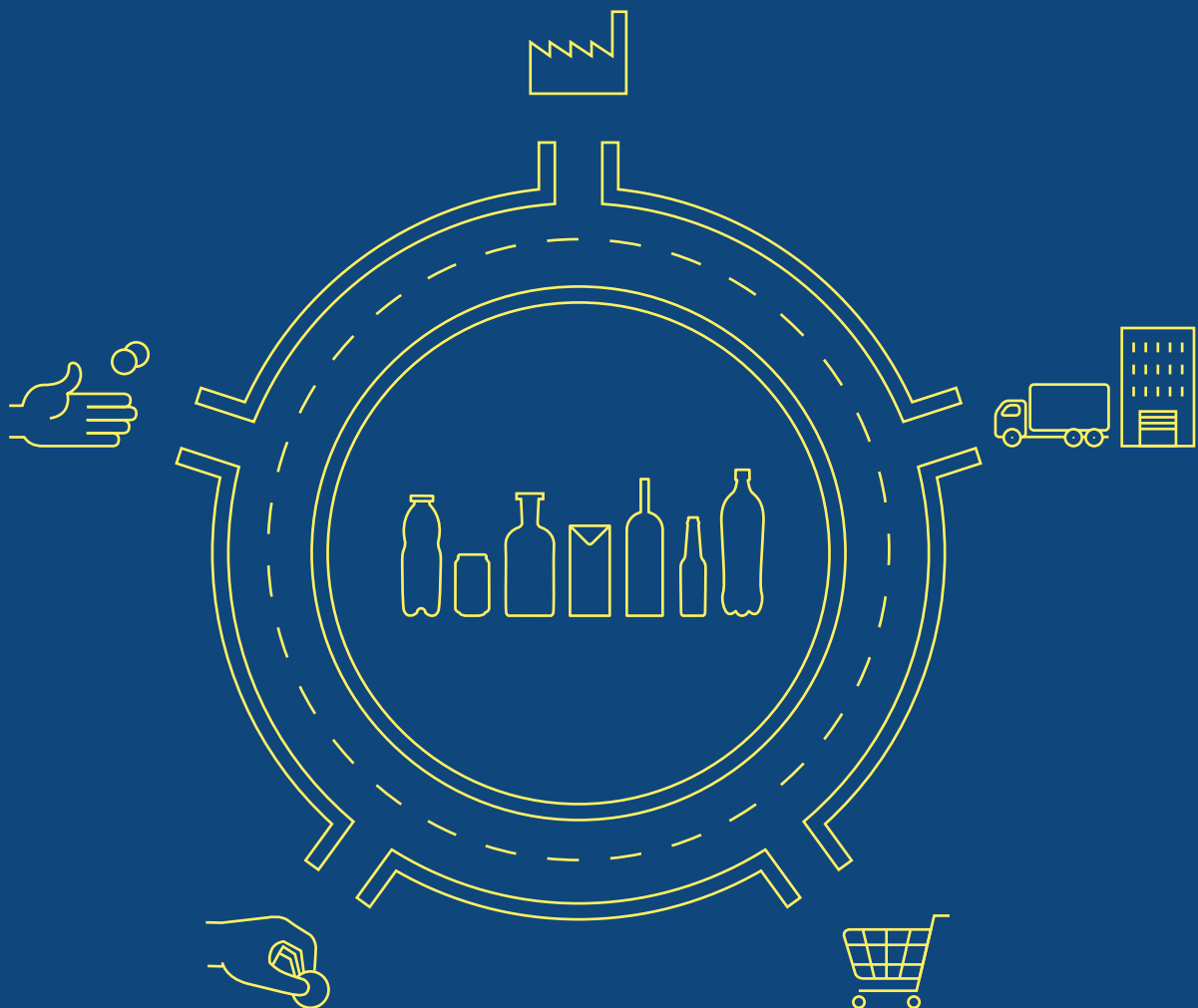


# DEPOSIT SYSTEMS FOR ONE-WAY BEVERAGE CONTAINERS: GLOBAL OVERVIEW

2016



# AUTHOR'S NOTE

This report was prepared by CM Consulting in association with Reloop, and is intended to provide a comprehensive summary of 38 different deposit-return systems for one-way beverage containers in existence around the world.



## **CM Consulting Inc.**

Working with industry, government, and not-for-profits, CM Consulting is recognized worldwide for the comprehensive information and analysis it provides – information that is relied upon to make informed policy and programming decisions. Established in 1998 by Clarissa Morawski, CM Consulting was founded on the principle that industry and consumers must assume greater responsibility for ensuring that the manufacture, use, reuse and recycling of their products and packaging has a minimum impact on the environment. CM Consulting specializes in waste minimization and Canadian stewardship policy with a specific focus on extended producer responsibility programs, cost and performance. The CM Consulting team consists of Clarissa Morawski (Principal), Jason Wilcox (Projects Manager), and Samantha Millette (Content Writer & Researcher).



## **Reloop Platform**

Reloop is a broad platform of like-minded interests that share a common vision for a circular economy. The founding members of the organization bring together industry, government, and non-governmental organizations to form a network for advances in policy that create enabling system conditions for circularity across the European economy. With members coming from different sectors across Europe, the platform aims to work as a catalyst in order to generate economic and environmental opportunities for all stakeholders in the value chain. This includes producers, distributors, recyclers, academia, NGOs, trade unions, green regions, or cities. Reloop is born to connect stakeholders, allow for information-sharing to inform those stakeholders, and influence decision makers to adopt policy that works towards the implementation of policies and systems that promote a circular economy.

## ***Disclaimer***

CM Consulting and Reloop provide the information contained in this report in good faith, and every attempt has been made to ensure that all facts and analyses presented are as accurate as possible. The facts and data contained in this document are taken primarily from external sources, including publicly accessible annual reports released by program operators, stewardship agencies, or other involved entities. Other information was obtained through personal communication and e-mail correspondence. Users should be aware that CM Consulting or Reloop are not liable for the use or application of this research. There is no guarantee provided in respect of the information presented, and any mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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# GLOSSARY / ACRONYMS

**CALIFORNIA REDEMPTION/REFUND VALUE (CRV):** Similar to beverage container deposits in other jurisdictions. See “Deposit.”

**CLEARING SYSTEM:** The entity responsible for reconciling the deposits paid/redeemed.

**CONSUMER CONTAINER FEE:** A per unit non-refundable fee paid at the point of purchase. In Saskatchewan (Canada), the fee is called an Environmental Handling Charge. In Yukon, it is called a Recycling Fund Fee, and in the Northwest Territories it is called a Container Handling Fee. In other jurisdictions, like British Columbia, it is called a Container Recycling Fee. Unlike the others which are set by the government or other responsible entity, the Container Recycling Fee represents the net cost (net of unredeemed revenue) per container type.

**DEPOSIT:** A fee that is charged on applicable beverage containers at the point of purchase, which retailers are required to collect from consumers. Intended to act as an incentive to recycle, deposits refunded when the consumer returns the empty container to an authorized redemption centre or retailer for recycling.

**HANDLING FEE (HF):** A fee that is paid to redemption centers and retailers as compensation for receiving, paying out refunds for, sorting, and storing redeemed beverage containers. On a long-term basis, handling fees also cover expenses related to investments in reverse vending machines, electricity costs, space requirements, and additional personnel required to handle the containers. The fee is often paid by the bottler or distributor, but in some cases is paid by the state (e.g. California).

**HDPE:** High density polyethylene (plastic)

**MATERIAL OWNER:** The owner of the recyclable commodity (empty containers) that can sell the material to the market or keep the material to have it converted into raw material for new bottles or cans.

**PET:** Polyethylene terephthalate (plastic)

**PROCESSING FEE:** Per unit fee paid by beverage manufacturers to system operator

**PROCESSING PAYMENT:** The fee offered to processors to sort and market beverage containers. It is paid on a per unit basis.

**PS:** Polystyrene (plastic)

**PVC:** Polyvinyl chloride (plastic)

**R2RC:** Return to Redemption Center

**UNREDEEMED DEPOSITS:** The value of paid deposits on containers that have not been redeemed - possibly discarded in trash/as litter, recycled through other means, or lost.

# OVERVIEW

As the problem of marine litter has steadily grown worse, there has been renewed interest in deposit-return for the recovery of single-use beverage containers. These systems see customers pay a small deposit when they purchase a can or bottle, which they get back when they return the container to a collection point for recycling.

Deposit-return systems (DRS) are a proven tool to collect high quantities of empty beverage containers for reuse and high-quality recycling, and are vital to achieving a circular economy. Over 130 million people in the EU alone live in countries with deposit-systems. It's also used in most Canadian provinces, 10 US states, and large portions of Australia. The latest country to implement a container deposit program was Lithuania in February 2016. Other countries that have implemented container deposit laws, but whose programs are not yet operational and therefore are not included in this report, include Fiji, Guam, Turks & Caicos, Barbados, Queensland, Western Australia, and New South Wales (proposed to roll out across the state from 1 December 2017).

At a time when more and more jurisdictions are considering the implementation of DRS to achieve mandated recycling targets and reduce litter, CM Consulting (in association with ReLoop Platform) is pleased to release the first edition of *Deposit Systems for One-Way Beverage Containers: Global Overview (2016)*. This document provides a comprehensive summary of 38 deposit systems in different jurisdictions around the world.

Each deposit market profiled in this review is structured along the following key parameters (where information is available):

- Mandate (legal basis for the system)
- Program Scope (beverages and containers included in the system)
- Deposit and Fees (deposit amounts and different fees)
- System Operator (composition and tasks of the System Operator)
- Redemption System (beverage container take-back system)
- System Results (return rates)
- Money Material Flow (visual flow chart)

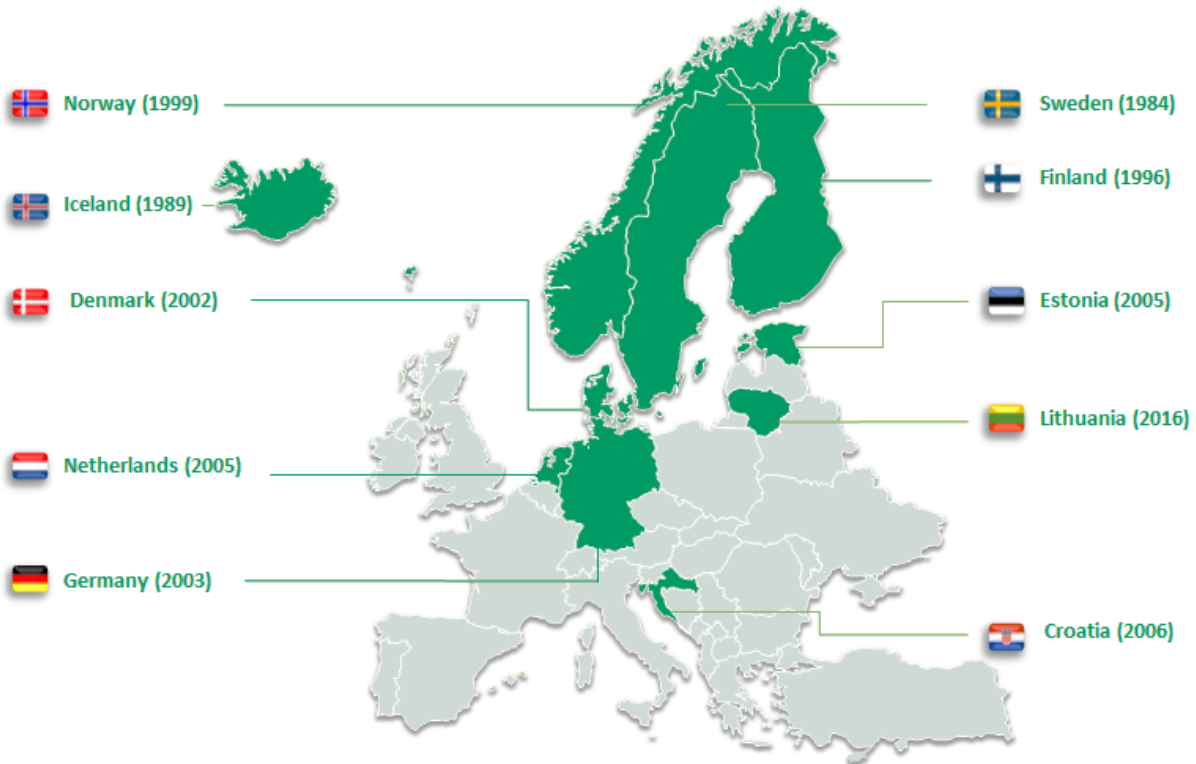
It is worth noting that all systems, with the exception of California (USA) and most Canadian provinces (Saskatchewan, Yukon, New Brunswick, Nova Scotia, Newfoundland, Northwest Territories, Ontario, Manitoba, and Prince Edward Island) have barcode-based recording systems. 'Barcode-based' means that the containers are recognized by the barcode and the information is recorded. This makes every container traceable and provides a clear picture on what is returned.

Information for this report was obtained from system operators, internal documents, government reports, as well as consultancy reports and includes the following sources: AB Svenska Returpack, Endurvinnslan HF, Suomen Palautuspakkaus Oy Palpa, Norsk Resirk AS, Dansk Retursystem A/S, Deutsche Pfandsystem GmbH, Eesti Pandipakend UÜ, Stichting Retourverpakkingen NL, Recycling Netwerk, Retorna, Zero Waste Scotland, Container Recycling Institute, CM Consulting, ELA Recycling Corporation, Environmental Protection Agency (EPA) South Australia, AluPro.



# EU 28 + EFTA (NORWAY/ICELAND)

(133.1 million have access to DRS)



| Country        | Population (million) | Mandate Enacted  | Mandate Implemented            |
|----------------|----------------------|------------------|--------------------------------|
| 1. Croatia     | 4.3                  | 2005             | 2006                           |
| 2. Denmark     | 5.6                  | 2000             | 2002                           |
| 3. Estonia     | 1.3                  | 2004             | 2005                           |
| 4. Finland     | 5.4                  | N/A              | 1996, 2008 (PET), 2012 (Glass) |
| 5. Germany     | 81.9                 | 1991             | 2003                           |
| 6. Iceland     | 0.3                  | 1989             | 1989                           |
| 7. Lithuania   | 3.0                  | 2014             | 2016                           |
| 8. Netherlands | 16.8                 | 2003             | 2005                           |
| 9. Norway      | 5.0                  | 1999             | 1999                           |
| 10. Sweden     | 9.5                  | 1982, 1991 (PET) | 1984, 1994 (PET)               |



# CROATIA

**Population: 4.3m**

**Website:** <http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/437306.pdf>



## MANDATE

Ordinance on Packaging and Packaging Waste

Enacted: 2005

Implemented: 2006

2015 Comprehensive amendment act  
(approved and published in summer 2015; not yet implemented)

Authority: Ministry of Environment

Target: 95% collection target

## PROGRAM SCOPE

Material: Plastic (predominantly PET), metal (aluminum/tinplate), glass

Beverage type: Juices; mineral water; other waters; beer; wine; hard liquor and milk drinks in volume < 0.2l

Excluded: Dairy products

## DEPOSITS AND FEES

Deposit: Initiated by Producer/Importer

Deposit value: 0.5 HRK (0.066€, USD\$0.07)

Unredeemed deposits: Government Recycling Fund

Handling Fee (HF): 0.12 HRK (€0.02, USD\$0.02) for RVM accepted containers (25% VAT included); 0.10 HRK (€0.01, USD\$0.01) for manually accepted containers (25% VAT included)

Transport Fee:  
 ≤ 100 km: 100 HRK/t (€13.29/t, USD\$14.82/t)  
 100-200 km: 200 HRK/t (€26.58/t, USD\$29.60)  
 200-300 km: 300 HRK/t (€39.87/t, USD\$44.40)  
 ≥ 300 km: 400 HRK/t (€53.16/t, USD\$59.20)

Retailer responsible for organizing the transport of collected PET containers and cans to one of 24 authorized waste packaging management centers. Glass bottles go directly to recyclers.

## SYSTEM OPERATOR

Clearing System: Centralized

System Operator & Administrator: Environmental Protection and Efficiency Fund (Government Operated)

## REDEMPTION SYSTEM

Return to Retail: Retailers ≥ 200 m<sup>2</sup> are obliged to take back. Collection is mostly manual. Retailers must sort containers by material type (50 PET bottles in yellow bags; 100 aluminum and/or steel cans in grey)



bags; 40 glass bottles in green bags). If retailer uses RVMs, then big bags can be used for PET bottles (200) and cans (800).

Material owner:

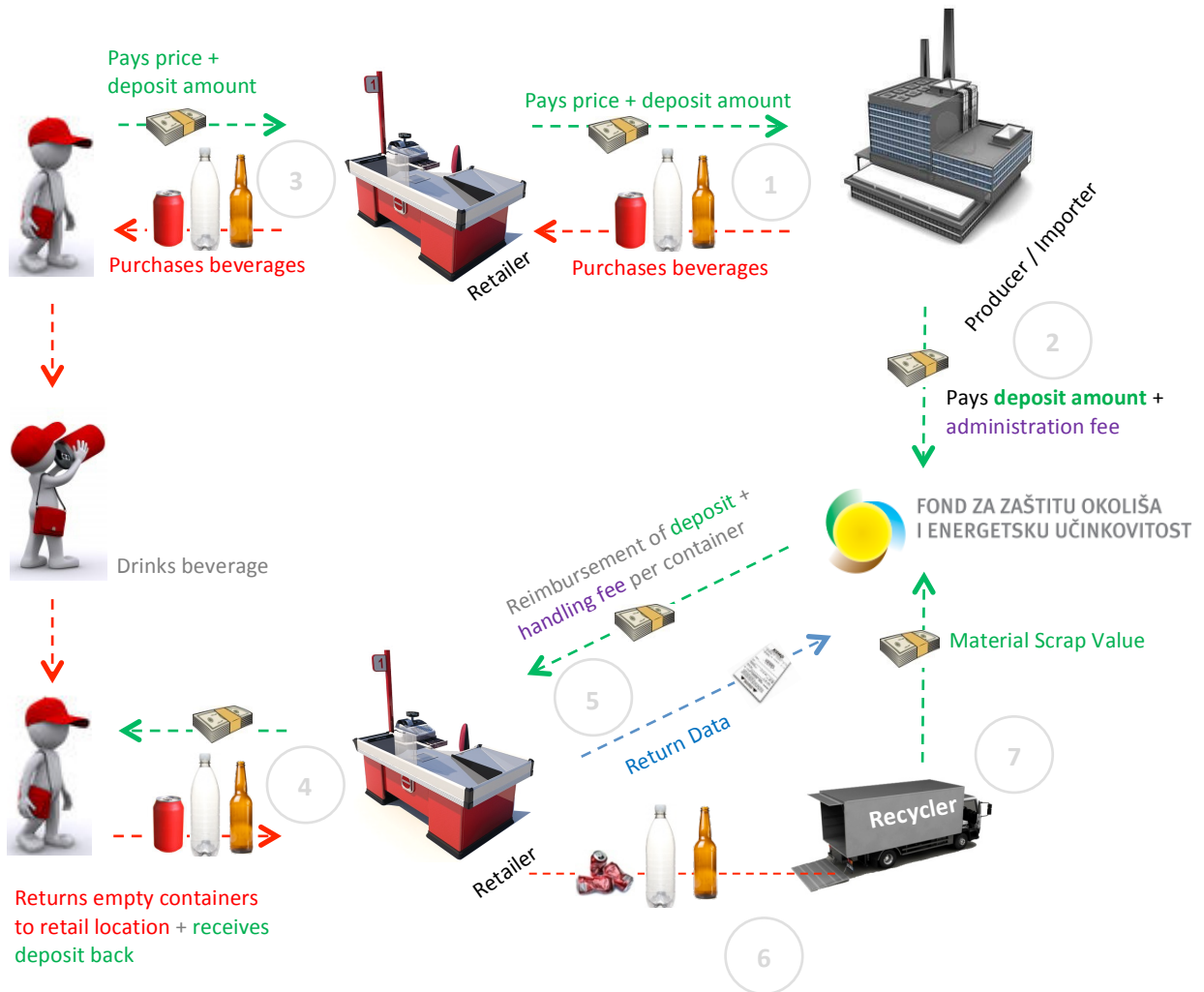
Environmental Protection and Efficiency Fund

## SYSTEM RESULTS (2015)

Total Return Rate:

Up to 90%

## MONEY MATERIAL FLOW





# DENMARK

Population: 5.6m

Website: [www.dansk-retursystem.dk](http://www.dansk-retursystem.dk)



## MANDATE

Statutory Order on Deposits and Collection of Packaging for Beer and Certain Soft Drinks

|               |                         |
|---------------|-------------------------|
| Enacted:      | 2000                    |
| Implemented:  | 2002                    |
| Last Updated: | 2007                    |
| Authority:    | Ministry of Environment |
| Target:       | 95% collection target   |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Plastic (predominantly PET), metal (aluminum), glass  |
| Beverage type: | Beer (alcohol content > 0.5% by volume); carbonated soft drinks (alcohol content of 0–0.5%); energy drinks; mineral water; iced tea; ready-to-drink beverages (incl. lemonade, alcopops, energy drinks and cider products); mixer products where spirits, wine or other fermented products are mixed with other beverages such as soft drinks, cider, chocolate or juice (alcohol content 0.5% - 10%) |
| Excluded:      | Fruit squash, juice, cocoa, wine and spirits, milk  |

## DEPOSITS AND FEES

|                              |  |
|------------------------------|--|
| Deposit:                     | Initiated by Producer/Importer   |
| Deposit value:               | Metal, glass, plastic < 1l: 1 DKK (€0.13, USD\$0.15)<br>Plastic 0.5l: 1.5 DKK (€0.2, USD\$0.22)<br>Metal, glass, plastic ≥ 1l: 3 DKK (€0.4, USD\$0.45)                         |
| Unredeemed deposits:         | Dansk Retursystem A/S (remains partly in system for improvement and partly donated to charity)   |
| <u>Handling Fee (HF):</u>    |  |
| Manual collection:           | Metal: 6.2 øre (€0.008, USD\$0.009)<br>Plastic < 1l: 6.7 øre (€0.009, USD\$0.0097)<br>Plastic > 1l: 10.4 øre (€0.014, USD\$0.015)<br>Glass: 14.8 øre (€0.019, USD\$0.0214)     |
| RVM with compaction:         | Metal: 1.4 øre (€0.0019, USD\$0.0020)<br>Plastic < 1l: 1.8 øre (€0.0019, USD\$0.0026)<br>Plastic > 1l: 2.4 øre (€0.0032, USD\$0.0035)<br>Glass: 7.1 øre (€0.0095, USD\$0.0103) |
| Producer administration fee: | Plastic: €0.02822 (USD\$0.03) - €0.03628 (USD\$0.04)<br>Can: €0.01209 (USD\$0.01) - €0.05510 (USD\$0.06)<br>Glass: €0.05510 (USD\$0.06) - €0.9273 (USD\$1.04)                  |

## SYSTEM OPERATOR

Clearing System: Centralized  
 System Operator & Administrator: Dansk Retursystem A/S

Dansk Retursystem A/S is a private non-profit organization that has been granted the exclusive right to operate the Danish deposit return system through to 2013, as approved by Statutory Order no. 1129 (in Danish only) from the Danish Ministry of the Environment.



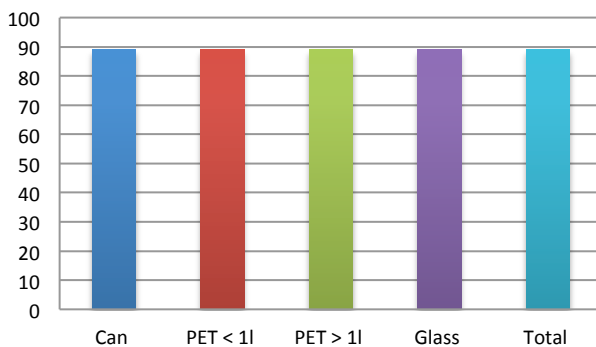
System Finance: Material revenue/unredeemed deposits/administration fee

## REDEMPTION SYSTEM

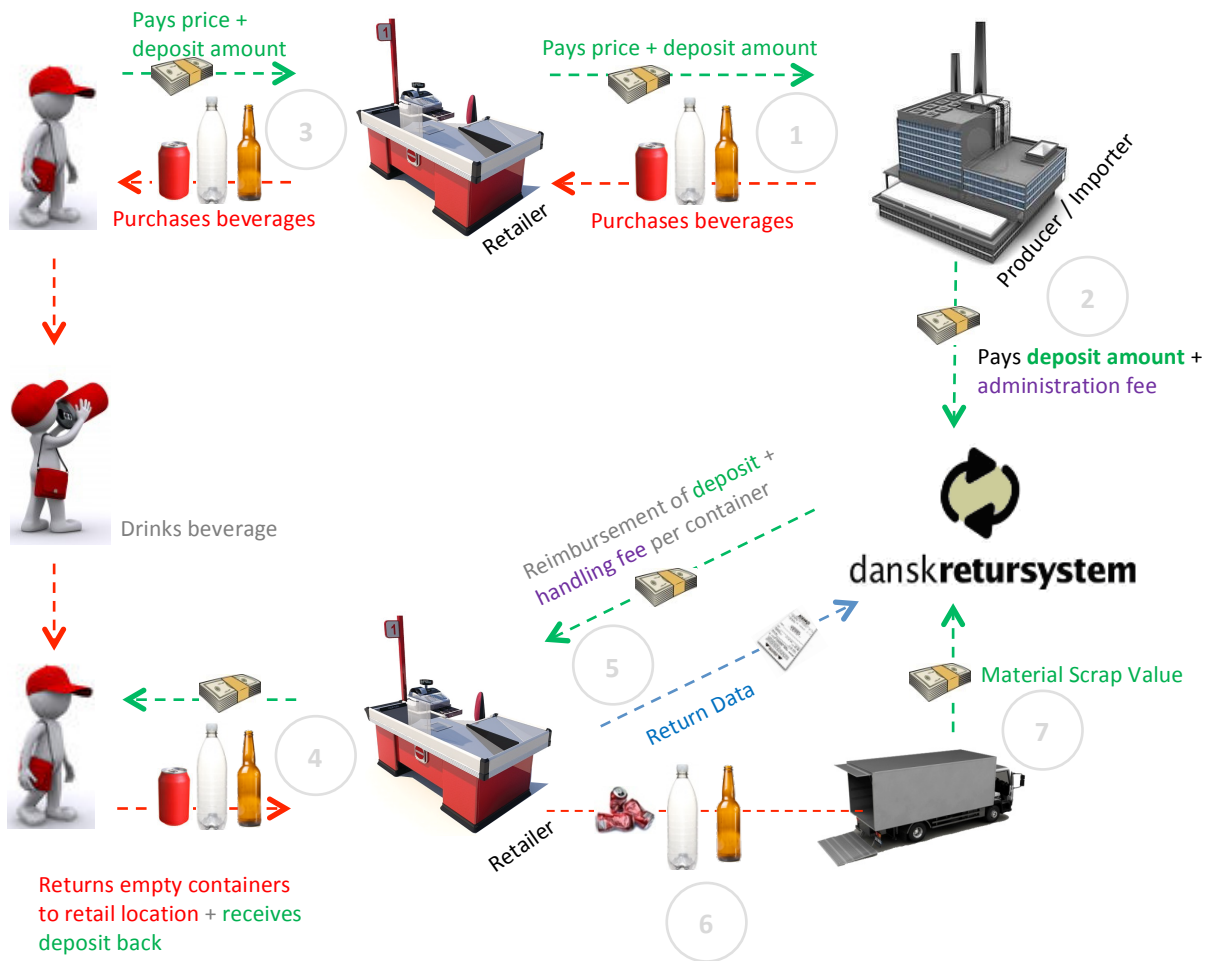
Return to Retail: Nearly 6,000 redemption locations. Collection system is 95% automated / 5% manual  
 Material owner: Dansk Retursystem A/S

## SYSTEM RESULTS (2014)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 89% |
| Can                | 89% |
| PET < 1l           | 89% |
| PET > 1l           | 89% |
| Glass              | 89% |



# MONEY MATERIAL FLOW





# ESTONIA

Population: 1.3m

Website: [www.eestipandipakend.ee](http://www.eestipandipakend.ee)



## MANDATE

---

|               |  |
|---------------|--|
| Packaging Act |  |
| Enacted:      | 2004   |
| Implemented:  | 2005   |
| Authority:    | Ministry of Environment  |
| Target:       | PET and one-way glass (deposits) - 85% recycling of the total mass of packaging waste per calendar year<br>Can (deposits) - 50% recycling of the total mass of packaging waste per calendar year |

## PROGRAM SCOPE

---

|                |  |
|----------------|--|
| Material:      | Plastics (mainly PET), metals (aluminum/steel), glass  |
| Beverage type: | Soft drinks; water; beer; cider; juice; juice concentrates; nectars; low-ethanol alcoholic beverages (up to 6% volume) |
| Excluded:      | Strong alcoholic beverages (vodka, wine, etc); glass jars; Tetra Pak   |

## DEPOSITS AND FEES

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Deposit (initiated by Producer/Importer):

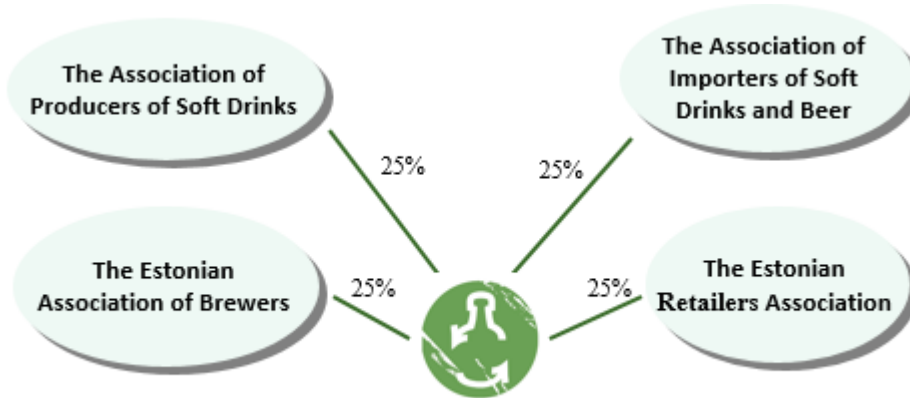
|                                     |   |
|-------------------------------------|---|
| Metal, plastics, glass (all sizes): | € 0.10 (USD\$0.11)  |
| Unredeemed deposits:                | Eesti Pandipakend OÜ (producer responsibility organization) |

Retail Handling Fee:

|                                   |                              |
|-----------------------------------|------------------------------|
| Manual collection (PET/Can)       | €0.0105/packaging unit + VAT |
| Manual collection (one-way glass) | €0.0120/packaging unit + VAT |
| RVM without compaction (PET/Can)  | €0.0215/packaging unit + VAT |
| RVM with compaction (PET/Can)     | €0.0310/packaging unit + VAT |
| RVM collection (one-way glass)    | €0.0234/packaging unit + VAT |

## SYSTEM OPERATOR

Clearing System: Centralized  
 System Operator & Administrator: Eesti Pandipakend OÜ



System Finance: Material revenue, unredeemed deposits, packages handling fee

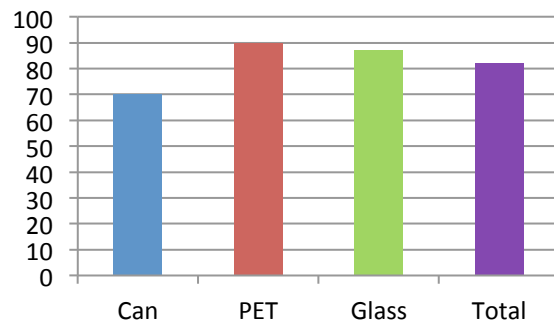
## REDEMPTION SYSTEM

**Return to Retail** Retailers selling deposit containers are required to take back the containers on their premises. If retailer sales area is over 200m<sup>2</sup> it is a must, if it is between 20-200m<sup>2</sup>, retailer can apply to get freedom from that obligation, that is analyzed and decided by the local municipality. Urban vendors under 20m<sup>2</sup> of sales area are not obligated to take back deposit containers. Collection system is 94% automated / 6% manual.

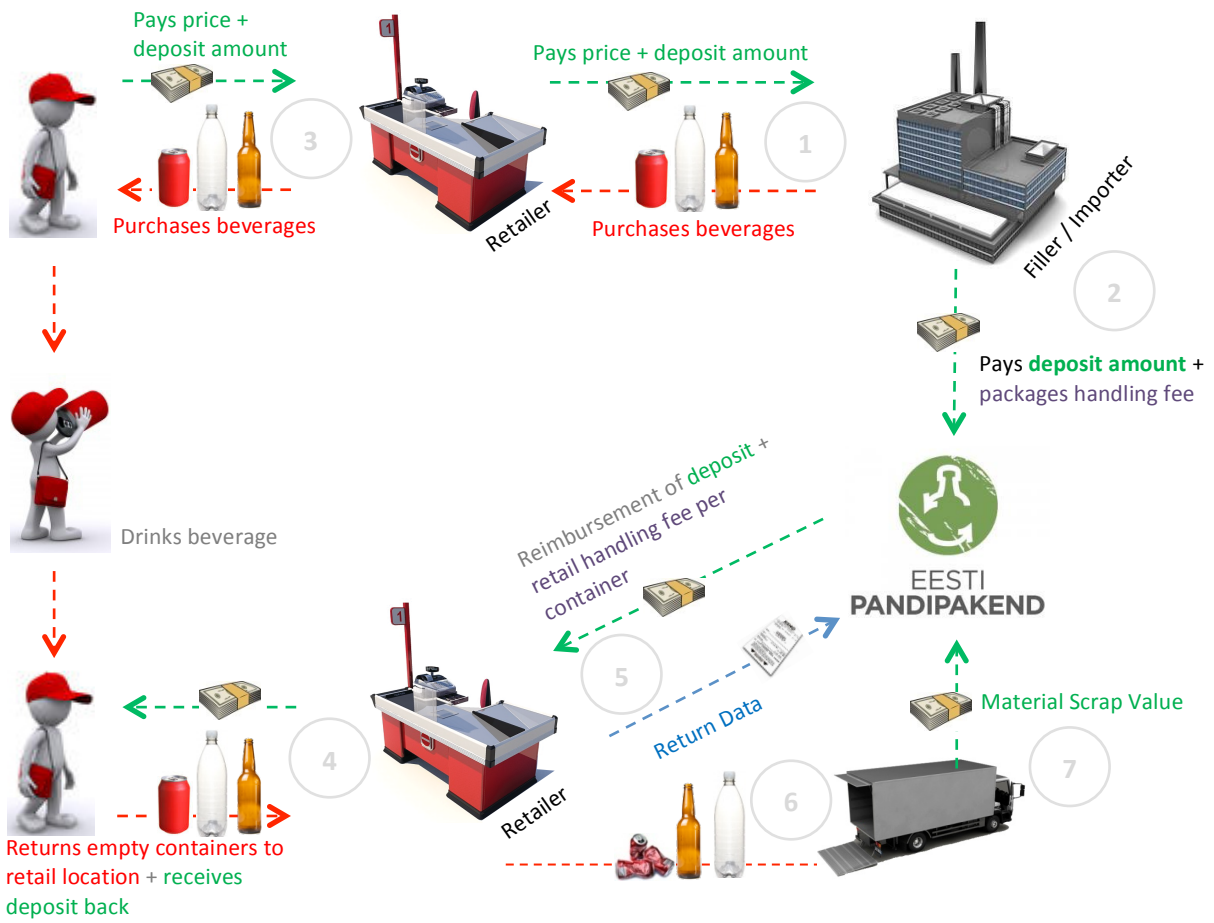
Material owner: Eesti Pandipakend OÜ

## SYSTEM RESULTS (2015)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 82.3% |
| Can                | 70%   |
| PET                | 90%   |
| Glass              | 87%   |



# MONEY MATERIAL FLOW





# FINLAND

Population: 5.4m

Website: [www.palpa.fi](http://www.palpa.fi)



## MANDATE

Excise Tax on One-Way Beer and Soft Drink Containers

Implemented: 1996 (Cans) / 2008 (PET) / 2012 (Glass)  
 Authority: Ministry of Environment  
 Target: 80% collection

## PROGRAM SCOPE

Material: Plastic (predominantly PET), metal (aluminum), glass  
 Beverage type: Almost all soft drinks; water; beer; cider; long drinks; sport drinks; juice; liquor/spirits/wine sold by Alko  
 Excluded: Milk

## DEPOSITS AND FEES

Deposit: Initiated by Producer/Importer

Deposit value: Plastic < 0.5l: €0.10 (USD\$0.11)  
 Plastic 0.5l - 1l: €0.20 (USD\$0.22)  
 Plastic > 1l: €0.40 (USD\$0.45)  
 Metal: €0.15 (USD\$0.17)  
 Glass: €0.10 (USD\$0.11)

Unredeemed deposits: Suomen Palautuspakkaus Oy (PALPA)

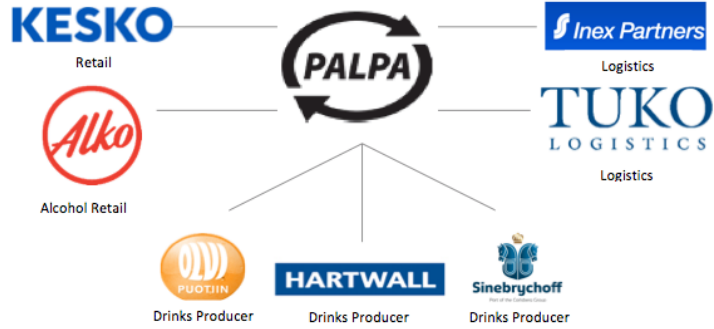
Handling Fee:  
 Manual collection or  
 RVM without compaction: Metal/Plastic/Glass: €0.027 (USD\$0.030)  
 RVM with compaction: Metal/Plastic/Glass: €0.03 (USD\$0.033)

Producer administration fees: Plastic: €0.01720 (USD\$0.02) – €0.11568 (USD\$0.13)  
 Metal: €0.00935 (USD\$0.01)  
 Glass: €0.08640 (USD\$0.10) – €0.13680 (USD\$0.15)

## SYSTEM OPERATOR

Clearing System: Centralized  
 System Operator & Administrator: Suomen Palautuspakkaus Oy (PALPA)  
 System Finance: Material revenue/Unredeemed deposits/Administration Fee





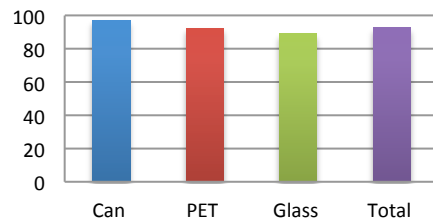
## REDEMPTION SYSTEM

Return-to-Retail: 5,815 retail recycling points / 8,758 HORECA recycling points / 343 shared recycling points. Collection system is 95% automated / 5% manual.

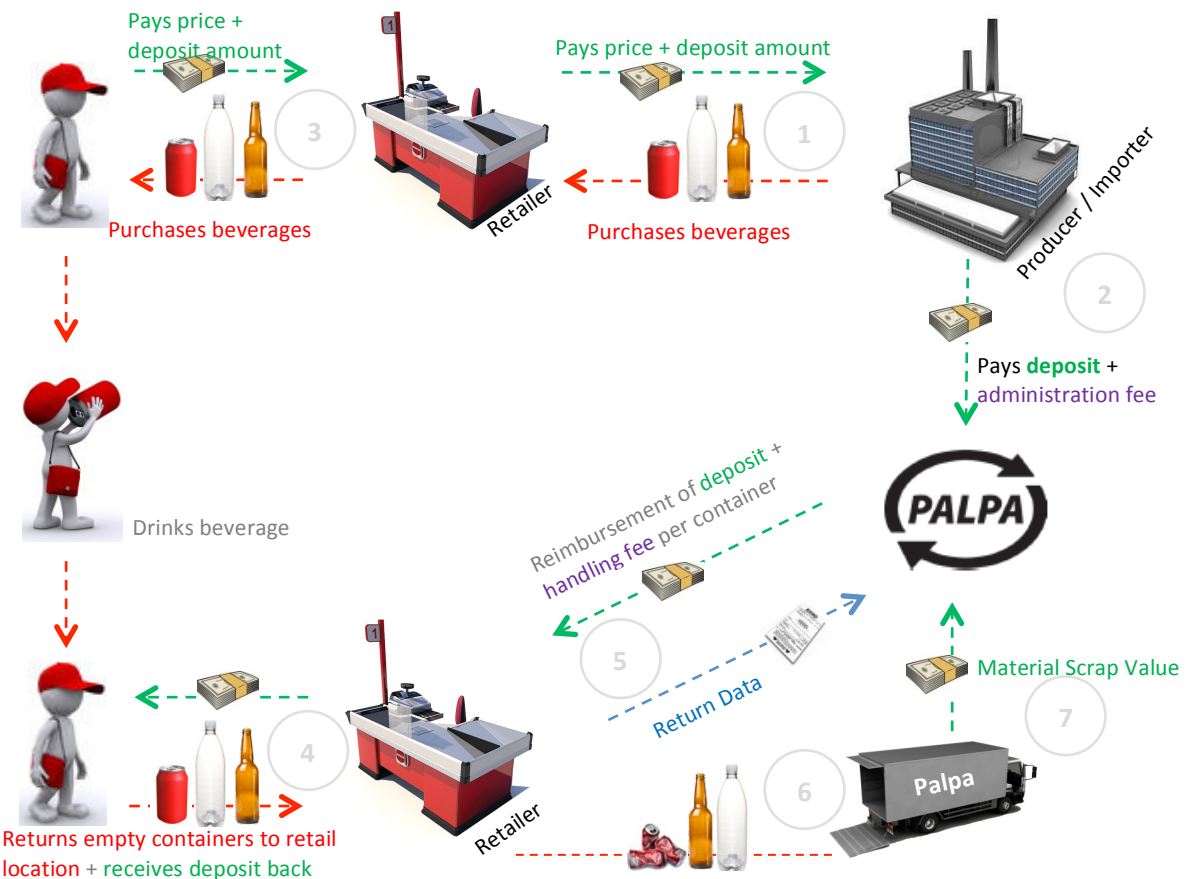
Material owner: Suomen Palautuspakkaus Oy (PALPA)

## SYSTEM RESULTS (2014)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 92.6% |
| Can                | 97%   |
| PET                | 92%   |
| Glass              | 89%   |



## MONEY MATERIAL FLOW





# GERMANY

Population: 81.9m

Website: [www.dpg-pfandsystem.de/index.php/en/](http://www.dpg-pfandsystem.de/index.php/en/)



## MANDATE

|                     |                         |
|---------------------|-------------------------|
| Packaging Ordinance |                         |
| Enacted:            | 1991                    |
| Implemented:        | 2003                    |
| Authority:          | Ministry of Environment |

## PROGRAM SCOPE

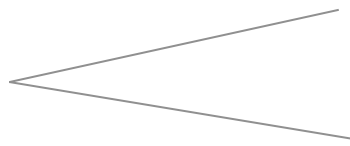
|                |  |
|----------------|--|
| Material:      | Plastic (predominantly PET), metal (aluminum), glass   |
| Beverage type: | Water (mineral water carbonated or non-carbonated, spring water, healing water, table water, water with additives, e.g. aroma, caffeine, oxygen, all other drinkable waters); beer & mixed drinks containing beer (incl. alcohol free beer); carbonated/non-carbonated soft drinks; mixed alcoholic drinks |
| Excluded:      | Milk products; fruit and vegetable juices; dietetic products exclusively for babies; containers <0.1l and > 3l   |

## DEPOSITS AND FEES

|                      |  |
|----------------------|--|
| Deposit              | Initiated by Producer/Importer                       |
| Deposit value:       | Metal, plastic, glass (0.1l – 3l): €0.25 (USD\$0.28) |
| Unredeemed deposits: | Remains with filler / producer                       |
| Handling Fee:        | No handling fee, but retailer owns material          |

## SYSTEM OPERATOR

|                       |                           |
|-----------------------|---------------------------|
| Clearing System:      | Decentralized             |
| System Administrator: | Deutsche Pfandsystem GmbH |
| System Operator:      | Retail and Industry       |



German Retail Association 50%



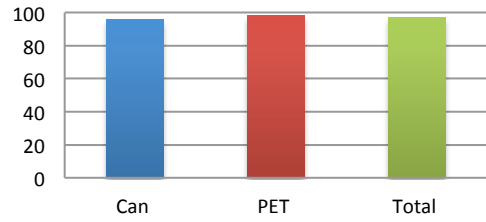
German Food Association 50%

## REDEMPTION SYSTEM

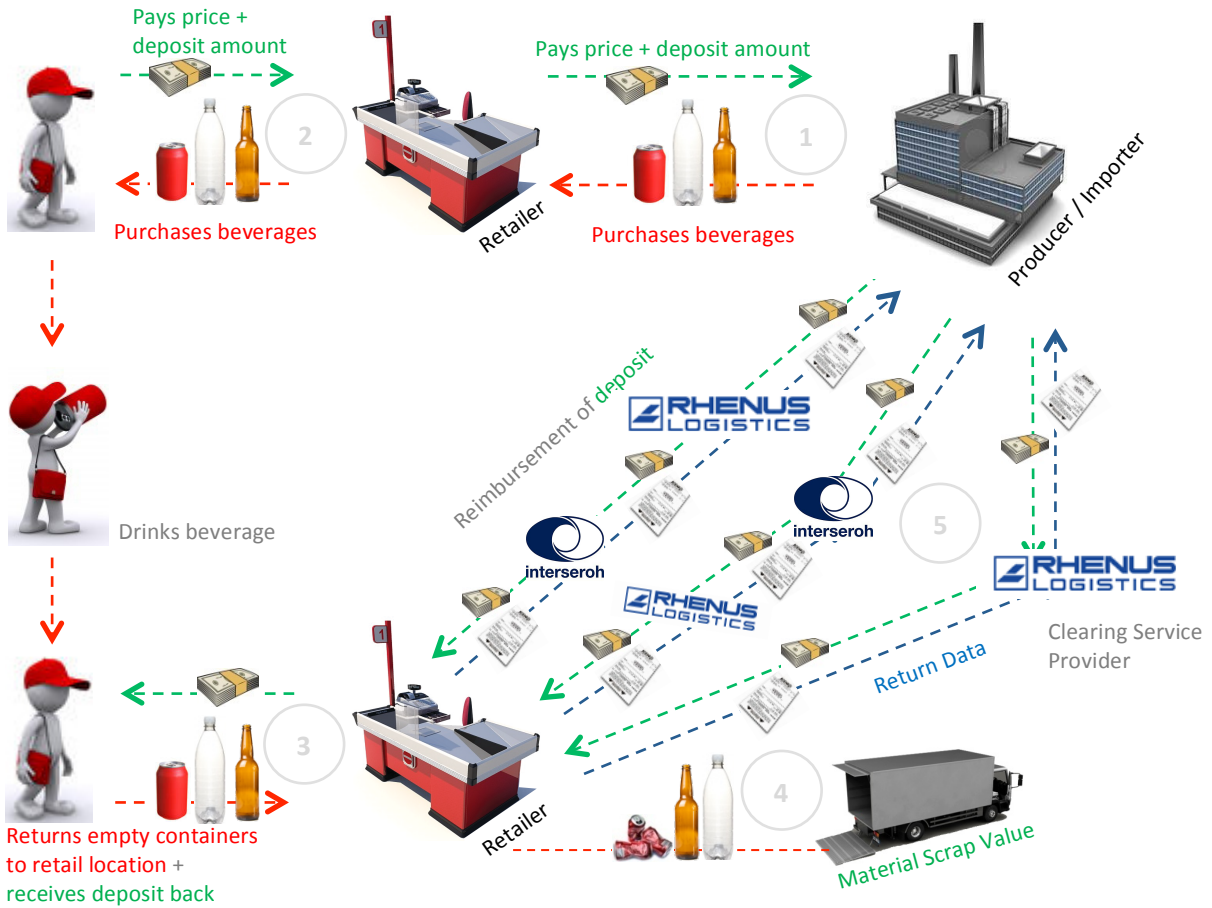
|                   |  |
|-------------------|--|
| Return-to-Retail: | Approx. 135,000<br>Retailers are only obliged to take back the material fractions they sell. Retailers < 200m <sup>2</sup> are only obliged to take back the brands they sell. Collection system is 80% automated / 20% manual |
| Material owner:   | Retail   |

## SYSTEM RESULTS (2014)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 97% |
| Can                | 96% |
| PET                | 98% |



## MONEY MATERIAL FLOW





# ICELAND

Population: 0.3m

Website: [www.endurvinnslan.is](http://www.endurvinnslan.is)



## MANDATE

|                 |                         |
|-----------------|-------------------------|
| Law No. 52/1989 |                         |
| Enacted:        | 1989                    |
| Implemented:    | 1989                    |
| Authority:      | Ministry of Environment |

## PROGRAM SCOPE

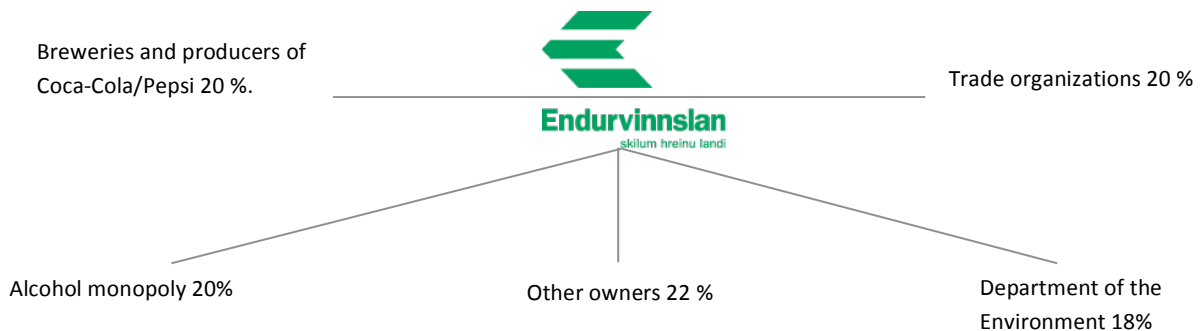
|                |  |
|----------------|--|
| Material:      | Plastic (predominantly PET), metal (aluminum), glass |
| Beverage type: | All ready-to-drink beverages; wine and liquor        |
| Excluded:      | Milk and milk products; juice extract                |

## DEPOSITS AND FEES

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Importer                   |
| Deposit value:       | Metal, plastic, glass: 16 ISK (€0.11, USD\$0.12) |
| Unredeemed deposits: | Endurvinnslan Hf                                 |
| Handling Fee (HF):   | N/A  |

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Centralized   |
| System Operator & Administrator: | Endurvinnslan Hf  |
| System Finance:                  | Material revenue / unredeemed deposits / administration fee |

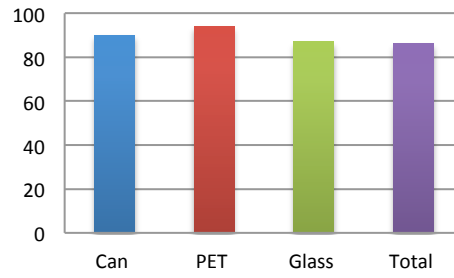


## REDEMPTION SYSTEM

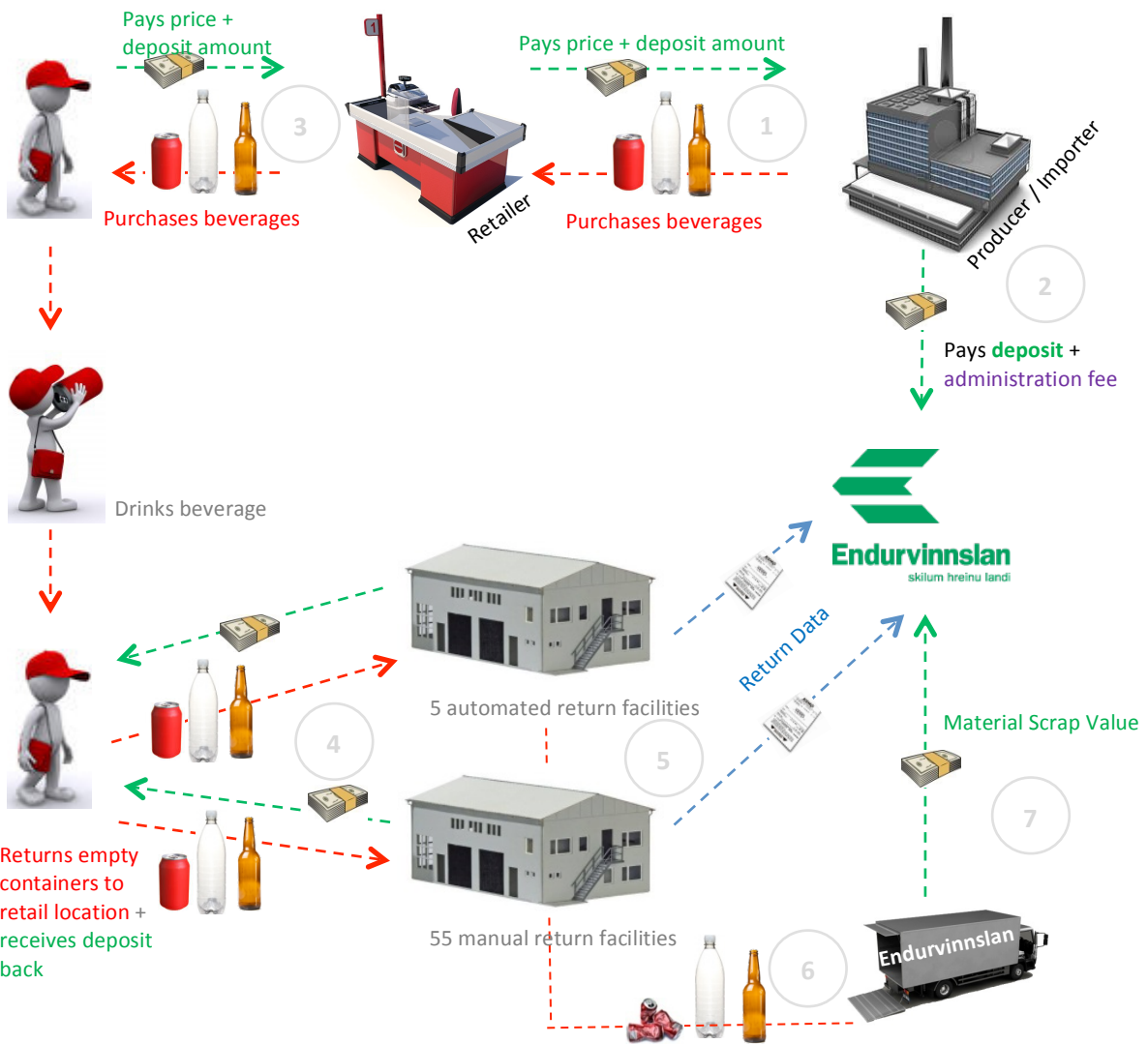
|                  |  |
|------------------|--|
| Return to Depot: | 60 return facilities operated by central organization (55 manual facilities and 5 automated facilities (no need for consumer to sort)) |
| Material owner:  | Endurvinnslan Hf   |

# SYSTEM RESULTS (2013)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 90% |
| Can                | 94% |
| PET                | 87% |
| Glass              | 86% |



# MONEY MATERIAL FLOW





# LITHUANIA

Population: 3.0m

Website: <http://grazintiverta.lt/en/for-business/#>



## MANDATE

Packaging and Packaging Waste Management Act

|              |                                 |
|--------------|---------------------------------|
| Enacted:     | 2014                            |
| Implemented: | 2016                            |
| Authority:   | Ministry of Environment         |
| Target:      | 90% packaging recycling by 2025 |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Plastic, metal, glass 0.1l - 3l   |
| Beverage type: | Beer and beer cocktails; cider and other fermented beverages; mixed alcoholic and non-alcoholic beverages; all types of water; juice and nectars sold in glass, plastic, and metal (tin) packaging. Fruit wines and wine-product cocktails are included when sold in plastic and metal packaging. |
| Excluded:      | Milk, wine and spirits  |

## DEPOSITS AND FEES

|                         |  |
|-------------------------|--|
| Deposit:                | Initiated by Producer/Importer           |
| Deposit value:          | €0.10 (USD\$0.11)                        |
| Unredeemed deposits:    | Užstato Sistemos Administratorius (USAD) |
| <u>Handling Fee:</u>    |  |
| RVM with compaction:    | €0.028                                   |
| RVM without compaction: | €0.015                                   |
| Manual:                 | €0.028                                   |

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Centralized   |
| System Operator & Administrator: | USAD  |
| System Finance:                  | Material revenue / Unredeemed deposits / Administration Fee |



Lithuanian Association of Breweries



Association of Lithuanian Trade Enterprises



Lithuanian Natural Mineral Water Manufacturers' Association

## REDEMPTION SYSTEM

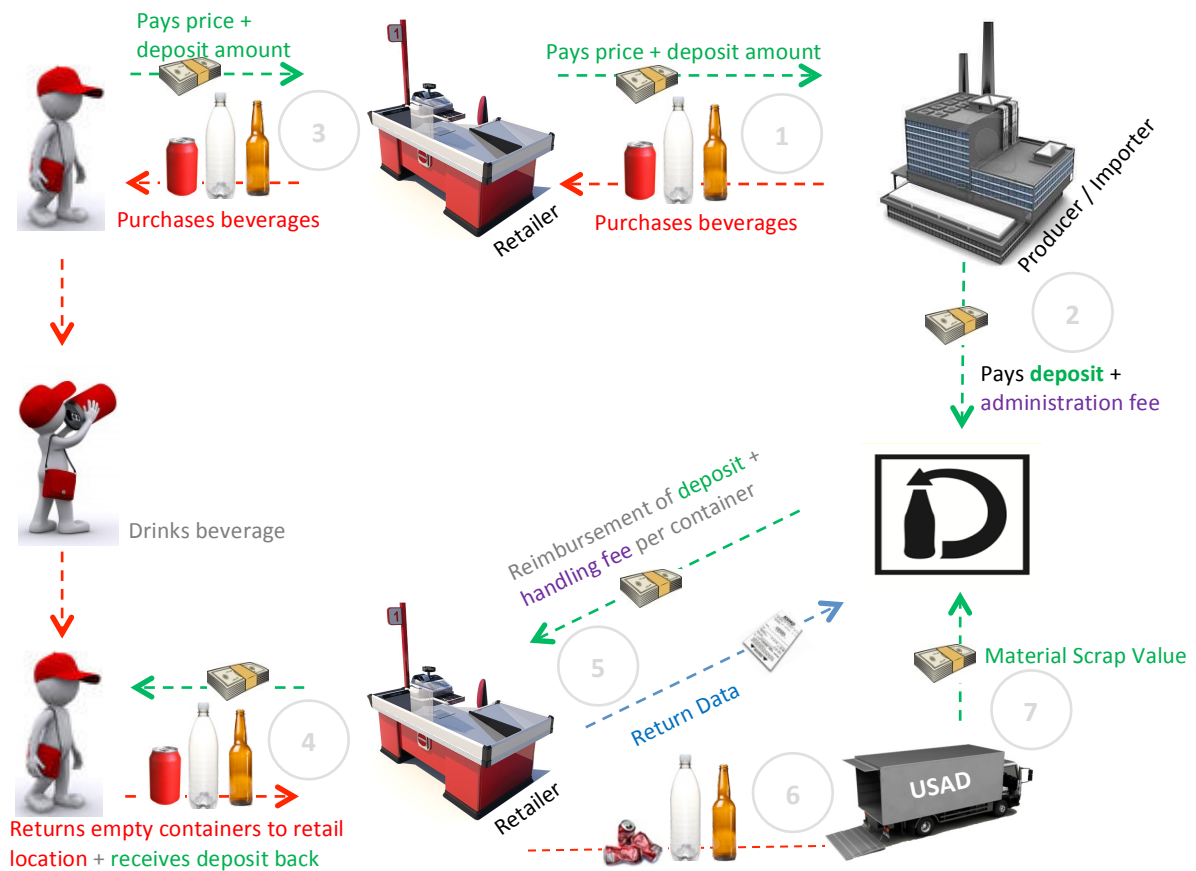
Return-to-Retail: Containers can be returned for a refund of the deposit in all shops with an area of >300m<sup>2</sup>

Material owner: USAD

## SYSTEM RESULTS (2016)

Total Return Rate: 74%

## MONEY MATERIAL FLOW





# THE NETHERLANDS

Population: 16.8m

Website: [www.retourverpakking.nl](http://www.retourverpakking.nl)



## MANDATE

Verpakkingsverordening Productschap Dranken

|              |                     |
|--------------|---------------------|
| Enacted:     | 2003                |
| Implemented: | 2005                |
| Target:      | 95% for PET bottles |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Plastic (>0.5l predominantly PET)  |
| Beverage type: | Soft drinks; water   |
| Excluded:      | Medical drinks; wine; spirits; moderately alcoholic beverages; cartons, which are intended for beverages and consist of at least 80% paper or paperboard; packages intended for direct sale with a drink; drink containers with a capacity of $\leq 1$ deciliter; beverage packaging in which the producer or importer can demonstrate on an annual basis < 500,000 units of consumer packagings be made available |

## DEPOSITS AND FEES

|                      |                                |
|----------------------|--------------------------------|
| Deposit:             | Initiated by Producer/Importer |
| Deposit value:       | €0.25 (USD\$0.28)              |
| Unredeemed deposits: | Producer / Importer            |
| Handling Fee:        | None                           |

## SYSTEM OPERATOR

|                                  |                                 |
|----------------------------------|---------------------------------|
| Clearing System:                 | Centralized                     |
| System Operator & Administrator: | Stichting Retourverpakkingen NL |

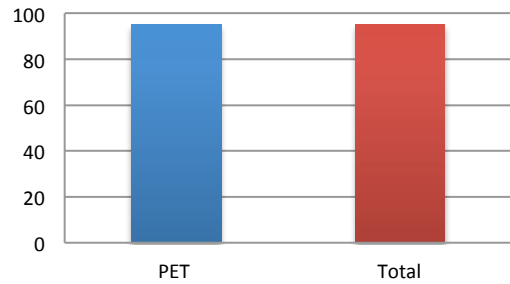
## REDEMPTION SYSTEM

|                  |   |
|------------------|---|
| Return to Retail | Collection system is 89% automated / 11% manual |
| Material owner:  | Beverage producers                              |

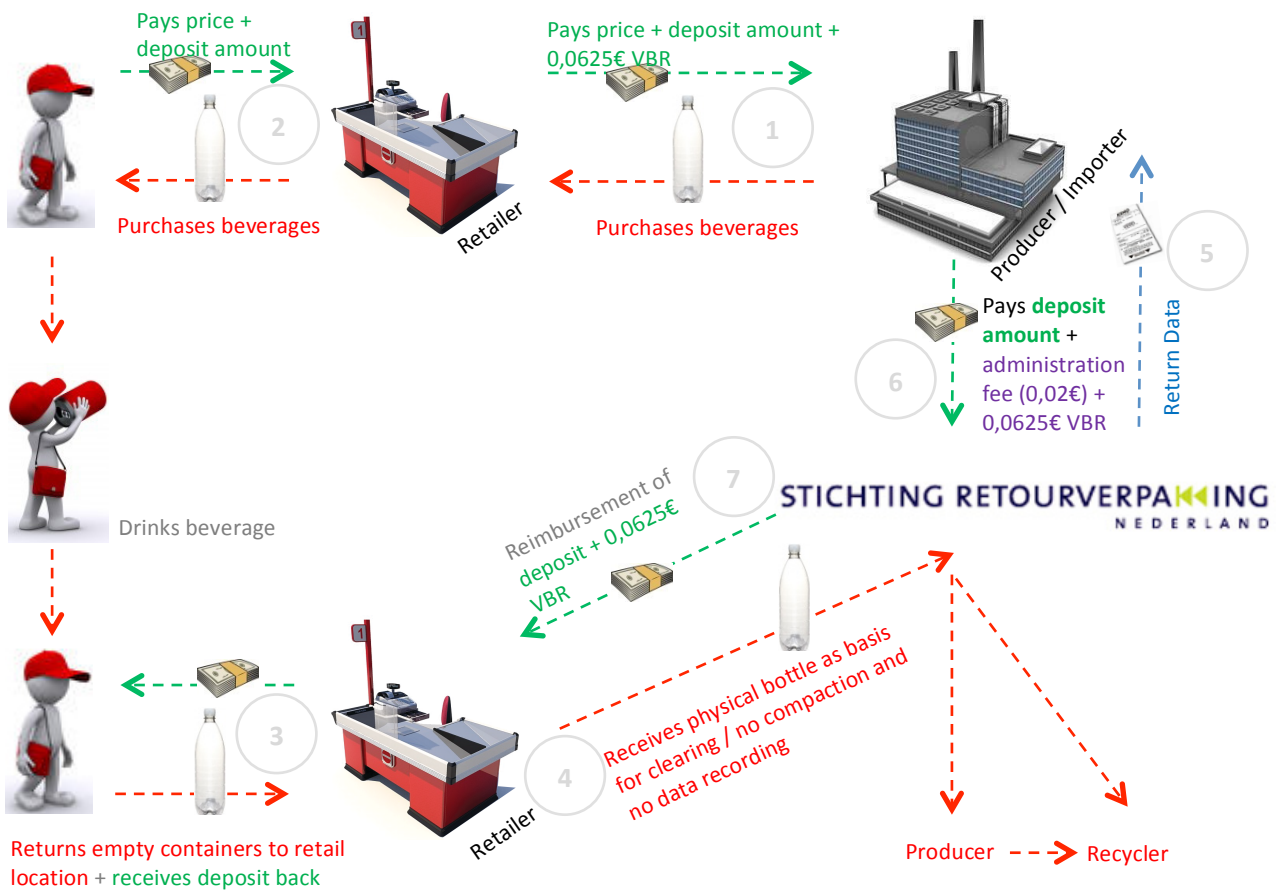


## SYSTEM RESULTS (2014)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 95% |
| PET                | 95% |



## MONEY MATERIAL FLOW





# NORWAY

Population: 5.0m



Website: <http://infinitem.no/infinitem/>

## MANDATE

|  |   |
|--|---|
| Product Control Act / Regulations relating to the recycling of waste |   |
| Enacted:   | 1999  |
| Implemented:   | 1999  |
| Authority:   | Norwegian Climate and Pollution Authority                         |
| Target:  | 95% for cans and recyclable PET bottles to be exempt from Eco Tax |

## PROGRAM SCOPE

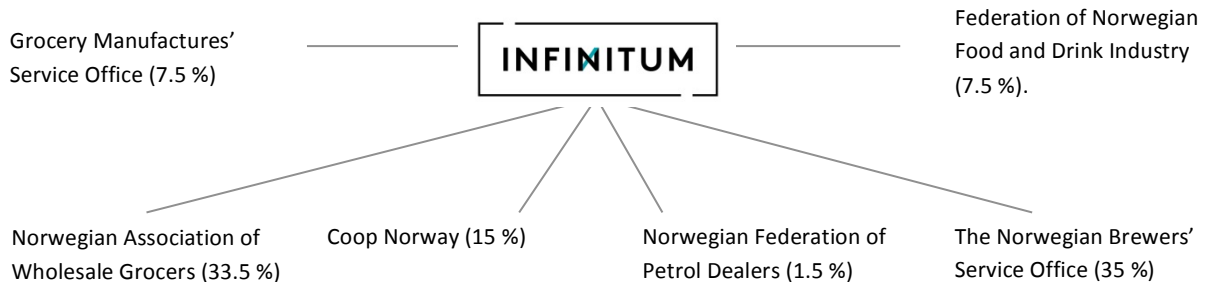
|                |  |
|----------------|--|
| Material:      | Plastic (predominantly PET, HDPE), metal (aluminum/tinplate)                                   |
| Beverage type: | Beer; carbonated beverages; wine; liquor; non-carbonated beverages; fruit and vegetable juices |
| Excluded:      | Milk products  |

## DEPOSITS AND FEES

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Importer   |
| Deposit value:       | Plastic, metal ≤ 0.5l: 1 NOK (€0.13, USD\$0.12)<br>Plastic, metal > 0.5l: 2.5 NOK (€0.32, USD\$0.30) |
| Unredeemed deposits: | Infinitem AS (formerly Norsk Resirk)   |
| Handling Fee:        | N/A  |

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Centralized   |
| System Operator & Administrator: | Infinitem AS  |
| System Finance:                  | Material revenue / unredeemed deposits / administration fee |



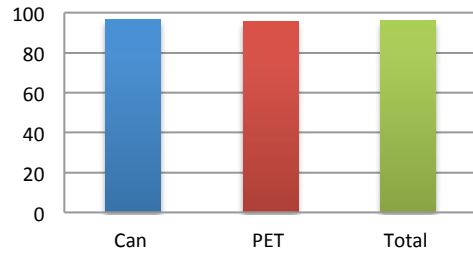
## REDEMPTION SYSTEM

Return-to-Retail 15,000 redemption locations. Collection system is 95% automated / 5% manual.

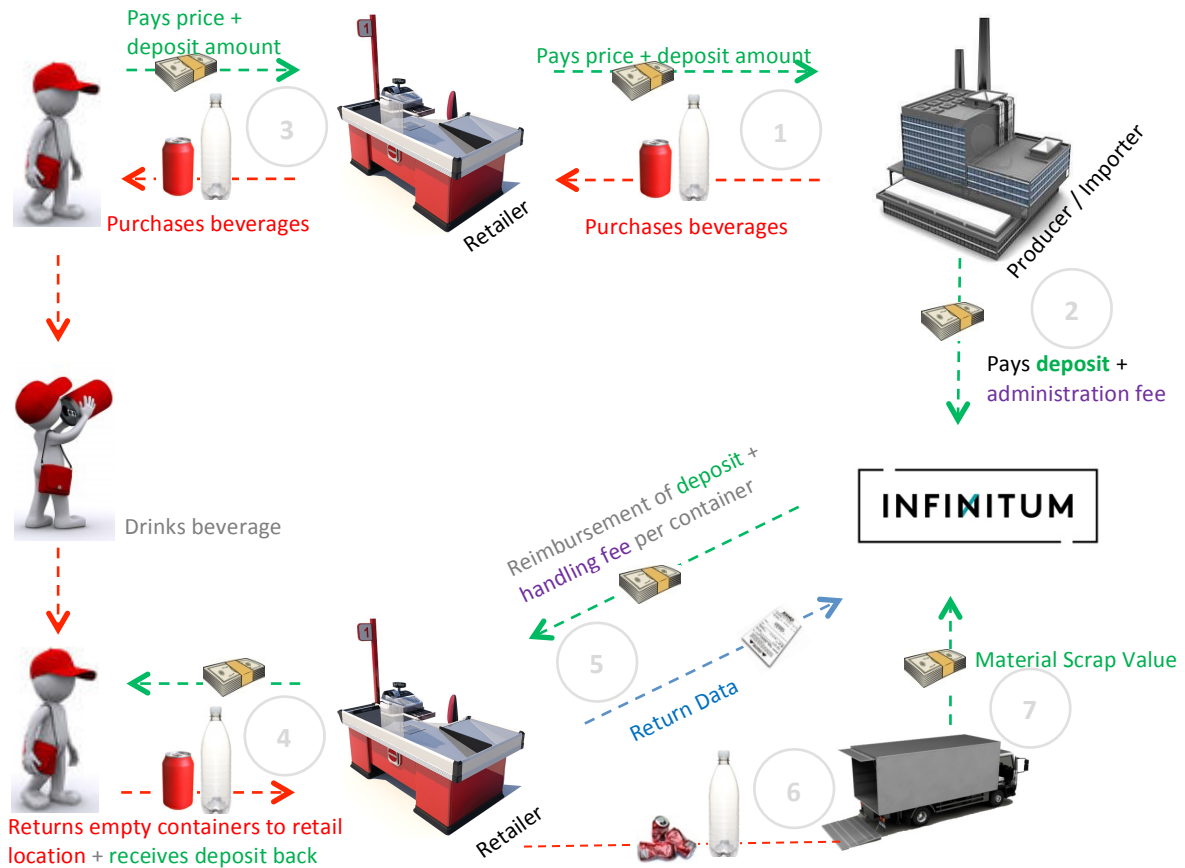
Material owner: Infinitum AS

## SYSTEM RESULTS (2014)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 96%   |
| Can                | 96.6% |
| PET                | 95.4% |



## MONEY MATERIAL FLOW





# SWEDEN

Population: 9.5m

Website: [www.pantamera.nu](http://www.pantamera.nu)



## MANDATE

Law on Recycling of Aluminum Beverage Containers  
 Law on Recycling of Certain Beverage Containers (PET)  
 Ordinance on the Return System for Plastic Bottles and Metal Cans

Enacted: 1982, 1991, 2005  
 Implemented: 1984, 1994, 2006  
 Authority: Swedish Board of Agriculture  
 Target: 90% collection target for all metal cans and PET bottles set by Swedish EPA

## PROGRAM SCOPE

Material: Plastic (predominantly PET), metal (aluminum/tinplate) (Note: The historical two laws governing aluminum can and PET bottle recycling had narrower definitions: drink packaging made of aluminum, and bottles that are made of polyethylenetereftalat. The definition in the new law (Ordinance 2005:220) that replaced the existing laws have broader definitions.)

Beverage type: All ready-for-consumption beverages including beer, soft drinks, cider, bottled water

Excluded: Dairy products; vegetable; fruit; berry drinks

## DEPOSITS AND FEES

Deposit: Initiated by Producer/Importer

Deposit value: Metal: 1 SEK (€0.11, USD\$0.12)  
 Plastic < 1l: 1 SEK (€0.11, USD\$0.12)  
 Plastic > 1l: 2 SEK (€0.22, USD\$0.24)

Unredeemed deposits: AB Svenska Returpack

Handling Fee:  
 Manual collection: Metal: 0 SEK (€0.00, USD\$0.00)  
 Plastic: 0.2 SEK (€0.023, USD\$0.02)

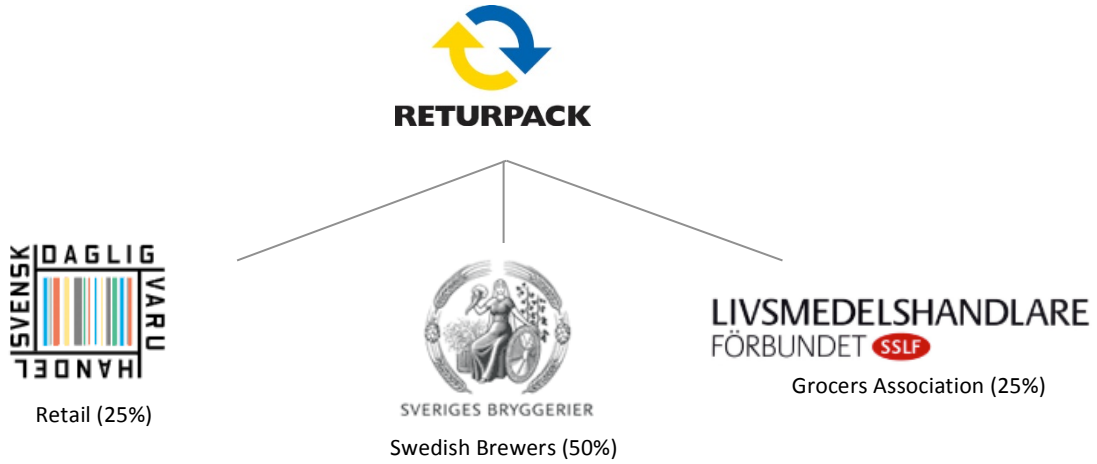
RVM without compaction: Metal, Plastic: 0.2 SEK (€0.023, USD\$0.02)

RVM with compaction: Metal: 0.15 SEK (€0.017, USD\$0.02)  
 Plastic <1l: 0.38 SEK (€0.043, USD\$0.045)  
 Plastic >1l: 0.42 SEK (€0.048, USD\$0.049)

Producer administration fee: Plastic: €0.0232 (USD\$0.03) – €0.0548 (USD\$0.06)  
 Aluminum can: €0 (USD\$0)  
 Steel can: €0.0259 (USD\$0.03) (sorting fee)

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Centralized   |
| System Operator & Administrator: | AB Svenska Returpack (Pantamera)                            |
| System Finance:                  | Material revenue / unredeemed deposits / administration fee |

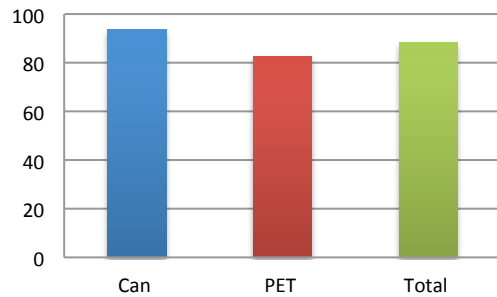


## REDEMPTION SYSTEM

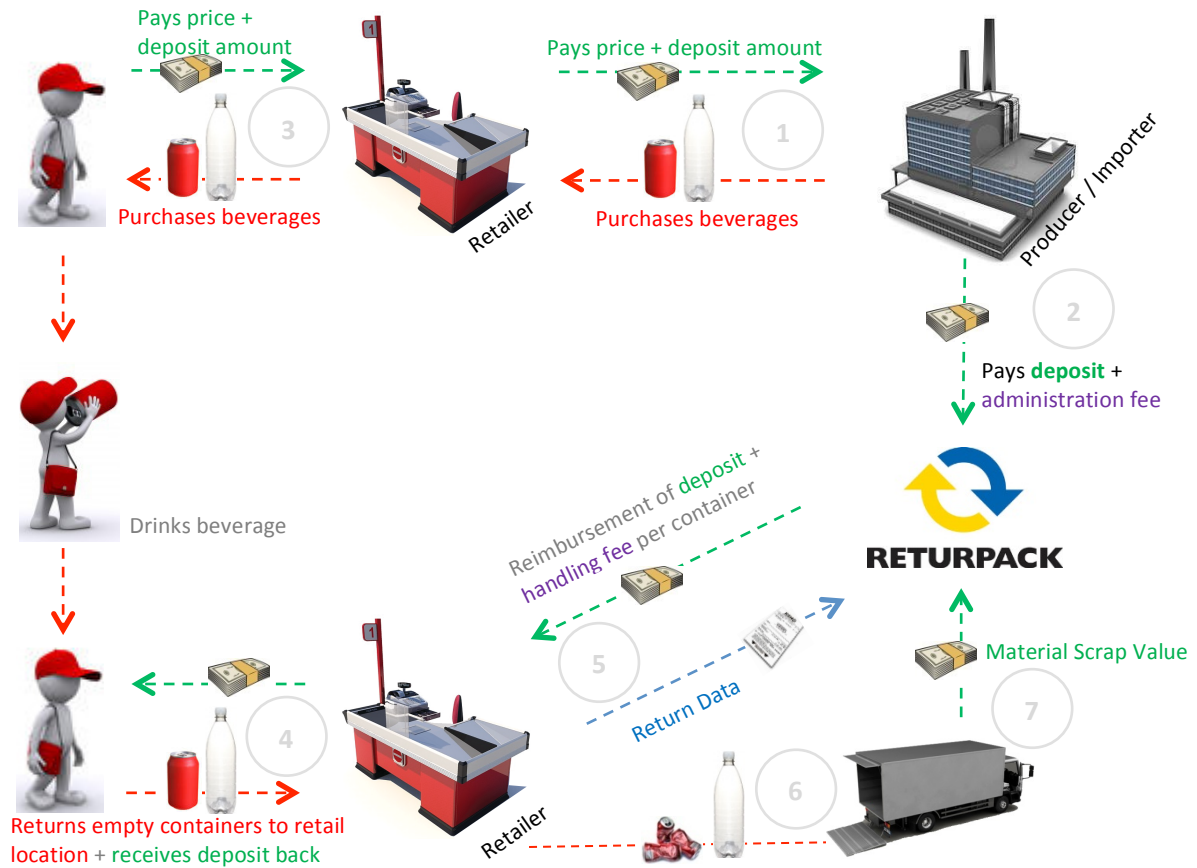
|                  |  |
|------------------|--|
| Return-to-Retail | Collection system is 95% automated / 5% manual |
| Material owner:  | AB Svenska Returpack (Pantamera)               |

## SYSTEM RESULTS (2014)

|                    |        |
|--------------------|--------|
| Total Return Rate: | 88.25% |
| Can                | 93.8%  |
| PET                | 82.7%  |

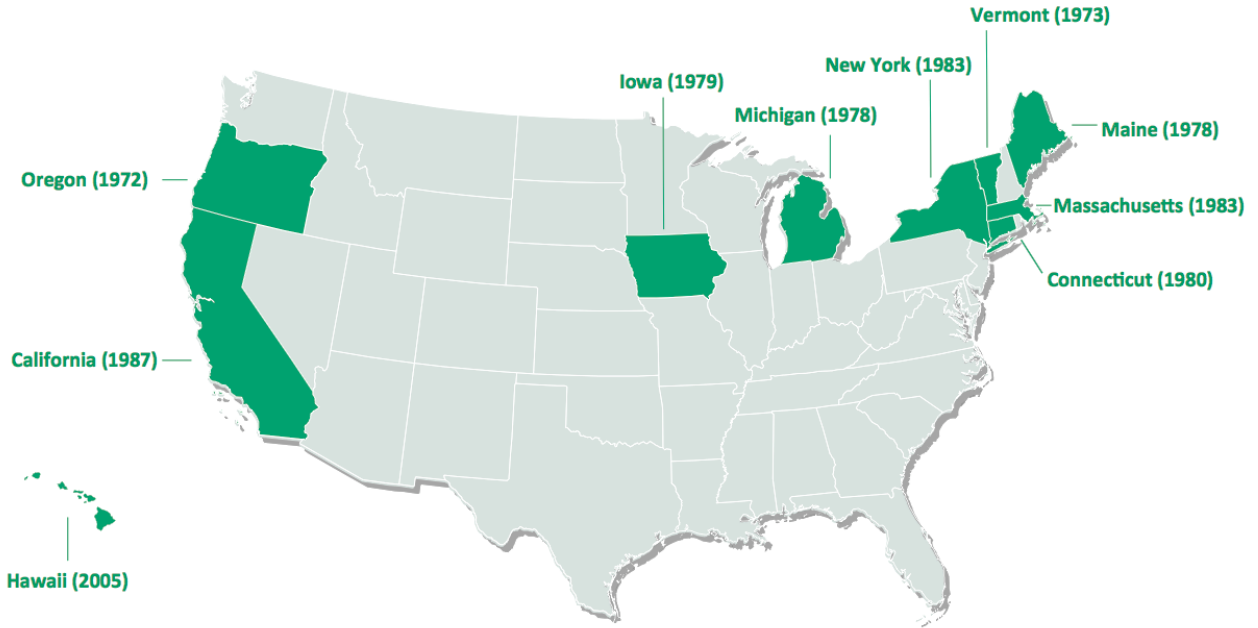


# MONEY MATERIAL FLOW



# USA

(88.6 million have access to DRS)



| State            | Population (million) | Mandate Enacted | Mandate Implemented |
|------------------|----------------------|-----------------|---------------------|
| 1. California    | 38.8                 | 1986            | 1987                |
| 2. Connecticut   | 3.6                  | 1978            | 1980, 2009 (Water)  |
| 3. Hawaii        | 1.3                  | 2002            | 2005                |
| 4. Iowa          | 3.1                  | 1978            | 1979                |
| 5. Maine         | 1.3                  | 1976            | 1978                |
| 6. Massachusetts | 6.6                  | 1981            | 1983                |
| 7. Michigan      | 9.9                  | 1976            | 1978                |
| 8. New York      | 19.5                 | 1982            | 1983, 2009 (Water)  |
| 9. Oregon        | 3.9                  | 1971            | 1972                |
| 10. Vermont      | 0.6                  | 1972            | 1973                |



# CALIFORNIA

**Population: 38m**

Website: [www.calrecycle.ca.gov/bevcontainer/](http://www.calrecycle.ca.gov/bevcontainer/)



## MANDATE

California Beverage Container Recycling and Litter Reduction Act

|               |   |
|---------------|---|
| Enacted:      | 1986                                    |
| Implemented:  | 1987                                    |
| Last Updated: | 2012 (Enforcement & Payments)           |
| Authority:    | Department of Conservation (CalRecycle) |
| Target:       | 80% Recycling Rate                      |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Plastic, metal (aluminum), bimetal, glass                           |
| Beverage type: | Beer; malt; wine and distilled spirits; all non-alcoholic beverages |
| Excluded:      | Milk; 100% fruit juice ≥46 oz.; vegetable juice ≥16 oz; refillables |

## DEPOSITS AND FEES

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | Containers < 24oz: USD \$0.05<br>Containers ≥ 24oz: USD \$0.10  |
| Unredeemed deposits: | Escheated to state, used for program administration   |
| Handling fee:        | Paid to the operators of supermarket redemption sites to help cover the costs of operating the redemption system                              |
| Processing Fee (PF): | Paid by beverage manufacturers to the Department of Conservation, per container sold  |
| Processing Payments: | Made to all certified recyclers and processors (by the Department) when the cost of recycling exceeds the value of material, per ton redeemed |

## SYSTEM OPERATOR

|                                  |                                  |
|----------------------------------|----------------------------------|
| Clearing System:                 | Centralized                      |
| System Operator & Administrator: | CalRecycle (Government Operated) |

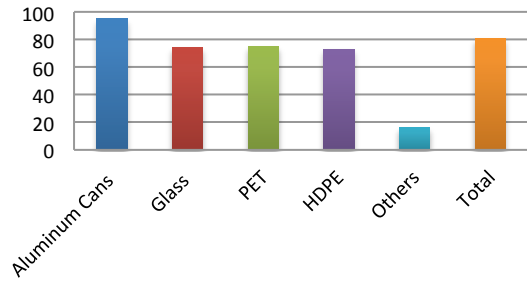
## REDEMPTION SYSTEM

|  |   |
|--|---|
| Return-to-Retail (25%)                 | Return-to-retail obligation with opt-out if certified recycling center is located in a Convenience Zone (CZ); non-handling fee recycling centers; curbside/drop-off recycling programs. CRV may be calculated by weight. 2,578 Recycling Centers (2012), 1,376 of which are CZ recyclers. |
| Return to certified recycler (55%-65%) |   |
| “Donate” to Curbside (15%-20%)         |   |
| Material owner:                        | Processor, Curbside   |



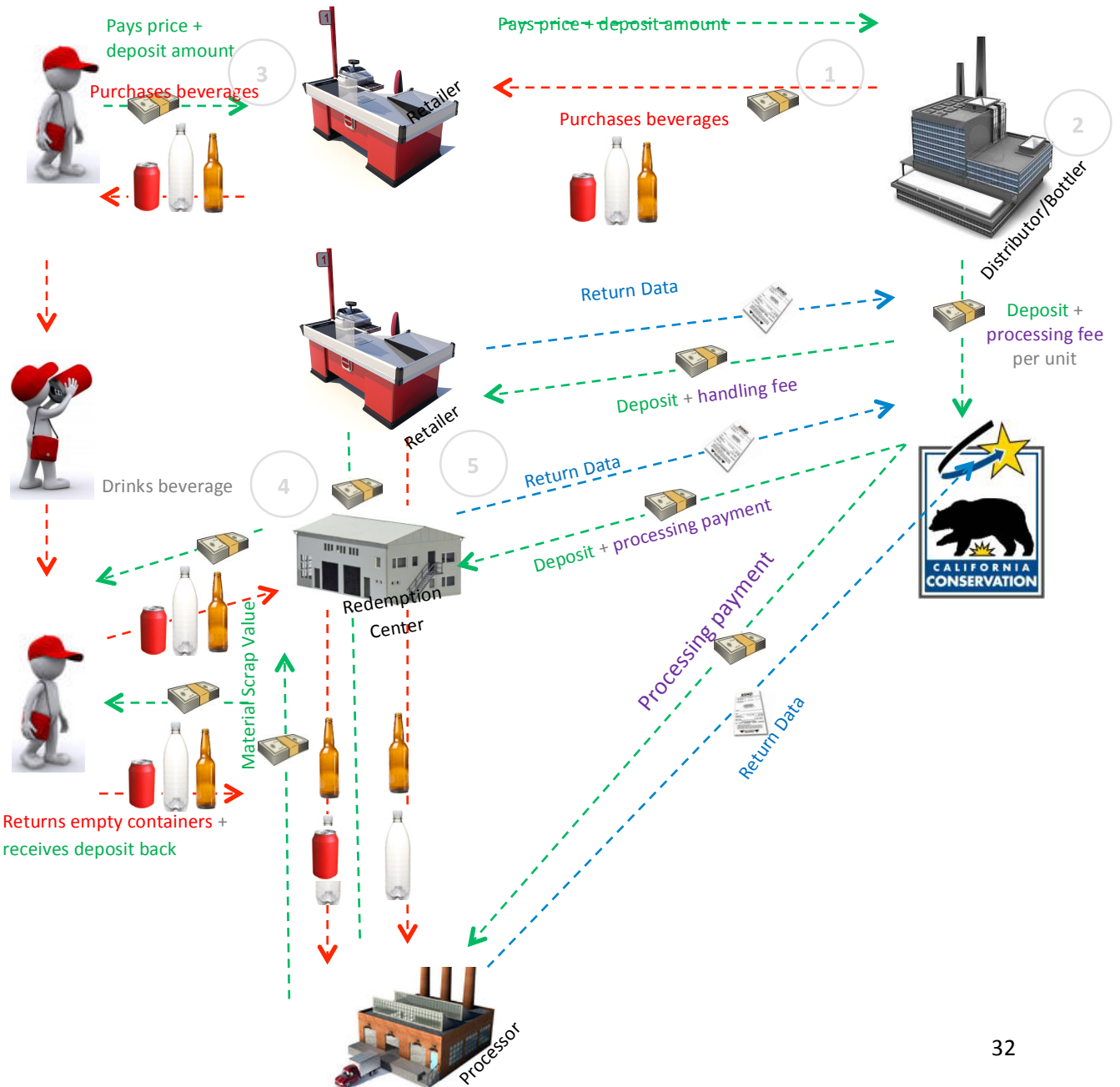
## SYSTEM RESULTS (2015)

|                    |      |
|--------------------|------|
| Total Return Rate: | 81%* |
| Aluminum           | 95%  |
| Glass              | 74%  |
| PET                | 75%  |
| HDPE               | 73%  |
| Others             | 16%  |



\*Curbside included in redemption rate; curbside programs collect 9% and other programs collect the other 72% of covered beverage containers.

## MONEY MATERIAL FLOW





# CONNECTICUT

**Population: 3.6m**

Website: [www.ct.gov/deep/cwp/view.asp?a=2714&q=324834](http://www.ct.gov/deep/cwp/view.asp?a=2714&q=324834)



## MANDATE

---

Beverage Container Deposit and Redemption Law

|               |   |
|---------------|---|
| Enacted:      | 1978  |
| Implemented:  | 1980  |
| Last Updated: | 2009 (Water added)                                |
| Authority:    | Department of Energy and Environmental Protection |

## PROGRAM SCOPE

---

|                |  |
|----------------|--|
| Material:      | Plastic, metal (aluminum), glass<br>(any individual, separate, sealed bottle, can, jar or carton containing a beverage <3l)  |
| Beverage type: | Beer; malt; carbonated soft drinks (including mineral waters and soda waters); noncarbonated beverages (water, including flavored water, nutritionally enhanced water) |
| Excluded:      | Other noncarbonated beverages; juices; HDPE containers   |

## DEPOSITS AND FEES

---

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer     |
| Deposit value:       | Plastic, metal, glass: USD\$0.05               |
| Unredeemed deposits: | Escheated to State                             |
| Handling Fee:        | USD\$0.015 for beer, USD\$0.02 other beverages |

## SYSTEM OPERATOR

---

|                                  |                      |
|----------------------------------|----------------------|
| Clearing System:                 | Decentralized, TOMRA |
| System Operator & Administrator: | Beverage Industry    |

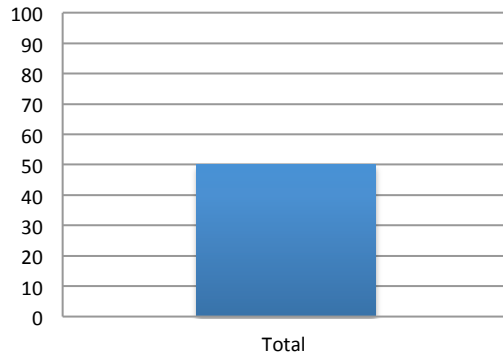
## REDEMPTION SYSTEM

---

|   |  |
|---|--|
| Return-to-Retail /<br>Return to Redemption Center | Stores are only required to take back the brands that they sell. |
| Material owner:                                   | Deposit Initiator  |

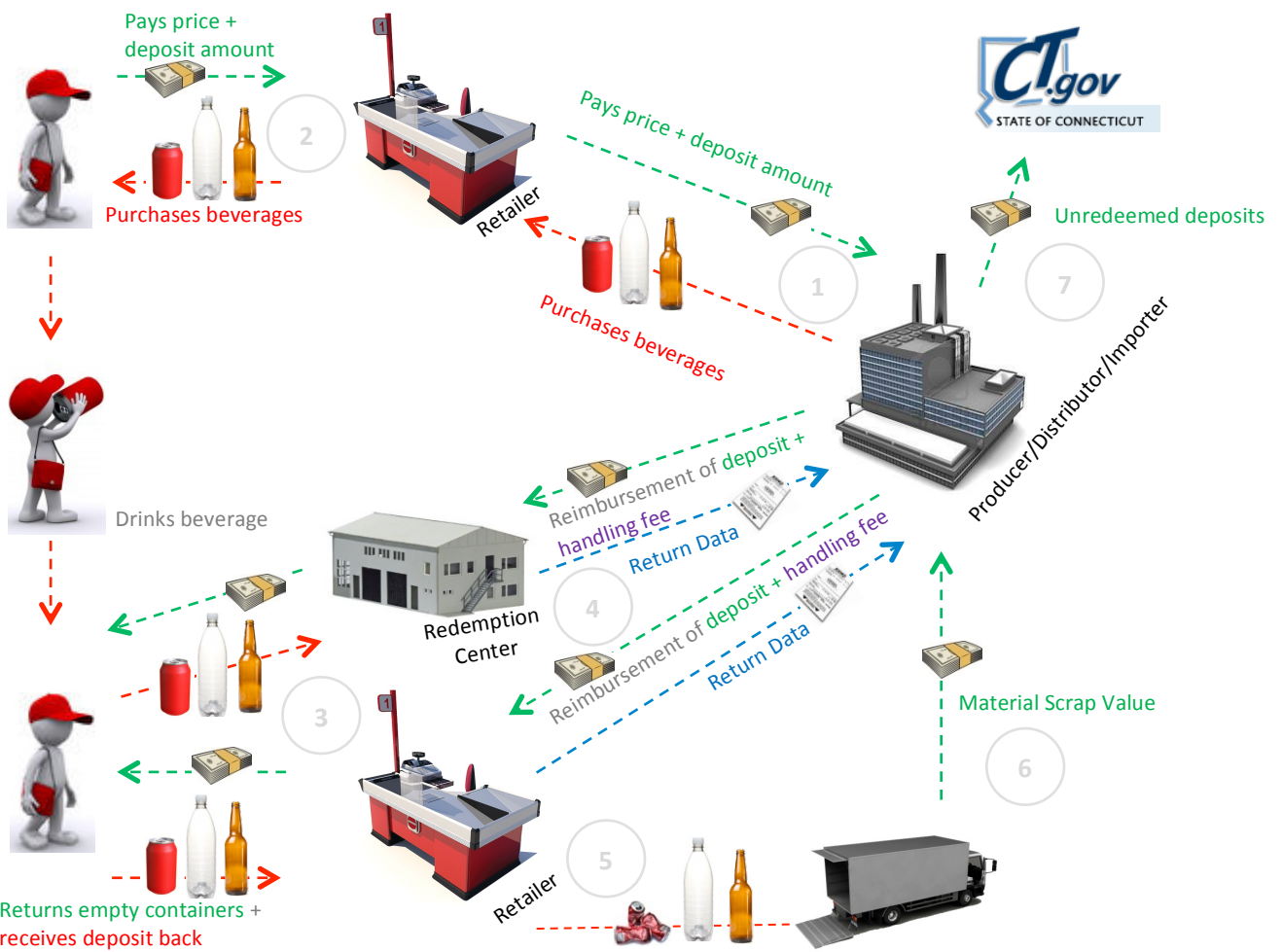
# SYSTEM RESULTS (2015)

Return Rate: 50%\*



\*Does not include 3<sup>rd</sup> quarter. Before water bottles were added to the deposit system in 2009, redemption rates were higher (in the range of 65-70%).

# MONEY MATERIAL FLOW





# HAWAII

**Population: 1.3m**

Website: <http://health.hawaii.gov/hi5/>



## MANDATE

---

Deposit Beverage Container Law (Act 176)

|               |  |
|---------------|--|
| Enacted:      | 2002                                       |
| Implemented:  | 2005                                       |
| Last Updated: | 2013 (Energy Drinks & Dietary Supplements) |
| Authority:    | Department of Health                       |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | Plastic (PET, HDPE); metal (aluminum); bi-metal; glass ≤ 2l   |
| Beverage type: | Beer; malt beverages; mixed spirits (< 15% alcohol content); mixed wine (< 7% alcohol content); all non-alcoholic beverages (e.g. juice, tea, etc.) |
| Excluded:      | Milk; dairy products  |

## DEPOSITS AND FEES

---

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer   |
| Deposit value:       | USD\$0.05  |
| Unredeemed deposits: | Escheated to state, used for program administration  |
| Handling Fee:        | USD\$0.02 to \$0.04 (variable). Paid to redemption centers from the Deposit Beverage Container Fund. |
| Container Fee:       | USD\$0.015 non-refundable fee paid by consumer on top of the deposit to fund redemption centers      |

## SYSTEM OPERATOR

---

|                                  |  |
|----------------------------------|--|
| Clearing System:                 | Centralized                                |
| System Operator & Administrator: | Department of Health (Government Operated) |

## REDEMPTION SYSTEM

---

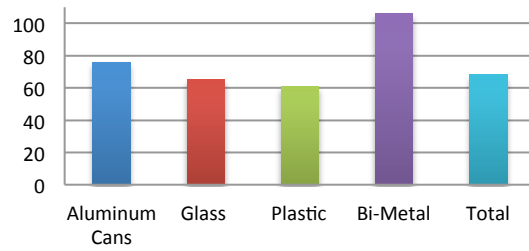
Return to Redemption Center

Persons who sell beverages in deposit containers to a consumer for off-premises consumption are required to operate redemption centers on-site, and must take back all empty beverage containers with a Hawaii refund value. Independent redemption centers are allowed by the law, but are subject to state certification.

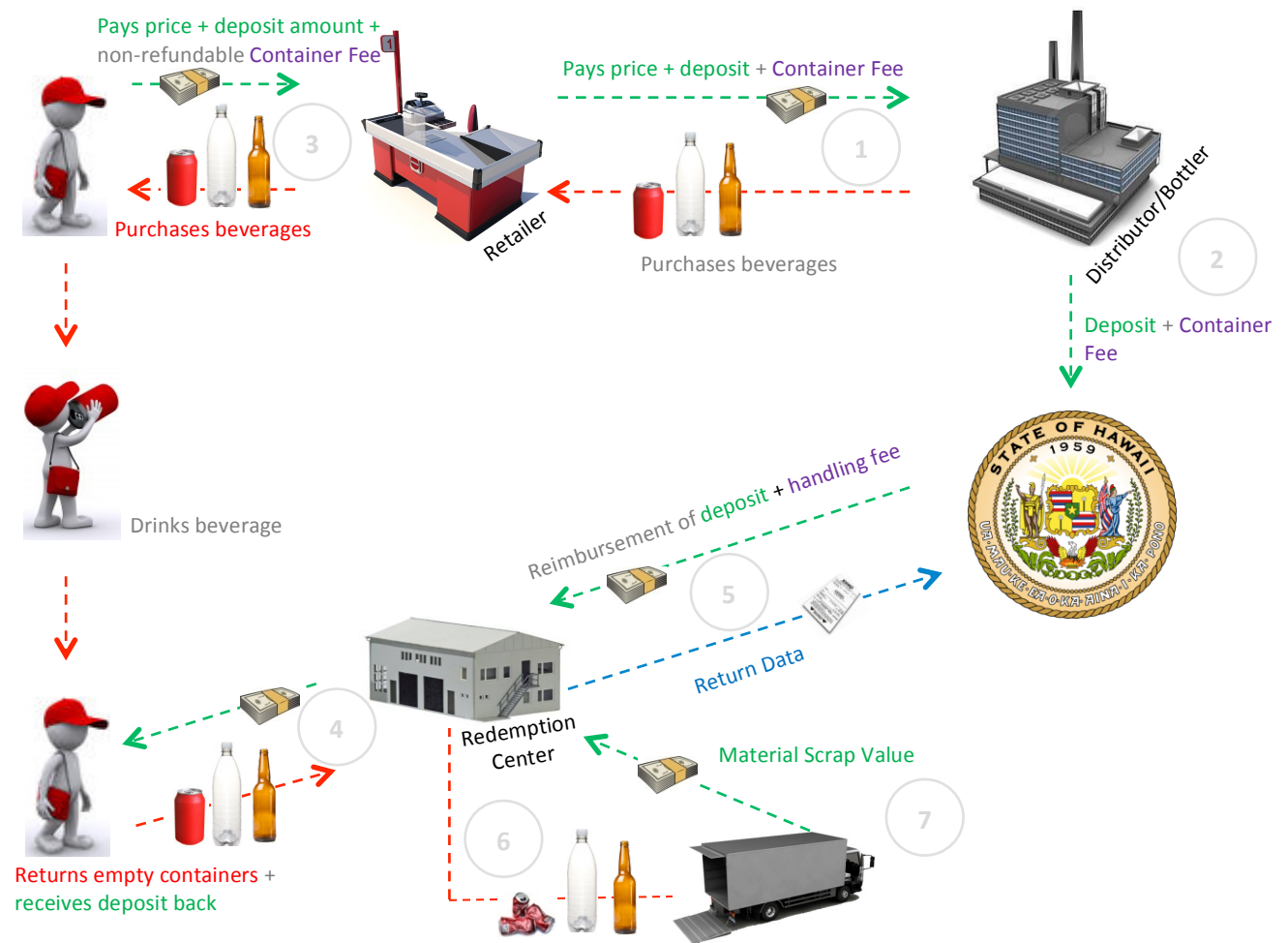
|                 |                   |
|-----------------|-------------------|
| Material owner: | Redemption Center |
|-----------------|-------------------|

## SYSTEM RESULTS (2015)

|              |      |
|--------------|------|
| Return Rate: | 68%  |
| Aluminum     | 76%  |
| Glass        | 65%  |
| Plastic      | 61%  |
| Bi-metal     | 106% |



## MONEY MATERIAL FLOW

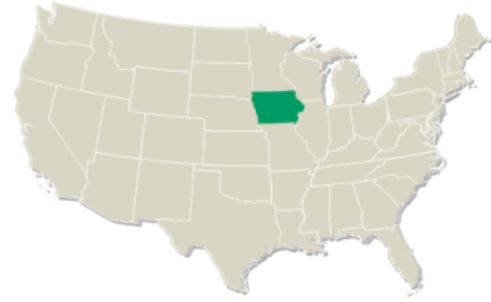




# IOWA

**Population: 3.1m**

Website: [www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Bottle-Deposit-Law](http://www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Bottle-Deposit-Law)



## MANDATE

Beverage Containers Control Law

|              |  |
|--------------|--|
| Enacted:     | 1978                                       |
| Implemented: | 1979                                       |
| Authority:   | Iowa Department of Natural Resources (DNR) |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Any sealed glass, plastic, or metal bottle, can, jar or carton containing a beverage |
| Beverage type: | Beer; carbonated soft drinks; mineral water; wine coolers; wine & liquor             |
| Excluded:      | Fruit and vegetable juices; fruit drinks; milk and milk products                     |

## DEPOSITS AND FEES

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer                              |
| Deposit value:       | USD\$0.05   |
| Unredeemed deposits: | Distributor/Bottler   |
| Handling Fee:        | USD\$0.01 paid by deposit initiator to retailers and redemption centers |

## SYSTEM OPERATOR

|                                  |                           |
|----------------------------------|---------------------------|
| Clearing System:                 | Decentralized, CRINC      |
| System Operator & Administrator: | CRINC, Deposit Initiators |

## REDEMPTION SYSTEM

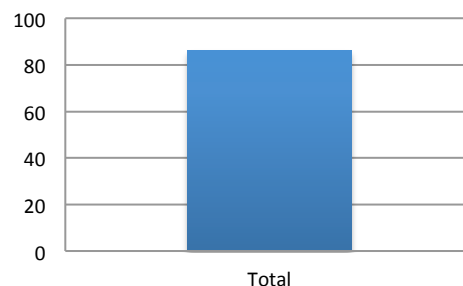
Return-to-Retail / Return to Redemption Center

|                 |                   |
|-----------------|-------------------|
| Material owner: | Deposit Initiator |
|-----------------|-------------------|

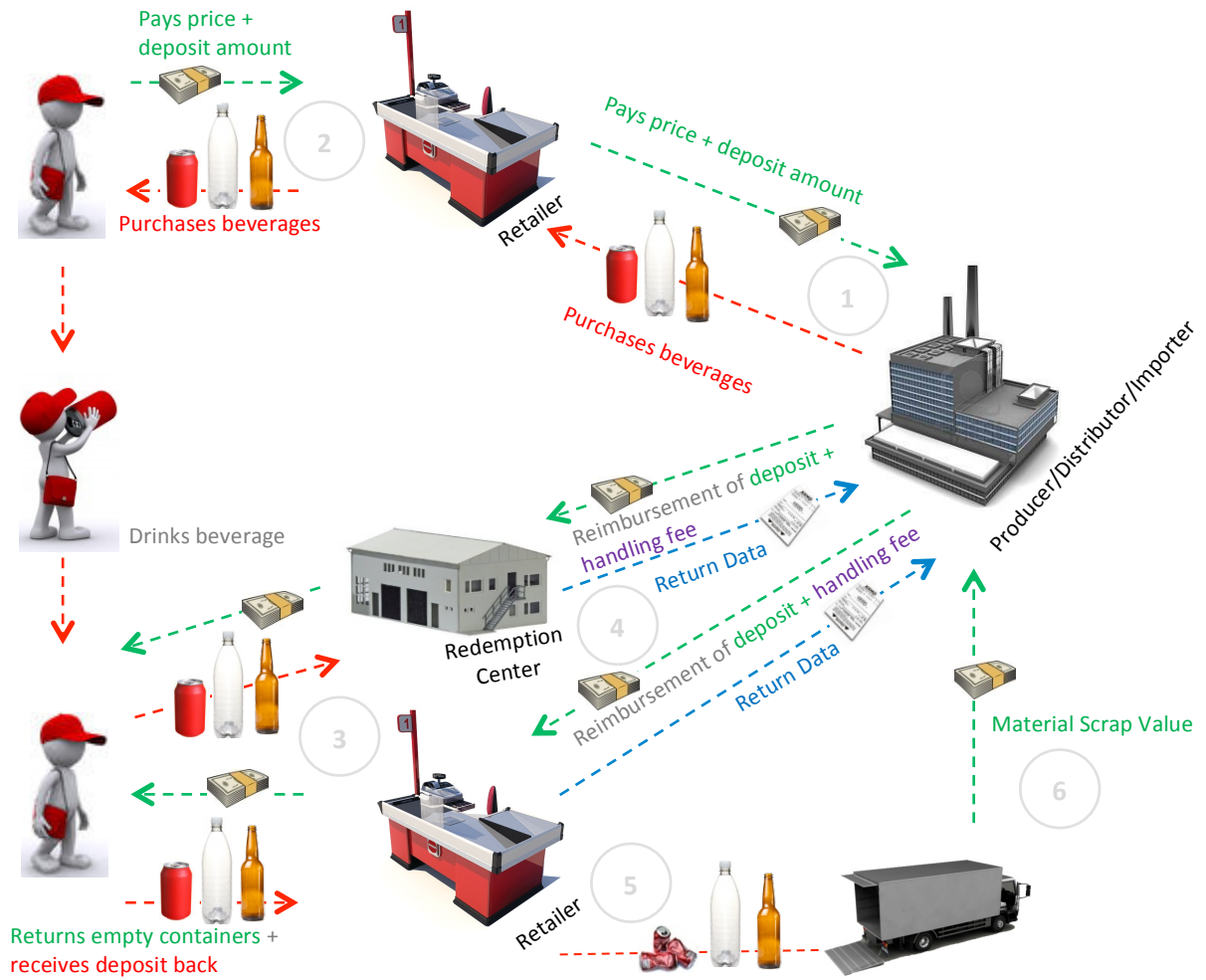
## SYSTEM RESULTS (2015)

Total Return Rate: 86%\*

\*Redemption rate is estimated based on data collected circa 2005; actual data has not been collected by the IOWA DNR since then.



# MONEY MATERIAL FLOW





# MAINE

**Population: 1.3m**

Website: <http://maine.gov/dep/sustainability/bottlebill/index.html>



## MANDATE

---

Maine Returnable Beverage Container Law

|               |  |
|---------------|--|
| Enacted:      | 1976   |
| Implemented:  | 1978   |
| Last Updated: | 2011   |
| Authority:    | Department of Agriculture, Conservation and Forestry, Weights and Measures |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | Plastic, metal (aluminum/tinplate), glass<br>(all sealed containers made of glass, plastic or metal, containing ≤ 4l) |
| Beverage type: | All   |
| Excluded:      | Dairy products; unprocessed cider   |

## DEPOSITS AND FEES

---

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer   |
| Deposit value:       | Plastic, metal, glass: USD\$0.05<br>Wine/liquor: USD\$0.15                                     |
| Unredeemed deposits: | Escheated to state (when containers are not subject to a comingling agreement)                 |
| Handling Fee:        | USD\$0.04 (\$0.005 less if deposit initiator participates in a qualified comingling agreement) |

## SYSTEM OPERATOR

---

|                       |  |
|-----------------------|--|
| Clearing System:      | Decentralized, TOMRA                                 |
| System Administrator: | Department of Agriculture, Conservation and Forestry |
| System Operator:      | Beverage Industry                                    |

## REDEMPTION SYSTEM

---

Return to Retail / Return to Redemption Center  
Retailers can opt-out if they have an agreement with a nearby redemption centre.

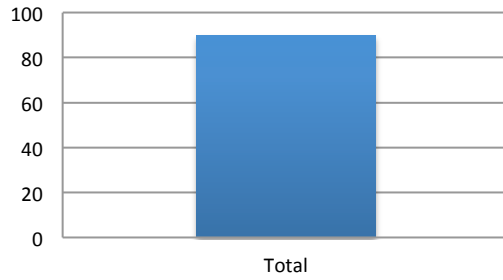
|                 |                               |
|-----------------|-------------------------------|
| Material owner: | Producer/Distributor/Importer |
|-----------------|-------------------------------|



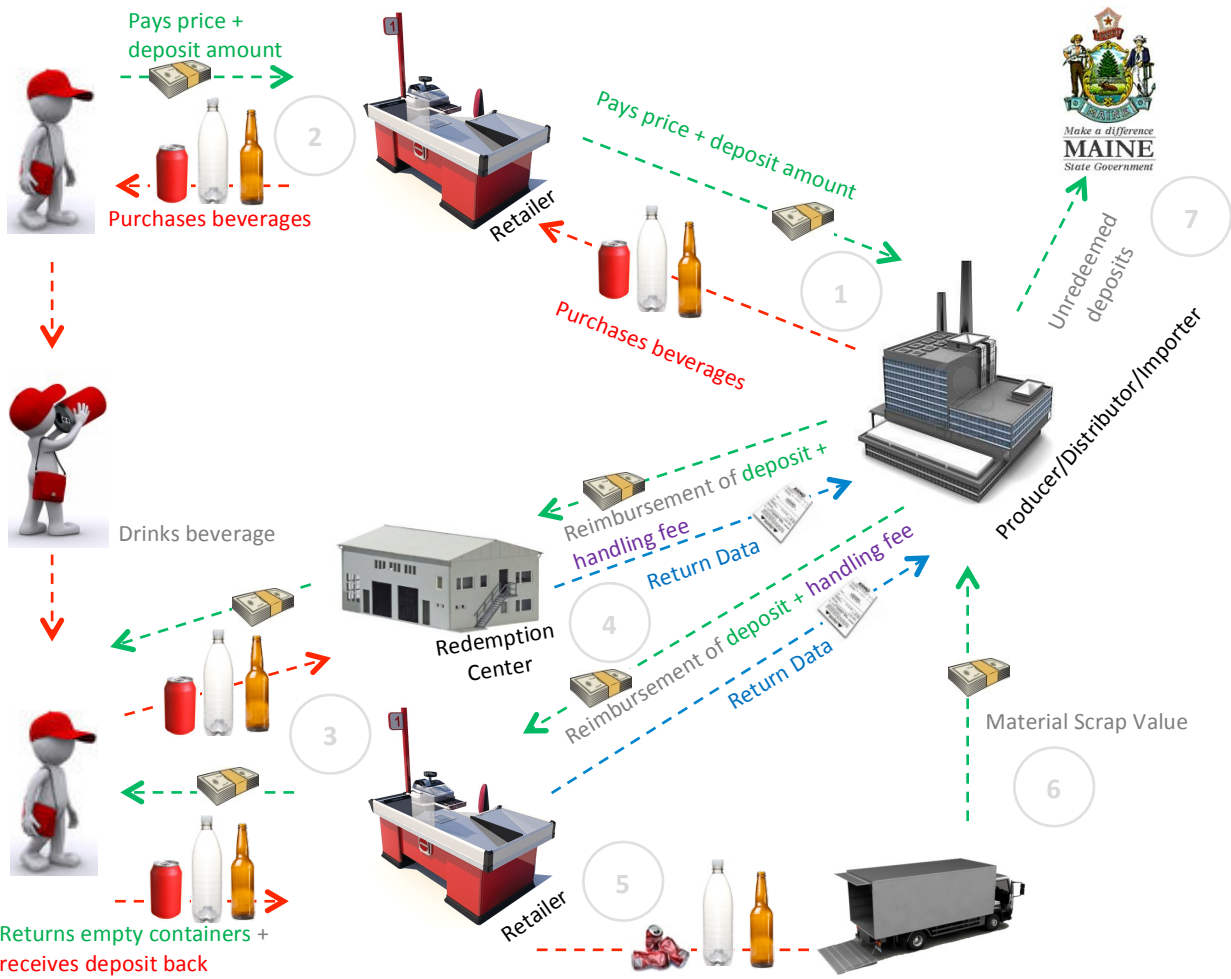
## SYSTEM RESULTS (2015)

Total Return Rate: 90%\*

\*Informal recycling rate provided by beverage industry lobbyist in testimony to state.



## MONEY MATERIAL FLOW





# MASSACHUSETTS

**Population: 6.6m**

Website: [www.mass.gov/eea/agencies/massdep/recycle/reduce/bottle-and-can-recycling.html](http://www.mass.gov/eea/agencies/massdep/recycle/reduce/bottle-and-can-recycling.html)



## MANDATE

Beverage Container Recovery Law

|               |  |
|---------------|--|
| Enacted:      | 1981   |
| Implemented:  | 1983   |
| Last Updated: | 2013 (Handling Fee)                                  |
| Authority:    | Massachusetts Department of Environmental Protection |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Plastic, metal (aluminum), bimetal, glass (any sealable bottle, can, jar, or carton of glass, metal, plastic, or combination) |
| Beverage type: | Beer; malt; carbonated soft drinks; mineral water   |
| Excluded:      | Wine; dairy products; natural fruit juices; non-carbonated alcoholic beverages other than beer and malt                       |

## DEPOSITS AND FEES

|                                 |  |
|---------------------------------|--|
| Deposit:                        | Initiated by Producer/Distributor/Importer   |
| Plastic, metal, bimetal, glass: | USD\$0.05  |
| Unredeemed deposits:            | Escheated to State (Department of Revenue)   |
| Handling Fee:                   | USD\$0.0225 Retailers (receive free pick-up of containers by deposit initiators)<br>USD\$0.0325 Redemption Centers (RCs must deliver redeemed containers to central processing facility) |

## SYSTEM OPERATOR

|                                  |                          |
|----------------------------------|--------------------------|
| Clearing System:                 | Decentralized, TOMRA     |
| System Operator & Administrator: | Beverage Industry, TOMRA |

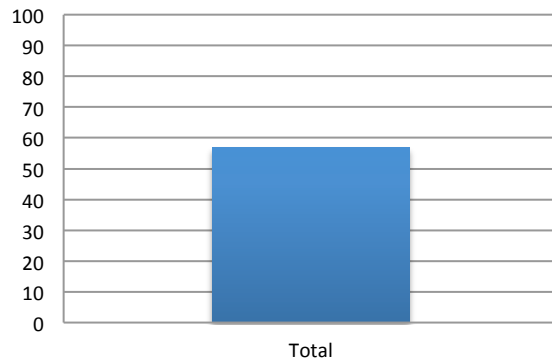
## REDEMPTION SYSTEM

Return-to-Retail / Return to Redemption Center

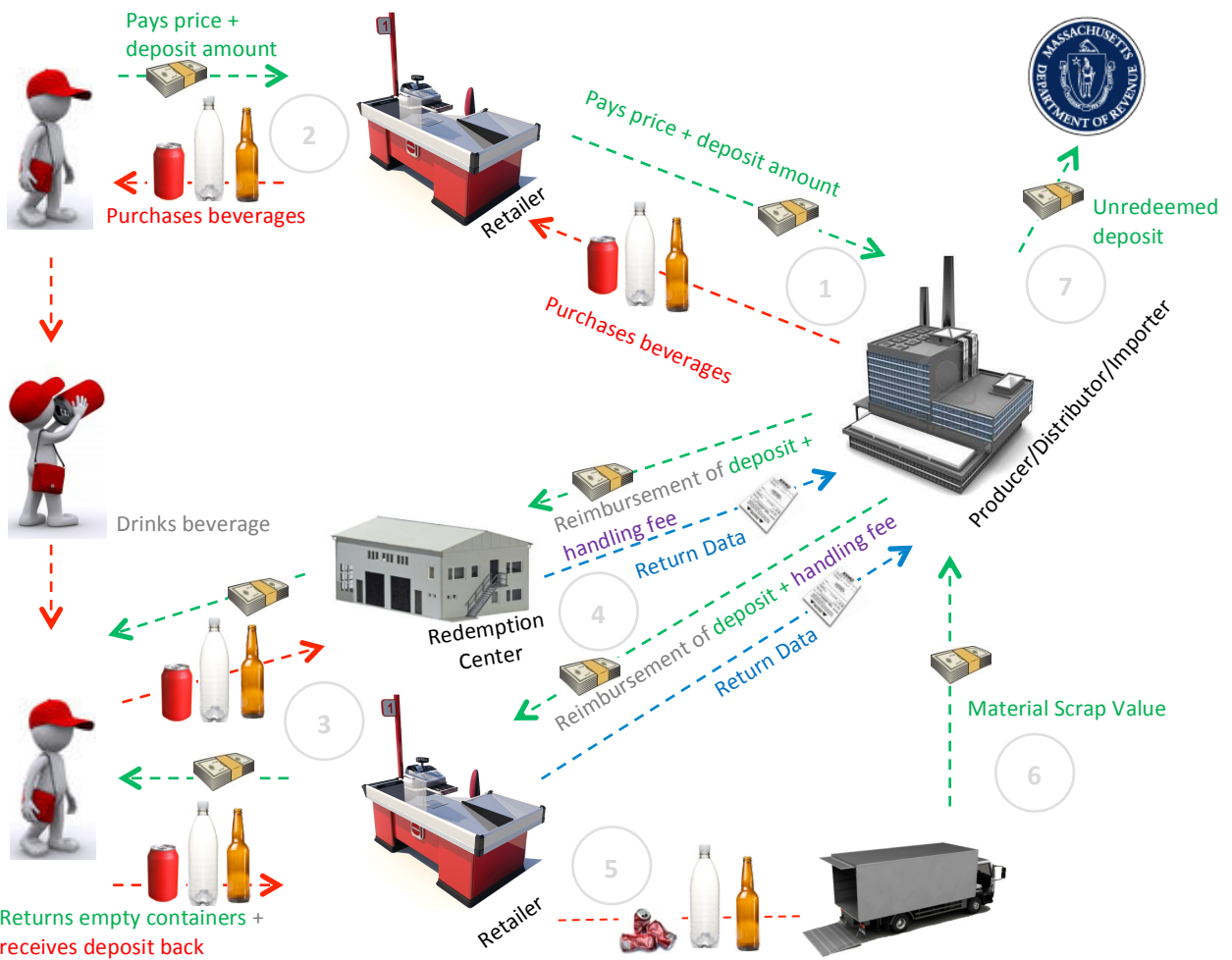
|                 |                   |
|-----------------|-------------------|
| Material owner: | Deposit Initiator |
|-----------------|-------------------|

# SYSTEM RESULTS (2015)

Total Return Rate: 57%



## MONEY MATERIAL FLOW





# MICHIGAN

**Population: 9.9m**

Website: [www.legislature.mi.gov](http://www.legislature.mi.gov)



## MANDATE

---

Michigan Container Law (MCL)

|               |  |
|---------------|--|
| Enacted:      | 1976   |
| Implemented:  | 1978   |
| Last Updated: | 2008 (Security Rules)<br>2012 (Excluded Pouches) |
| Authority:    | Michigan Department of Treasury                  |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | Plastic, metal (aluminum/tinplate), glass, paper<br>(Any airtight metal, glass, paper, or plastic container, or a combination < 1 gallon) |
| Beverage type: | Beer/ale; soft drinks; carbonated and mineral water; wine coolers; canned cocktails; malt drink of whatever alcohol content               |
| Excluded:      | Milk; juice; water; tea; sport drinks; foil pouches   |

## DEPOSITS AND FEES

---

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer   |
| Deposit value:       | Plastic, metal, glass: USD\$0.10   |
| Unredeemed deposits: | 75% escheated to State (to Clean-up and Redevelopment Trust Fund) / 25% available to retailers to cover handling costs |
| Handling Fee:        | 25% of unredeemed deposits   |

## SYSTEM OPERATOR

---

|                                  |  |
|----------------------------------|--|
| Clearing System:                 | Decentralized; Michigan Soft Drink Association (MSDA), Michigan Beer & Wine Wholesalers Association (MBWWA), TOMRA |
| System Operator & Administrator: | Beverage industry  |

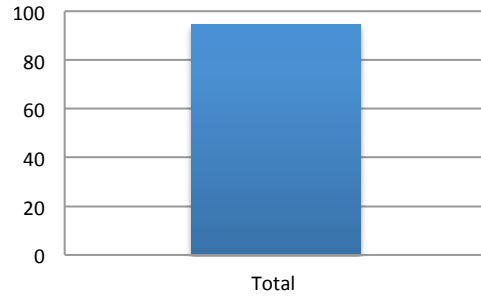
## REDEMPTION SYSTEM

---

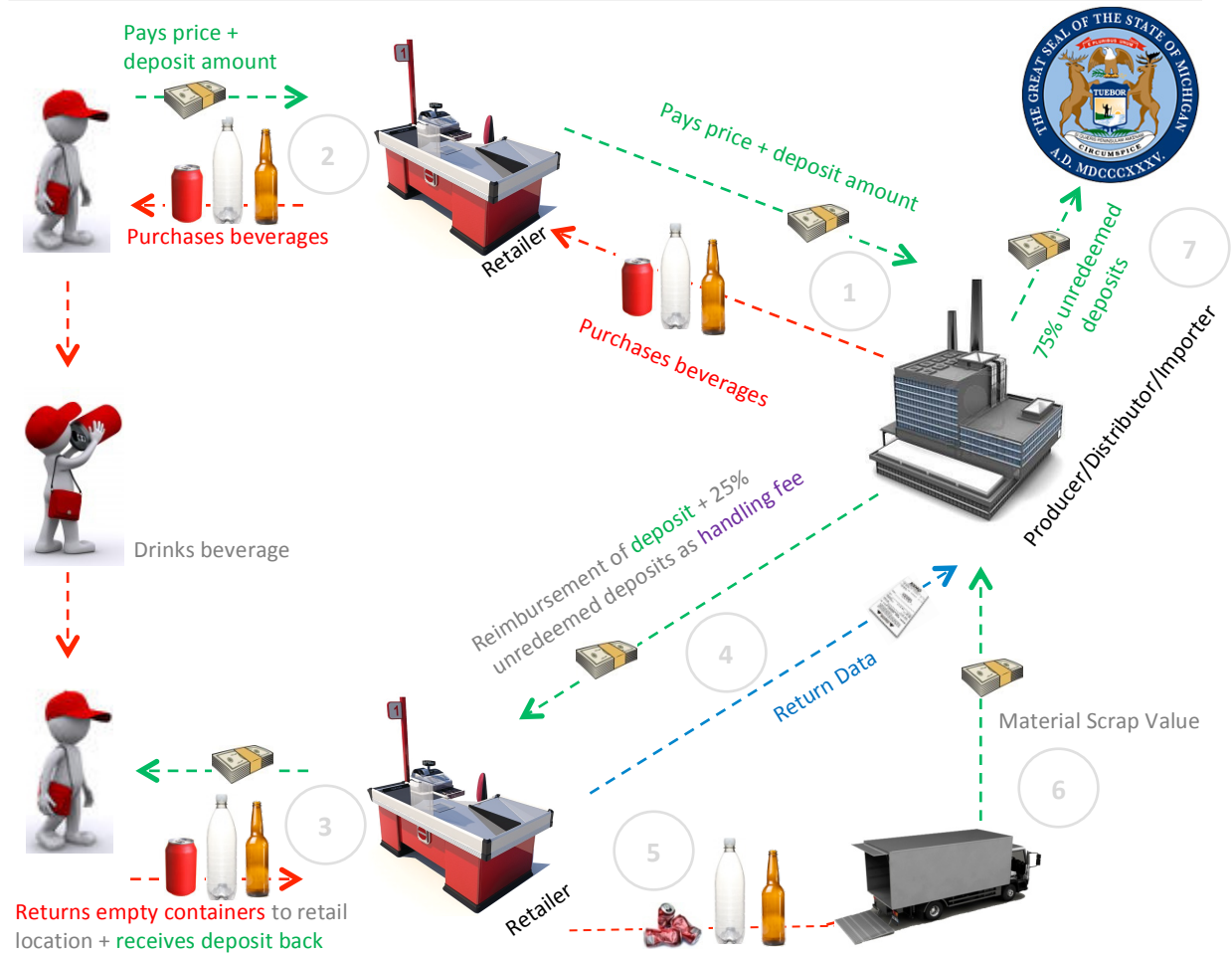
|                  |                   |
|------------------|-------------------|
| Return to Retail |                   |
| Material owner:  | Deposit Initiator |

# SYSTEM RESULTS (2015)

Total Return Rate: 93%



## MONEY MATERIAL FLOW





# NEW YORK

**Population: 19.5m**

Website: [www.dec.ny.gov/chemical/8500.html](http://www.dec.ny.gov/chemical/8500.html)



## MANDATE

---

New York State Returnable Container Act

|               |   |
|---------------|---|
| Enacted:      | 1982  |
| Implemented:  | 1983  |
| Last Updated: | 2009 (Added Water)<br>2012 (Rules)                      |
| Authority:    | New York State Department of Environmental Conservation |

## PROGRAM SCOPE

---

|                |  |
|----------------|--|
| Material:      | Plastic, metal (aluminum), glass<br>(any individual, separate, sealed glass, metal, aluminum, steel or plastic bottle, can or jar containing ≤ 3.78l)  |
| Beverage type: | Carbonated soft drinks; soda water; energy drinks, juices (anything < 100% juice, containing added sugar or water); beer and other malt beverages; mineral water (carbonated and non-carbonated); wine products; water that does not contain sugar, including flavored or nutritionally enhanced water |
| Excluded:      | Milk products; wine and liquors; tea; sports drinks; juice; drink boxes; water containing sugar  |

## DEPOSITS AND FEES

---

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | Plastic, metal, glass: USD\$0.05  |
| Unredeemed deposits: | 80% to the New York State Department of Taxation and Finance (quarterly basis); 20% retained by Deposit Initiator |
| Handling Fee:        | USD\$0.035  |

## SYSTEM OPERATOR

---

|                                  |  |
|----------------------------------|--|
| Clearing System:                 | Decentralized / TOMRA  |
| System Operator & Administrator: | Beverage Industry; TNYR, Western New York Beverage Industry Collection & Sorting (WNYBICS) |

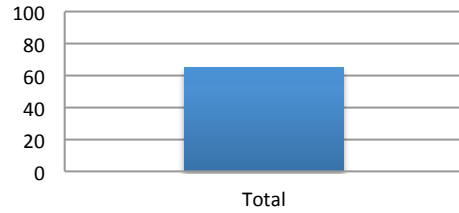
## REDEMPTION SYSTEM

---

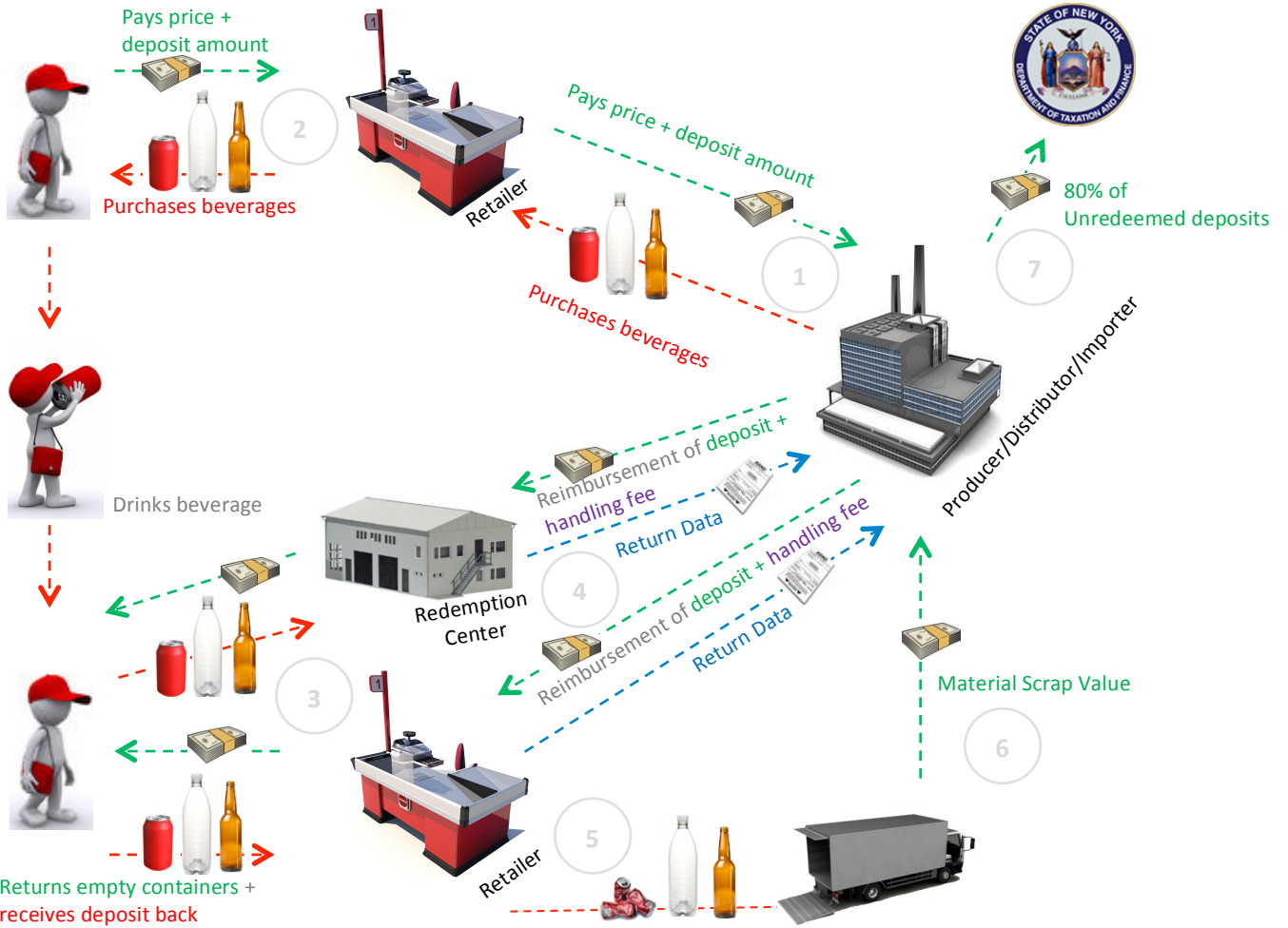
|   |   |
|---|---|
| Return-to-Retail /<br>Return to Redemption Center | Stores are only required to take back the brands that they sell |
| Material owner:                                   | Deposit Initiator   |

# SYSTEM RESULTS (2015)

Total Return Rate: 65%

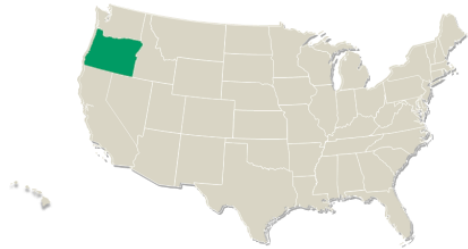


## MONEY MATERIAL FLOW





# OREGON



**Population: 3.9m**

**Website:** [www.oregon.gov/OLCC/pages/bottle\\_bill.aspx](http://www.oregon.gov/OLCC/pages/bottle_bill.aspx)

## MANDATE

The Beverage Container Act

|               |  |
|---------------|--|
| Enacted:      | 1971   |
| Implemented:  | 1972   |
| Last Updated: | 2011 (Redemption Centers)<br>2016 (Evaluate Deposit Level)<br>2018 (Expansion Effective) |
| Authority:    | Oregon Liquor Control Commission (OLCC)  |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Plastic, metal (aluminum/tinplate), glass<br>(any individual, separate, sealed glass, metal or plastic bottle, can, jar containing a beverage) |
| Beverage type: | Water/flavored water; beer/malt beverages; soda/mineral water; carbonated soft drinks ≤ 3l; isotonics; teas; juice                             |
| Excluded:      | Wine & liquor; milk & milk substitutes   |

## DEPOSITS AND FEES

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer |
| Deposit value:       | Plastic, metal, glass: USD\$0.10           |
| Unredeemed deposits: | Producer/Distributor/Importer              |
| Handling Fee:        | None                                       |

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Centralized, Oregon Beverage Recycling Cooperative (OBRC) |
| System Operator & Administrator: | Beverage Industry   |
| System Finance:                  | Material revenue/unredeemed deposits                      |

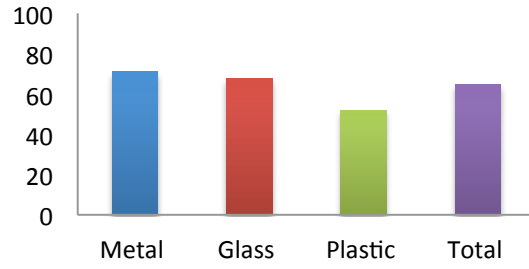
## REDEMPTION SYSTEM

|                         |   |
|-------------------------|---|
| Return-to-Retail / R2RC | Note: Retail outlets ≥5,000 ft. <sup>2</sup> are required to take back all brands and sizes of beverage containers for each kind they sell. Retailers <5,000 ft. <sup>2</sup> may take back only brands and sizes that they sell. |
| Material owner:         | Deposit Initiator   |

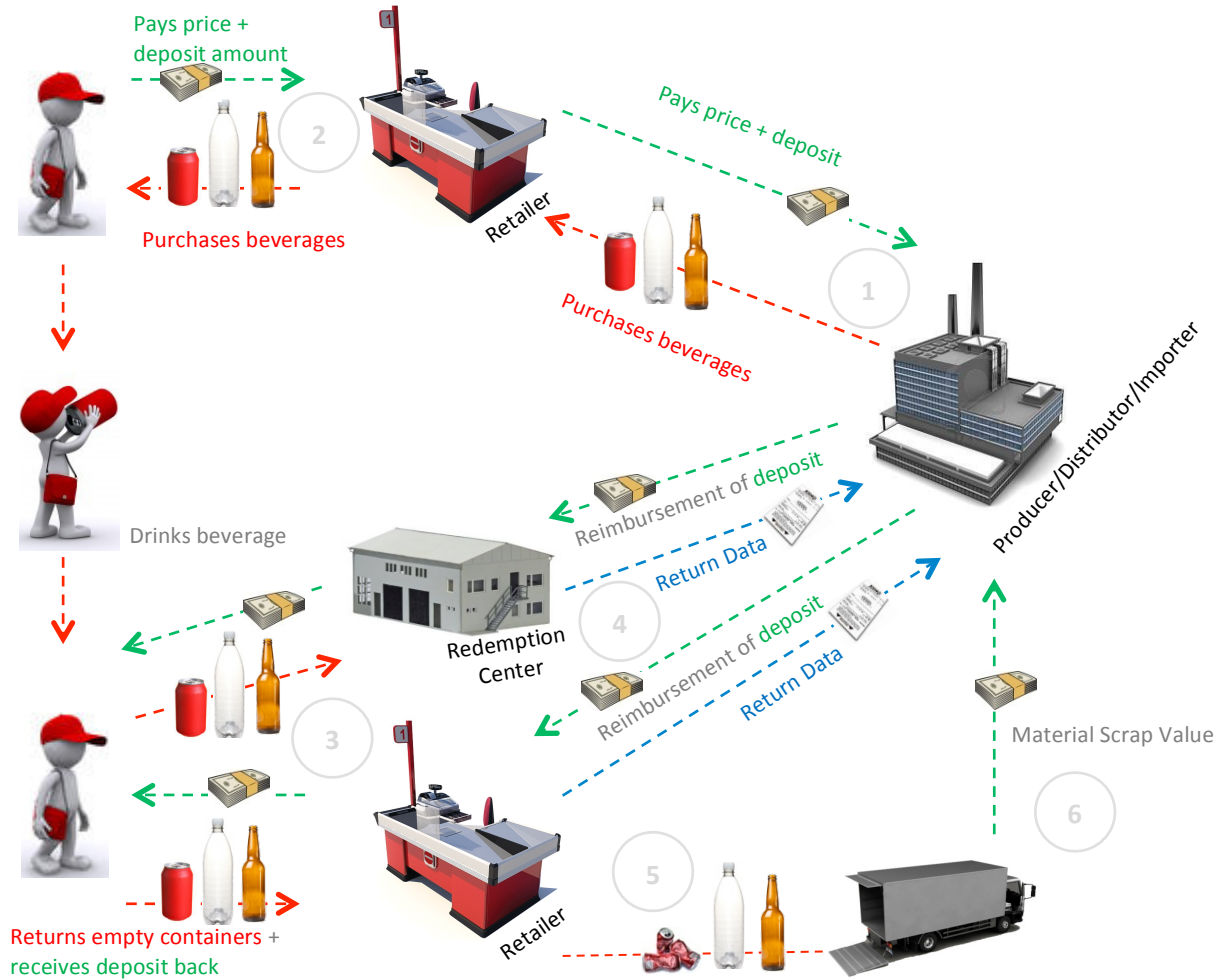


## SYSTEM RESULTS (2015)

|                    |        |
|--------------------|--------|
| Total Return Rate: | 64.45% |
| Metal              | 70.89% |
| Glass              | 67.60% |
| Plastic            | 51.90% |



## MONEY MATERIAL FLOW





# VERMONT

**Population: 0.6m**

Website: <http://dec.vermont.gov/waste-management/solid/product-stewardship/bottle-bill>



## MANDATE

---

Beverage Container Law (1972), Solid Waste Act (1987)  
 Enacted: 1972  
 Implemented: 1973  
 Last Updated: 1991  
 Authority: Agency of Natural Resources

## PROGRAM SCOPE

---

Material: Plastic, metal (aluminum/tinplate), glass (or any combination of these materials)  
 Beverage type: Liquor & spirits; beer, wine coolers and other malt beverages; soft drinks and other carbonated beverages  
 Excluded: Wine and hard cider; water; milk; juices; sports drinks; other non-carbonated beverages

## DEPOSITS AND FEES

---

Deposit: Initiated by Producer/Distributor/Importer  
 Deposit value: Plastic, metal, glass: USD\$0.05  
 Liquor: USD\$0.15  
 Unredeemed deposits: Producer/Distributor/Importer  
 Handling Fee: USD\$0.04 for brand-sorted containers, USD\$0.035 for comingled

## SYSTEM OPERATOR

---

Clearing System: Decentralized, TOMRA  
 System Operator & Administrator: Beverage Industry, TOMRA  
 System Finance: Material Revenue/Unredeemed deposits

## REDEMPTION SYSTEM

---

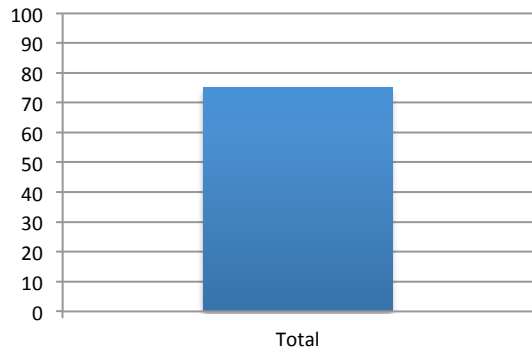
Return-to-Retail / Return to Redemption Center  
 Retailers can gain State approval to opt-out of the program if they are located near a licensed redemption centre.

Material owner: Deposit Initiator

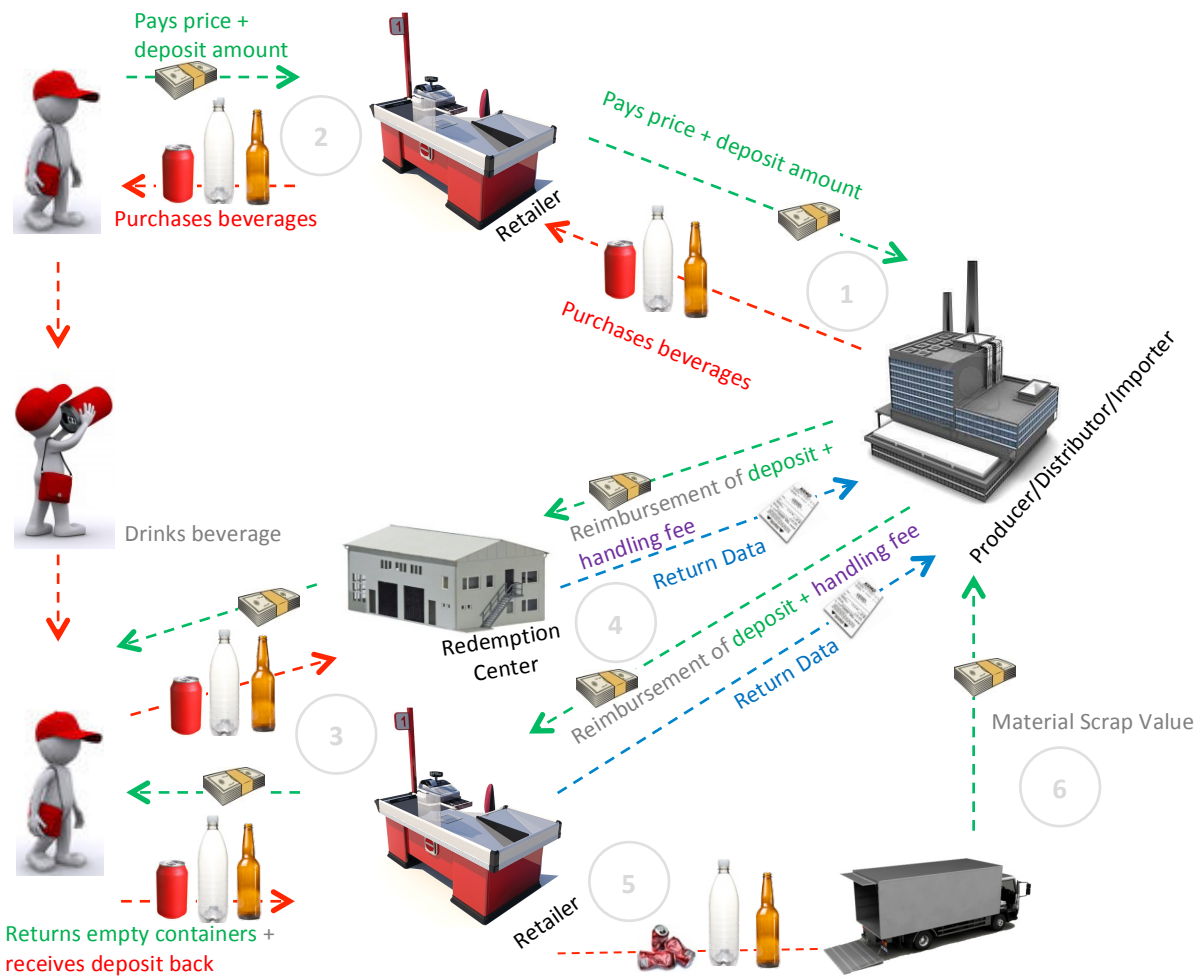
## SYSTEM RESULTS (2015)

Total Return Rate: 75%\*

\*Estimate is from a 2012-2013 study commissioned by the State.



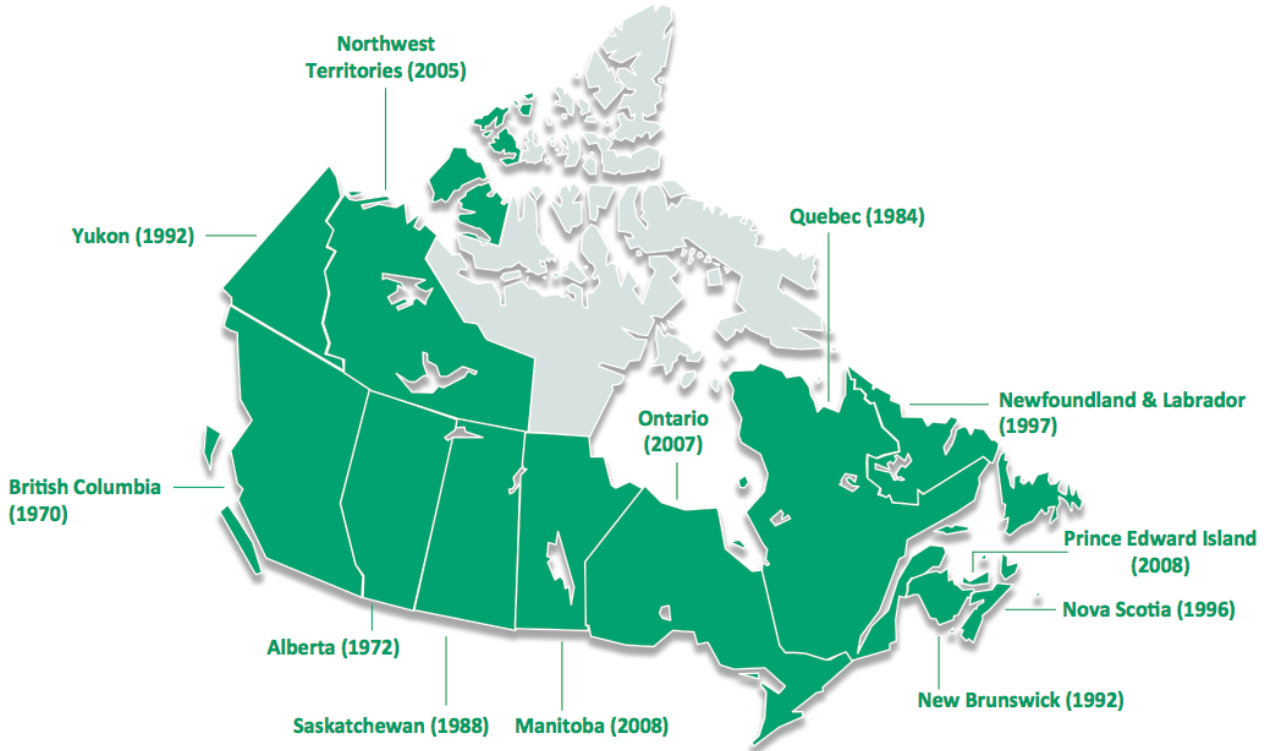
## MONEY MATERIAL FLOW





# CANADA

(33.3 million have access to DRS)



| Province                   | Population (million) | Mandate Enacted | Mandate Implemented |
|----------------------------|----------------------|-----------------|---------------------|
| 1. Alberta                 | 4.3                  | 1972            | 1972                |
| 2. British Columbia        | 4.7                  | 1970            | 1970                |
| 3. Manitoba                | 1.3                  | 2008            | 2008                |
| 4. Newfoundland & Labrador | 0.5                  | 1996            | 1997                |
| 5. New Brunswick           | 0.75                 | 1991            | 1992                |
| 6. Northwest Territories   | 0.04                 | 2003            | 2005                |
| 7. Nova Scotia             | 0.9                  | 1995            | 1996                |
| 8. Ontario                 | 13.98                | 2006            | 2007                |
| 9. Prince Edward Island    | 0.1                  | 1988            | 2008                |
| 10. Quebec                 | 8.3                  | 1972            | 1984                |
| 11. Saskatchewan           | 1.2                  | 1978            | 1988                |
| 12. Yukon                  | 0.03                 | 1991            | 1992                |



# ALBERTA

Population: 4.3m

Website: [www.abcrc.com](http://www.abcrc.com)



## MANDATE

---

Beverage Container Recycling Regulation

|               |   |
|---------------|---|
| Enacted:      | 1972  |
| Implemented:  | 1972  |
| Last Updated: | 2008  |
| Authority:    | Beverage Container Management Board (BCMB)  |
| Target:       | No official target; however the BCMB's 2015-2017 Business Plan includes an overall collection target of 83.7% for 2014. The BCMB has also set targets by container type (e.g. 90.6% for non-refillable glass and 87.2% for aluminum). Overall collection targets have also been set for 2015 (83.4%), 2016 (84.2%), and 2017 (85.0%). |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | Plastics (PET, HDPE, PVC, PS); metal (aluminum/tinplate); glass; gable top; Tetra Pak; bag-in-box; drink pouch; all sealed containers |
| Beverage type: | All (alcoholic and non-alcoholic), including milk (first jurisdiction in North America to include milk)                               |
| Excluded:      | None  |

## DEPOSITS AND FEES

---

Deposit (initiated by Producer/Distributor/Importer)

|                          |  |
|--------------------------|--|
| All containers ≤1l       | CAD\$0.10  |
| All containers > 1l      | CAD\$0.25  |
| Unredeemed deposits:     | Retained by Producer/Distributor/Importer  |
| Handling Fee:            | CAD\$0.0317 to CAD\$0.2279 (Regulated by government and payable by a manufacturer or collection system agent to collection depots) |
| Container Recycling Fee: | CAD\$0.00 to CAD\$0.10 (non-refundable and based on a non-for-profit formula)  |

## SYSTEM OPERATOR

---

|                   |  |
|-------------------|--|
| Program Operator: | Alberta Beverage Container Recycling Corporation (ABCRC) (non-alcohol)<br>Brewers Distributor Ltd. (BDL) (Beer)        |
| Steward:          | ABCRC (non-alcohol)<br>Alberta Beer Container Corporation (ABCC) (Beer)<br>Alberta Gaming and Liquor Commission (AGLC) |

The ABCC acts as a collection service provider for beer manufacturers and is responsible for ensuring that beer containers are collected, transported, processed, and recycled as per the requirements of the regulation. ABCC subcontracts the management of beer that is in non-refillable containers (all one-way glass and aluminum beer containers) to the ABCRC.

The AGLC represents the producers of alcohol. AGLC uses ABCRC to manage its wine and spirit containers and the ABCC to manage its beer containers. ABCC is responsible for ensuring that all beer containers are collected, transported, processed, and recycled as per the requirements of the regulation.

System Finance: Material revenue / Unredeemed deposits / Container Recycling Fee

## REDEMPTION SYSTEM

---

Return to Depot Manual collection. 217 province wide privately owned & operated registered “universal” bottle depots; 21 Class “D” (beer containers only) depots.

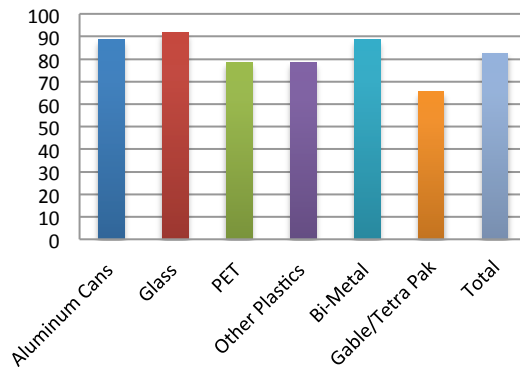
Beer containers through licensees/liquor/beer stores

Material owner: ABCRC & BDL

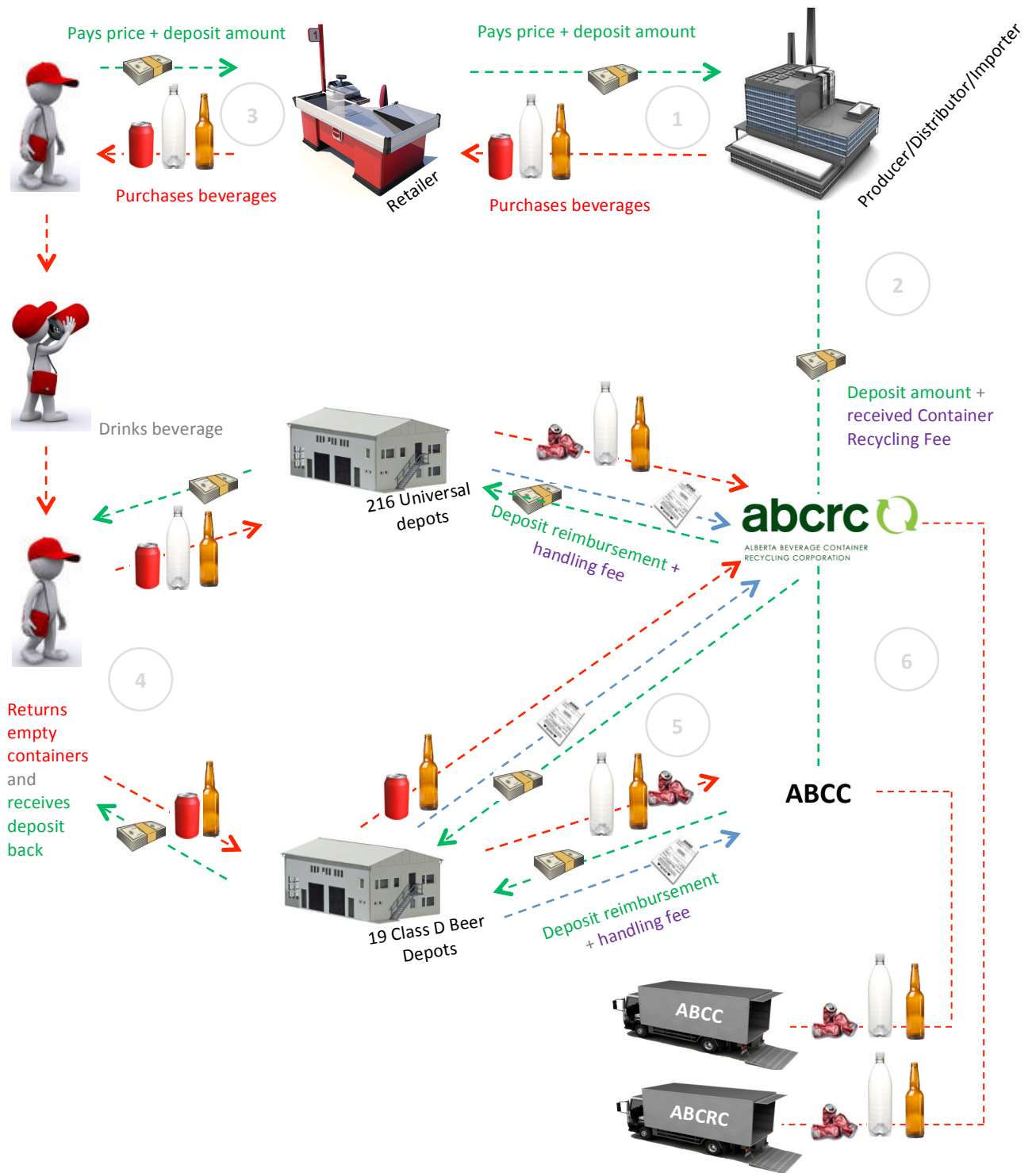
## SYSTEM RESULTS (2014)

---

|                    |       |
|--------------------|-------|
| Total Return Rate: | 82.5% |
| Aluminum Can       | 88.5% |
| Glass              | 91.6% |
| PET                | 78.3% |
| Other Plastic      | 78.3% |
| Bimetal            | 88.5% |
| Gable/Tetra Pak    | 65.4% |



# MONEY MATERIAL FLOW





# BRITISH COLUMBIA

**Population: 4.7m**

Website: [www.return-it.ca/beverage/products/](http://www.return-it.ca/beverage/products/)



## MANDATE

Beverage Container Stewardship Program (Litter Act)

Enacted: 1970

Implemented: 1970

Last Updated: 2004

Authority: Ministry of Environment

Target: *Recycling Regulation* establishes a 75% minimum collection target & requires that redeemed containers are recycled or refilled

## PROGRAM SCOPE

Material: Plastics (PET, HDPE, PVC, PS); metal (aluminum/tinplate); bi-metal; glass; paper; gable top; Tetra Pak; drink pouch; bag in box; all containers accepted for beverages

Beverage type: All ready-to-drink beverages (non-alcoholic beverages, wine, spirits, beer) that is or was sealed by its manufacturer

Excluded: Milk; milk substitutes; rice milk; soya milk; flavoured milk; infant formulas; meal replacements; dietary supplements

## DEPOSITS AND FEES

Deposit: Initiated by Producer/Distributor/Importer

Deposit value: Non-alcohol ≤1l: CAD\$0.05  
 Non-alcohol >1l: CAD\$0.20  
 Wine & spirit ≤1l: CAD\$0.10  
 Wine & spirit >1l: CAD\$0.20  
 Beer bottles ≤1l: CAD\$0.10

Unredeemed deposits: Producer/Distributor/Importer

Handling Fee: CAD\$0.027 to CAD\$0.1127 paid by Encorp Pacific (Canada) and Brewers Distributors Ltd. (BDL) to authorized depots and contracted retailers. Bottle depots independently negotiate HFs directly with the beer industry. HFs fluctuate depending on the cost to collect and process each type of container.

Container Recycling Fee (CRF): CAD\$0.00 to CAD\$0.40 (calculated on an annual basis and based on net cost of collection and recycling of specific containers)

## SYSTEM OPERATOR

Program Operator: Encorp Pacific & BDL

Steward: Encorp Pacific & BDL

Encorp Pacific (Canada) represents brand owners of non-alcoholic beverages, wine, spirits, some ciders, and coolers, as well as some import beer manufacturers. BDL represents brand owners of domestic coolers, beers, and ciders, and it collects the containers of both these domestic distributors and of outside distributors who import.

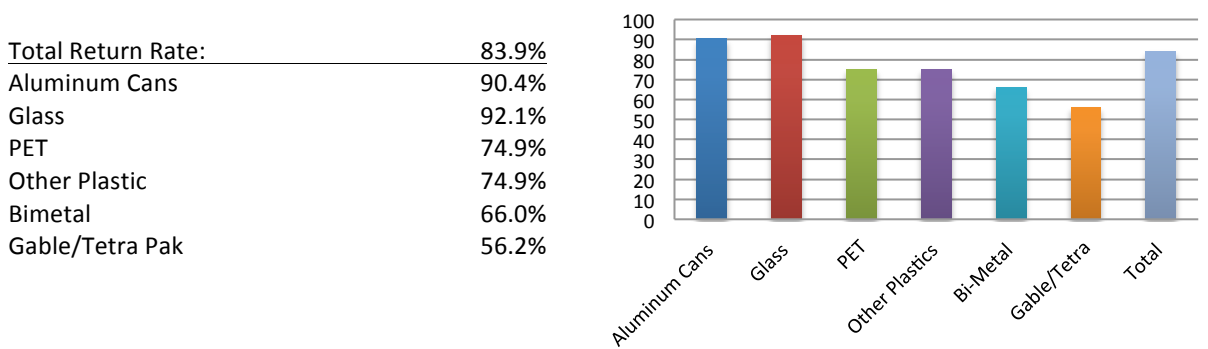
System Finance: Material revenue, unredeemed deposits, Container Recycling Fee



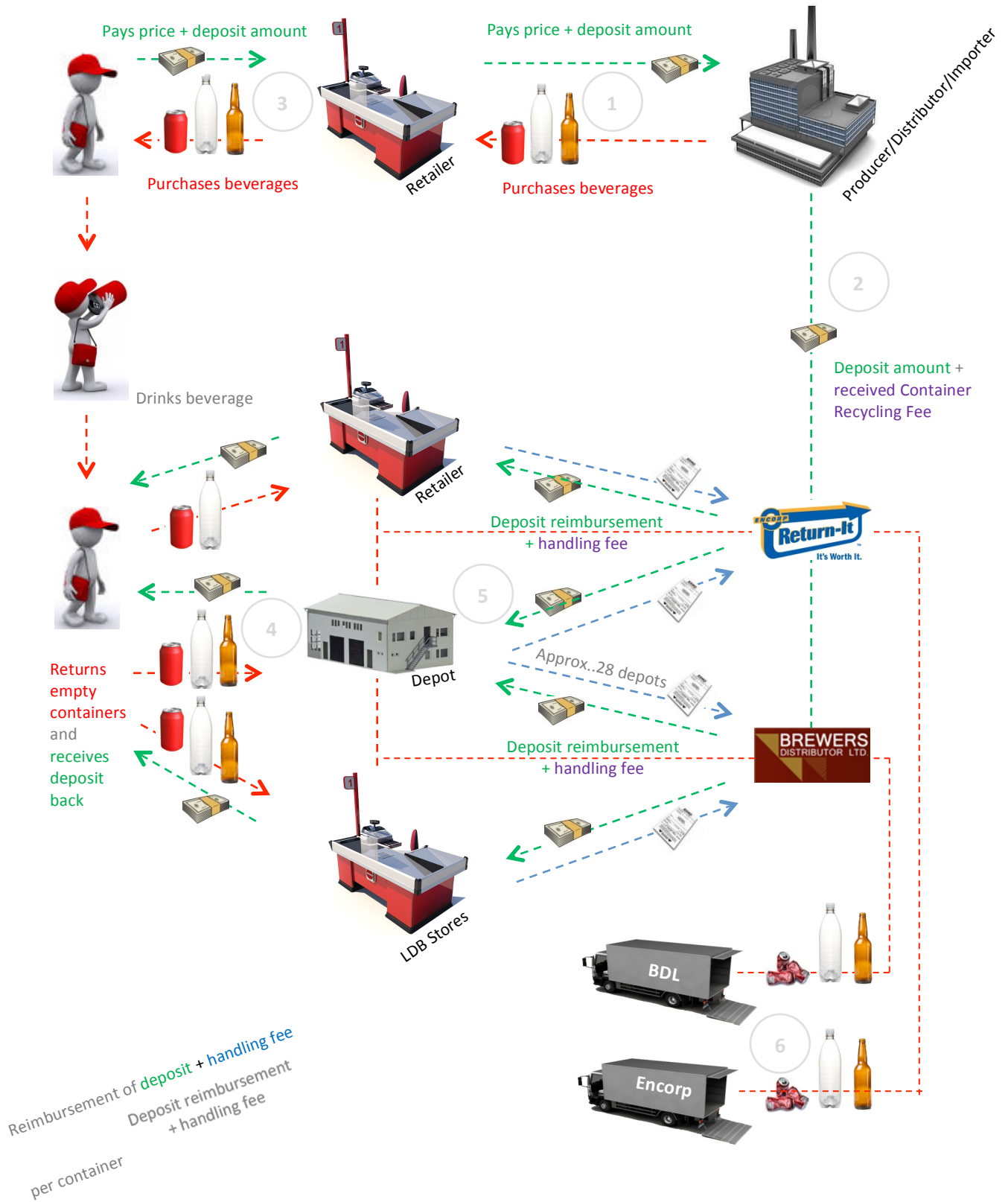
## REDEMPTION SYSTEM

|   |   |
|---|---|
| Return-to-Retail/Return to Depot  | 1,430 return locations.<br>78% of population live within a 2km radius of a BDL depot  |
| Encorp Pacific:<br>(Non-alcohol, wine, spirits, cider, and imported beer) | 173 independent depots and hundreds of retail outlets<br><br>Manages about 90% of recovered beverage containers province-wide (the balance is covered by retailers)   |
| Brewers Distributor Ltd.:<br>(domestic beer, coolers and cider)           | Provides for retail returns at a total of 1,135 locations including 648 private liquor stores, 195 government-run liquor stores, 221 rural agency stores, and 71 independent depots.<br><br>Manages about 29% of recovered containers province-wide |
| Material owner:   | Encorp Pacific & BDL  |

## SYSTEM RESULTS (2014)



# MONEY MATERIAL FLOW





# MANITOBA

**Population: 1.3m**

Website: [www.bdl.ca](http://www.bdl.ca)



## MANDATE

Waste Reduction and Prevention Act (WRAP)

Packaging and Paper Stewardship Regulation

Enacted: 2008

Implemented: 2010

Authority: Ministry of Environment

Target: 75% (not specific to beer containers)

## PROGRAM SCOPE

Material: Plastics, metal (aluminum/tinplate), bimetal, glass, all beer containers

Beverage type: Beer

Excluded: Non-alcoholic beverages; wine; spirits; milk

## DEPOSITS AND FEES

Deposit: Initiated by Producer/Distributor/Importer

Deposit value: Beer cans and bottles ≤1l: CAD\$0.10  
Beer cans and bottles >1l: CAD\$0.20

Unredeemed deposits: Retained by brewers

Handling Fee: Beer cans: CAD\$0.0204

## SYSTEM OPERATOR

Program Operator: Brewers Distributor Ltd. (BDL)

Steward: BDL

System Finance: Material revenue, unredeemed deposits

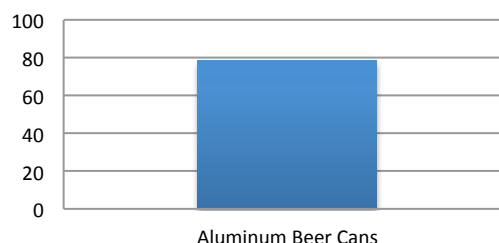
## REDEMPTION SYSTEM

Return-to-Retail: Beer retailers only (beer vendors, Manitoba Liquor Commission (MLC), designated licensees)

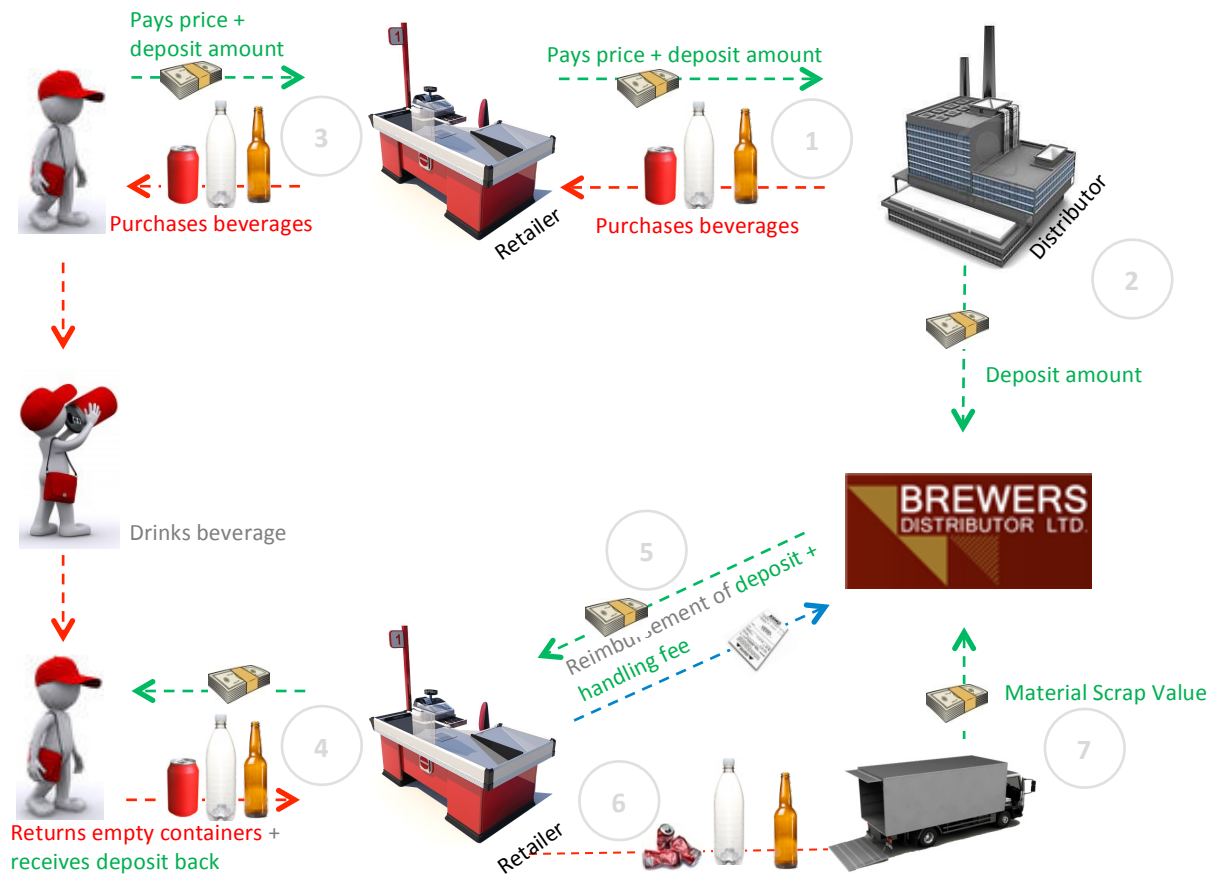
Material owner: BDL

## SYSTEM RESULTS (2014)

Total Return Rate: 78.5%  
Aluminum Beer Can 78.5%



# MONEY MATERIAL FLOW





# NEWFOUNDLAND & LABRADOR



**Population: 0.5m**

Website: [www.mmsb.nl.ca/recyclingprograms/beverage-containers/](http://www.mmsb.nl.ca/recyclingprograms/beverage-containers/)

## MANDATE

---

Used Beverage Container Recycling Program

|               |                               |
|---------------|-------------------------------|
| Enacted:      | 1996                          |
| Implemented:  | 1997                          |
| Last Updated: | 2003                          |
| Authority:    | Ministry of Environment       |
| Target:       | No official collection target |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | All containers ≤5l: Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, drink pouches  |
| Beverage type: | All ready-to-drink beverages (non-alcoholic beverages, wine, spirits, non-refillable beer). Only milk products with the word “beverage” on the label are covered under the program.     |
| Excluded:      | Milk and milk substitutes, infant formula, refillable bottles (including domestic beer bottles), concentrated liquids, medicinal/nutritional supplements, containers > 5l), refillables |

## DEPOSITS (Half Back) AND FEES

---

|                      |   |
|----------------------|---|
| Half-Back Deposit:   | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | Non-alcohol: CAD\$0.08/ \$0.05*<br>Wine & spirit (any size): CAD\$0.20 / \$0.10*<br>Beer cans & importer bottles ≤1l: CAD\$0.08 / \$0.05* |
| Unredeemed deposits: | Retained by Multi-Materials Stewardship Board (MMSB)  |
| Handling Fee:        | CAD\$0.0425   |

\*Part of the revenue generated from the non-refunded portion of the deposit (\$0.03 for non-alcoholic containers, beer cans and imported bottles and \$0.10 for alcoholic containers) is used to pay for the cost of the recycling program, including administration, handling, transportation, and processing costs. Money from unredeemed beverage container deposits, as well as revenue generated from the sale of material, also goes towards paying for the program.

## SYSTEM OPERATOR

---

|                   |      |
|-------------------|------|
| Program Operator: | MMSB |
| Steward:          | MMSB |

The MMSB is a crown corporation established pursuant to the Environmental Protection Act and accompanying Waste Management Regulations. This board manages the Used Beverage Container Recycling Program and is mandated to support and promote the protection, enhancement, and wise use of the environment through waste management programs. By law, beverage distributors and retailers are obligated to register with and

remit deposits charged on the sale of all beverage containers to MMSB. Green Depots must also register with MMSB.

System Finance: Material revenue, unredeemed deposits, half-back (goes into Waste Management Trust Fund)

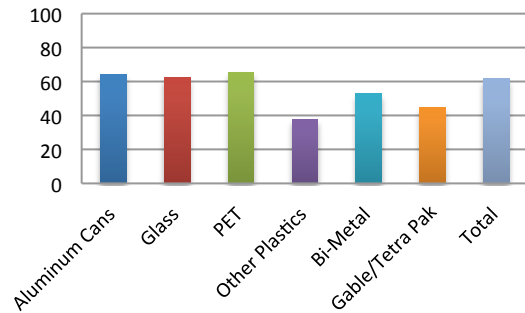
## REDEMPTION SYSTEM

Return to Depot: 40 main depots, 16 sub-depots, and 20 mobile collection services

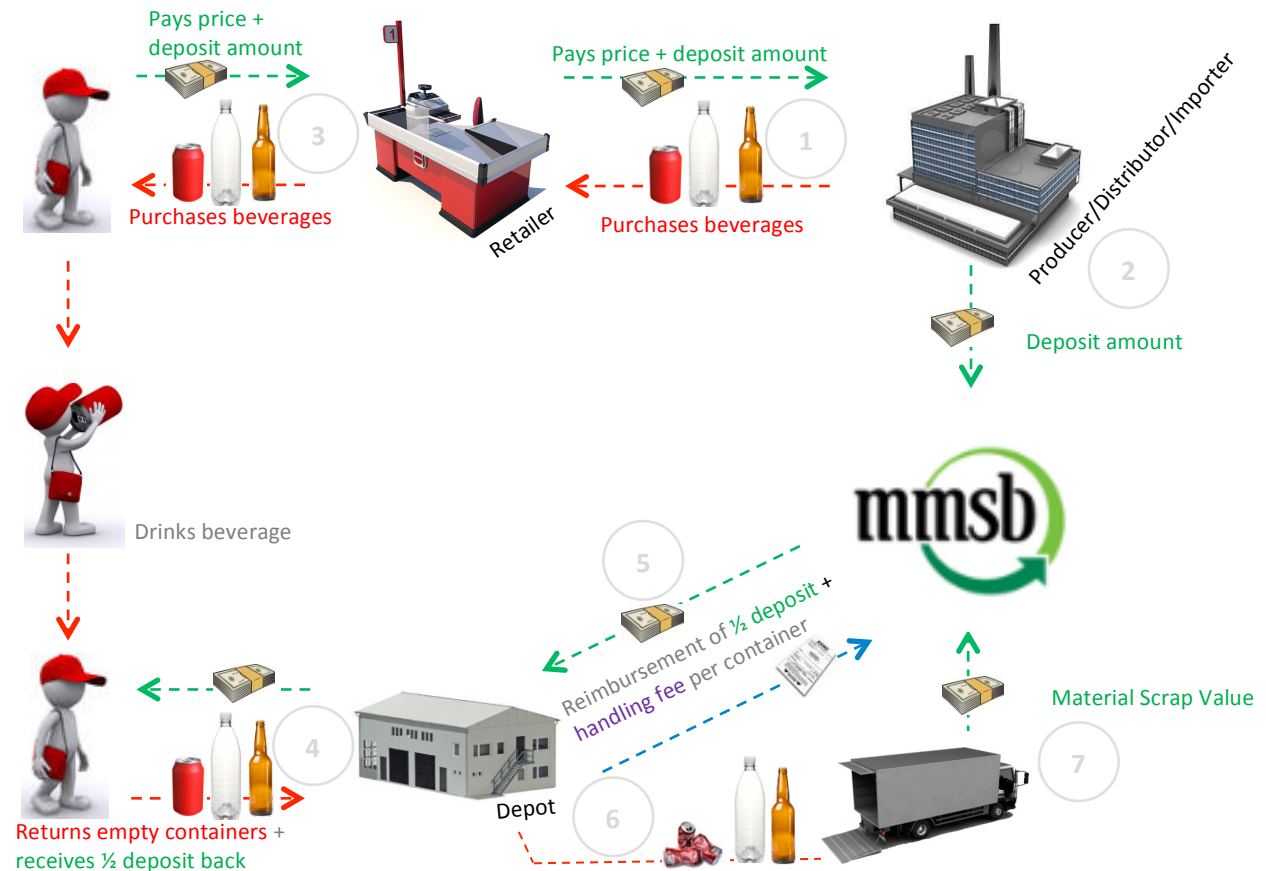
Material owner: MMSB

## SYSTEM RESULTS (2014-15)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 61.6% |
| Aluminum can       | 64.0% |
| Glass              | 62.2% |
| PET                | 65.4% |
| Other Plastic      | 37.5% |
| Bimetal            | 52.9% |
| Gable/Tetra Pak    | 44.7% |



## MONEY MATERIAL FLOW





# NEW BRUNSWICK

**Population: 0.75m**

Website: [www2.gnb.ca/content/gnb/en/services/services\\_renderer.3975.Beverage\\_Container\\_Program.html](http://www2.gnb.ca/content/gnb/en/services/services_renderer.3975.Beverage_Container_Program.html)



## MANDATE

---

Beverage Container Act

|              |                                   |
|--------------|-----------------------------------|
| Enacted:     | 1991                              |
| Implemented: | 1992                              |
| Authority:   | Department of Environment         |
| Target:      | Unofficial collection rate of 80% |

## PROGRAM SCOPE

---

|                |  |
|----------------|--|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, gable top Tetra Pak, all beverage containers ≤ 5l |
| Beverage type: | All ready-to-drink beverages (non-alcoholic beverages, wine, spirits, non-refillable beer)             |
| Excluded:      | Milk; milk products; unpasteurized cider   |

## DEPOSITS (Half Back) AND FEES

---

|                      |   |
|----------------------|---|
| Deposit:             | Initiated at Producer/Distributor/Importer  |
| Deposit value:       | Non-alcohol: CAD\$0.10 / CAD\$0.05*<br>Beer cans & bottles, wine & spirits ≤ 500ml: CAD\$0.10 / CAD\$0.05*<br>Beer cans & bottles, wine & spirits > 500ml: CAD\$0.20 / CAD\$0.10* |
| Unredeemed deposits: | Encorp Atlantic and New Brunswick Liquor (Alcool NB Liquor)   |
| Handling Fee:        | CAD\$0.0406   |

\*Under New Brunswick’s half-back system, consumers receive only half of their deposit back when they return non-refillable containers. Fifty-percent of this “half-back” revenue (2.5- or 5-cents depending on container size), plus the revenue generated from unredeemed deposits and from the sale of material, is used to pay for program costs. The remaining 50% of the “half-back” revenue goes into the province’s Environmental Trust Fund where it is used for environmental conservation, education, protection, and other provincial environmental initiatives aimed at reducing waste.

## SYSTEM OPERATOR

---

|                   |   |
|-------------------|---|
| Program Operator: | Encorp Atlantic (Non-alcoholic), Rayan Industries (Alcohol) |
| Steward:          | Encorp Atlantic (Non-alcoholic), Alcool NB Liquor (Alcohol) |

Encorp Atlantic manages the collection of non-alcoholic beverage containers on behalf of brand owners. It collects the containers from depots, ships materials for processing, and markets these materials. Encorp is also responsible for collecting deposits from the distributors, and reimbursing the redemption centers for the refunds paid out.

Alcool NB Liquor is responsible for collecting alcoholic beverage containers (wine, beer, spirits, and coolers), and it contracts the transportation and processing of these containers to Neighbourhood Recycling (Rayan Investments Ltd.).

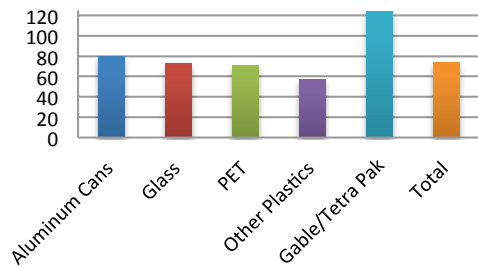
System Finance: Material revenue, unredeemed deposits, 50% of half-back

## REDEMPTION SYSTEM

Return-to-Depot 72 licenced depots (individually owned and operated)  
 Material owner: Encorp Atlantic and Alcool NB Liquor

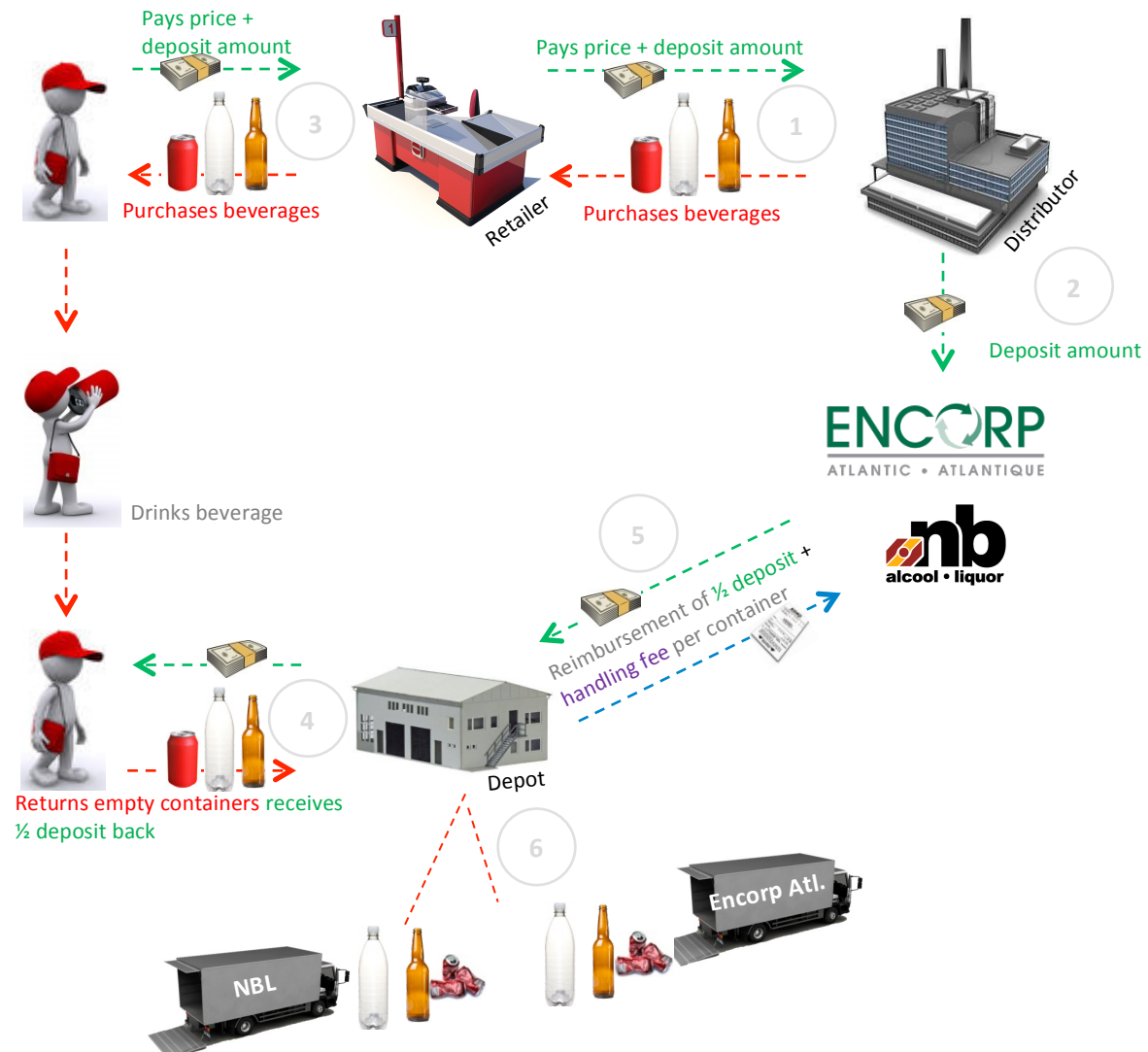
## SYSTEM RESULTS (2014-15)

|                    |         |
|--------------------|---------|
| Total Return Rate: | 76.4%   |
| Aluminum Can       | 80.1%   |
| Glass              | 72.4%   |
| PET                | 71.2%   |
| Other Plastic      | 57.4%   |
| Gable/Tetra Pak    | 123.8%* |



\*Note: This is clearly not possible, and reflects the fact that some cartons are being reported as sold under other categories by distributors, leading to a situation where the denominator for gable/Tetra Pak containers sold is lower than it should be, while the denominator for other categories may be falsely reported as too high.

## MONEY MATERIAL FLOW







# NORTHWEST TERRITORIES



**Population: 0.04m**

Website: [www.enr.gov.nt.ca/node/3723](http://www.enr.gov.nt.ca/node/3723)

## MANDATE

Waste Reduction and Recovery Act

|               |   |
|---------------|---|
| Enacted:      | 2003  |
| Implemented:  | 2005  |
| Last Updated: | 2010  |
| Authority:    | Department of Environment and Natural Resources (ENR) |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, Tetra Pak, any sealed container & combination of materials  |
| Beverage type: | All ready-to-serve drinks including milk (non-alcoholic beverages, wine, spirits, non-refillable beer, milk and liquid milk products)                                |
| Excluded:      | Containers for infant formula, containers for milk and liquid milk products <30ml, powder milk, containers sold empty, open containers filled with a drink when sold |

## DEPOSITS AND FEES

|                                      | Refundable<br>Deposit (CAD\$) | CRF<br>(CAD\$) | Total surcharge per<br>container (CAD\$) |
|--------------------------------------|-------------------------------|----------------|--|
| Glass ≤ 1l                           | \$0.10                        | \$0.13         | \$0.23                                   |
| Aluminum ≤ 1l                        | \$0.10                        | \$0.08         | \$0.18                                   |
| Plastic ≤ 1l                         | \$0.10                        | \$0.08         | \$0.18                                   |
| Tetra Pak/Drink Pouch/Gable Top ≤ 1l | \$0.10                        | \$0.05         | \$0.15                                   |
| Bi-Metal ≤ 1l                        | \$0.10                        | \$0.05         | \$0.15                                   |
| Glass >1l                            | \$0.25                        | \$0.13         | \$0.38                                   |
| Plastic >1l                          | \$0.25                        | \$0.10         | \$0.35                                   |
| Tetra Pak/Drink Pouch/Gable Top >1l  | \$0.25                        | \$0.10         | \$0.35                                   |
| Bi-Metal >1l                         | \$0.25                        | \$0.10         | \$0.35                                   |
| Bag-in-a-Box >1l                     | \$0.25                        | \$0.10         | \$0.35                                   |

Unredeemed deposits: Retained by ENR

Depot Handling Fee (DHF): CAD\$0.022 - CAD\$0.045

Processing Handling Fee (PHF): CAD\$0.02 - CAD\$0.045

At the point of purchase, the customer is charged a refundable deposit and a non-refundable CHF. CHFs vary by type of container and container size, and are based on the estimated costs to collect, process, and transport beverage containers and to administer the program. These fees, along with unredeemed deposits and material revenues, are used to pay for the program.

## SYSTEM OPERATOR

|                   |                           |
|-------------------|---------------------------|
| Program Operator: | ENR (Government Operated) |
| Steward:          | ENR                       |

The program is overseen by the ENR. The ENR administers the program by enforcing the act and the regulations, coordinating and supporting local depots and regional processing centres, coordinating public information, improving the program, and undertaking audits or checks on distributors, importers, stores, depots, and processing centres.

System Finance: Material revenue, unredeemed deposits, Container Handling Fee (includes DHF and PHF)

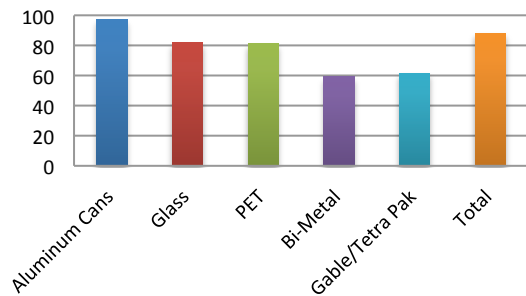
## REDEMPTION SYSTEM

Return to Depot: 23 locally operated depots & 6 temporary satellite depots

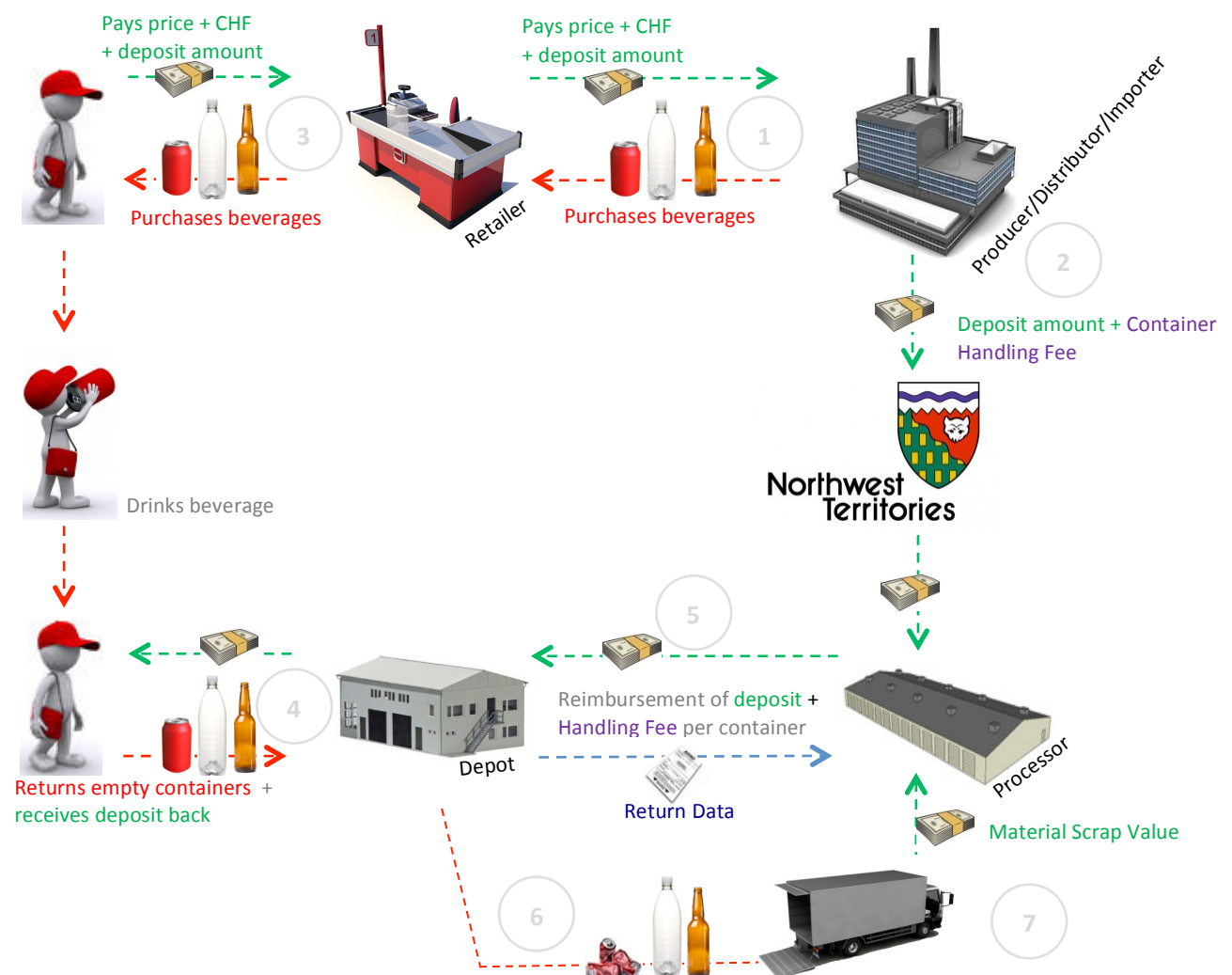
Material owner: Processors

## SYSTEM RESULTS (2013-14)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 88.2% |
| Aluminum Can       | 97.2% |
| Glass              | 81.7% |
| PET                | 81.0% |
| Bimetal            | 59.1% |
| Gable/Tetra Pak    | 61.4% |



## MONEY MATERIAL FLOW





# NOVA SCOTIA



**Population: 0.9m**

Website: <http://divertns.ca/recycling/what-goes-where/beverage-container-recycling>

## MANDATE

Solid Waste – Resource Management Regulations

|               |                         |
|---------------|-------------------------|
| Enacted:      | 1994                    |
| Implemented:  | 1996                    |
| Last Updated: | 2007                    |
| Authority:    | Ministry of Environment |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, all beverage containers <5l   |
| Beverage type: | All ready-to-serve drinks (non-alcoholic beverages, wine, spirits, non-refillable beer)  |
| Excluded:      | Milk (collection of milk containers is carried out under a voluntary agreement between Nova Scotia Environment, the Nova Scotia Solid Waste Management Regions, and the Atlantic Dairy Council); milk products; soya milk; rice beverages; certain meal replacements; formulated liquid diets; foods for low energy diets; thickened juices; baby formulas; concentrates; non-alcoholic beverages ≥ 5l |

## DEPOSITS (Half Back) AND FEES

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | Non-alcohol < 5l: CAD\$0.10 / CAD\$0.05<br>Wine & spirit ≤ 500ml: CAD\$0.10 / CAD\$0.05<br>Wine & spirit >500ml: CAD\$0.20 / CAD\$0.10<br>Beer cans & bottles <500ml: CAD\$0.10 / CAD\$0.05<br>Beer cans & bottles ≥ 500ml: CAD\$0.20 / CAD\$0.10 |
| Unredeemed deposits: | Retained by Divert NS (formerly RRFB Nova Scotia)   |
| Handling Fee:        | CAD\$0.0427   |

## SYSTEM OPERATOR

|                   |                                       |
|-------------------|---------------------------------------|
| Program Operator: | Divert NS (formerly RRFB Nova Scotia) |
| Steward:          | Divert NS (formerly RRFB Nova Scotia) |

Divert NS was incorporated in 1996 to administer major components of the Nova Scotia Solid Waste-Resource Management Strategy (1995). Divert NS is tasked with five mandates, one of which is to develop and operate a DRS for beverage containers. Distributors of designated beverage containers are required to register with Divert NS in order to sell or distribute these products legally within the province. They must also report sales data and remit applicable deposits directly to Divert NS on a monthly basis.

System Finance:

Material revenue, half-back, unredeemed deposits

## REDEMPTION SYSTEM

Return to Depot:

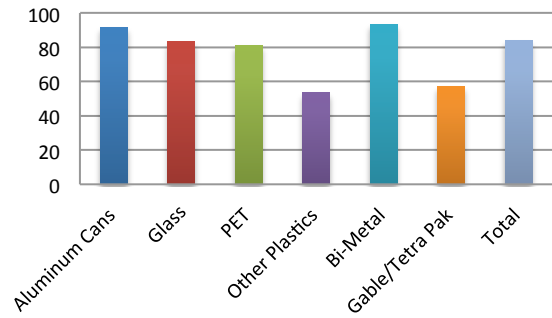
78 Enviro Depot locations

Material owner:

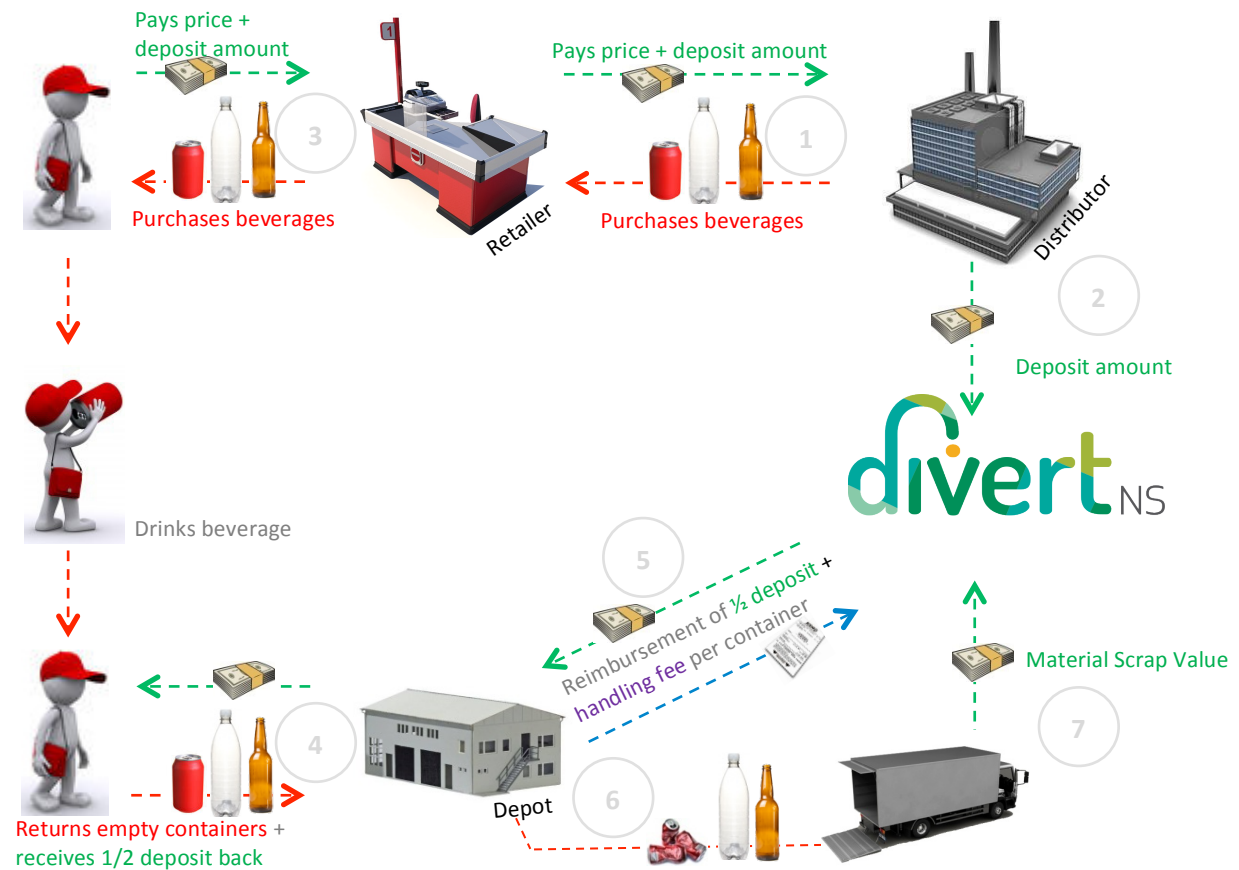
Divert NS (formerly RRFB Nova Scotia)

## SYSTEM RESULTS (2013-14)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 83.7% |
| Aluminum Can       | 91.6% |
| Glass              | 83.3% |
| PET                | 80.8% |
| Other Plastic      | 53.3% |
| Bimetal            | 93.2% |
| Gable/Tetra Pak    | 57.2% |



## MONEY MATERIAL FLOW





# ONTARIO

**Population: 13.9m**

**Website:** [www.bagitback.ca](http://www.bagitback.ca)



## MANDATE

---

Ontario Deposit Return Program

|              |                                     |
|--------------|-------------------------------------|
| Enacted:     | 2006                                |
| Implemented: | 2007                                |
| Authority:   | Liquor Control Board Ontario (LCBO) |

## PROGRAM SCOPE

---

|                |  |
|----------------|--|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, bag-in-box, all beverage containers |
| Beverage type: | Wine, spirits, imported beer   |
| Excluded:      | Non-alcoholic beverages, containers with a volume of ≤100ml containers purchased at duty-free stores           |

## DEPOSITS AND FEES

---

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | Wine & spirit ≤ 630ml: CAD\$0.10<br>Wine & spirit > 630ml: CAD\$0.20<br>Beer cans & bottles ≤1l: CAD\$0.10<br>Beer cans & bottles > 1l: CAD\$0.20 |
| Unredeemed deposits: | Retained by beer distributor/bottlers and the Liquor Control Board of Ontario (LCBO)  |
| Handling Fee:        | Proprietary   |

The LCBO is obligated to reimburse The Beer Store (TBS) for all deposit refunds that TBS pays out to consumers who return wine, spirit, and imported beer containers that are not sold at TBS; it is also required to pay TBS a per unit service fee for these containers. A contract with TBS, in effect since February 2012, sets the fee at 10.5-cents for 2016.

Brewers pay a handling fee to TBS based on the type of container. These rates are proprietary.

## SYSTEM OPERATOR

---

|                   |   |
|-------------------|---|
| Program Operator: | TBS   |
| Steward:          | LCBO (wine, spirits); TBS (beer)                          |
| System Finance:   | Material Revenue, unredeemed deposits, government revenue |

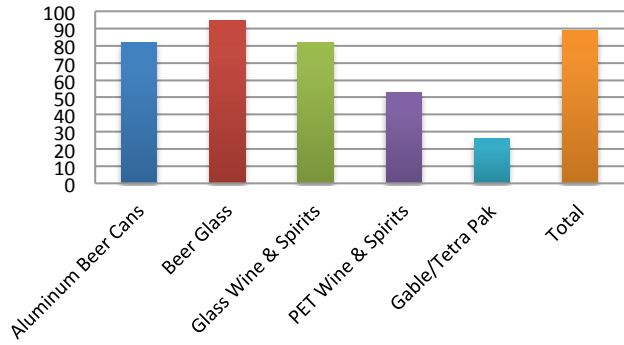
## REDEMPTION SYSTEM

---

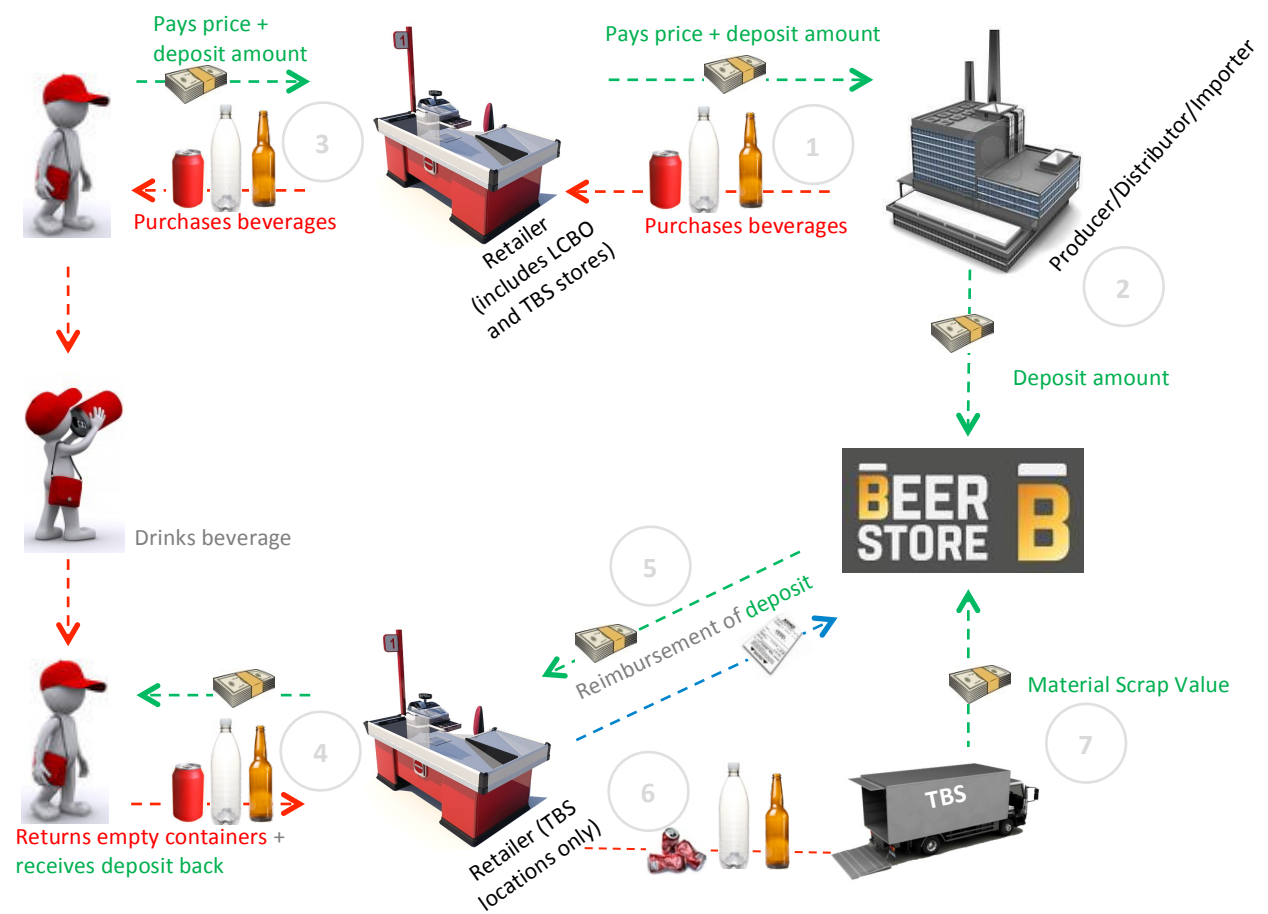
|                   |  |
|-------------------|--|
| Return-to-Retail: | 879 redemption locations, including 443 TBS locations, 113 breweries (beer containers only), 141 retail partner stores, 63 LCBO northern agency stores, 4 additional LCBO stores, and 115 empty bottle dealers |
| Material owner:   | TBS  |

# SYSTEM RESULTS (2014)

|                      |       |
|----------------------|-------|
| Total Return Rate:   | 89%   |
| Aluminum Beer Cans   | 81.9% |
| Beer Glass           | 94.7% |
| Glass Wine & Spirits | 82.0% |
| PET Wine & Spirits   | 53.0% |
| Gable/Tetra Pak      | 26.0% |



# MONEY MATERIAL FLOW





# PRINCE EDWARD ISLAND



**Population: 0.1m**

Website: [www.beveragecontainers.pe.ca](http://www.beveragecontainers.pe.ca)

## MANDATE

Beverage Container Act

Enacted: 2008

Implemented: 2008

Authority: PEI Department of Environment, Energy, and Forestry

Law prohibiting the sale of non-refillable bottles was repealed in late 2007

## PROGRAM SCOPE

Material: Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, bag-in-box, drink pouches, all sealed containers ≤ 5l

Beverage type: All ready-to-drink beverages (non-alcoholic beverages, wine, spirits, non-refillable beer)

Excluded: Dairy products; milk substitutes; nutritional supplements

## DEPOSITS (Half Back) AND FEES

Deposit: Initiated at Producer/Distributor/Importer

Deposit value: Non-alcohol: CAD\$0.10 / CAD\$0.05  
 Wine & spirit ≤ 500ml: CAD\$0.10 / CAD\$0.05  
 Wine & spirit 501ml to 5l: CAD\$0.20 / CAD\$0.10  
 Beer cans & bottles ≤ 500ml: CAD\$0.10 / CAD\$0.05  
 Beer cans & bottles ≥ 501ml: CAD\$0.20 / CAD\$0.10

Unredeemed deposits: Retained by Provincial Government (Provincial Treasury)

Handling Fee: CAD\$0.0405

Prince Edward Island operates a half-back deposit system on all non-refillable beverage containers. Under this system, deposits are paid on all beverage containers. While deposits on refillable containers are 100% refundable, those on non-refillable containers are only half (50%) refundable.

## SYSTEM OPERATOR

Program Operator: Department of Environment, Energy and Forestry (Government Operated)

Steward: Department of Environment, Energy and Forestry

System Finance: Half-back, unredeemed deposits

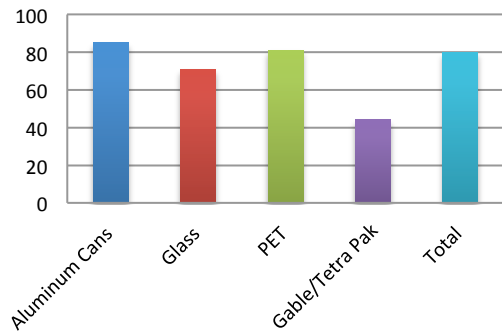
## REDEMPTION SYSTEM

Return to Depot: 10 licensed depots

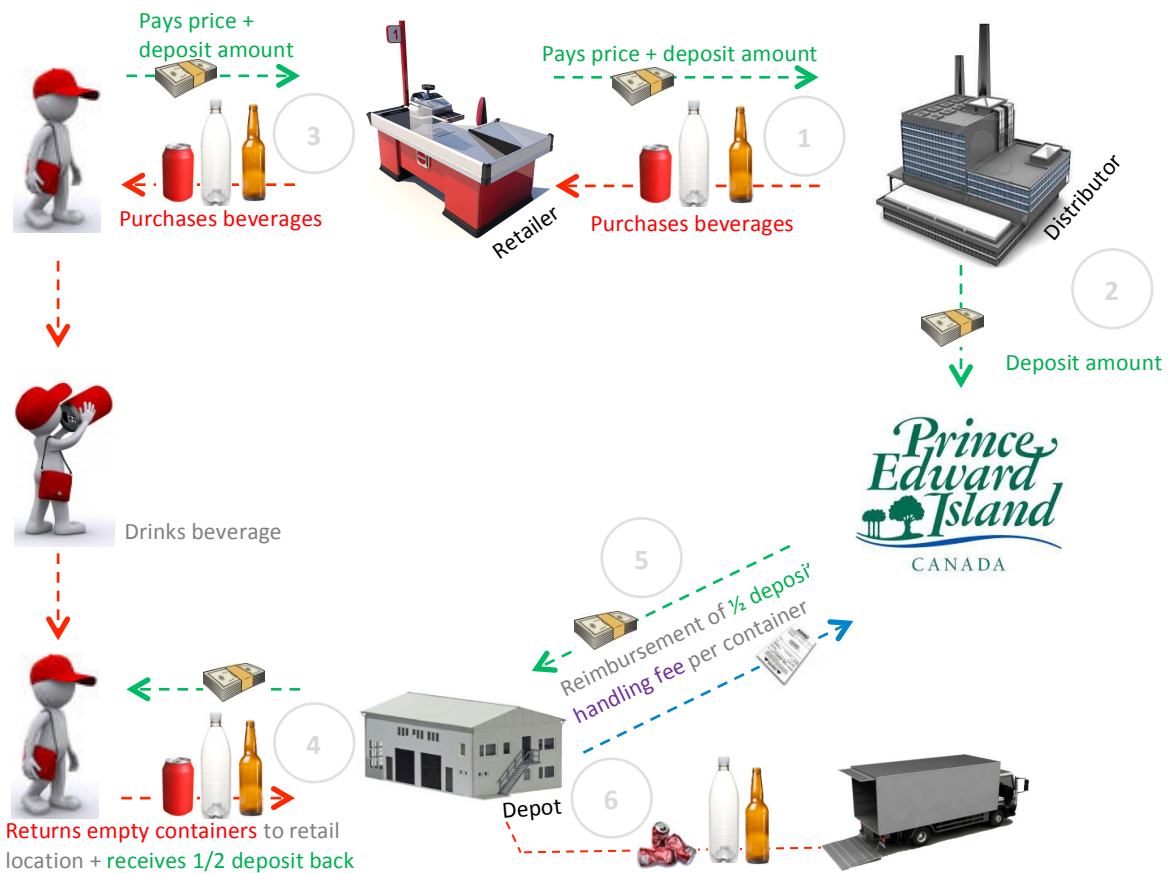
Material owner: Processors

## SYSTEM RESULTS (2014-15)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 79.9% |
| Aluminum Can       | 84.9% |
| Glass              | 70.7% |
| PET                | 81.0% |
| Gable/Tetra Pak    | 44.0% |



## MONEY MATERIAL FLOW







# QUEBEC

**Population: 8.3m**

Website: [www.recyc-quebec.gouv.qc.ca/entreprises-organismes/mieux-gerer/consigne](http://www.recyc-quebec.gouv.qc.ca/entreprises-organismes/mieux-gerer/consigne)



## MANDATE

---

|  |  |
|--|--|
| Agreement Relating to the Consignment, Recovery & Recycling of Non-Refillable (Soft Drink/Beer) Containers |  |
| Enacted:   | 1984   |
| Implemented:   | 1984   |
| Last Updated:  | 2014   |
| Authority:   | Recyc-Québec   |
| Target:  | 75% collection target for soft drinks / 75% collection target for beer |

## PROGRAM SCOPE

---

|                |   |
|----------------|---|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass (all containers for accepted beverages)                   |
| Beverage type: | All non-refillable beer and carbonated soft drinks (all beverages that contain water with essence of flavour) |
| Excluded:      | Energy drinks; water; juice; wine; spirits; milk  |

## DEPOSITS AND FEES

---

|                      |  |
|----------------------|--|
| Deposit:             | Initiated by Producer/Distributor/Importer   |
| Deposit value:       | Soft drink containers & beer cans ≤ 450ml: CAD\$0.05<br>Non-refillable beer > 450ml: CAD\$0.20 |
| Unredeemed deposits: | Retained by Recyc-Québec & distributors/bottlers (finances handling fee)                       |
| Handling Fee:        | CAD\$0.02  |

## SYSTEM OPERATOR

---

|                   |  |
|-------------------|--|
| Program Operator: | Beverage Industry<br>Beer Industry   |
| Steward:          | Boissons Gazeuses Environnement (BGE) (Non-alcoholic)<br>Québec Brewers Association (QBA) (Beer) |

In 1990, the Québec government established the Société Québécoise de récupération et de recyclage, giving the Société (Recyc-Québec) regulatory authority for the program. Recyc-Québec is responsible for the promotion and development of reduction, reuse, recovery, and recycling of containers and packaging in Québec. Its main responsibility is program oversight.

In 1999, BGE—a non-profit organization established by the Québec soft drink industry—took over Recyc-Québec’s responsibility for collecting non-refillable soft drink containers. Brewers are responsible for running the system for beer bottles and cans.

System Finance: Material revenue, unredeemed deposits, Handling Fee

## REDEMPTION SYSTEM

Return-to-Retail:

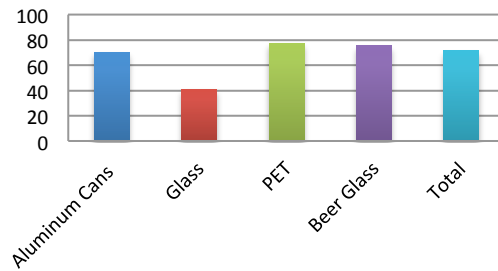
Approx. 10,000 retail locations. By law, anyone that sells these containers must take them back. Collection system is 70% automated/30% manual.

Material owner:

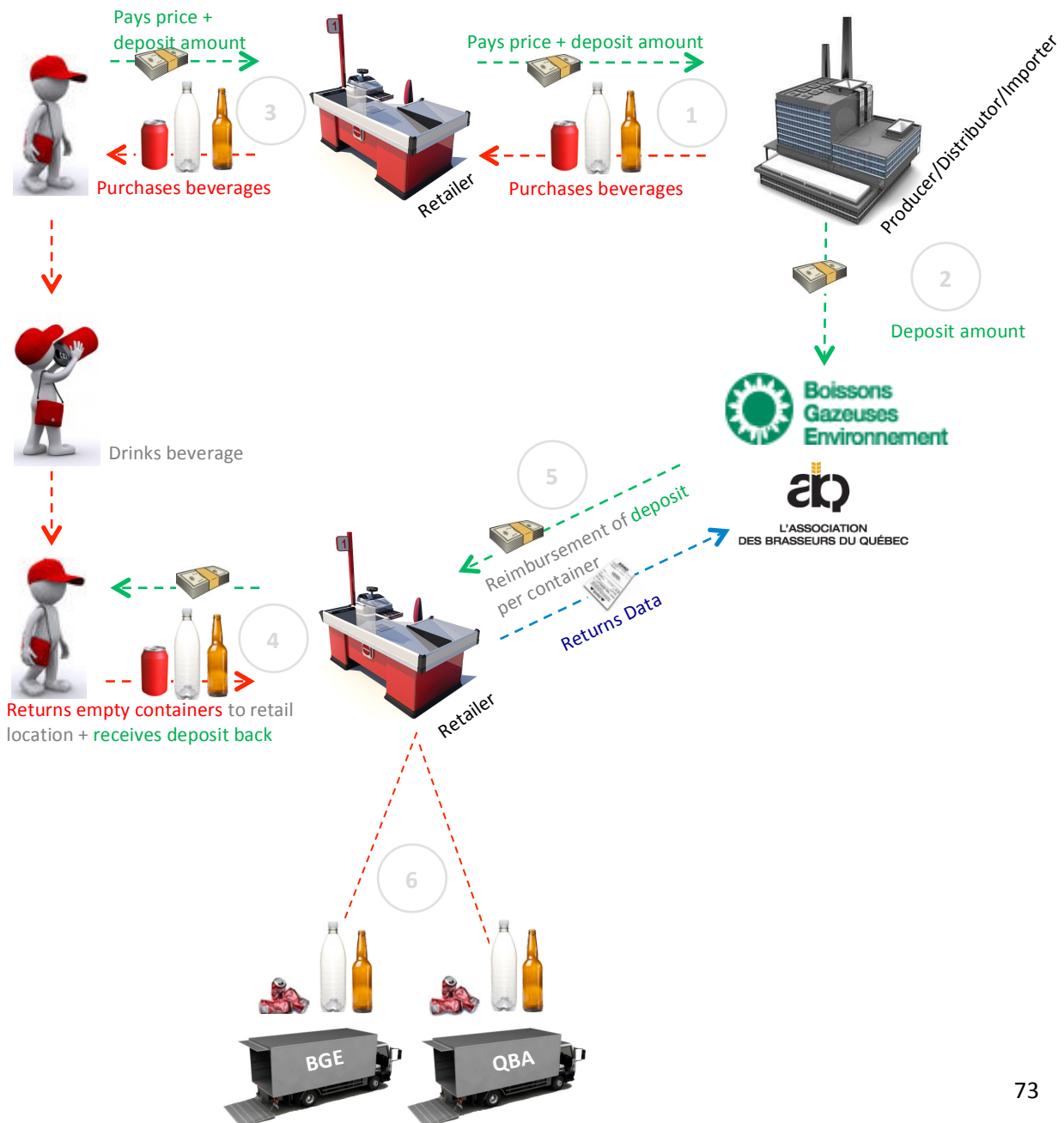
Producer/Distributor/Importer

## SYSTEM RESULTS (2014)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 71.5% |
| Aluminum Cans      | 70.4% |
| Glass              | 72.2% |
| PET                | 77.5% |
| Beer Glass         | 76.0% |



## MONEY MATERIAL FLOW





# SASKATCHEWAN



**Population: 1.2m**

Website: [www.sarcana.ca/pages/deposit-beverage-containers](http://www.sarcana.ca/pages/deposit-beverage-containers)

## MANDATE

Beverage Container Collection and Recycling Program

|               |                         |
|---------------|-------------------------|
| Enacted:      | 1978                    |
| Implemented:  | 1988                    |
| Last Updated: | 1999                    |
| Authority:    | Ministry of Environment |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, all beverage containers    |
| Beverage type: | All ready-to-serve drinks (non-alcoholic beverages, wine, spirits, beer in non-refillable containers) |
| Excluded:      | Frozen juice concentrates, baby juices, foil pouches, meal replacements, dietary supplements          |

## DEPOSITS AND FEES

|                                      |   |
|--------------------------------------|---|
| Deposit:                             | Initiated by Producer/Distributor/Importer  |
| Deposit value:                       | Metal < 1l: CAD\$0.10<br>Metal ≥1l: CAD\$0.25<br>Glass ≤ 300ml: CAD\$0.10<br>Glass 301ml to 999ml: CAD\$0.20<br>Glass ≥ 1l: CAD\$0.40<br>Plastic <1l: CAD\$0.10<br>Plastic ≥1l: CAD\$0.25<br>Juice boxes / gable top cartons: CAD\$0.05 |
| Unredeemed deposits:                 | Retained by Provincial Government   |
| Handling Fee:                        | No handling fees (SARCANA receives provincial grants)   |
| Environmental Handling Charge (EHC): | Aseptic CAD\$0.03, polycoat CAD\$0.03, metal CAD\$0.05, plastic CAD\$0.06, non-refillable glass CAD\$0.07   |

## SYSTEM OPERATOR

Program Operator: SARCANA Recycling

The Saskatchewan Association of Rehabilitation Centres (SARC) has a recycling division known as SARCANA Recycling, which administers the program. SARCANA operates under contract to the Saskatchewan Ministry of Environment.

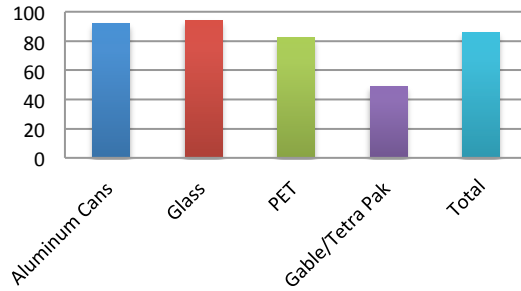
System Finance: Material revenue, unredeemed deposits, provincial grants, Environmental Handling Charge

## REDEMPTION SYSTEM

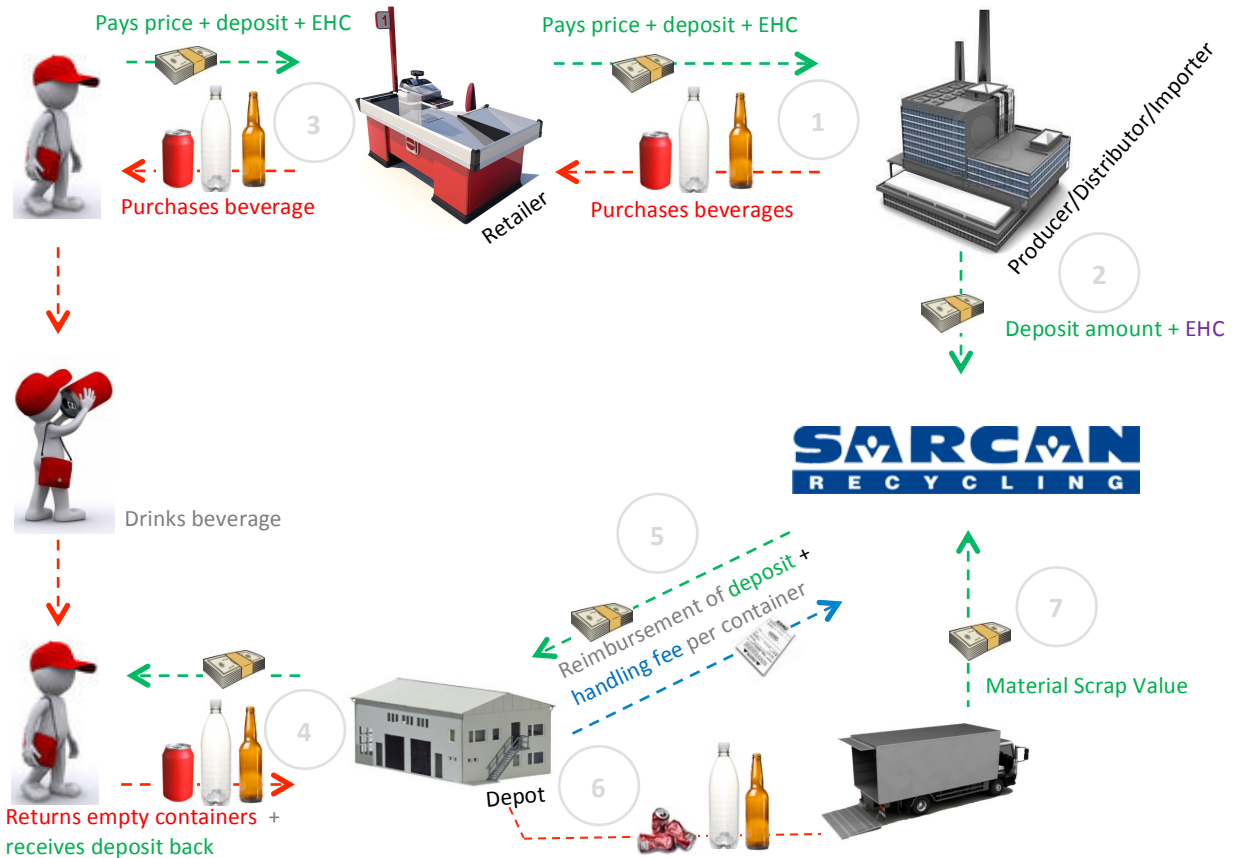
|                  |                           |
|------------------|---------------------------|
| Return to Depot: | 71 SARCAN licensed depots |
| Material owner:  | SARCAN                    |

## SYSTEM RESULTS (2014)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 86.6% |
| Aluminum Can       | 92.1% |
| Glass              | 94.3% |
| PET                | 82.3% |
| Gable/Tetra Pak    | 49.0% |



## MONEY MATERIAL FLOW





# YUKON

**Population: 0.03m**

Website: [www.community.gov.yk.ca/cd/recycling.html](http://www.community.gov.yk.ca/cd/recycling.html)



## MANDATE

Beverage Container Regulation

|               |                   |
|---------------|-------------------|
| Enacted:      | 1991              |
| Implemented:  | 1992              |
| Last Updated: | 2009              |
| Authority:    | Environment Yukon |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | Plastics, metal (aluminum/tinplate), bimetal, glass, gable top, Tetra Pak, all beverage containers |
| Beverage type: | All ready-to-drink beverages (non-alcoholic beverages, wine, spirits, non-refillable beer)         |
| Excluded:      | Dairy and dairy substitutes  |

## DEPOSITS AND FEES

|                           |   |
|---------------------------|---|
| Deposit:                  | Initiated by Producer/Distributor/Importer  |
| Deposit value:            | Metal, plastic, Tetra Paks < 1l: CAD\$0.10 / CAD\$0.05<br>Metal, plastic, Tetra Paks ≥ 1l : CAD\$0.35 / CAD\$0.25<br>Glass ≤ 1l: CAD\$0.10 / CAD\$0.05<br>Glass > 1l: CAD\$0.35/ CAD\$0.25<br>Wine & spirit < 500ml: CAD\$0.15 / CAD\$0.10<br>Wine & spirit ≥ 500ml: CAD\$0.35/ CAD\$0.25<br>Beer cans & bottles: CAD\$0.10 / CAD\$0.05 |
| Unredeemed deposits:      | Retained by government  |
| Handling Fee:             | CAD\$0.025 – CAD\$0.075   |
| Recycling Fund Fee (RFF): | CAD\$0.05 – CAD\$0.10   |
| Processing Fee (PF):      | Paid to processing facilities for each container received (N/A)   |

When purchasing beverages, the consumer pays a deposit, which includes a refundable portion and a non-refundable RFF. Consumers receive a refund when they return the empty containers to a registered recycling depot. The non-refundable RFF is collected by the retailer and goes into a recycling fund that is administered by the government. Unredeemed deposits also go into this fund.

## SYSTEM OPERATOR

|                   |   |
|-------------------|---|
| Program Operator: | Department of Community Services (Yukon Government) |
| System Finance:   | Recycling Fund Fee / Unredeemed deposits / Grants   |

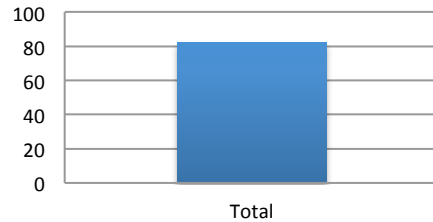
## REDEMPTION SYSTEM

|                  |                      |
|------------------|----------------------|
| Return to Depot: | 22 registered depots |
| Material owner:  | Processors           |

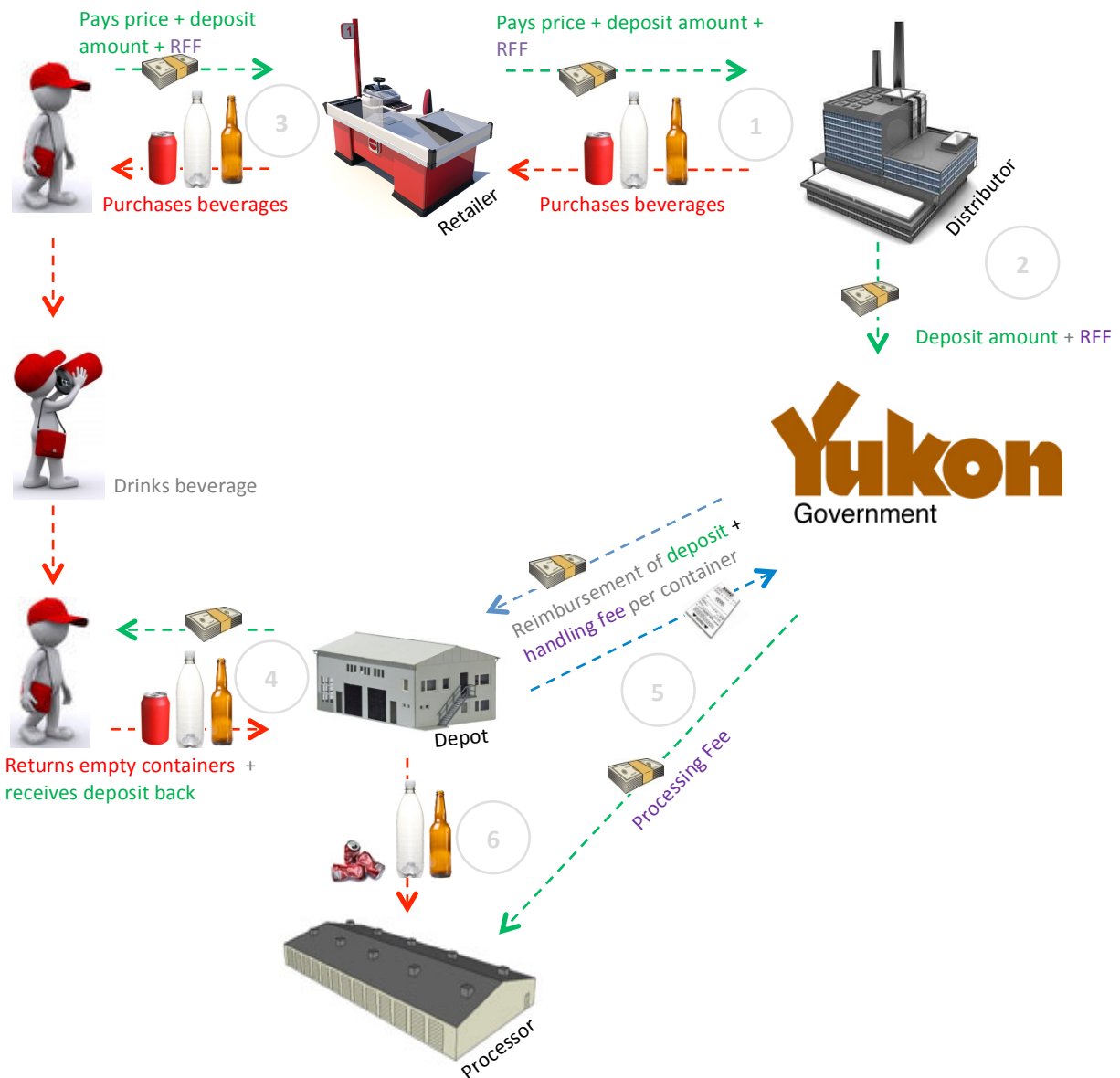
## SYSTEM RESULTS (2014-15)

Total Return Rate: 82.3%

No breakdown of recycling rates by material is available due to lack of data.



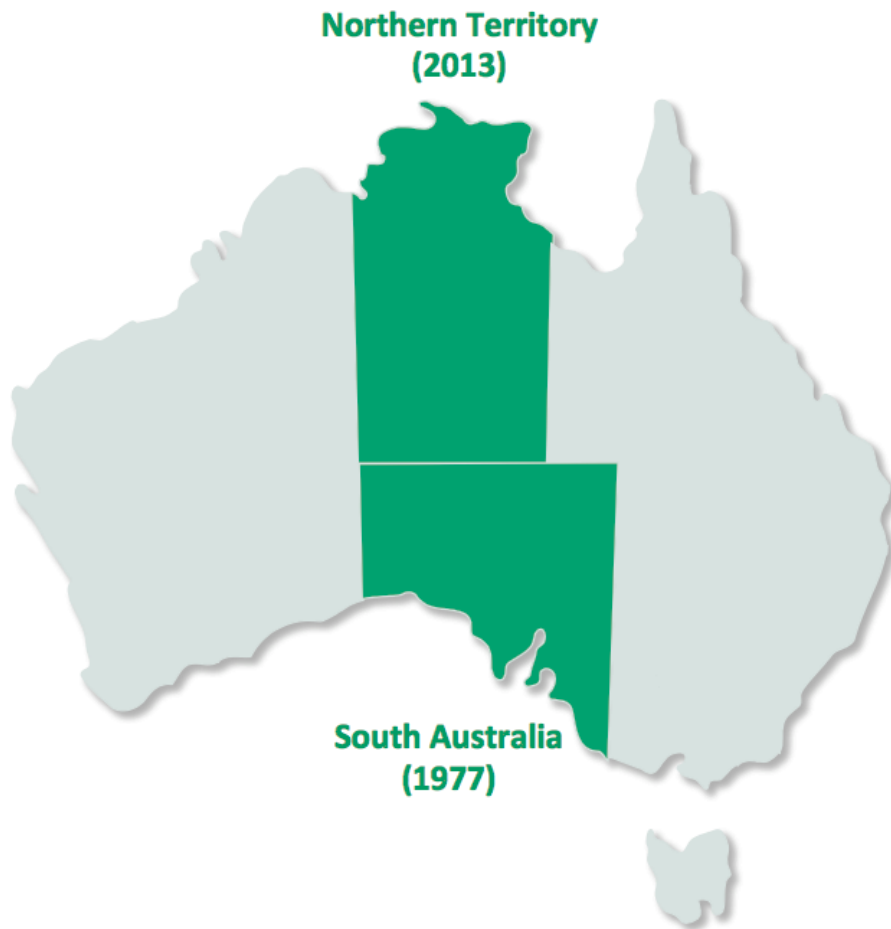
## MONEY MATERIAL FLOW





# AUSTRALIA

(1.9m have access to DRS)



| State                 | Population | Mandate Enacted | Mandate Implemented |
|-----------------------|------------|-----------------|---------------------|
| 1. Northern Territory | 0.2m       | 2011            | 2012                |
| 2. South Australia    | 1.7m       | 1975            | 1977                |



# NORTHERN TERRITORY



**Population: 0.2m**

Website: [www.ntepa.nt.gov.au/container-deposits](http://www.ntepa.nt.gov.au/container-deposits)

## MANDATE

Environment Protection (Beverage Containers and Plastic Bags) Act

|              |                                  |
|--------------|----------------------------------|
| Enacted:     | 2011                             |
| Implemented: | 2012                             |
| Updated:     | 2014                             |
| Authority:   | Environment Protection Authority |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | All   |
| Beverage type: | <p><i>Containers &lt;1l</i>: flavoured milk; pure fruit/vegetable juice; water in aseptic packs/casks; some wine-based beverages</p> <p><i>Containers ≤3l</i>: carbonated soft drinks; non-carbonated soft drinks (including but not limited to: fruit/juice based drinks containing &lt; 90% juice, sports drinks, vitamin drinks, energy drinks, ready-to-drink cordials), water that is not in an aseptic pack/cask; beer/ales/stouts/cider; spirit-based beverages; some wine-based beverages</p> |
| Excluded:      | Unflavored milk; soy milk; cordial bottles (undiluted); concentrated fruit and/or vegetable juice intended to be diluted before consumption; still or sparkling wine (in glass)   |

## DEPOSITS AND FEES

|                      |  |
|----------------------|--|
| Deposit:             | AUD\$0.10 (€0.07, USD\$0.08)   |
| Unredeemed deposits: | Remains with producer/filler   |
| Handling Fee:        | Negotiated. Depots may be compensated for “reasonable costs” related to handling the containers by the CDS coordinator to whom they deliver the container. |

## SYSTEM OPERATOR

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | Decentralized   |
| System Operator & Administrator: | Beverage industry and private operators               |
| System Finance:                  | Administration Fee/Unredeemed deposits/Material scrap |

## REDEMPTION SYSTEM

|                  |   |
|------------------|---|
| Return to Depot: | 11 authorized collection depots, one of which ended operations in November 2014 |
| Material owner:  | CDS Coordinators  |

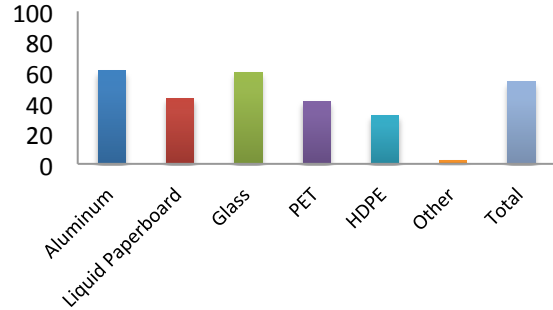
CDS coordinators coordinate the activities of those involved in the deposit return scheme and have arrangements with depots across the Territory. They coordinate the return of empty containers from collection



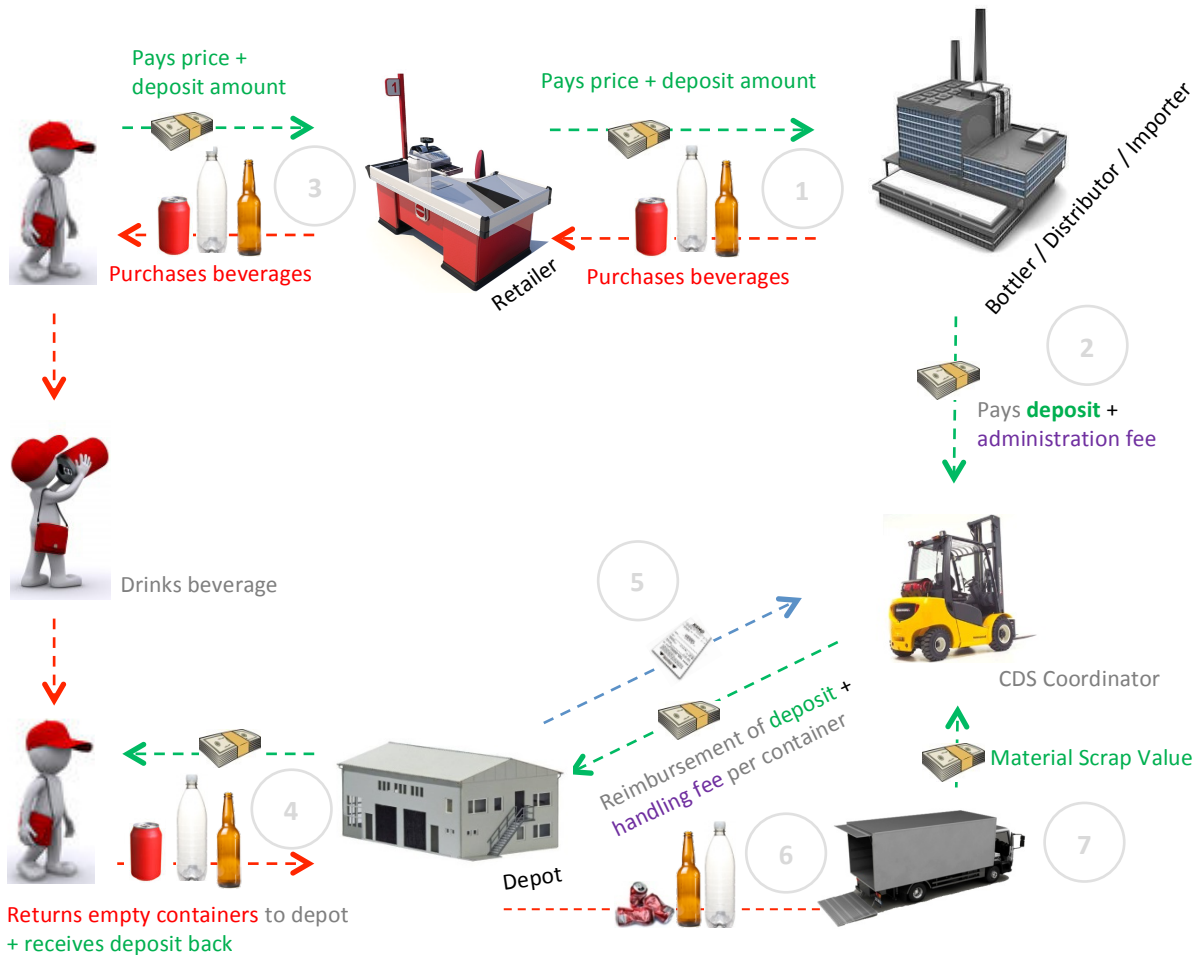
depots, reimburse depots for refunds paid to consumers, and pay depots a handling fee, sell the containers to material recyclers and processors for recycling, reuse or recovery of energy. CDS coordinators, in turn, claim the deposit and handling fee from the beverage filler.

## SYSTEM RESULTS (2015-16)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 54% |
| Aluminum           | 61% |
| Liquid Paperboard  | 43% |
| Glass              | 60% |
| PET                | 41% |
| HDPE               | 32% |
| Other              | 2%  |



## MONEY MATERIAL FLOW





# SOUTH AUSTRALIA



**Population: 1.7m**

**Website:** [www.epa.sa.gov.au/environmental\\_info/container\\_deposit](http://www.epa.sa.gov.au/environmental_info/container_deposit)

## MANDATE

Beverage Container Act

|              |                                 |
|--------------|---------------------------------|
| Enacted:     | 1975                            |
| Implemented: | 1977                            |
| Authority:   | Environmental Protection Agency |

## PROGRAM SCOPE

|                |   |
|----------------|---|
| Material:      | Glass, aluminum, HDPE, PET, liquid paperboard   |
| Beverage type: | <p><i>Container types &lt; 1l:</i> Water in aseptic packs/casks; pure fruit/vegetable juice (containing at least 90% fruit juice and/or vegetable juice); flavoured milk; wine in aseptic packs/casks; flavoured alcoholic beverages with a wine base in aseptic packs/casks</p> <p><i>Container types ≤ 3l:</i> Carbonated soft drinks; non-carbonated soft drinks, water (plain, still or carbonated); Beers/ales/stout, wine based beverages (wine cooler and similar beverages), spirit-based beverages, alcoholic beverages (derived from the fermentation of fruit)</p> |
| Excluded:      | Wine in glass bottles; plain, unflavoured milk; concentrated fruit and/or vegetable juice intended to be diluted before consumption; cordial (undiluted)  |

## DEPOSITS AND FEES

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer  |
| Deposit value:       | AUD\$0.10 (€0.07, USD\$0.08)                |
| Unredeemed deposits: | Remains with producer/filler                |
| Handling Fee:        | Negotiated between producer/super collector |

## SYSTEM OPERATOR

|                                    |   |
|------------------------------------|---|
| Clearing System:                   | Decentralized   |
| System Operator and Administrator: | Beverage Industry                                     |
| System Finance:                    | Administration Fee/Unredeemed deposits/Material scrap |

## REDEMPTION SYSTEM

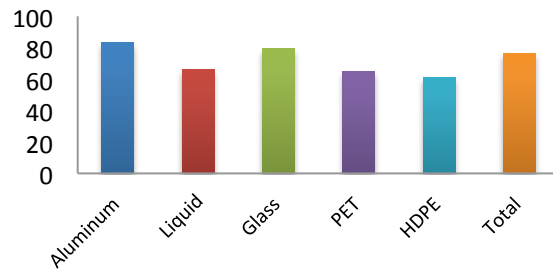
|                  |                     |
|------------------|---------------------|
| Return to Depot: | 126 licensed depots |
| Material owner:  | Super Collectors    |

The various container types and brands are sorted and prepared at the collection depots across the state for processing by the 'super collectors'. The super collectors act as agents for the beverage industry. They

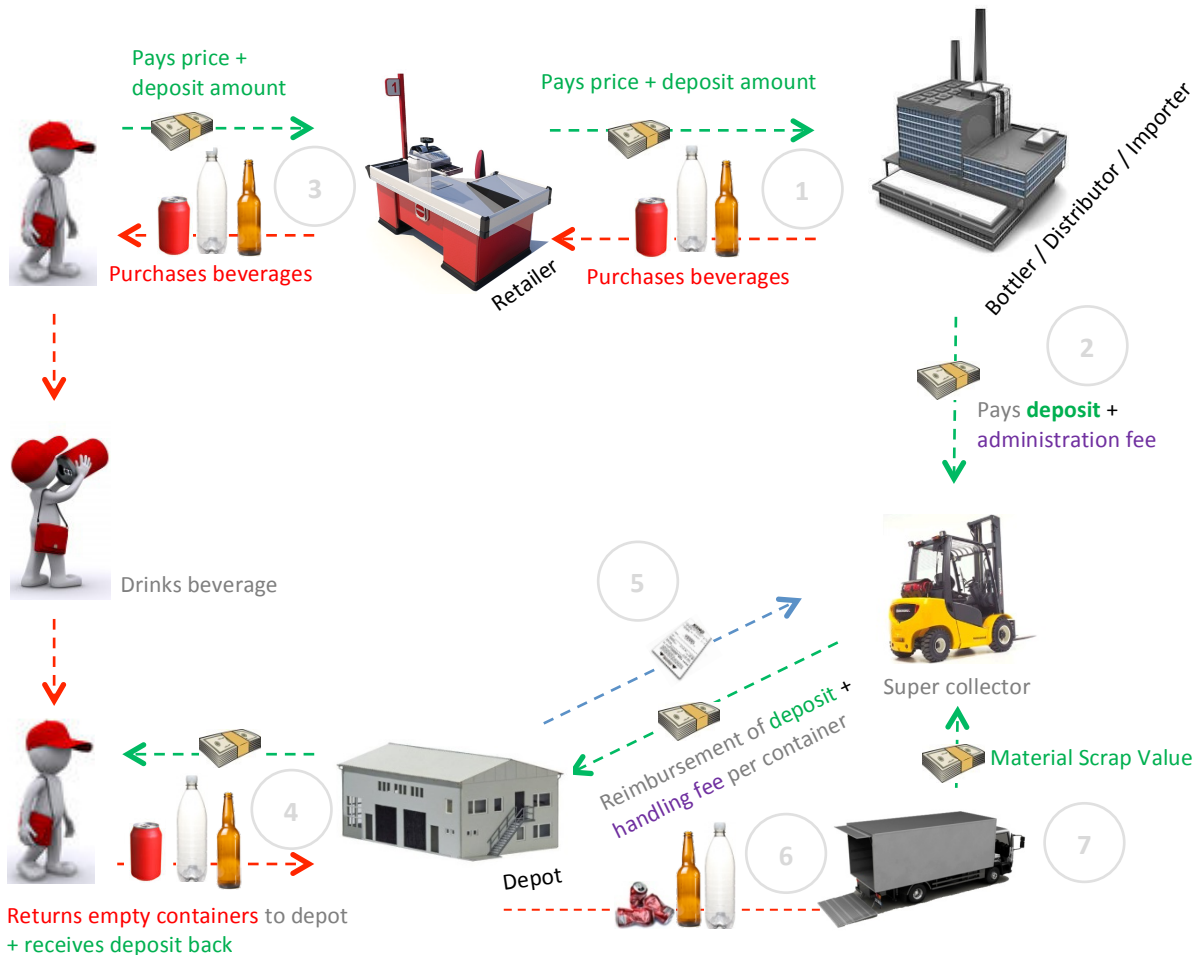
coordinate the return of empty containers from collection depots, reimburse depots for refunds paid to consumers, and pay depots a handling fee, sell the containers to material recyclers and processors for recycling, reuse or recovery of energy. The super collector in turn claims the deposit and handling fee from the beverage filler.

## SYSTEM RESULTS (2015-16)

|                    |       |
|--------------------|-------|
| Total Return Rate: | 76.5% |
| Aluminum           | 84.3% |
| Liquid Paperboard  | 61.9% |
| Glass              | 79.3% |
| PET                | 70.5% |
| HDPE               | 56.4% |



## MONEY MATERIAL FLOW





# ISRAEL



**Population: 7.9m**

Website: [www.ela.org.il](http://www.ela.org.il)

## MANDATE

### Israel Deposit Law on Beverage Containers

|               |   |
|---------------|---|
| Enacted:      | 1999  |
| Implemented:  | 2001  |
| Last Updated: | 2010 - The new law set a collection target of 77% for deposit containers, and prohibits manufacturers from applying for exemption from meeting the targets. |
| Authority:    | Ministry of Environment   |
| Target:       | 77% collection  |

## PROGRAM SCOPE

|                |  |
|----------------|--|
| Material:      | <i>Containers over 100ml and under 1.5l: PET, aluminum, metal, glass</i> |
| Beverage type: | All beverages  |
| Excluded:      | Dairy products   |

## DEPOSITS AND FEES

|                      |   |
|----------------------|---|
| Deposit:             | Initiated by Producer/Distributor/Importer) |
| Deposit value:       | 0.3 ILS (€0.07, USD\$0.08)                  |
| Unredeemed deposits: | ELA Recycling Corporation                   |
| Handling Fee:        | 0.07 ILS (to retail only)                   |

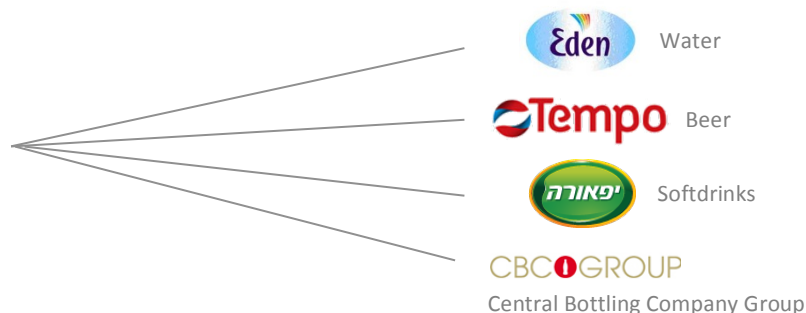
## SYSTEM OPERATOR

|                                  |                           |
|----------------------------------|---------------------------|
| Clearing System:                 | Centralized               |
| System Operator & Administrator: | ELA Recycling Corporation |

ELA Recycling Corporation is a private non-profit organization owned by Israel's beverage manufacturers. Its goal is to promote, coordinate and fund selective collection, sorting and recycling of bottles and beverage containers as per law in Israel.



ELA Recycling Corporation



## REDEMPTION SYSTEM

Return to Retail/Municipal  
Recycling Stations:

Supermarkets and shops are obligated to take back up to 50  
containers per person, per day.

Material owner:

ELA Recycling Corporation

## SYSTEM RESULTS (2015)

|                    |     |
|--------------------|-----|
| Total Return Rate: | 77% |
| PET                | 77% |
| Glass              | 77% |

## MONEY MATERIAL FLOW





# KOSRAE (FEDERATED STATES OF MICRONESIA)

**Population: 0.104m**

Website: N/A

## MANDATE

---

Recycling Program Regulations

|               |                         |
|---------------|-------------------------|
| Enacted:      | 1991                    |
| Last Updated: | 2006                    |
| Authority:    | Kosrae State Government |

## PROGRAM SCOPE

---

|                |                          |
|----------------|--------------------------|
| Material:      | Aluminum, plastic, glass |
| Beverage type: | N/A                      |
| Excluded:      | N/A                      |

## DEPOSITS AND FEES

---

|                      |   |
|----------------------|---|
| Deposit Initiator:   | N/A   |
| Deposit value:       | \$0.06 (\$0.05 returned to consumer)  |
| Unredeemed deposits: | Deposited into a Recycling Fund that is a Fund of the Treasury with the Kosrae State Government |
| Handling Fee:        | \$0.01  |

## SYSTEM OPERATOR

---

|                                  |   |
|----------------------------------|---|
| Clearing System:                 | N/A   |
| System Operator & Administrator: | A private operator has been contracted to operate the scheme on behalf of the Kosrae Island Resource Management Authority (KIRMA) |

## REDEMPTION SYSTEM

---

Return to Redemption Center

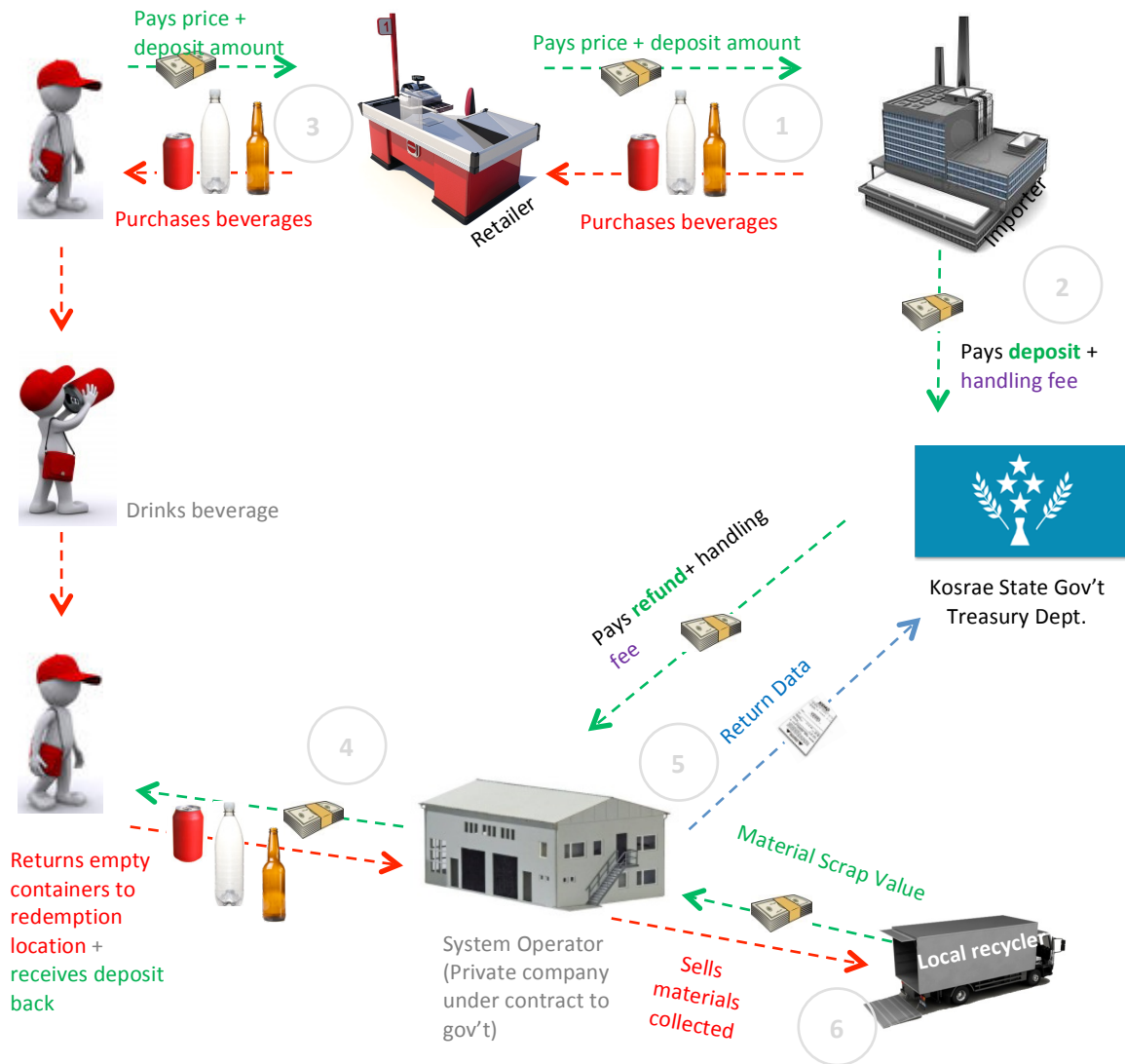
|                 |     |
|-----------------|-----|
| Material owner: | N/A |
|-----------------|-----|

## SYSTEM RESULTS (2014)

---

|                           |     |
|---------------------------|-----|
| <u>Total Return Rate:</u> | N/A |
|---------------------------|-----|

# MONEY MATERIAL FLOW





# KIRIBATI

**Population: 0.11m**

Website: N/A

## MANDATE

---

The Special Fund (Waste Materials Recovery) Act

Enacted: 2004

Implemented: 2005

Authority: Ministry of Environment

## PROGRAM SCOPE

---

Material: Aluminum cans, plastic PET bottles

Beverage type: Beer, soft drink, and water

Excluded: Milk

## DEPOSITS AND FEES

---

Deposit Initiator: N/A

Deposit value: AUD\$0.05 (€0.03, USD\$0.04) (AUD\$0.04 returned to the consumer)

Unredeemed deposits: 10% of levy moneys are retained to fund the scheme and provide recycling infrastructure

Handling Fee: AUD\$0.01 (€0.01, USD\$0.01) (retained by the Koaki Mange operator for operating costs)

## SYSTEM OPERATOR

---

Clearing System: N/A

System Operator & Administrator: Private company under contract to government

System Finance: Unredeemed deposits , handling fees

## REDEMPTION SYSTEM

---

Return to Depot: Kaoki Mange operating centres

Material owner: N/A

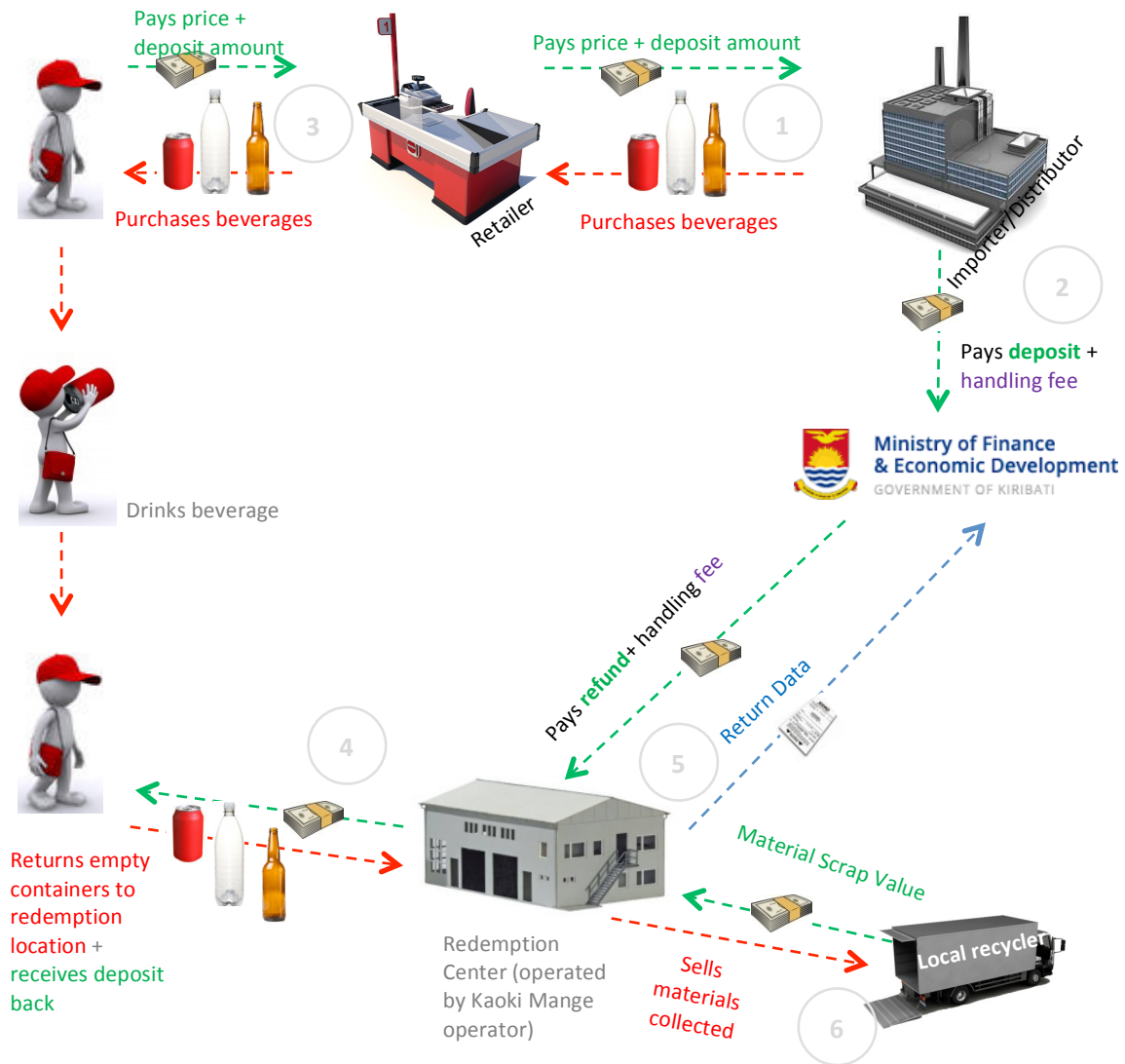
## SYSTEM RESULTS (2014)

---

Total Return Rate: N/A



# MONEY MATERIAL FLOW





# PALAU

**Population: 0.021m**

Website: [www.kororstategov.com/swmo/beverage.html](http://www.kororstategov.com/swmo/beverage.html)

## MANDATE

---

The Republic of Palau Public Law No. 7-24

Enacted: 2006

Implemented: 2011

Authority: Ministry of Public Infrastructure, Industries and Commerce & Ministry of Finance

## PROGRAM SCOPE

---

Material: Glass, PET, HDPE, metal

Beverage type: *Container size ≤ 32 oz.:* Beer, ale, or other drink produced by fermenting malt; mixed spirits; mixed wine; tea and coffee drinks, regardless of dairy-derived product content; soda; non-carbonated water; all nonalcoholic drinks

Excluded: Liquids which are: a syrup, in a concentrated form, or typically added as a minor flavoring ingredient, such as extracts; liquid which is ingested for medicinal purposes only; liquid that is designed and consumed only as a nutritional supplement and not as a beverage; products frozen at the time of sale to the consumer; products designed to be consumed in a frozen state; instant drink powders; milk and other dairy-derived products

## DEPOSITS AND FEES

---

Deposit Initiator: N/A

Deposit value: \$0.10 (\$0.05 returned to consumer)

Unredeemed deposits: N/A

Handling Fee: \$0.025 goes to redemption center and \$0.025 to the national government for administrative costs

## SYSTEM OPERATOR

---

Clearing System: N/A

System Operator & Administrator: Koror State Government

## REDEMPTION SYSTEM

---

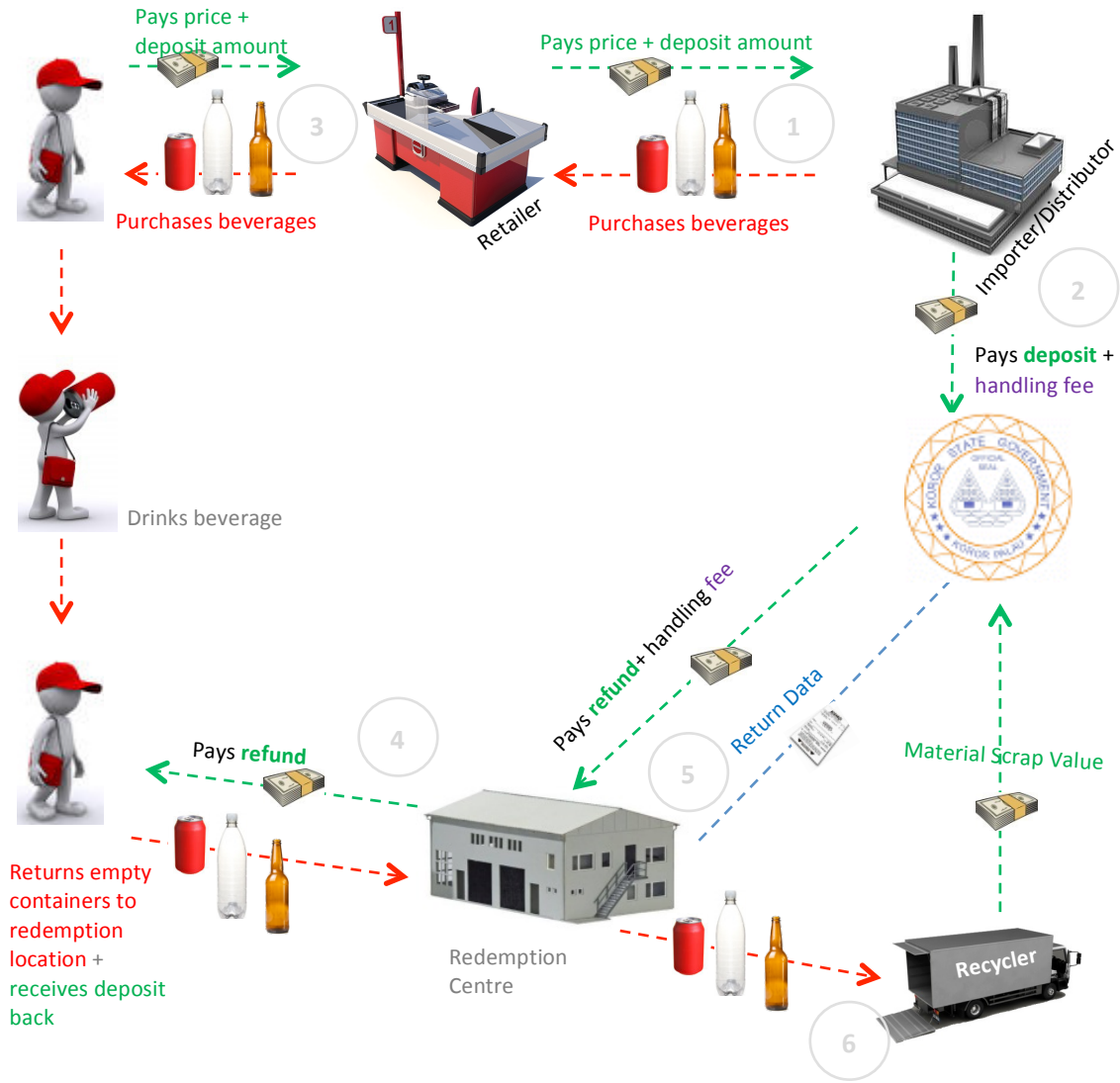
Return to Redemption Center

Material owner: N/A

# SYSTEM RESULTS (2014)

Total Return Rate: N/A

## MONEY MATERIAL FLOW





DEPOSIT SYSTEMS  
FOR ONE-WAY  
BEVERAGE CONTAINERS:  
GLOBAL OVERVIEW



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