



Recycle BC Tour

Sept 2016

Extended Producer Responsibility (EPR)



King County

Department of
Natural Resources and Parks
Solid Waste Division

Waste
Prevention

Resource
Recovery

Waste
Disposal

Scope of Tour

Purpose: To learn about the new system in British Columbia for collecting/processing **packaging and printed paper (PPP)** from residents featuring:

- **Recycle BC** - the stewardship organization
- **Green By Nature** – post collection system
- **Merlin Plastics** – plastics processors

Attendees: King County and City of Seattle Department Directors and Managers

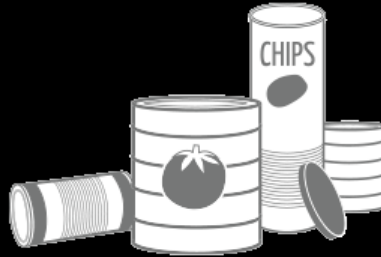


Packaging and Printed Paper = PPP

FIBERS (Flat)



CONTAINERS
(3 - Dimensional)



B.C. Recycling Regulation 2011

- Requires businesses (producers) that supply **packaging and printed paper (PPP)** to assume full responsibility for financing, collecting, and recycling of PPP.
- PPP producers can appoint a **stewardship organization** to “**discharge their obligations**” under the Recycling Regulation.
- **Recycle BC** formed to develop/implement a PPP Stewardship Plan.

Old System – Collection/Post-Collection



Curbside Collection
- Depots for Deposit Containers



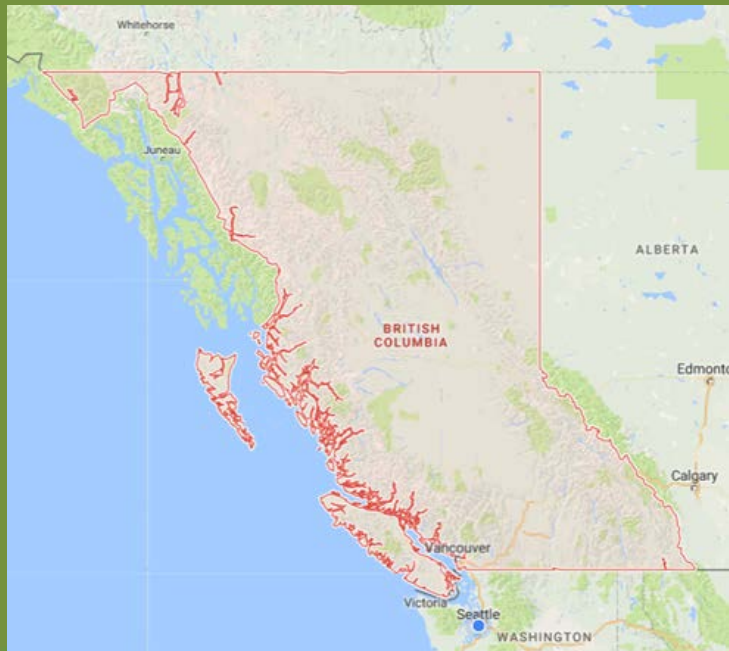
Material Recovery Facilities (MRFs)



Mixed Paper
Mixed Plastics
HDPE
PET
Aluminum
Ferrous
Glass

Baled Products

Recycle BC



- Stewardship Plan coordinates the collection and recycling for ALL of British Columbia:
 - Residential and multi-family curbside collection
 - Recycling depot collection
 - Post-collection operations
- Plan approved in 2013, operations began in May 2014

Program Financing

- MMBC collects fees from **LARGE producers** that supply packaging into the marketplace (ie Pepsi, Clorox, Nestle, Unilever)
- Fees are based on a **formula** that includes:
 - Type of material the packaging is made of (alum, paper, plastic, etc)
 - Cost to manage the packaging material (collect, sort, recycle etc)
 - Amount of revenue generated by the recyclable material
- Pay per kg/year – producers self-report the weight

Incentive Payments

“**Incentive Payments**” are offered to collectors to participate in the Recycle BC program and to collect specific materials

- **Rewards** collection strategies that result in less contamination
 - Multi-stream and no glass at the curb = bigger incentive payment
 - Single stream has more contamination = smaller incentive payment
 - Payments = \$\$ per/household basis



COLLECTION

POST-COLLECTION

Depots
Sorted deposit beverage containers

Single & Multi-Family Curbside Collection

- Single Stream - commingled with glass on the side
- Multi-stream - separate fibers, containers, glass on the side



Receiving, Consolidation, and Transfer Facilities
31 RCTs



Pre-Conditioning Facilities
15 PCFs



Container Recovery Facility
1 CRF





Collection System

OPTION	DESCRIPTION
Option 1	<ul style="list-style-type: none">• Cities/haulers collect PPP under MMBC's terms• Accept MMBC's financial incentives
Option 2	<ul style="list-style-type: none">• Cities opt out of providing recycling collection services• MMBC (through contracts with haulers) provides recycling collection services in the municipality
Option 3	<ul style="list-style-type: none">• Cities continue to deliver recycling collection service (status quo)• Forego the financial incentives• MMBC is absolved of its responsibilities

Post-Collection

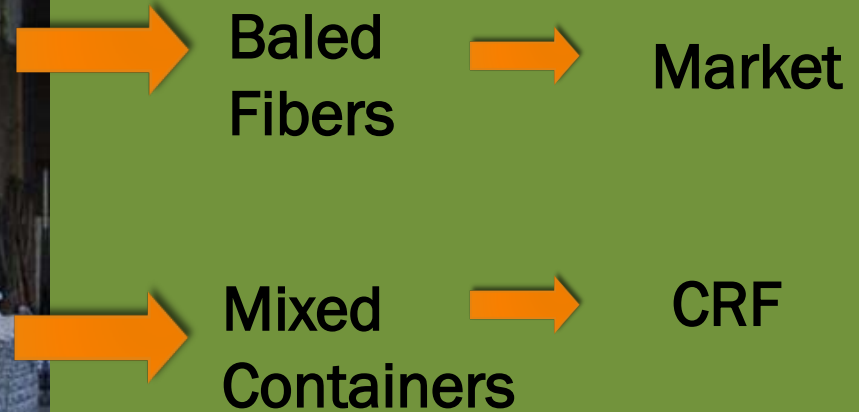


GREEN
by Nature EPR®

a partnership between three pioneers in materials recovery and recycling
in North America:



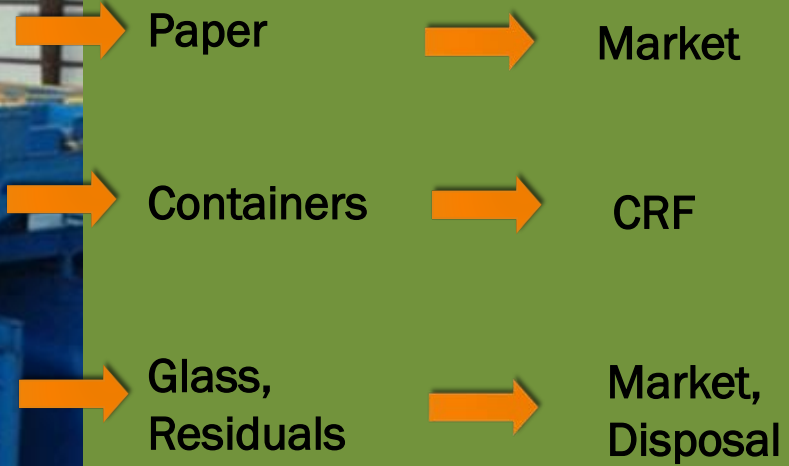
Receiving, Consolidation and Transfer Facilities (RCTs)





Pre-Conditioning Facilities (PCFs)

sorts fiber from containers












Container Recovery Facility (CRF)

> 10 optical sorters to separate plastics by resin type.

Packaging changes = CRF changes. More than \$20 million in new equipment, 30,000 TPY



-  PET clear/colored
-  HDPE natural/colored
-  PP
-  PVC
-  Plastic Film
-  Other Plastics
-  Aseptic/Polycoat
-  Steel
-  Aluminum

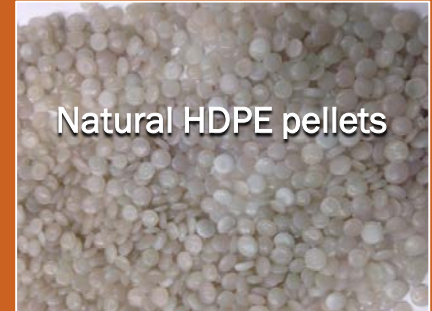
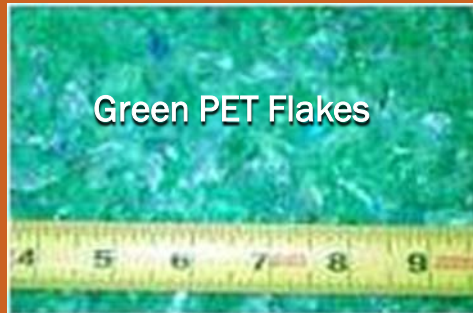
Recycling End Markets

- Priority end-markets are members of the Organization for Economic Co-operation and Development (OECD).
 - Or they meet OECD standards for environmental, health and safety.
- Markets for materials are pre-approved
 - Paper/Fibres – Majority to China, some to BC, United States and South Korea
 - Glass - British Columbia
 - Metals – Majority to Ontario, some to BC and United States
 - Plastics - British Columbia



Merlin Plastics

Recycled plastic, in the form of pellets and flakes, are used by the plastic industry for various applications.



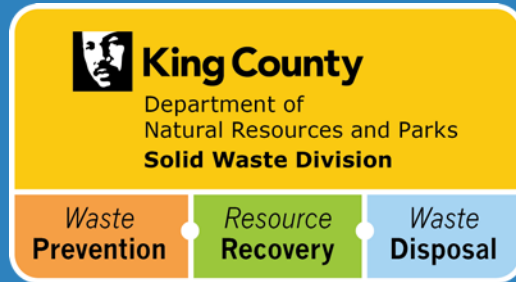
Recycle BC Performance

BEFORE	AFTER
Recovery rate was 50-53% province-wide for PPP.	<ul style="list-style-type: none">• Recovery Rate is 77-80%.• 93% of material collected is recycled.
Separate and uncoordinated recycling programs, facilities and MRFs.	<ul style="list-style-type: none">• Harmonized collection/post-collection.• Economies of scale.• Investments in local infrastructure.• Allows for rapid system adjustments in response to changing recyclable materials stream.
Most recyclable materials were exported in mixed bales.	<ul style="list-style-type: none">• Plastics sorted by resin type at central Container Recovery Facility (CRF).• Processed and marketed locally.

Key Take-Aways

- Producers are financing the system – its sustainable
 - Not reliant on the volatile commodity markets for revenue
- The system and facilities are designed to adapt to packaging changes
- Strategy to reduce contamination – incentives, glass separate, cart tagging, depot system
- Province-wide messaging and marketing – less confusion
- Materials are processed domestically (plastics) or in OECD nations

Questions?



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