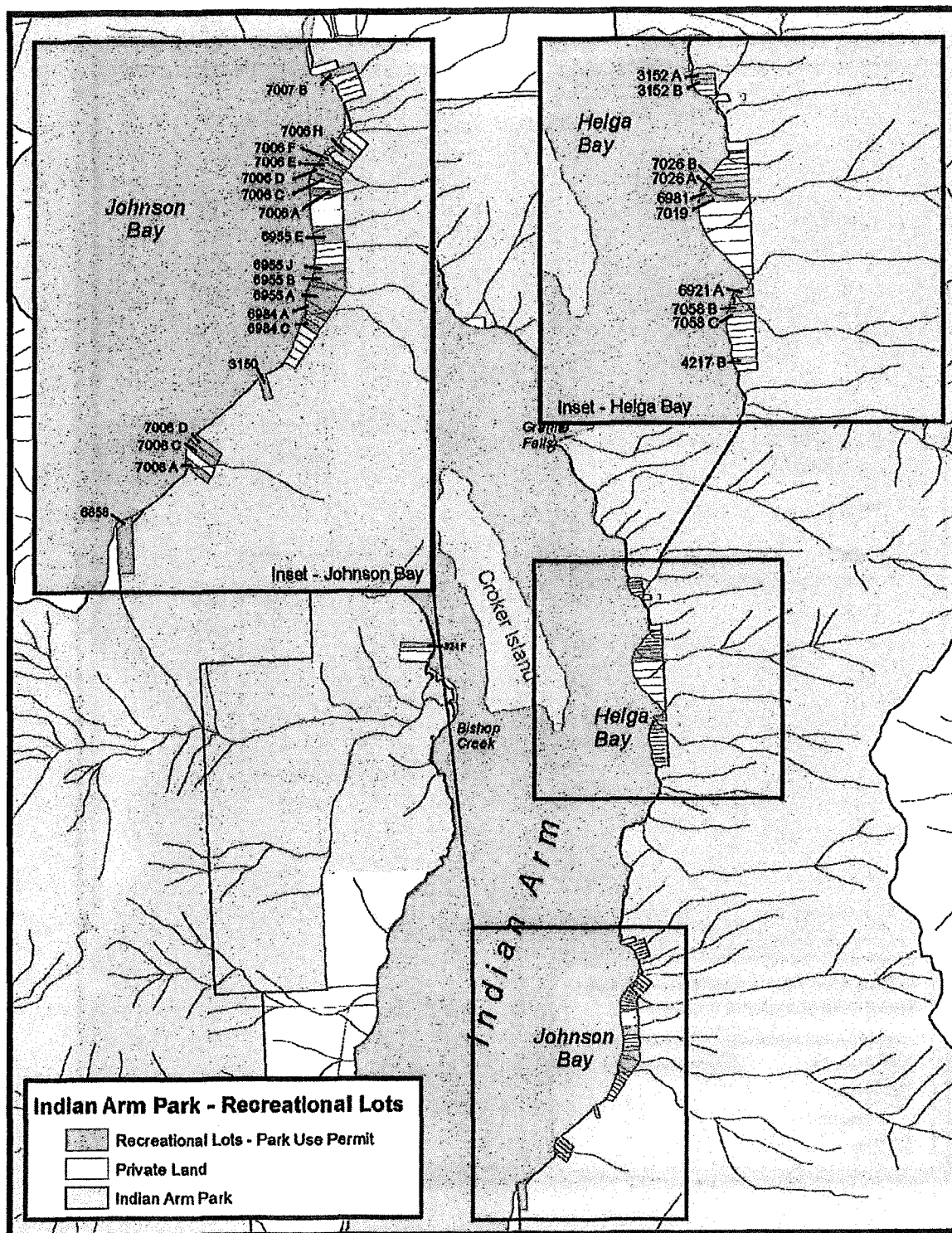
1. Map of Indian Arm Park showing recreation lots.

s.12, s.13

s.13, s.16

Reviewed by	Initials	Date
DM	CM	July 13/12
DMO		
ADM	LH	July 12/12
Author		

**Attachment 1: Map of Indian Arm Park showing recreation lots.**





Pages 13 through 19 redacted for the following reasons:

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s.12, s.13

s.13, s.16

**MINISTRY OF ENVIRONMENT  
DECISION NOTE**

February 17, 2013  
File: 76750-20  
CLIFF/tracking #: 188509

**PREPARED FOR:** John Dyble, Deputy to the Premier; Wes Shoemaker, Deputy Minister, Ministry of Environment; Steve Carr, Deputy Minister, Ministry of Energy, Mines and Natural Gas; Doug Konkin, Deputy Minister, Ministry of Forests, Lands and Natural Resource Operations; Don Fast, Deputy Minister, Ministry of Community, Sport and Cultural Development

**ISSUE:** Management options for moving the Line Creek Project to decision

**BACKGROUND:**

The Line Creek expansion proposal involves the placement of waste rock into Dry Creek, which currently is an unimpacted watercourse. Teck Resources Ltd ("Teck") proposes to convey all mine-affected flows approximately 5 km down Dry Creek to the Fording River until the commissioning of a Se treatment plant in 2022. Mine-affected flows exceeding the capacity of the treatment plant would be discharged untreated to the Fording River. The Se treatment plant is predicted to discharge monthly maximum Se concentrations of 25 ug/L into Dry Creek.

Monitoring shows that Se concentrations are increasing in the Elk and Fording Rivers at a rate of 8% and 13% per year, respectively, and are currently 3-5 times (Elk) and 13-20 times (Fording) greater than the BC Water Quality Guideline (WQG) for the protection of aquatic life (Attachments 1 and 2).

s.13, s.18

s.13, s.18

Other contaminants (sulphate, nitrate, cadmium, and calcite) exist at concentrations that far exceed BC WQG, with further increases predicted.

The US EPA, State of Montana and Environment Canada (EC) are concerned about Se levels in Lake Koocanusa. EC has launched an investigation against Teck for violations under the federal *Fisheries Act*. Because there is an absence of a regulation to authorize Se discharges from coal mining operations, any discharge of Se is considered a deposit of a 'deleterious substance' under the *Fisheries Act*.

s.16

s.16

s.16

Other mining companies in BC are facing challenges with Se management. With the release of the Teck Se Management plan, these companies are closely watching the outcome of LCOII regarding regulatory requirements for Se treatment.

The BC Water Quality Guideline for Se for the protection of drinking water and the Guidelines for Canadian Drinking Water Quality are 10 ug/L. Teck is supplying bottled water for Fording River mine staff, as the onsite wells exceed drinking water guidelines for Se. Results from the Greenhills Mine wells also show elevated levels of Se.

#### **DISCUSSION:**

The EMA statutory decision maker (SDM) is bound by the requirements of the Act to ensure that the introduction of waste into the environment is protective of the environment. An 'effluent' is a substance that is capable of injuring property or any life form, or is a substance which damages or is capable of damaging the environment.

s.13, s.14

Mine run-off water with high concentrations of metals, Se, and toxicity concerns is considered a waste which must be permitted under EMA. Proponents are required to obtain a permit to discharge waste into the environment. It is incumbent upon all mine operations to manage waste in a manner which is "safe and does not result in substantial alteration or impairment of the usefulness of the environment". Operations which have waste discharges that "substantially alter or impair the usefulness of the environment" are causing pollution, and can be charged under the *Environmental Management Act* or federal agencies may take legal action under the *Fisheries Act*.

s.16

EMA S. 89 enables the development of an Area-Based Management Plan (the 'plan') if the minister considers it advisable. See Attachment 4 for a list of considerations and content for a plan. To date, the ministry has not required proponents to participate in development of an area based plan as specified under EMA S. 89.

s.13

s.13

**OPTIONS:**

s.13

**RECOMMENDATION:**

s.13

**DECISION & SIGNATURE**

[Name]

[Title]

**DATE SIGNED**

**Attachments:** Attachment 1. Rising Trend of Se Concentrations in the Fording River.  
 Attachment 2. Rising Trend of Se Concentrations in the Elk River.  
 Attachment 3. Comparison of Se Water Quality guidelines  
 Attachment 4. Outline of Area based Plan timeline and activities

**Contact:**

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*ADM/EPD*  
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**Alternate Contact:**

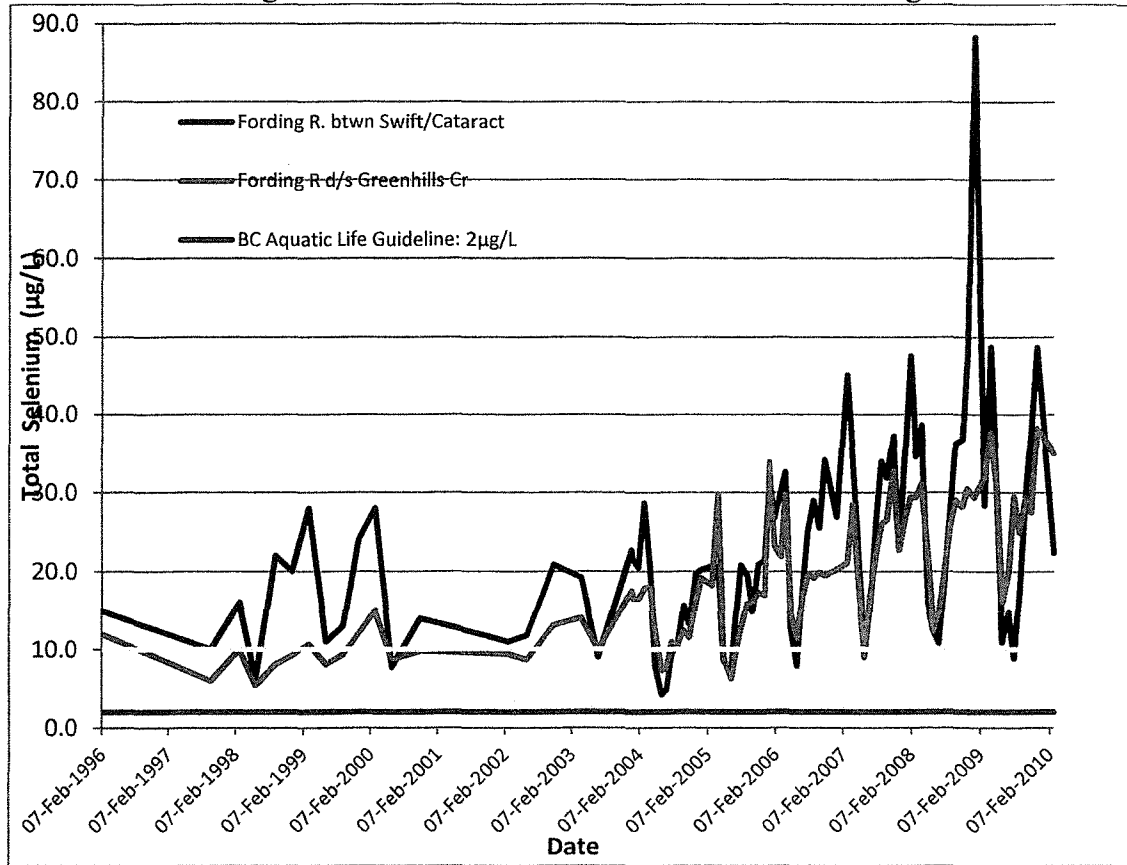
*Mark Zacharias*  
*ADM/ESSPD*  
*(250)*

**Prepared by:**

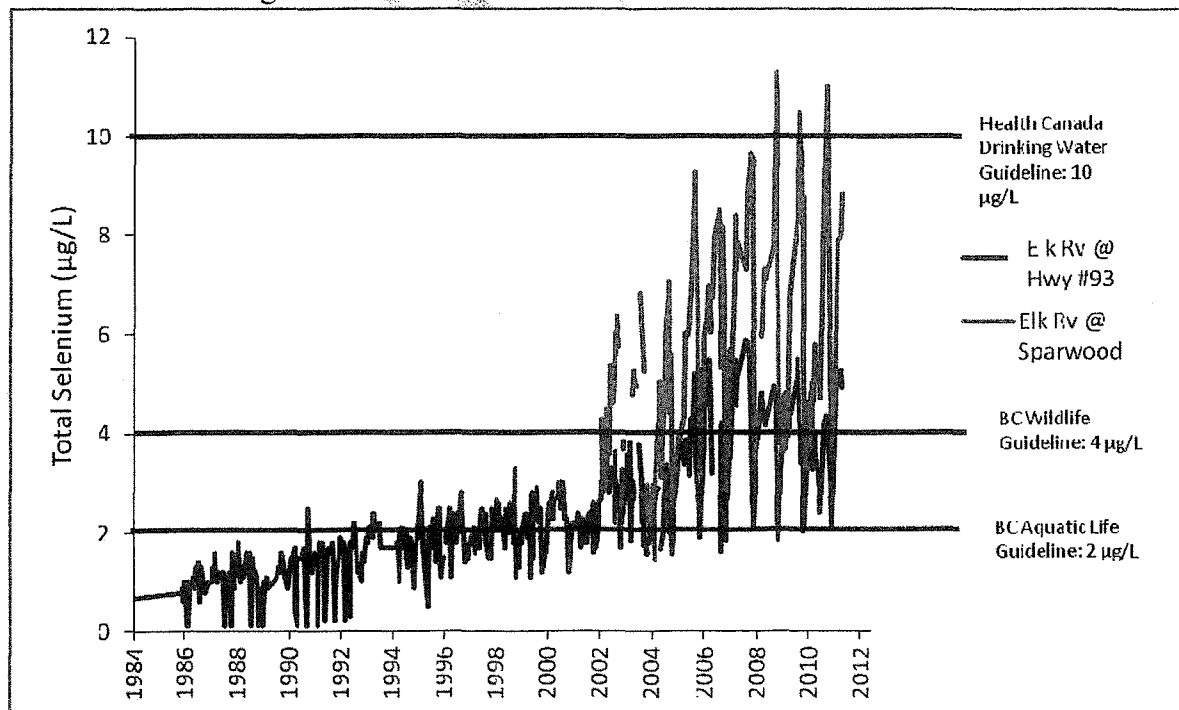
*Jennifer McGuire*  
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*(250)356-6027*

Reviewed by	Initials	Date
DM		
DMO		
ADM		
Dir./Mgr.		
Author		

Attachment 1. Rising Trend of Selenium Concentrations in the Fording River.



Attachment 2. Rising Trend of Selenium Concentrations in the Elk River



### Summary of human health drinking water and tissue residue guidelines & criteria

Water Use	Jurisdiction	Guideline/Criteria/Objective	Reference
<b>Drinking water</b>	Health Canada	10 µg/L	Health Canada (1992)
	World Health Organization	10 µg/L	WHO (2003)
	Japan Ministry of Environment	10 µg/L	Japan MoE (1993)
	US Environmental Protection Agency	50 µg/L	USEPA (2009)
	US Environmental Protection Agency, and Ministère du Développement durable, de l'Environnement et des Parcs du Québec	170 µg/L (water + organism) <sup>a</sup> 4,200 µg/L (organisms only) <sup>a</sup>	USEPA (2009) MDDEP (2009)
<b>Water-based human health consumption</b>	US Environmental Protection Agency, Mid-Atlantic Region	6.9 µg/g wet weight (ww)	USEPA Mid-Atlantic Region (2010)
<b>Tissue consumption of fish, birds, and mammals for human health</b>	US Environmental Protection Agency	20 µg/g ww, recreational fishers 2.457 µg/g ww, subsistence fishers	USEPA (2000)
	US Department of Interior	2 µg/g ww, limited consumption for healthy populations and no consumption by children and pregnant women 5 µg/g ww, complete ban for all populations	USDOI (1998)
	Office of Environmental Health Hazard Assessment (California EPA)	Fish Contaminant Goal (FCG) – 7.4 µg/g ww (based on an individual consuming sport fish at a rate of 8 oz/week over a lifetime.)	OEHHA (2009)

<sup>a</sup> US EPA 2009 states that a more stringent maximum contaminant level has been issued by EPA. Refer to drinking water regulations (40 CFR 141).

## Summary of existing selenium water quality guidelines, criteria or objectives for the protection of freshwater and marine aquatic life.

Jurisdiction	Guideline/Criteria/Objective	Reference
<b>Aquatic life – freshwater</b>		
International Joint Commission	$\leq 1 \mu\text{g/L}$	IJC (1981)
Canadian Council of Ministers of Environment	$1 \mu\text{g/L}$	CCREM (1987) CCME (2007a)
BC MoE	$2 \mu\text{g/L}$	Nagpal and Howell 2001
	$11 \mu\text{g/g}$ (fish egg)	BC MoE (draft)
Ministère du Développement durable, de l'Environnement et des Parcs du Québec	Same as US EPA (see below)	MDDEP (2009)
US EPA	$5 \mu\text{g/L}$ (chronic) <sup>a</sup>	US EPA (1987; 2004)
	$2.7 \mu\text{g/L}$ (standing water)	US EPA (draft)
	$4.7 \mu\text{g/L}$ (flowing water)	US EPA (draft)
	$16 \mu\text{g/g}$ (fish egg)	US EPA (draft)
Australia/New Zealand	$5 \mu\text{g/L}$ trigger value to protect 99% of species <sup>b</sup>	ANZECC (2000)
The Netherlands	$0.09 \mu\text{g/L}$ , target value (long-term) $5.4 \mu\text{g/L}$ , max permissible conc. (short-term)	Warmer and van Dokkum (2002)
<b>Aquatic life – marine water</b>		
BC MoE	$2 \mu\text{g/L}$	Nagpal and Howell (2001)

<sup>a</sup> US EPA acute Se criteria  $258 \mu\text{g/L}$  as selenite, and a sulfate-corrected algorithm for selenate,  $\exp(0.5812[\ln(\text{sulfate})]+3.357)$ , e.g., at  $100 \text{ mg/L}$  sulfate, selenate should not exceed  $417 \mu\text{g/L}$  Se.

<sup>b</sup> The ANZECC recommends for chemicals that bioaccumulate the low risk 99% trigger values be used.



PROPOSED Area base plan concept

*Environmental Management Act*

**Division 2 — Area Based Management**

**Area based management plans — plan development**

89 (1) If the minister considers it advisable for purposes of environmental management in an area, the minister may, by order,

- (a) designate the area for the purpose of developing an area based management plan for the area, and

Area = Elk Valley (need to include geographic description including a map)

- (b) establish a process for the development of the area based management plan for the designated area.

The plan would include an adaptive management process with in the plan, with annual reviews to adjust the plan based upon new data and observed improvements in the watershed.

(2) An order under subsection (1) may, without limitation,

- (a) establish who is to be responsible for preparing the area based management plan,

Who: Teck, other coal companies with declared interests within the area

Q: Apportioned responsibility or joint & several - tbc

- (b) establish the terms of reference for the plan or authorize the preparation of some or all of the terms of reference subject to the approval of the minister,

Scope: water quality within the area, with specific attention to selenium, cadmium, nitrate, calcite, and toxicity

- (c) require the establishment of a technical advisory committee in relation to the development of the plan, and

Membership to include a maximum of 7?: 3 academics with expertise in Selenium and water quality, 1 water science policy Govt of BC, 1 Teck specialist, 1 other coal company specialist, 1 TFN

Selection of members : outline a transparent process – via nominations or selection?

(d) require the participation in the development of the plan by specified licensees, permit holders or other persons the minister considers will be affected by the plan.

(3) The terms of reference for an area based management plan must include

(a) the purpose of the plan,

Scope: water quality within the area, with specific attention to selenium, cadmium, nitrate, calcite, and toxicity

(b) the issues to be addressed in the plan,

Include an adaptive management process with triggers

Targets for WQ improvement, treatment installation, etc.

An annual renewal process to evaluate and affirm direction or address areas.

(c) a process for public and stakeholder consultation,

Utilize existing prescribed consultation process which is time bound – max 60 day period for initial consultation

Require the establishment of an ongoing consultation process for the life of the plan.

(d) if a management plan under another enactment is proposed or exists in relation to the same area, directions for coordination with persons responsible for that plan, and

(e) a time limit for completing the plan.

6 months to complete the plan

(4) Without limiting subsection (2) (b), the terms of reference for an area based management plan may include consideration of any of the following:

(a) the impact of point and non point sources of waste;

(b) cumulative impacts of point and non point sources of waste;

- (c) the economic and social costs and benefits of addressing risks to the environment through treatment;
- (d) environmental management objectives and outcomes for the area;
- (e) ongoing monitoring and reporting required to implement the plan.

### **Approval and effect of area based management plan**

90 (1) The minister may approve, with or without amendment, an area based management plan ordered under section 89 [*area based management plans — plan development*].

Q. Approval to include an annual review period and resubmission so that the plan is current and will be useful for informing decision makers.

Minister has the ability to amend the submitted plan; opportunity to include additional measures (if necessary)

(2) For the purpose of implementing an approved area based management plan, the minister, by order made applicable in relation to all or part of the designated area for the plan, may require that persons making decisions or classes of decisions under this Act consider the plan in making the decisions.

### **Publication obligations**

91 The minister must publish in the prescribed manner

(a) on the making of an order under section 89 (1) [*area based management plans — plan development*], the order, and

(b) if an area based plan is approved under section 90 [*approval and effect of area based management plan*], the plan and any order under section 90 (2).

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

February 25, 2013  
File: 280-20  
CLIFF/tracking #: 188807

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**ISSUE:** Redevelopment of Watson Island Industrial Site (Cross Ministry Note)

**BACKGROUND:**

The Watson Island Development Corporation (WatCo) has an exclusivity agreement with the City of Prince Rupert (the City) which ended February 28, 2013 to purchase the site for \$5M. The offer is contingent on a number of conditions relating to remediation, outstanding fees and resolution of pending court actions.

The City has requested that the province write-off certain taxes and fees outstanding and reimburse other taxes and costs the City has incurred as the current site owner (see Appendix).

WatCo and the City are aware that requests for provincial assistance will only be considered as part of an integrated provincial approach to assessing the overall proposal. A comprehensive remediation plan and business plan that clearly articulates the costs and benefits to WatCo's proposal is required under the Cabinet approved framework for *Decision Making on the Strategic Development of Contaminated Sites*.

**DISCUSSION:**

s.13, s.16, s.17

s.13, s.16, s.17

## **CONCLUSION:**

s.13, s.16, s.17

s.13, s.16, s.17

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DM		
DMO		
ADM	JS	Mar 1/13
Exec Dir.	DR (w/edits)	Feb 25/13
Mgr.	MM	Feb 25/13
Author		

Appendix:

January 2, 2013 Letter from Prince Rupert re: remission of fees and taxes.

In September 2012, the Ministry of Community, Sport and Cultural Development (CSCD) communicated to the City that any property taxes owed on the site are extinguished at the time of the tax sale. As a result, there are no outstanding property taxes owed. The City was also informed that other remission requests that are not collected by the province will need to be made to each of those entities (e.g. BC Assessment, regional district, etc.). Precedent does suggest that the province could consider the extinguishment of school taxes (approximately \$1.62M) as part of an integrated response to the proposal.

The City's request to explore legislative changes to the *Municipalities and Validating Act* (MEVA) is being analyzed with CSCD. Further information is required from the City on this request. Early indications are that use of this Act cannot be used to remove a third party's right, or, take the place of a judge's ruling between two parties. It is unlikely that it would be utilized to potentially limit the province's recourse in regulatory matters.

The City and Sun Wave Forest Products Ltd (Sun Wave), as co-permit holders, continue to have outstanding regulatory and permit fees (e.g., related to effluent discharge, refuse and air discharge, waste disposal, water licence) of approximately \$1M. These outstanding fees would need to be considered as part of any transfer of ownership and/or provincial assistance considered for the integrated project proposal.

As holder of the water license for the site, the City is also responsible, by regulation, for undertaking dam safety assessments of the associated three dam structures by January 31, 2013. The City is also required by regulatory authority, to undertake necessary maintenance and safety work associated with the dams. The Ministry of Jobs, Tourism and Skills Training has convened a cross ministry group to examine these matters and The Ministry of Forests, Lands and Natural Resource Operations (FLNRO) has sent an inspection team to the dam sites. The District of Port Edwards is seeking to facilitate a transfer of the water license to a proponent looking to undertake a small hydro project at the dam sites. This transfer has been raised with the Water Comptroller and options are being explored that may result relieving Prince Rupert of the dam liabilities.

**MINISTRY OF ENVIRONMENT  
MEETING INFORMATION NOTE**

March 7, 2013  
File: 280-20  
CLIFF/tracking #: 188958

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**DATE AND TIME OF MEETING:** March 13, 2013 at 8:00 - 9:00 am

**ATTENDEES:** Honourable Terry Lake, Minister of Environment and The Honourable Peter Kent, Federal Minister of Environment

**ISSUES:**

- (1) *CEA* Project List
- (2) *CEA* Substitution
- (3) Site C Panel Appointments
- (4) Oil Spill Response Planning
- (5) *Species at Risk Act (SARA)* Changes
- (6) Burrard Inlet Environmental Action Program (BIEAP) / Fraser River Estuary Management Program (FREMP)
- (7) Coast Guard Station Closure
- (8) South Okanagan National Park Reserve Proposal
- (9) Southern Strait of Georgia National Marine Conservancy
- (10) Appreciation for Paul Kluckner

**BACKGROUND:**

At the previous meeting with Minister Kent at the CCME in October 2012, discussions included: Japan Tsunami Debris, *Species at Risk Act*, Oil Spill Response, concerns for the closure of the Kitsilano Coast Guard Base, *CEA* 2012, and issues around Selenium.

**DISCUSSION:**

Priority items for discussion at this meeting with Minister Kent include follow up on earlier conversations regarding Oil Spill Planning and *SARA*, in addition to a number of issues as listed above.

If time permits the Minister may wish to mention the feasibility assessment for the Southern Strait of Georgia National Marine Conservancy and the Ministry's appreciation for the work of Paul Kluckner, Regional Director General of Environment Canada PYR on our shared files of interest. Additional background on all these discussion topics can be found in Attachment 1.



Pages 35 through 36 redacted for the following reasons:

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s.13

## **ATTACHMENT 1: Background on Topics of Discussion**

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Exec Dir	AD	Mar 7/13
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Pages 38 through 41 redacted for the following reasons:

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s.13

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

March 6, 2013  
File: 280-20  
CLIFF/tracking #: 188995

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment.

**ISSUE:** BC Parks' Planned Capital Investments for 2013/14.

**Background:**

BC Parks' 2013/14 capital budget is \$13.98 million, similar to that of 2012/13, which saw a \$3.00 million increase over the \$10.98 million provided in previous years.

In the last 6 years BC Parks has invested approximately \$67 million in facilities across the province to maintain public safety, enhance visitor experiences and reinvigorate existing facilities.

To determine where investments are needed, BC Parks uses park annual management plans, condition assessments of park facilities, agreements with regional health authorities, regional tourism trends, discussions with regional staff and park facility operators, consultations with First Nations, and park visitor satisfaction surveys. To ensure fair and open competitive processes, BC Parks works closely with Procurement Services and BC Bid.

BC Parks annual planning and delivery cycle is extremely effective. In 2011/12, BC Parks invested 99.6% of its capital allocation. This percentage is forecast to be even higher for 2012/13.

**Discussion:**

The 2013/14 facility plan details 129 projects in 86 parks. 69 projects started in earlier years (works in progress); 60 projects are proposed to start this year.

The projects address four major objectives:

1. Meet regional health authority water safety priorities.
2. Reduce identified high risks to visitor health and safety and park cultural values, particularly trail and bridge repairs.
3. Refurbish central buildings and facilities in day use areas and campgrounds, with particular emphasis on increasing accessibility.
4. Complete (and commence delivery on) multiyear capital investment plans for those parks with high revenue and attendance (or, in exceptional circumstance, those parks with extremely high cultural values) and poor condition of facilities to:
  - Attract young families;
  - Offer new recreation opportunities;
  - Increase revenue and attendance;
  - Improve accessibility with new park furniture and easier to use facilities;
  - Modernize appearance;

- Ensure investments are integral to natural and cultural values;
- Ensure investments highlight the uniqueness of the park; and
- Lower operating costs.

<b>Objectives</b>	<b># of Projects</b>	<b>Proposed Expenditures 2013/'14 (\$)</b>
<i>Meet regional health authority water safety priorities.</i>	15	560,000
<i>Reduce identified high risks to visitor health and safety and park cultural and recreational values.</i>	24	2,180,000
<i>Refurbish central buildings and structures in day use areas and campgrounds and improve accessibility.</i>	46	5,800,000
<i>Complete (and start delivery on) multiyear capital investment plans for those parks with high revenue and attendance (or, in exceptional circumstance, those parks with extremely high cultural values) and poorest condition of facilities.</i>	44	5,440,000
<b>Totals</b>	<b>129</b>	<b>13,980,000</b>

**Attachment:** 2013/14 binder, providing further detail on all proposed projects.

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## **MINISTRY OF ENVIRONMENT INFORMATION NOTE**

Date: March 20, 2013  
File: 50400-25/PACK GEN  
CLIFF/tracking #: 188999  
Previous CLIFF#: 187913

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**DATE AND TIME OF MEETING:** March 25, 2013, 2:00-2:30 p.m.

**ATTENDEES:** Minister Lake; David Ranson (in person), Executive Director, Environmental Standards Branch; David Lawes (on phone), Manager, Waste Prevention.

**ISSUE:** Status of Multi-Materials BC (MMBC)'s Packaging and Printed Paper (PPP) Stewardship Program

### **BACKGROUND:**

In May 2011, the Recycling Regulation (the Regulation) was amended to include PPP including all paper printed with text or graphics such as newspapers, flyers, and phonebooks with the exception of bound books.

Under the amended Regulation, producers of PPP are required to:

- a) submit a stewardship plan detailing how they will finance and manage the recycling of PPP to the Ministry by November 19, 2012; and
- b) have, and comply with, an approved stewardship plan by May 19, 2014.

Two stewardship plans were received by the November 19, 2012 deadline. Multi-Materials British Columbia (MMBC) submitted a plan for all packaging and printed paper and Brewers Distributor Limited (BDL) submitted a plan for beer container packaging (e.g. cases, etc.). BDL has a longstanding product stewardship program for beer containers.

### **DISCUSSION:**

The Director of Waste Management is the statutory decision maker responsible for decisions on product stewardship plans submitted under the Regulation.

#### **MMBC Plan: Current Status**

MMBC's draft stewardship plan was submitted by November 19, 2012, meeting the deadline requirements of the Regulation. MMBC continued to receive stakeholder comments on their stewardship plan to December 14, 2012.

Following an extended consultation period and dialogue with Ministry staff, MMBC amended and resubmitted their plan for approval on February 25, 2013.

### **Local Government Update: Transition to EPR for PPP**

Local governments have an important stake in the outcome of the transition to industry responsibility as they have been providing various levels of PPP collection and recycling services to their communities as part of their Solid Waste Management Plan activities.

MMBC is proposing to offer local governments “first right of refusal” for financial compensation to continue to provide these services.

MMBC and BDL have received input from the Union of British Columbia Municipalities PPP Working Group and individual local governments on the development of their program.

Key issues for local governments revolve around implementation/operational aspects of the plan including: scope of collection services, market clearing price financial mechanisms, and collector agreements. MMBC has committed in their revised plan to continue dialogue and consultation with stakeholders during plan implementation to address outstanding concerns.

### **Economic Update: Jobs and the British Columbia Economy**

Many British Columbia (BC) based businesses have indicated that they are projecting that the MMBC program will create new jobs and investment in the province. MMBC’s approach in delivering PPP collection/ recycling services is to rely on marketplace competition to keep costs low for producers and consumers. Marketplace competition will mean that some businesses will be successful in expanding their operations and others may not be.

MMBC is proposing to track and report on their carbon emissions, which should limit MMBC’s consideration of shipping PPP long distances to overseas recyclers (e.g. Asia).

### **Financial Transparency Update: Audited Statements**

MMBC intends to annually post third-party audited financial statements unless market competition issues arise (i.e., another multi-material PPP plan is approved).

### **Dispute Resolution Update: Residents**

Should residents have issues with the collection of PPP, the first point of contact will be their local government, where local governments continue to provide service; or MMBC, where industry has been contracted to collect packaging and printed paper.

### **SUMMARY:**

Ministry staff are undertaking a final review to ensure the plan meets all Regulatory requirements. Staff are working on a communications package for the Minister’s use following a decision on the plan.

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DM	VJ for WS	Mar 22/13
DMO	VJ	Mar 22/13
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Exec. Dir.	DR	Mar 22/13
Mgr.	DL	Mar.20/13
Author	JB	Mar. 19/13



## MINISTRY OF ENVIRONMENT INFORMATION NOTE

March 12, 2013  
File: 280-20  
CLIFF/tracking #: 189171

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**ISSUE:** Redevelopment of Watson Island Industrial Site (Cross Ministry Note) - Update

### **BACKGROUND:**

Watson Island, at Prince Rupert, is the location of a now defunct, bleached kraft pulp mill. The site contains a significant amount of aging infrastructure and equipment. There are approximately 27 above-ground tanks and associated pipes containing approximately 24 million litres of hazardous pulp mill chemicals of various kinds on site.

All tanks are in an advanced state of deterioration and positioned on the ground such that the integrity of the bottom cannot be assessed.

Addressing the onsite hazardous materials would be the first order of business for any new owner seeking to redevelop the site.

The City of Prince Rupert has met with provincial representatives to discuss the city obtaining relief from the burden of maintaining Watson Island infrastructure, and proceeding with development of the site.

City and First Nation (Lax Kwa'Laams and Metlakatla) officials are convinced that a major chemical spill is imminent, and that immediate action to begin site remediation is necessary to avoid further environmental problems.

### **DISCUSSION:**

#### *On-site Chemicals*

Addressing the onsite hazardous materials is recognized as an impediment to any redevelopment of the site by any future owner.

In December 2012, the Ministry of Environment (MoE) sent staff, (regional Environmental Protection Officer, an Emergency Response Officer and an engineer) to inspect the remaining tanks and distributions lines at the mill site. Staff's assessment of the site concluded that the condition of the mill is poor and it is slowly degrading and getting worse. Failure of the tanks, their containment, or the associated piping cannot be predicted with any certainty but would not be unexpected.

There are six tanks and associated piping that are of highest priority for spill prevention action. They are: sodium chlorate tank, one strong black liquor tank, one 48% black

liquor tank and three weak black liquor tanks. Cleanup efforts from a recent sulphuric acid tank spill cost \$455K to address approx 60,000 litres of product.

s.13, s.16, s.17

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DMO	VJ – Edits	Mar 20/13
ADM	JS	Mar 15/13
Exec Dir.	DR	Mar 12/13
Mgr.	MM	Mar 12/13
Author		

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

April 4, 2013  
File:  
CLIFF/tracking #:190687

**PREPARED FOR:** Minister Terry Lake

**ISSUE:** Update on current and planned activities in Kitimat Airshed

**BACKGROUND:**

The Kitimat Valley continues to receive attention regarding current and proposed industrial developments that include:

- The Rio Tinto Alcan (RTA) smelter modernization project,
- Three proposed liquefied natural gas (LNG) facilities, and
- The proposed Northern Gateway pipeline between Bruderheim, Alberta and Kitimat.

Other companies have expressed interest in LNG sites in or around Kitimat, but exact locations have yet to be identified. Mr. David Black (Kitimat Clean Ltd.) has also expressed an interest in siting an oil refinery in Kitimat.

Although air quality in the Kitimat Valley is generally considered to be good, the number and magnitude of current and future developments have led to concerns from Coastal First Nations and the general public about potential effects on air quality, human health and the environment. In particular, Coastal First Nations have raised concerns about the potential cumulative effects of emissions from multiple sources within the airshed, and requested that these effects be better characterized.

**RTA Smelter Modernization Project**

The smelter modernization project, once completed in 2014, is expected to reduce RTA's total air emissions footprint by approximately 50 per cent. However, increased aluminum production and increasing sulphur content in coke will result in an increase in sulphur dioxide (SO<sub>2</sub>) emissions from 27 to 42 tonnes per day. To authorize these changes, RTA has applied for a major amendment to its air emission permit.

In support of the permit amendment, RTA produced a technical assessment based on comprehensive monitoring and modeling studies conducted to evaluate the potential for air quality and acidification impacts in the airshed. These studies showed that anthropogenic emissions in Kitimat are already causing acidification of some lakes near the industrial area, but not negatively affecting vegetation. Modelling studies indicated that smelter emissions may result in exceedances of air quality objectives set by the province and by the World Health Organization. A risk assessment was also conducted on behalf of RTA, which suggested that the estimated risks from the increased SO<sub>2</sub> emissions were acceptable from a public health perspective.

The 30-day public consultation process associated with the permit amendment process closed on March 31. Concerns were raised regarding the proposed increase in SO<sub>2</sub> emissions and its potential impact on human health, farmland, orchard trees, aquatic life and mushroom picking. Additional concerns were associated with the lack of a proposal for SO<sub>2</sub> treatment, costs of mitigation when and if damage occurs, and the capacity of the airshed to accommodate any additional sources such as LNG facilities. These concerns will be addressed by RTA as part of its final application package to the ministry in support of the proposed permit amendment, with a final decision by the ministry expected on or about April 22.

### **Proposed LNG Facilities**

The three facilities currently proposed for the Kitimat Valley include: Kitimat LNG (Apache/Chevron), LNG Canada (Shell, PetroChina, Korea Gas and Mitsubishi) and Douglas Channel Energy Project (includes Haisla First Nation). All three have received export certificates by the National Energy Board, and Kitimat LNG received its environmental assessment certificate in 2009. The Shell-led LNG Canada consortium has just submitted its project description to the EAO. None of the proposed LNG facilities have yet applied for site-specific permits under the *Environmental Management Act*.

Indications are that facility operations will be powered by equipment either directly fueled by natural gas or electricity generated by natural gas combustion, and that this will be the predominant source of emissions associated with LNG facilities. The province has retained consulting services to investigate leading standards for natural gas combustion turbines. The completion of this work, expected by the end of 2013, will position the province to set world-leading standards.

### **DISCUSSION:**

s.13

## CONCLUSION:

Concerns have been raised by Coastal First Nations and others regarding the cumulative impacts of current and proposed emission sources in the Kitimat Valley, including the RTA smelter modernization project and proposed LNG facilities. Further work and assessment is needed to determine the nature and extent of such impacts. The ministry's newly formed LNG Task Force will play an important role in coordinating the ministry's response.

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DM	WS	Apr 11/13
DMO	VJ – edits	Apr 8/13
ADM	JS	Apr 7/13
Exec Dir./Mgr.	DR	Apr 5/13
Author	NS	Apr 5/13

**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

April 4, 2013  
File: 280-20  
CLIFF/tracking #:191211

**PREPARED FOR:** Honourable Terry Lake, Minister of Environment

**ISSUE:** Government of Canada to release 2011 National Greenhouse Gas Inventory Report on or before April 15. The report will include BC emissions and large industrial emitter emissions

**BACKGROUND:**

- Environment Canada (EC) annually publishes the National Greenhouse Gas Inventory Report (NIR), which presents emissions at national and provincial levels. The NIR for the 2011 year meets Canada's commitment as a signatory to the UN Framework Convention on Climate Change.
- The federally published estimate for BC's 2011 greenhouse gas emissions is expected to be 59.1 Mt carbon dioxide equivalent (CO<sub>2</sub>e), or 5.6% lower than the 59.4 Mt reported for 2007.
- BC's 2012 interim emissions target is 6% below 2007 levels. This result confirms statements made in June, 2012, in *Making Progress on BC's Climate Action Plan* that BC is "within reach" of its 2012 interim target. We will not be able to report on whether this target has been achieved until the summer of 2014.
- Most of the 2010 to 2011 decrease is due to decreased fossil fuel based electricity production, as well as a small reduction in emissions from a selection of transport sub-sectors, including domestic marine.
- Due to recalculations, it may appear that off-road emissions are down, and heavy duty-diesel emissions are up, but this is the result of a methods change.
- Based on the NIR, BC's GHG emissions are 20% higher in 2010 than in 1990, which is the standard baseline year under international agreements, and the one used by many jurisdictions.
- EC also annually publishes emissions for large industrial emitters. This data is anticipated to be released at the same time as the NIR. BC published 2011 emissions for industrial facilities in January, 2012, on the Ministry website. The majority of the data for BC facilities should be very similar in both data releases.

**DISCUSSION:**

- The *BC Greenhouse Gas Reductions Target Act* (GGRTA) requires the Minister of Environment to publish provincial greenhouse gas emission estimates for every even numbered year after establishing a baseline for 2007. The next provincial update would be in 2014.
- The British Columbia Provincial Greenhouse Gas Inventory Report 2010 (PIR), released in June, 2012, showed a 0.8% increase in emissions over 2009 resulting mainly from economic recovery. Overall since our 2007 baseline, the 2010 report showed a 4.5% reduction in emissions.

- Using the NIR data, the PIR adds in emissions from within BC that are reported in the national total, but are not reported on a provincial basis in the NIR, mainly afforestation and deforestation data.

s.13, s.16

## NEXT STEPS:

s.13, s.16

- Attachments:** 1. GHG Emissions Summary for British Columbia (PDF)  
2. Environment Canada GHG Emissions Reporting Program (Excel)

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<sup>1</sup> This total is higher than the one that was reported in 2012 for the 2010 year (62.0 Mt). For each year's inventory, EC makes updates to prior year totals so that methods are consistent. The 2011BC emissions total in the 2011 NIR represents an 800 kilotonne emissions decline between 2010 and 2011. For the purpose of assessment of progress to the targets, the updated 2007 baseline year total from the most recent inventory is always used.

Table A11-20: 1990-2011 GHG Emission Summary for British Columbia

Greenhouse Gas Categories	1990	2000	2005	2007	2008	2009	2010	2011
	kt CO <sub>2</sub> equivalent							
<b>TOTAL</b>	<b>49 400</b>	<b>61 900</b>	<b>64 000</b>	<b>62 600</b>	<b>63 000</b>	<b>60 000</b>	<b>59 900</b>	<b>59 100</b>
<b>ENERGY</b>	<b>41 200</b>	<b>51 800</b>	<b>53 300</b>	<b>51 500</b>	<b>52 500</b>	<b>49 700</b>	<b>49 900</b>	<b>49 300</b>
<b>a. Stationary Combustion Sources</b>	<b>19 000</b>	<b>22 500</b>	<b>23 100</b>	<b>20 900</b>	<b>20 800</b>	<b>20 500</b>	<b>19 900</b>	<b>19 300</b>
Electricity and Heat Generation	803	1 810	1 320	1 130	1 470	1 320	1 210	637
Fossil Fuel Production and Refining	3 600	3 800	7 300	6 200	6 000	6 300	6 400	5 200
Mining & Oil and Gas Extraction	328	331	280	1 170	1 440	1 420	1 620	1 670
Manufacturing Industries	6 460	8 080	6 340	4 660	4 070	4 040	4 060	3 990
Construction	306	75.9	112	125	104	62.7	81.5	103
Commercial & Institutional	2 840	3 470	3 010	2 910	3 090	2 740	2 500	2 820
Residential	4 300	4 700	4 600	4 600	4 600	4 600	3 800	4 600
Agriculture & Forestry	321	315	72.1	71.5	59.9	46.4	305	277
<b>b. Transport<sup>1</sup></b>	<b>18 600</b>	<b>23 900</b>	<b>24 800</b>	<b>24 900</b>	<b>25 300</b>	<b>23 200</b>	<b>23 700</b>	<b>23 100</b>
Civil Aviation (Domestic Aviation)	1 300	1 500	1 500	1 400	1 300	1 200	1 200	1 100
Road Transportation	11 400	14 800	15 400	15 500	15 400	15 500	15 500	16 100
Light-Duty Gasoline Vehicles	3 740	4 400	4 160	4 060	4 020	4 090	3 930	3 940
Light-Duty Gasoline Trucks	2 130	4 470	4 740	4 640	4 600	4 690	4 510	4 530
Heavy-Duty Gasoline Vehicles	2 220	1 820	1 770	1 770	1 780	1 830	1 770	1 800
Motorcycles	19.1	17.6	28.7	28.7	28.7	29.6	28.7	29.1
Light-Duty Diesel Vehicles	34.4	51.1	63.4	66.2	70.6	78.1	82.7	88.1
Light-Duty Diesel Trucks	40.1	72.4	58.5	59.4	59.7	63.0	63.3	64.0
Heavy-Duty Diesel Vehicles	2 440	3 600	4 380	4 640	4 580	4 540	4 860	5 400
Propane & Natural Gas Vehicles	780	330	190	230	250	210	220	210
Railways	1 000	1 000	400	400	700	400	500	800
Navigation (Domestic Marine)	1 000	1 200	2 500	2 600	2 600	2 700	2 700	2 400
Other Transportation	3 500	5 200	5 000	4 900	5 300	3 300	3 900	2 800
Off-Road Gasoline	350	520	450	440	350	260	340	460
Off-Road Diesel	2 200	3 000	3 600	3 500	4 100	2 200	2 700	1 500
Pipelines	856	1 650	989	933	895	868	836	806
<b>c. Fugitive Sources<sup>2</sup></b>	<b>3 670</b>	<b>5 350</b>	<b>5 450</b>	<b>5 760</b>	<b>6 430</b>	<b>6 090</b>	<b>6 230</b>	<b>6 920</b>
Coal Mining	700	700	800	700	700	600	800	800
Oil and Natural Gas	2 980	4 680	4 670	5 040	5 730	5 470	5 470	6 160
<b>INDUSTRIAL PROCESSES<sup>2</sup></b>	<b>2 670</b>	<b>3 790</b>	<b>4 120</b>	<b>4 610</b>	<b>4 090</b>	<b>3 950</b>	<b>3 750</b>	<b>3 560</b>
<b>a. Mineral Products</b>	<b>860</b>	<b>1 300</b>	<b>1 400</b>	<b>1 400</b>	<b>1 300</b>	<b>1 000</b>	<b>1 100</b>	<b>1 100</b>
Cement Production	610	1 100	1 200	1 200	1 100	860	930	940
Lime Production	160	220	180	160	160	140	160	170
Mineral Products Use	76	64	57	57	48	38	29	28
<b>b. Chemical Industry</b>	<b>0.29</b>	<b>0.04</b>	<b>0.23</b>	-	-	-	-	-
Nitric Acid Production	-	-	-	-	-	-	-	-
Adipic Acid Production	-	-	-	-	-	-	-	-
Petrochemical Production <sup>3</sup>	0.29	0.04	0.23	-	-	-	-	-
<b>c. Metal Production</b>	<b>1 610</b>	<b>1 820</b>	<b>1 130</b>	<b>1 100</b>	<b>1 150</b>	<b>1 150</b>	<b>785</b>	<b>785</b>
Iron and Steel Production	-	-	-	-	-	-	-	-
Aluminum Production	1 500	1 800	1 100	1 100	1 200	1 100	780	780
SF <sub>6</sub> Used in Magnesium Smelters and Casters	-	-	-	-	-	-	-	-
<b>d. Production and Consumption of Halocarbons and SF<sub>6</sub><sup>4</sup></b>	<b>60</b>	<b>450</b>	<b>800</b>	<b>830</b>	<b>870</b>	<b>980</b>	<b>1 100</b>	<b>1 100</b>
<b>e. Other &amp; Undifferentiated Production</b>	<b>260</b>	<b>180</b>	<b>760</b>	<b>1 300</b>	<b>800</b>	<b>790</b>	<b>760</b>	<b>530</b>
<b>SOLVENT &amp; OTHER PRODUCT USE</b>	<b>21</b>	<b>59</b>	<b>49</b>	<b>43</b>	<b>45</b>	<b>34</b>	<b>32</b>	<b>33</b>
<b>AGRICULTURE</b>	<b>2 100</b>	<b>2 400</b>	<b>2 600</b>	<b>2 300</b>	<b>2 300</b>	<b>2 100</b>	<b>2 100</b>	<b>2 000</b>
<b>a. Enteric Fermentation</b>	<b>980</b>	<b>1 200</b>	<b>1 300</b>	<b>1 100</b>	<b>1 100</b>	<b>1 000</b>	<b>940</b>	<b>920</b>
<b>b. Manure Management</b>	<b>310</b>	<b>380</b>	<b>400</b>	<b>370</b>	<b>360</b>	<b>350</b>	<b>340</b>	<b>340</b>
<b>c. Agriculture Soils</b>	<b>820</b>	<b>830</b>	<b>890</b>	<b>840</b>	<b>820</b>	<b>770</b>	<b>780</b>	<b>730</b>
Direct Sources	370	310	340	340	330	320	330	310
Pasture, Range and Paddock Manure	170	230	250	220	200	180	170	160
Indirect Sources	300	300	300	300	300	300	300	300
<b>d. Field Burning of Agricultural Residues</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>WASTE</b>	<b>3 300</b>	<b>3 900</b>	<b>3 900</b>	<b>4 100</b>	<b>4 100</b>	<b>4 100</b>	<b>4 200</b>	<b>4 200</b>
<b>a. Solid Waste Disposal on Land</b>	<b>3 200</b>	<b>3 700</b>	<b>3 700</b>	<b>3 800</b>	<b>3 900</b>	<b>3 900</b>	<b>3 900</b>	<b>4 000</b>
<b>b. Wastewater Handling</b>	<b>92</b>	<b>120</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>
<b>c. Waste Incineration</b>	<b>81</b>	<b>87</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>84</b>	<b>84</b>	<b>84</b>

## Notes:

<sup>1</sup> Emissions from Fuel Ethanol are reported within the gasoline transportation sub-categories.

<sup>2</sup> Emissions associated with ammonia production as well as the consumption of PFCs and SF<sub>6</sub> (except for electric utilities) are only reported at the national level.

<sup>3</sup> The category Petrochemical Production includes CH<sub>4</sub> and N<sub>2</sub>O emissions coming from production of silicon/calcium carbides; of carbon black; of ethylene; of methanol; of ethylene dichloride; and of styrene. CO<sub>2</sub> emissions from this category are in Other & Undifferentiated Production.

<sup>4</sup> Only SF<sub>6</sub> emissions from electrical equipment are included. SF<sub>6</sub> emission estimates for semi-conductor manufacturing are only available at national level.

- Indicates no emissions

0.0 Indicates emissions truncated due to rounding

Note that 2003 to 2010 historical estimates have been revised on the basis of updated energy data provided by Statistics Canada. Also note that the 2011 estimates are based on preliminary energy data, which though the best available information at the time of publication, are subject to revision in the next submission year.



Table A11-21: 2011 GHG Emission Summary for British Columbia  
Greenhouse Gas Categories

Greenhouse Gas Categories	Greenhouse Gases									TOTAL
	Global Warming Potential Unit	CO <sub>2</sub>	CH <sub>4</sub>	CH <sub>4</sub> 21	N <sub>2</sub> O	N <sub>2</sub> O 310	HFCs	PFCs	SF <sub>6</sub>	
		kt	kt	kt CO <sub>2</sub> equivalent	kt	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	
TOTAL		46 400	430	9 000	7.2	2 200	1 100	400	28	59 100
ENERGY		44 300	180	3 900	4	1 000				49 300
a. Stationary Combustion Sources		18 500	30	600	1	300				19 300
Electricity and Heat Generation		628	0.15	3.1	0.02	6				637
Fossil Fuel Production and Refining		4 900	10	300	0.1	40				5 200
Mining & Oil and Gas Extraction		1 660	0.03	0.6	0.03	9				1 670
Manufacturing Industries		3 810	0.7	10	0.5	200				3 990
Construction		103	0.00	0.04	0.00	0.6				103
Commercial & Institutional		2 800	0.05	1	0.06	20				2 820
Residential		4 270	10	200	0.2	70				4 600
Agriculture & Forestry		275	0.01	0.1	0.01	2				277
b. Transport <sup>1</sup>		22 100	3	60	3	900				23 100
Civil Aviation (Domestic Aviation)		1 050	0.05	0.9	0.03	9				1 100
Road Transportation		15 600	1.3	26	1.5	470				16 100
Light-Duty Gasoline Vehicles		3 790	0.35	7.3	0.47	150				3 940
Light-Duty Gasoline Trucks		4 340	0.38	7.9	0.59	180				4 530
Heavy-Duty Gasoline Vehicles		1 750	0.08	1.6	0.15	45				1 800
Motorcycles		28.6	0.01	0.29	0.00	0.17				29.1
Light-Duty Diesel Vehicles		85.8	0.00	0.04	0.01	2				88.1
Light-Duty Diesel Trucks		62.4	0.00	0.03	0.01	2				64.0
Heavy-Duty Diesel Vehicles		5 300	0.2	5	0.3	90				5 400
Propane & Natural Gas Vehicles		207	0.2	4	0.00	1				210
Railways		714	0.04	0.9	0.3	90				800
Navigation (Domestic Marine)		2 260	0.2	4	0.4	100				2 400
Other Transportation		2 600	1	30	0.6	200				2 800
Off-Road Gasoline		440	0.6	10	0.01	3				460
Off-Road Diesel		1 300	0.08	2	0.6	200				1 500
Pipelines		784	0.78	16	0.02	6				806
c. Fugitive Sources <sup>2</sup>		3 700	150	3 300	0.00	0.9				6 920
Coal Mining			40	800	-	-				800
Oil and Natural Gas		3 670	119	2 500	0.00	0.9				6 160
INDUSTRIAL PROCESSES <sup>2</sup>		2 100	-	-	-	-	1 100	400	28	3 660
a. Mineral Products		1 100								1 100
Cement Production		940								940
Lime Production		170								170
Mineral Products Use		28	-	-	-	-	-	-	-	28
b. Chemical Industry		-	-	-	-	-				0
Nitric Acid Production										0
Adipic Acid Production		-	-	-	-	-	-	-	-	0
Petrochemical Production <sup>3</sup>			-	-	-	-				0
c. Metal Production		383						400	-	785
Iron and Steel Production		-								0
Aluminum Production		380						400	-	780
SF <sub>6</sub> Used in Magnesium Smelters and Casters									-	0
d. Production and Consumption of Halocarbons and SF <sub>6</sub> <sup>4</sup>							1 100	-	28	1 100
e. Other & Undifferentiated Production		630								630
SOLVENT & OTHER PRODUCT USE					0.11	33				33
AGRICULTURE			52	1 100	2.9	900				2 000
a. Enteric Fermentation			44	920						920
b. Manure Management			8.0	170	0.55	170				340
c. Agriculture Soils					2.4	730				730
Direct Sources					1.0	310				310
Pasture, Range and Paddock Manure					0.52	160				160
Indirect Sources					0.8	300				300
d. Field Burning of Agricultural Residues		-	-	-	-	-	-	-	-	0
WASTE		73	190	4 000	0.3	100				4 200
a. Solid Waste Disposal on Land			190	4 000		-				4 000
b. Wastewater Handling			2.1	44	0.3	90				130
c. Waste Incineration		73	-	-	0.04	10				84

Notes:

<sup>1</sup> Emissions from Fuel Ethanol are reported within the gasoline transportation sub-categories.

<sup>2</sup> Emissions associated with ammonia production as well as the consumption of PFCs and SF<sub>6</sub> (except for electric utilities) are only reported at the national level.

<sup>3</sup> The category Petrochemical Production includes CH<sub>4</sub> and N<sub>2</sub>O emissions coming from production of silicon/calcium carbides; of carbon black; of ethylene; of methanol; of ethylene dichloride; and of styrene. CO<sub>2</sub> emissions from this category are in Other & Undifferentiated Production.

<sup>4</sup> Only SF<sub>6</sub> emissions from electrical equipment are included. SF<sub>6</sub> emission estimates for semi-conductor manufacturing are only available at national level.

- Indicates no emissions

0.0 Indicates emissions truncated due to rounding

Note that 2003 to 2010 historical estimates have been revised on the basis of updated energy data provided by Statistics Canada. Also note that the 2011 estimates are based on preliminary energy data, which though the best available information at the time of publication, are subject to revision in the next submission year.

Table A11-20: 1990-2011 GHG Emission Summary for British Columbia

Greenhouse Gas Categories	1990	2000	2005	2007	2008	2009	2010	2011
	kt CO <sub>2</sub> equivalent							
<b>TOTAL</b>	<b>49 400</b>	<b>61 900</b>	<b>64 000</b>	<b>62 600</b>	<b>63 000</b>	<b>60 000</b>	<b>59 900</b>	<b>59 100</b>
<b>ENERGY</b>	<b>41 200</b>	<b>51 800</b>	<b>53 300</b>	<b>51 500</b>	<b>52 500</b>	<b>49 700</b>	<b>49 900</b>	<b>49 300</b>
<b>a. Stationary Combustion Sources</b>	<b>19 000</b>	<b>22 500</b>	<b>23 100</b>	<b>20 900</b>	<b>20 800</b>	<b>20 500</b>	<b>19 900</b>	<b>19 300</b>
Electricity and Heat Generation	803	1 810	1 320	1 130	1 470	1 320	1 210	637
Fossil Fuel Production and Refining	3 600	3 800	7 300	6 200	6 000	6 300	6 400	5 200
Mining & Oil and Gas Extraction	328	331	280	1 170	1 440	1 420	1 620	1 670
Manufacturing Industries	6 460	8 060	6 340	4 660	4 070	4 040	4 060	3 990
Construction	306	75.9	112	125	104	62.7	81.5	103
Commercial & Institutional	2 840	3 470	3 010	2 910	3 090	2 740	2 500	2 820
Residential	4 300	4 700	4 600	4 600	4 600	4 600	3 800	4 600
Agriculture & Forestry	321	315	72.1	71.5	59.9	46.4	305	277
<b>b. Transport<sup>1</sup></b>	<b>18 600</b>	<b>23 900</b>	<b>24 800</b>	<b>24 900</b>	<b>25 300</b>	<b>23 200</b>	<b>23 700</b>	<b>23 100</b>
Civil Aviation (Domestic Aviation)	1 300	1 500	1 500	1 400	1 300	1 200	1 200	1 100
Road Transportation	11 400	14 800	15 400	15 500	15 400	15 500	15 500	16 100
Light-Duty Gasoline Vehicles	3 740	4 400	4 160	4 060	4 020	4 090	3 930	3 940
Light-Duty Gasoline Trucks	2 130	4 470	4 740	4 640	4 600	4 690	4 510	4 530
Heavy-Duty Gasoline Vehicles	2 220	1 820	1 770	1 770	1 780	1 830	1 770	1 800
Motorcycles	19.1	17.6	28.7	28.7	28.7	29.6	28.7	29.1
Light-Duty Diesel Vehicles	34.4	51.1	63.4	66.2	70.6	78.1	82.7	88.1
Light-Duty Diesel Trucks	40.1	72.4	58.5	59.4	59.7	63.0	63.3	64.0
Heavy-Duty Diesel Vehicles	2 440	3 600	4 380	4 640	4 580	4 540	4 860	5 400
Propane & Natural Gas Vehicles	780	330	190	230	250	210	220	210
Railways	1 000	1 000	400	400	700	400	500	800
Navigation (Domestic Marine)	1 000	1 200	2 500	2 600	2 600	2 700	2 700	2 400
Other Transportation	3 500	5 200	5 000	4 900	5 300	3 300	3 900	2 800
Off-Road Gasoline	350	520	450	440	350	260	340	460
Off-Road Diesel	2 200	3 000	3 600	3 500	4 100	2 200	2 700	1 500
Pipelines	856	1 650	989	933	895	868	836	806
<b>c. Fugitive Sources<sup>2</sup></b>	<b>3 670</b>	<b>5 350</b>	<b>5 450</b>	<b>5 760</b>	<b>6 430</b>	<b>6 090</b>	<b>6 230</b>	<b>6 920</b>
Coal Mining	700	700	800	700	700	600	800	800
Oil and Natural Gas	2 980	4 680	4 670	5 040	5 730	5 470	5 470	6 160
<b>INDUSTRIAL PROCESSES<sup>2</sup></b>	<b>2 670</b>	<b>3 790</b>	<b>4 120</b>	<b>4 610</b>	<b>4 090</b>	<b>3 950</b>	<b>3 750</b>	<b>3 560</b>
<b>a. Mineral Products</b>	<b>850</b>	<b>1 300</b>	<b>1 400</b>	<b>1 400</b>	<b>1 300</b>	<b>1 000</b>	<b>1 100</b>	<b>1 100</b>
Cement Production	610	1 100	1 200	1 200	1 100	860	930	940
Lime Production	160	220	180	160	160	140	160	170
Mineral Products Use	76	64	57	57	48	38	29	28
<b>b. Chemical Industry</b>	<b>0.29</b>	<b>0.04</b>	<b>0.23</b>	-	-	-	-	-
Nitric Acid Production	-	-	-	-	-	-	-	-
Adipic Acid Production	-	-	-	-	-	-	-	-
Petrochemical Production <sup>3</sup>	0.29	0.04	0.23	-	-	-	-	-
<b>c. Metal Production</b>	<b>1 510</b>	<b>1 820</b>	<b>1 130</b>	<b>1 100</b>	<b>1 150</b>	<b>1 150</b>	<b>785</b>	<b>785</b>
Iron and Steel Production	-	-	-	-	-	-	-	-
Aluminum Production	1 500	1 800	1 100	1 100	1 200	1 100	780	780
SF <sub>6</sub> Used in Magnesium Smelters and Casters	-	-	-	-	-	-	-	-
<b>d. Production and Consumption of Halocarbons and SF<sub>6</sub><sup>4</sup></b>	<b>60</b>	<b>450</b>	<b>800</b>	<b>830</b>	<b>870</b>	<b>980</b>	<b>1 100</b>	<b>1 100</b>
<b>e. Other &amp; Undifferentiated Production</b>	<b>260</b>	<b>180</b>	<b>760</b>	<b>1 300</b>	<b>800</b>	<b>790</b>	<b>760</b>	<b>630</b>
<b>SOLVENT &amp; OTHER PRODUCT USE</b>	<b>21</b>	<b>59</b>	<b>49</b>	<b>43</b>	<b>45</b>	<b>34</b>	<b>32</b>	<b>33</b>
<b>AGRICULTURE</b>	<b>2 100</b>	<b>2 400</b>	<b>2 600</b>	<b>2 300</b>	<b>2 300</b>	<b>2 100</b>	<b>2 100</b>	<b>2 000</b>
<b>a. Enteric Fermentation</b>	<b>980</b>	<b>1 200</b>	<b>1 300</b>	<b>1 100</b>	<b>1 100</b>	<b>1 000</b>	<b>940</b>	<b>920</b>
<b>b. Manure Management</b>	<b>310</b>	<b>380</b>	<b>400</b>	<b>370</b>	<b>360</b>	<b>350</b>	<b>340</b>	<b>340</b>
<b>c. Agriculture Soils</b>	<b>820</b>	<b>830</b>	<b>890</b>	<b>840</b>	<b>820</b>	<b>770</b>	<b>780</b>	<b>730</b>
Direct Sources	370	310	340	340	330	320	330	310
Pasture, Range and Paddock Manure	170	230	250	220	200	180	170	160
Indirect Sources	300	300	300	300	300	300	300	300
<b>d. Field Burning of Agricultural Residues</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>WASTE</b>	<b>3 300</b>	<b>3 900</b>	<b>3 900</b>	<b>4 100</b>	<b>4 100</b>	<b>4 100</b>	<b>4 200</b>	<b>4 200</b>
<b>a. Solid Waste Disposal on Land</b>	<b>3 200</b>	<b>3 700</b>	<b>3 700</b>	<b>3 800</b>	<b>3 900</b>	<b>3 900</b>	<b>3 900</b>	<b>4 000</b>
<b>b. Wastewater Handling</b>	<b>92</b>	<b>120</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>	<b>130</b>
<b>c. Waste Incineration</b>	<b>81</b>	<b>87</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>84</b>	<b>84</b>	<b>84</b>

## Notes:

<sup>1</sup> Emissions from Fuel Ethanol are reported within the gasoline transportation sub-categories.

<sup>2</sup> Emissions associated with ammonia production as well as the consumption of PFCs and SF<sub>6</sub> (except for electric utilities) are only reported at the national level.

<sup>3</sup> The category Petrochemical Production includes CH<sub>4</sub> and N<sub>2</sub>O emissions coming from production of silicon/calcium carbides; of carbon black; of ethylene; of methanol; of ethylene dichloride; and of styrene. CO<sub>2</sub> emissions from this category are in Other & Undifferentiated Production.

<sup>4</sup> Only SF<sub>6</sub> emissions from electrical equipment are included. SF<sub>6</sub> emission estimates for semi-conductor manufacturing are only available at national level.

- Indicates no emissions

0.0 Indicates emissions truncated due to rounding

Note that 2003 to 2010 historical estimates have been revised on the basis of updated energy data provided by Statistics Canada. Also note that the 2011 estimates are based on preliminary energy data, which though the best available information at the time of publication, are subject to revision in the next submission year.

Table A11-21: 2011 GHG Emission Summary for British Columbia  
Greenhouse Gas Categories

Greenhouse Gas Categories		Greenhouse Gases									
		CO <sub>2</sub>	CH <sub>4</sub>	CH <sub>4</sub>	N <sub>2</sub> O	N <sub>2</sub> O	HFCs	PFCs	SF <sub>6</sub>	TOTAL	
		Global Warming Potential Unit	kt	kt	kt CO <sub>2</sub> equivalent	kt	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent	kt CO <sub>2</sub> equivalent
TOTAL			46 400	430	9 000	7.2	2 200	1 100	400	28	59 100
ENERGY			44 300	180	3 900	4	1 000				49 300
a. Stationary Combustion Sources			18 500	30	600	1	300				19 300
Electricity and Heat Generation			628	0.15	3.1	0.02	6				637
Fossil Fuel Production and Refining			4 900	10	300	0.1	40				5 200
Mining & Oil and Gas Extraction			1 660	0.03	0.6	0.03	9				1 670
Manufacturing Industries			3 810	0.7	10	0.5	200				3 990
Construction			103	0.00	0.04	0.00	0.6				103
Commercial & Institutional			2 800	0.05	1	0.06	20				2 820
Residential			4 270	10	200	0.2	70				4 600
Agriculture & Forestry			275	0.01	0.1	0.01	2				277
b. Transport <sup>1</sup>			22 100	3	60	3	900				23 100
Civil Aviation (Domestic Aviation)			1 050	0.05	0.9	0.03	9				1 100
Road Transportation			15 600	1.3	26	1.5	470				16 100
Light-Duty Gasoline Vehicles			3 790	0.35	7.3	0.47	150				3 940
Light-Duty Gasoline Trucks			4 340	0.38	7.9	0.59	180				4 530
Heavy-Duty Gasoline Vehicles			1 750	0.08	1.6	0.15	45				1 800
Motorcycles			28.6	0.01	0.29	0.00	0.17				29.1
Light-Duty Diesel Vehicles			85.8	0.00	0.04	0.01	2				88.1
Light-Duty Diesel Trucks			62.4	0.00	0.03	0.01	2				64.0
Heavy-Duty Diesel Vehicles			5 300	0.2	5	0.3	90				5 400
Propane & Natural Gas Vehicles			207	0.2	4	0.00	1				210
Railways			714	0.04	0.9	0.3	90				800
Navigation (Domestic Marine)			2 260	0.2	4	0.4	100				2 400
Other Transportation			2 600	1	30	0.6	200				2 800
Off-Road Gasoline			440	0.6	10	0.01	3				460
Off-Road Diesel			1 300	0.08	2	0.6	200				1 500
Pipelines			784	0.78	16	0.02	6				806
c. Fugitive Sources <sup>2</sup>			3 700	150	3 300	0.00	0.9				6 920
Coal Mining				40	800	-	-				800
Oil and Natural Gas			3 670	119	2 500	0.00	0.9				6 180
INDUSTRIAL PROCESSES <sup>2</sup>			2 100	-	-	-	-	1 100	400	28	3 560
a. Mineral Products			1 100								1 100
Cement Production			940								940
Lime Production			170								170
Mineral Products Use			28	-	-	-	-	-	-	-	28
b. Chemical Industry			-	-	-	-	-				0
Nitric Acid Production											0
Adipic Acid Production			-	-	-	-	-	-	-	-	0
Petrochemical Production <sup>3</sup>				-	-	-	-				0
c. Metal Production			383				-		400	-	785
Iron and Steel Production			-								0
Aluminum Production			380						400	-	780
SF <sub>6</sub> Used in Magnesium Smelters and Casters										-	0
d. Production and Consumption of Halocarbons and SF <sub>6</sub> <sup>4</sup>								1 100	-	28	1 100
e. Other & Undifferentiated Production			530								530
SOLVENT & OTHER PRODUCT USE						0.11	33				33
AGRICULTURE				52	1 100	2.9	900				2 000
a. Enteric Fermentation				44	920						920
b. Manure Management				8.0	170	0.55	170				340
c. Agriculture Soils						2.4	730				730
Direct Sources						1.0	310				310
Pasture, Range and Paddock Manure						0.52	160				160
Indirect Sources						0.8	300				300
d. Field Burning of Agricultural Residues			-	-	-	-	-	-	-	-	0
WASTE			73	190	4 000	0.3	100				4 200
a. Solid Waste Disposal on Land				190	4 000		-				4 000
b. Wastewater Handling				2.1	44	0.3	90				130
c. Waste Incineration			73	-	-	0.04	10				84

Notes:

<sup>1</sup> Emissions from Fuel Ethanol are reported within the gasoline transportation sub-categories.

<sup>2</sup> Emissions associated with ammonia production as well as the consumption of PFCs and SF<sub>6</sub> (except for electric utilities) are only reported at the national level.

<sup>3</sup> The category Petrochemical Production includes CH<sub>4</sub> and N<sub>2</sub>O emissions coming from production of silicon/calcium carbides; of carbon black; of ethylene; of ethylene dichloride; and of styrene. CO<sub>2</sub> emissions from this category are in Other & Undifferentiated Production.

<sup>4</sup> Only SF<sub>6</sub> emissions from electrical equipment are included. SF<sub>6</sub> emission estimates for semi-conductor manufacturing are only available at national level.

- Indicates no emissions

0.0 Indicates emissions truncated due to rounding

Note that 2003 to 2010 historical estimates have been revised on the basis of updated energy data provided by Statistics Canada. Also note that the 2011 estimates are based on preliminary energy data, which though the best available information at the time of publication, are subject to revision in the next submission year.

# Environment Canada - Greenhouse Gas Emissions Reporting Program (GHGRP)

## Émissions de GES par installation (2011) / GH

Les données présentées ici sont en date du 6 décembre 2012. Data presented here are current as of December 6, 2012.

GHG Unique ID No.	Facility Name	Facility City/District/Municipality	Facility NAICS Code Description	Reporting Company Legal Name	Total emissions (tonnes CO <sub>2</sub> e)
10	Kitimat Works	Kitimat	Primary Production of Alumina and	Rio Tinto Alcan	814,247
36	Burnaby Refinery	Burnaby	Petroleum Refineries	Chevron Canada Limited	486,762
37	Burrard Generating Station	Port Moody	Fossil-Fuel Electric Power Genera	British Columbia Hydro and Power Authority	20,742
48	Cariboo Pulp and Paper Company	Quesnel	Chemical Pulp Mills	Cariboo Pulp and Paper Company	85,512
70	Coal Mountain Operations	Sparwood	Bituminous Coal Mining	Teck Coal Limited	164,516
82	Crofton Division	Crofton	Chemical Pulp Mills	Catalyst Paper Corporation	149,682
85	Delta Plant	Delta	Cement Manufacturing	Lehigh Cement, a Division of Lehigh Hanson	733566
104	TransCanada Pipeline, British Columbia S	Cranbrook	Pipeline Transportation of Natural	TransCanada PipeLines Ltd.	279,395
105	Elkview Operations	Sparwood	Bituminous Coal Mining	Teck Coal Limited	285,433
115	Fording River Operations	Elkford	Bituminous Coal Mining	Teck Coal Limited	480,815
117	Fort Nelson Gas Plant	Fort Nelson	Conventional Oil and Gas Extractio	Spectra Energy Transmission	1,677,745
118	Fort Nelson Generating Station	Fort Nelson	Fossil-Fuel Electric Power Genera	British Columbia Hydro and Power Authority	121,278
126	Gathering	Fort St. John	Pipeline Transportation of Natural	Spectra Energy Transmission	255,076

GHG Unique ID No.	Facility Name	Facility City/District/ Municipality	Facility NAICS Code Description	Reporting Company Legal Name	(tonnes CO <sub>2</sub> e)
131	Greenhills Operations	Elkford	Bituminous Coal Mining	Teck Coal Limited	313,249
136	Harmac Pacific Operations	Nanaimo	Chemical Pulp Mills	Nanaimo Forest Products Ltd.	72,558
146	Howe Sound Pulp and Paper Mill	Port Mellon	Chemical Pulp Mills	Howe Sound Pulp & Paper Corporation	118,168
157	Kamloops Mill (SFO)	Kamloops	Chemical Pulp Mills	Domtar Inc.	120,316
170	Richmond Cement Plant	Richmond	Cement Manufacturing	Lafarge Canada Inc.	696,424
173	Kamloops Plant	Kamloops	Cement Manufacturing	Lafarge Canada Inc.	152,964
181	Mackenzie Pulp Mill	MacKenzie	Chemical Pulp Mills	Mackenzie Pulp Mill Corporation	119,770
184	McMahon Cogen Plant	Taylor	Fossil-Fuel Electric Power Generation	Spectra Energy Transmission	552,996
185	McMahon Gas Plant	Taylor	Conventional Oil and Gas Extraction	Spectra Energy Transmission	377,985
207	Northwood Pulp Mill	Prince George	Chemical Pulp Mills	Canfor Pulp Limited Partnership	178,466
218	Pavilion Plant	Cache Creek	Lime Manufacturing	Graymont Western Canada Inc.	119,727
225	Pine River Gas Plant	Peace River D	Conventional Oil and Gas Extraction	Spectra Energy Transmission	1,136,087
226	Pipeline-Transmission	Prince George	Pipeline Transportation of Natural Gas	Spectra Energy Transmission	796,806
230	Port Alberni Division	Port Alberni	Newsprint Mills	Catalyst Paper Corporation	35,494
231	Powell River Division	Powell River	Mechanical Pulp Mills	Catalyst Paper Corporation	46,416
234	Prince George Refinery	Prince George	Petroleum Refineries	Husky Oil Operations Limited	124,852
289	Trail Operations	Trail	Non-Ferrous Metal (except Aluminum)	Teck Metals Ltd.	430,384

GHG Unique ID No.	Facility Name	Facility City/District/ Municipality	Facility NAICS Code Description	Reporting Company Legal Name	(tonnes CO <sub>2</sub> e)
320	Wildboy Gas Plant BCGP00002917	Fort St John	Conventional Oil and Gas Extractio	Penn West Petroleum	100,599
342	Prince George Pulp and Paper and Interco	Prince George	Chemical Pulp Mills	Canfor Pulp Limited Partnership	150,374
346	FortisBC Energy Inc.	Surrey	Natural Gas Distribution	FortisBC Energy Inc.	88,864
374	Neucel Specialty Cellulose (SFO)	Port Alice	Chemical Pulp Mills	Neucel Specialty Cellulose	160,060
377	Sierra Gas Plant	Fort Nelson	Conventional Oil and Gas Extractio	Husky Oil Operations Limited	61,654
378	FortisBC Energy Vancouver Island	Surrey	Natural Gas Distribution	FortisBC Energy (Vancouver Island) Inc.	48,195
385	Teck Highland Valley Copper Partnership	Logan Lake	Copper-Zinc Ore Mining	Teck Highland Valley Copper Partnership	180,396
388	Line Creek Operations	Sparwood	Bituminous Coal Mining	Teck Coal Limited	154,454
399	Dillon / Brule Mine	Chetwynd	Bituminous Coal Mining	Western Coal Corp	67,473
400	Wolverine Group- Perry Creek Mine	Tumbler Ridge	Bituminous Coal Mining	Western Coal Corp	100,144
426	Canfor Taylor Pulp	Taylor	Mechanical Pulp Mills	Canadian Forest Products Ltd	61,827
430	Stoddart 02-34 Sour Gas Plant	Charlie Lake	Conventional Oil and Gas Extractio	Canadian Natural Resources Limited	70,516
433	Hartland Landfill	Victoria	Waste Treatment and Disposal	Capital Regional District	114,282
439	Vancouver Wallboard Plant	Delta	Gypsum Product Manufacturing	CertainTeed Gypsum Canada Inc	19,181
440	Langley Plant	Langley	Lime Manufacturing	LHOIST NORTH AMERICA OF CANADA II	67,997
443	Vancouver Landfill	Delta	Waste Treatment and Disposal	City of Vancouver	304,996
457	Sierra Sour Gas Plant	n/a	Conventional Oil and Gas Extractio	EnCana Corporation	130,681

GHG Unique ID No.	Facility Name	Facility City/District/ Municipality	Facility NAICS Code Description	Reporting Company Legal Name	(tonnes CO <sub>2</sub> e)
458	Steepprock Sour Gas Plant	n/a	Conventional Oil and Gas Extractio	EnCana Corporation	96,844
470	Metro Vancouver Waste-to-Energy Facility	Burnaby	Waste Treatment and Disposal	Greater Vancouver Sewerage and Drainage	99,961
551	Highway Gas Plant	Peace River D	Conventional Oil and Gas Extractio	Spectra Energy Midstream Corporation	52,951
552	Jedney I Gas Plant	Fort St. John	Conventional Oil and Gas Extractio	Spectra Energy Midstream Corporation	55,904
553	Jedney II Gas Plant	Fort St. John	Conventional Oil and Gas Extractio	Spectra Energy Midstream Corporation	56,375
568	Aitken Creek Gas Storage ULC	Fort St John	Conventional Oil and Gas Extractio	Aitken Creek Gas Storage ULC	50,368
573	Cache Creek Landfill	Cache Creek	Waste Treatment and Disposal	Wastech Services LTD.	61,747
575	Quesnel River Pulp	Quesnel	Mechanical Pulp Mills	West Fraser Mills Ltd.	55,559
599	CENTRAL HEAT DISTRIBUTION LIMITED	Vancouver	Steam and Air-Conditioning Supply	CENTRAL HEAT DISTRIBUTION LIMITED	99,787
615	Caribou Sour Gas Plant c-004-G	Pink Mountain	Conventional Oil and Gas Extractio	Keyera Corp	60,197
638	West Doe Plant	Peace River R	Conventional Oil and Gas Extractio	Spectra Energy Midstream Corporation	70,272
641	Tembec Skookumchuck Operation	Skookumchuck	Chemical Pulp Mills	Tembec	56,197
647	Tree Island Industries	Richmond	Steel Wire Drawing	Tree Island Industries Ltd	11,315
650	Willow Creek Mine	Chetwynd	Bituminous Coal Mining	Western Coal Corp	40,991
653	Zellstoff Celgar Limited Partnership	Castlegar	Chemical Pulp Mills	Zellstoff Celgar Limited Partnership	89,900
660	Montney Gas Processing and Production I	Peace River E	Conventional Oil and Gas Extractio	Shell Canada Limited	119,861
675	Horn River Comp Stn c-067-K	n/a	Conventional Oil and Gas Extractio	EnCana Corporation	81,384

GHG Unique ID No.	Facility Name	Facility City/District/ Municipality	Facility NAICS Code Description	Reporting Company Legal Name	(tonnes CO <sub>2</sub> e)
676	Hythe Comp Stn A-005-G	n/a	Conventional Oil and Gas Extractio	EnCana Corporation	56,051
679	Gibraltar Mine (SFO)	McLeese Lake	Copper-Zinc Ore Mining	Gibraltar Mines Ltd.	54,687
682	North Vancouver Office	North Vancouver	Gold and Silver Ore Mining	Hope Bay Mining Ltd.	19
695	QUINSAM COAL CORP	CAMPBELL R	Bituminous Coal Mining	QUINSAM COAL COPORATION	98,227
696	Tattoo Compressor Station	Northern Rocki	Conventional Oil and Gas Extractio	Ramshorn Canada Investments limited	29,126

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