

RECYCLE BC: A SYSTEM-BASED APPROACH TO RECYCLING

ALLEN LANGDON, MANAGING DIRECTOR



RECYCLEBC™

WHO WE ARE



Recycle BC is a non-profit organization responsible for residential packaging and printed paper recycling throughout British Columbia.

Recycle BC ensures household materials are collected, sorted and responsibly recycled.

Our program is funded by over 1,200 businesses that include retailers, manufacturers and restaurants that supply packaging and printed paper to BC residents, shifting costs away from homeowners.



TIMELINE AND REGULATORY CONTEXT

- October 2004 – BC filed *Recycling Regulation*
- May 2011 – BC amended *Recycling Regulation* to include Schedule 5
 - Defines packaging and printed paper (PPP) product category
 - Specifies residential premises as source of PPP
 - Obligates PPP producers (e.g. manufacturers, importers and retailers) to submit stewardship program plan to Ministry by November 19, 2012
- April 2013 – Ministry of Environment approves Recycle BC stewardship plan
- May 2014 – Launch of Recycle BC program

RECYCLE BC'S STEWARDSHIP PLAN

- Producers of packaging and paper are responsible for:
 - Reasonable access to packaging and paper collection services
 - Management of collected packaging and paper
 - Within the context of the pollution prevention hierarchy
 - To achieve 75% recovery within a reasonable time
 - Establishing relationships with:
 - Collectors - local governments, private sector companies and not-for-profit organizations
 - Post-collection service provider
 - Financing implementation of the Stewardship Plan (\$80 million per year)

2018 Fee Schedule

RECYCLE BC FEE SCHEDULE (CENTS/KG)				
Category	Material	2018 Fee Rates (cents/ kg)	2017 Fee Rates (cents/ kg)	Variance %
PRINTED PAPER	Newsprint	11.00	11.00	0.0%
	Magazines and Catalogues	11.00	11.00	0.0%
	Telephone Books	11.00	11.00	0.0%
	Other Printed Paper	11.00	11.00	0.0%
PAPER PACKAGING	Corrugated Cardboard	24.00	24.00	0.0%
	Boxboard	24.00	24.00	0.0%
	Gable Top Cartons	52.00	52.00	0.0%
	Paper Laminates	52.00	52.00	0.0%
	Aseptic Containers	52.00	52.00	0.0%
PLASTICS	PET Containers	53.00	53.00	0.0%
	HDPE Containers	53.00	53.00	0.0%
	Plastic Film	91.00	91.00	0.0%
	Plastic Laminates	102.00	102.00	0.0%
	Polystyrene	91.00	91.00	0.0%
	Other Plastics	91.00	91.00	0.0%
STEEL	Other Steel Packaging	20.00	20.00	0.0%
	Steel Aerosols	20.00	20.00	0.0%
	Steel Paint Cans	20.00	20.00	0.0%
ALUMINUM	Aluminum Food & Milk Containers	26.00	26.00	0.0%
	Other Aluminum Packaging	26.00	26.00	0.0%
GLASS	Clear Glass	15.00	15.00	0.0%
	Coloured Glass	15.00	15.00	0.0%



PROGRAM OVERVIEW

2016 PROGRAM PERFORMANCE



185,477
Tonnes collected



78%
Recovery rate

98%



Percentage of households with access to depots



1,844,000*

Number of households serviced

*Includes curbside, multi-family & depot collection

154



Number of communities benefitting/participating
in program (curbside and multi-family)



RECYCLEBC™

RECYCLE BC COLLECTION SYSTEM

- Standardized material list for all curbside and multi-family collection across the province
 - Material list includes many items not included in traditional recycling programs – coffee cups, aerosol containers, plant pots, single-use coffee pods
 - Clear/coloured glass containers can be collected
 - At curbside if segregated from other PPP
 - From multi-family buildings if segregated from other PPP
 - At depots where it can be kept separate from other PPP
 - Plastic film and expanded PS collected at depots
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RECYCLE BC COLLECTION SYSTEM

- Curbside recycling
 - Local governments receiving Recycle BC incentives on a per-household basis
 - Direct service by Recycle BC in 13 jurisdictions
- Multi-family recycling
 - Local governments and private companies receiving Recycle BC incentives on a per-household basis
- Depots
 - Local governments, non-profits and private companies receiving Recycle BC incentives on a per-tonne basis

COLLECTION INCENTIVES

- Financial incentives were offered to:
 - Local governments that:
 - Were providing PPP or garbage curbside collection services in November 2012
 - Wished to provide multi-family building collection services
 - Wished to operate depots to receive PPP from residents
 - Private and not-for-profit collectors that wished to provide multi-family building collection and/or provide depot collection

COLLECTION INCENTIVES

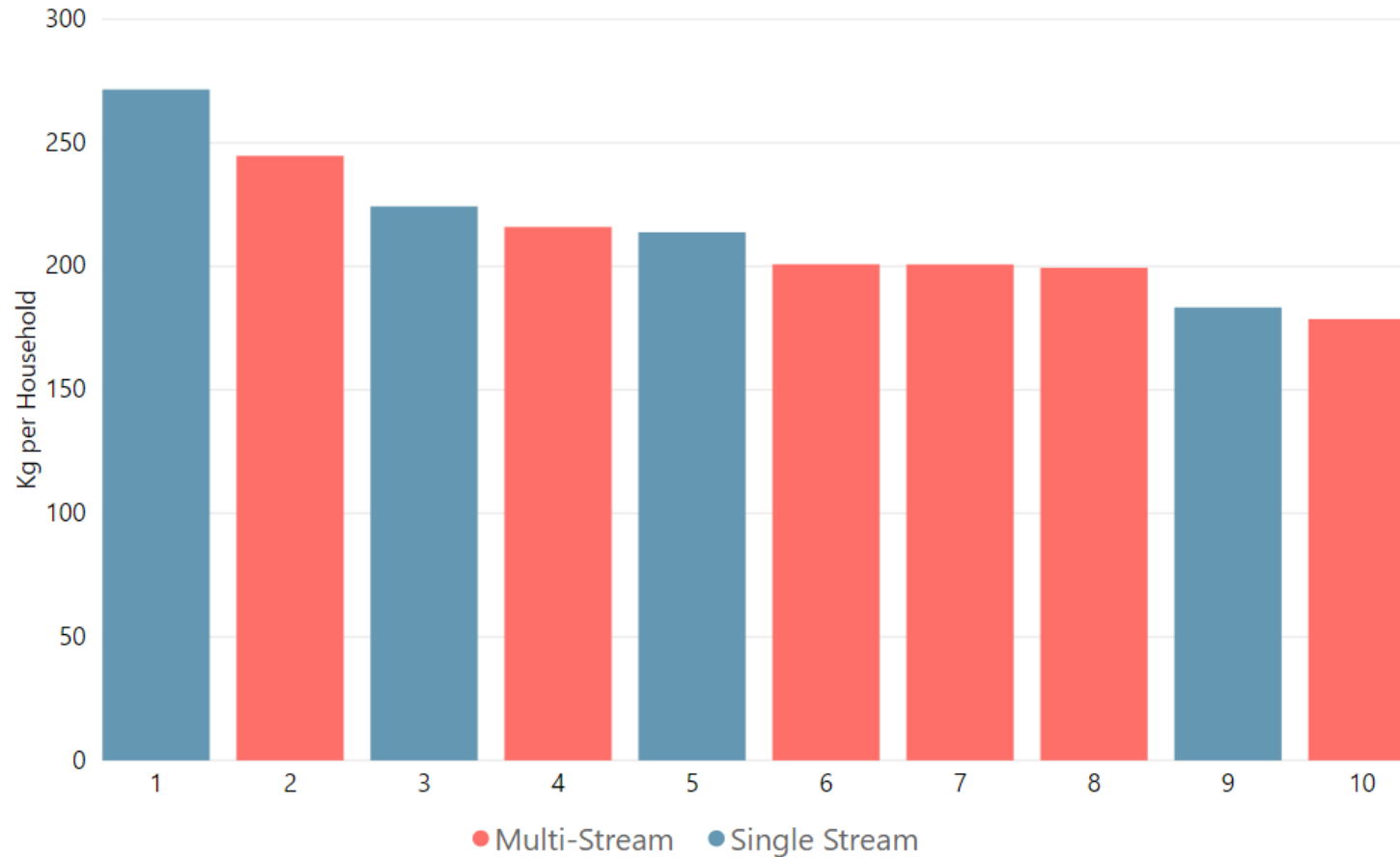
- Recycle BC offered collection incentives to
 - Allow those who were collecting PPP to continue to do so
 - If they wish – no obligation on existing collectors
 - Reflect reasonable payment for providing service
- All service providers required to execute contracts

CURBSIDE INCENTIVES

Curbside Collection Financial Incentive	
Single-stream – Categories 1, 2, 3 (a), 3 (b), 6 and 7	\$ per Curbside Household per Year
>2 Curbside Households per hectare	\$32.00
0.2 to 2 Curbside Households per hectare	\$34.00
<0.2 Curbside Households per hectare	\$36.00
Multi-stream – Categories 1, 2 and 3 (b) separate from Categories 3 (a), 6 and 7	\$ per Curbside Household per Year
>2 Curbside Households per hectare	\$35.00
0.2 to 2 Curbside Households per hectare	\$37.00
<0.2 Curbside Households per hectare	\$39.00
Top Up available to local governments accepting Curbside Collection incentive	\$ per Curbside Household per Year
Resident Education Top Up	\$0.75
Depot Top Up	\$0.25
Service Administration Top Up	\$2.50
Curbside Collection Financial Incentive	
Category 8 - Glass Packaging	\$ per Tonne
	\$80.00

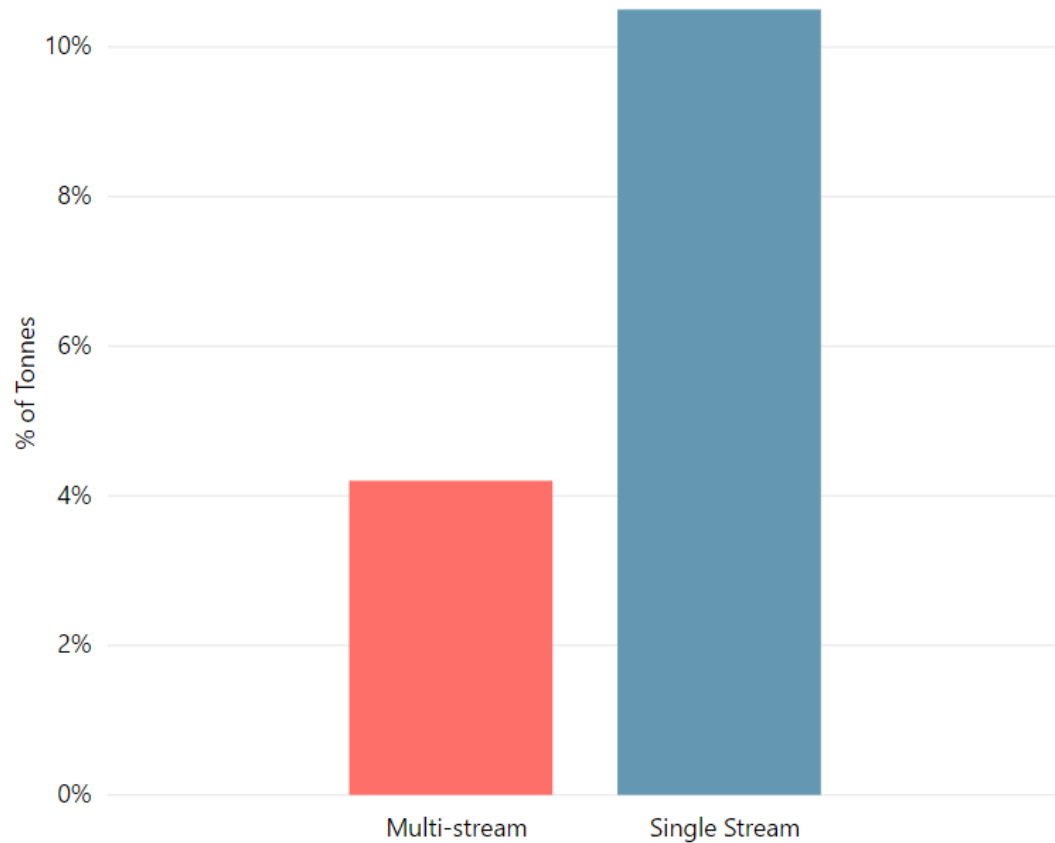
CURBSIDE CAPTURE RATES

TOP 10 HIGHEST CURBSIDE CAPTURE RATES



CURBSIDE CONTAMINATION RATE

CURBSIDE CONTAMINATION RATE



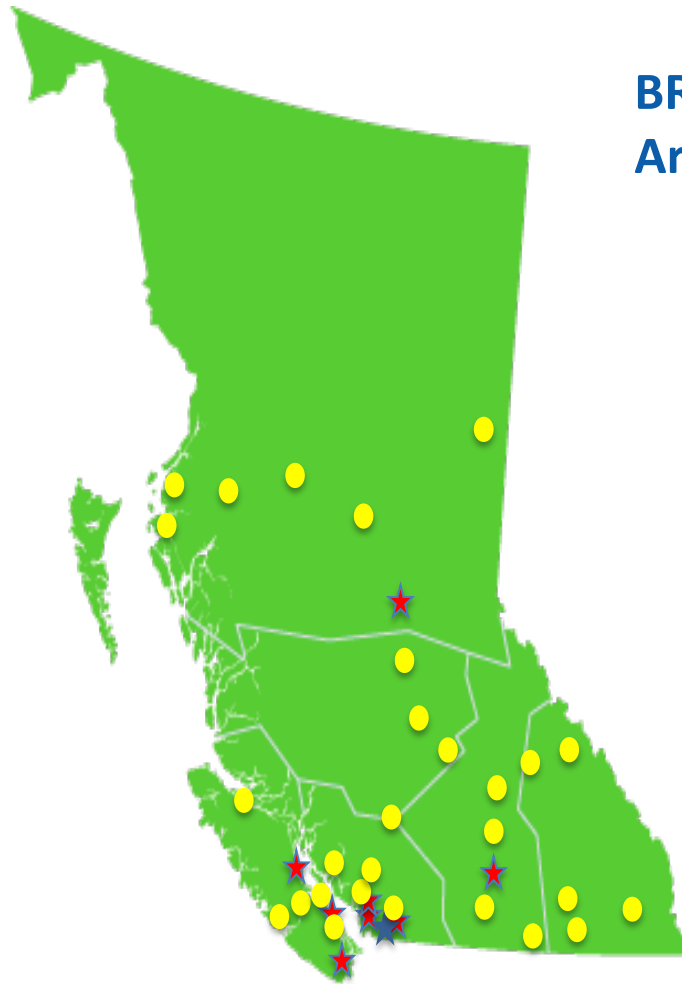
POST-COLLECTION SYSTEM

- Recycle BC is responsible for all post-collection activities by hiring contractors to:
 - Pick-up packaging and paper from depots
 - Receive packaging and paper from curbside and multi-family building collectors
 - Transport, process and market packaging and paper
- Green by Nature (GBN) operates the entire province-wide post-collection system

POST-COLLECTION NETWORK

- 32 Receiving, Consolidation and Transfer Facilities (RCTs)
- ★ 13 Pre-conditioning Facilities (PCFs)
- ★ 1 Container Recovery Facility (CRF)

BRITISH COLUMBIA
Area: 944,735 km²



POST-COLLECTION SYSTEM - RCTs

- Receives materials from curb and/or depots
- Bale fibres, cross dock through Vancouver or directly to market
- Bale containers
- Ship containers to Container Recovery Facility



POST-COLLECTION SYSTEM – SS PCFs

- Single Stream plants represent about 45% of material
- Repurposed existing MRF infrastructure
- Receive directly from curb, depots or RCTs
 - Separate the fibres from the containers
 - Take out the large residue, glass and steel
 - All other containers sent to baling
 - Reduced staffing as sorting needs reduced

POST-COLLECTION SYSTEM – MS PCFs

- Two stream plants manage 55% of material
- Receive materials directly from curb, depots or RCTs
 - Fibres – not sorted, directly to baler
 - Generate an OCC grade when markets dictate
 - Take out the large residue, glass and steel
 - All other containers sent to baling
 - Reduced staffing as sorting needs reduced

POST-COLLECTION SYSTEM – CRF

- All containers from cross the province are baled and sent to a newly built 185,000 square-foot Container Recovery Facility (CRF)
- This facility, uses state-of-the-art recycling equipment to sort 30,000 tonnes of containers per year.
- Containers are sorted into 8 categories different categories including:
 - PET clear & coloured
 - HDPE natural & coloured
 - PP
 - Other Plastics
 - Aseptic/Polycoat
 - Steel
 - Aluminum

RECYCLING END-MARKETS

- Recycle BC gives priority to end-markets located in countries that are members of the Organization for Economic Co-operation and Development (OECD). Recycle BC does permit marketing to packaging and printed paper end-markets located in countries that are not members of the OECD only if the end market meets or exceeds environmental, health and safety standards equivalent to OECD standards.
- **Plastics** - Plastics are sold to end-markets in British Columbia
- **Paper/Fibres** – The majority of fibres are sold to overseas end-markets, with the rest either remaining in BC or going to end-markets in the United States and South Korea
- **Glass** - Glass is sold to end markets in British Columbia
- **Metals** - Metals are largely sold to end-markets in Ontario, with the rest either remaining in BC or going to end-markets in the United States

Addressing the Paper Challenge

- Material that is clean, properly sorted, and contains only accepted material is now more important than ever to ensure we have viable end-markets for our material
- Recycle BC is using an integrated approach to reducing contamination (currently 6.5% system wide) that will include resident education, tagging, and leaving behind not-accepted materials
 - Single-use plastic bags will be a top priority
 - Other problem materials include organics, textiles, wood, and electronics

OUR SYSTEM AT WORK



OUR SYSTEM AT WORK





MARKETING AND COMMUNICATIONS

AWARENESS CAMPAIGNS

Out of home, digital and TV

- Bus king and headliner
- Transit shelter ads
- Grocery store ads
- Online display ads
- Facebook promoted posts
- Television commercials



PARTNERSHIPS AND EVENTS

Partnerships

- Vancouver Whitecaps FC (MLS)
- Vancouver Canucks (NHL)
- Community Champions
 - Five community groups to support recycling promotion and education



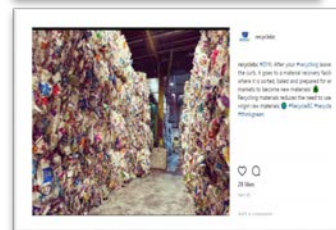
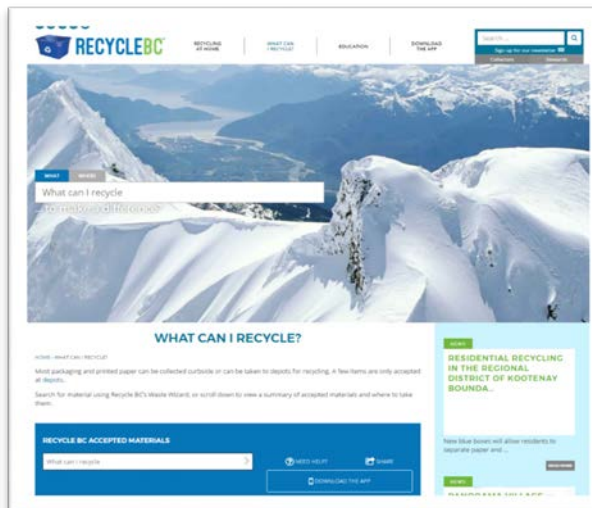
Events

- Community Events Team
 - Travelling to events in communities throughout the summer
 - Engage residents in educational and fun activities
 - Virtual reality, recycling museum, ultimate sorting game, kick recyclables to the curb soccer shoot



PROMOTION AND EDUCATION RESOURCES

- Website
- Social media
- Recycling guide
- Material-specific education
- Videos
- Operational resources
- Additional collector resources





WHAT'S NEXT?

SINGLE USE BAG REDUCTION CAMPAIGN

- Advertising campaign featuring outdoor (transit stations, grocery stores, malls) digital and social ads
- Bring Your Bag Challenge launched in partnership with our retail members to encourage residents to give up single-use bags for one week to help incent behaviour change
RecycleBC.ca/BringYourBag
- Resource guide for retailers developed in partnership with the Retail Council of Canada



PILOT - OTHER FLEXIBLE PACKAGING

- What is different about multi-laminated plastics?
 - This material is made up of multiple layers of flexible plastic, film, paper, nylon and/or aluminum foil
 - It is specifically designed to extend product shelf life and reduce packaging weight
 - Why is this format used by manufacturers and brands?
 - Low cost to manufacture and transport; lower energy use & CO² emissions
 - Ability to keep foods fresh for longer
 - High shelf appeal
 - Why is it difficult to recycle?
 - These plastic packages have to be de-layered into their various component materials before they can be managed
 - The timeline for R&D is long as plastics are a durable material and require testing over the recycled product's expected lifespan
-

OTHER FLEXIBLE PLASTIC PACKAGING

- What is Other Flexible Plastic Packaging?
 - Other Flexible Plastic Packaging is one of the fastest growing packaging types on the market and the largest category of packaging that isn't yet collected by Recycle BC
 - Also referred to as “multi-laminate plastic packaging” they are essentially the types of film and flexible plastics that are not currently captured by our Plastic Bag and Overwrap category
 - Examples include stand up pouches, chip bags, pasta bags, cereal box bags, produce net bags, frozen food zipper-lock bags, and candy bar wrappers

RECYCLE BC'S APPROACH

○ Research & Development

- Recycle BC's approach is to work with Merlin Plastics on R&D for a viable, stable commercial process at scale for the recycling of Recycle BC's multi-laminated plastic packaging.
- To achieve incremental recovery of PET, HDPE, PP, PE, etc.
- To conduct R&D, Merlin Plastics requires a clean stream of other flexible plastic packaging of sufficient quantity to run tests on the component parts of the multi-laminated material.

○ Goal of R&D

- It is Recycle BC's goal is to enable through R&D the recycling of some, if not all, of the materials categorized as Other Flexible Packaging over time to continue to maintain or exceed our 75% collection rate on behalf of Recycle BC stewards.
- Any material not capable of being recycled will be made into engineered fuel and marketed as an alternative to coal and energy from waste.
- Recycle BC expects the amount of materials sent to engineered fuel to decrease as the technology is tested, refined, and the resulting material marketed to manufacturers as feedstock for new products.

OFPP DEPOT COLLECTION

- All depots interested in collecting this material stream under the Recycle BC program will do so on a voluntary basis, beginning June 1, 2018
- The deadline to register for this voluntary collection phase was April 6, 2018
 - 117 depots (51 collectors) registered for the June 1st start
- All depots participating in the Recycle BC program will be required to begin collecting Other Flexible Plastic Packaging beginning January 1, 2019, which will align with the start of the new depot collection agreements



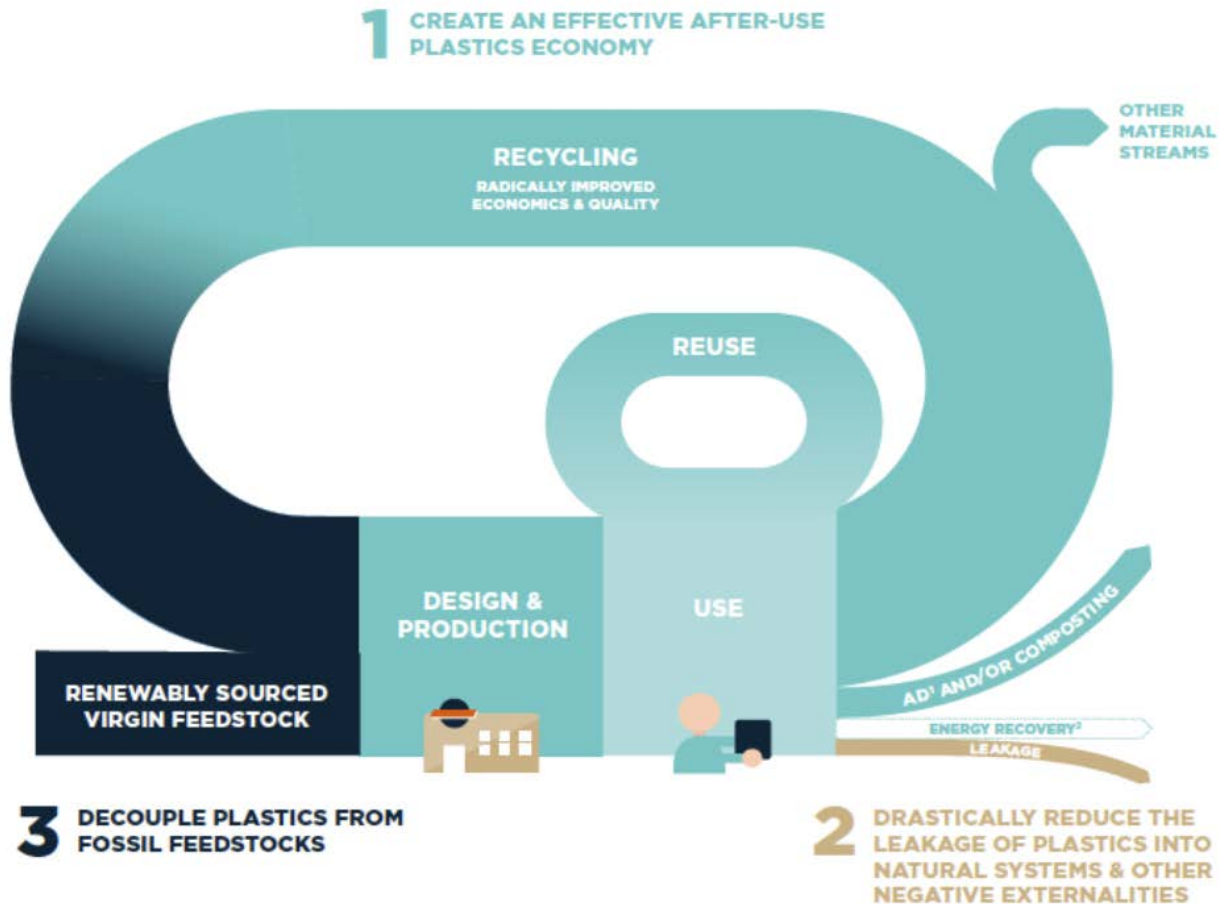
FIRST NATIONS RECYCLING INITIATIVE

- First Nations have expressed a sense of feeling overwhelmed by the number of organizations involved and the amount of information available on recycling programs
- Nine stewardship agencies, including Recycle BC, have come together to create a project specifically relevant to First Nations who are interested in starting recycling programs in their communities
- Through this project we have hired a First Nations Field Services Specialist and will be finalizing a toolkit for First Nations for distribution later this year



Logo by Ray Robinson
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NEW PLASTICS ECONOMY INITIATIVE



Source: *The New Plastics Economy – Rethinking the future of plastics*

RECYCLE BC's SYSTEM APPROACH

- The Recycle BC system provides producers with best long-term opportunity for producers to manage their obligations for PPP in light of increasing costs, volatile commodity markets and continued innovations in packaging types and materials
- Recycle BC represents a model of the circular economy in action where producers have influence on both the creation and end-of-life management of their materials that can provide the basis for more holistic decisions as new innovations in packaging are developed and implemented



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