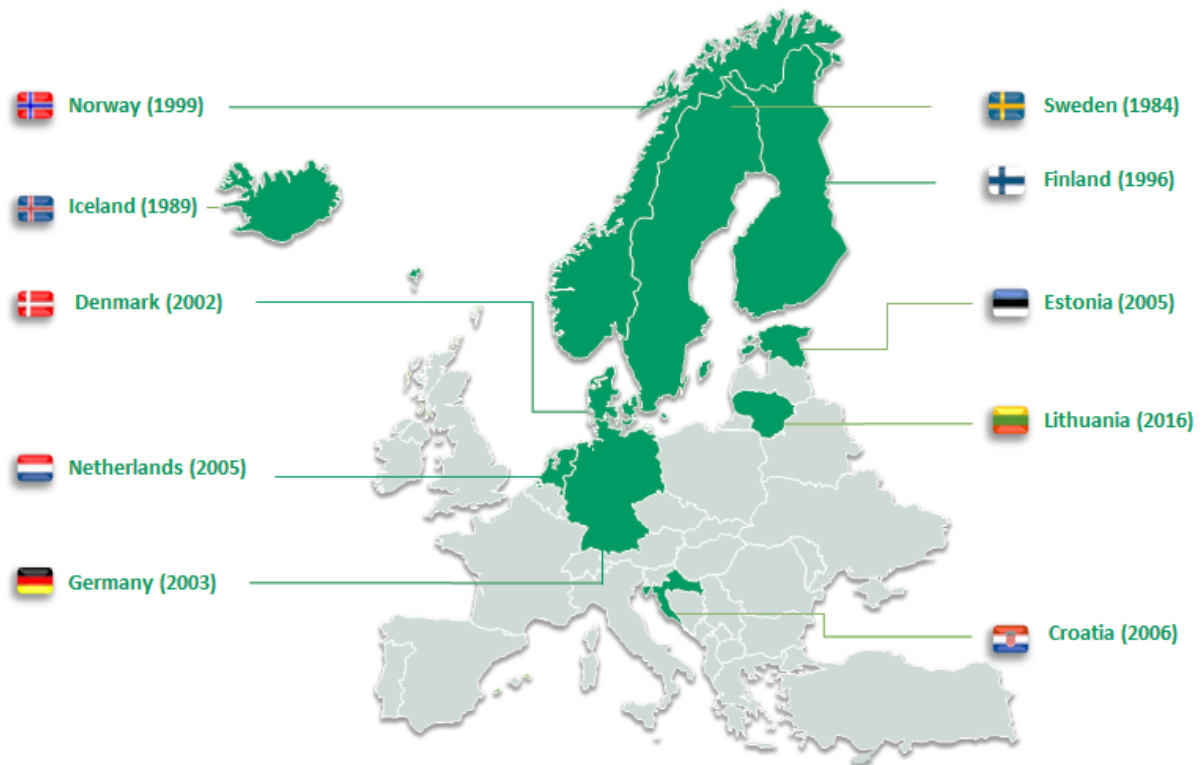




EU 28 + EFTA (NORWAY/ICELAND)

(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	1997	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 m² 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:

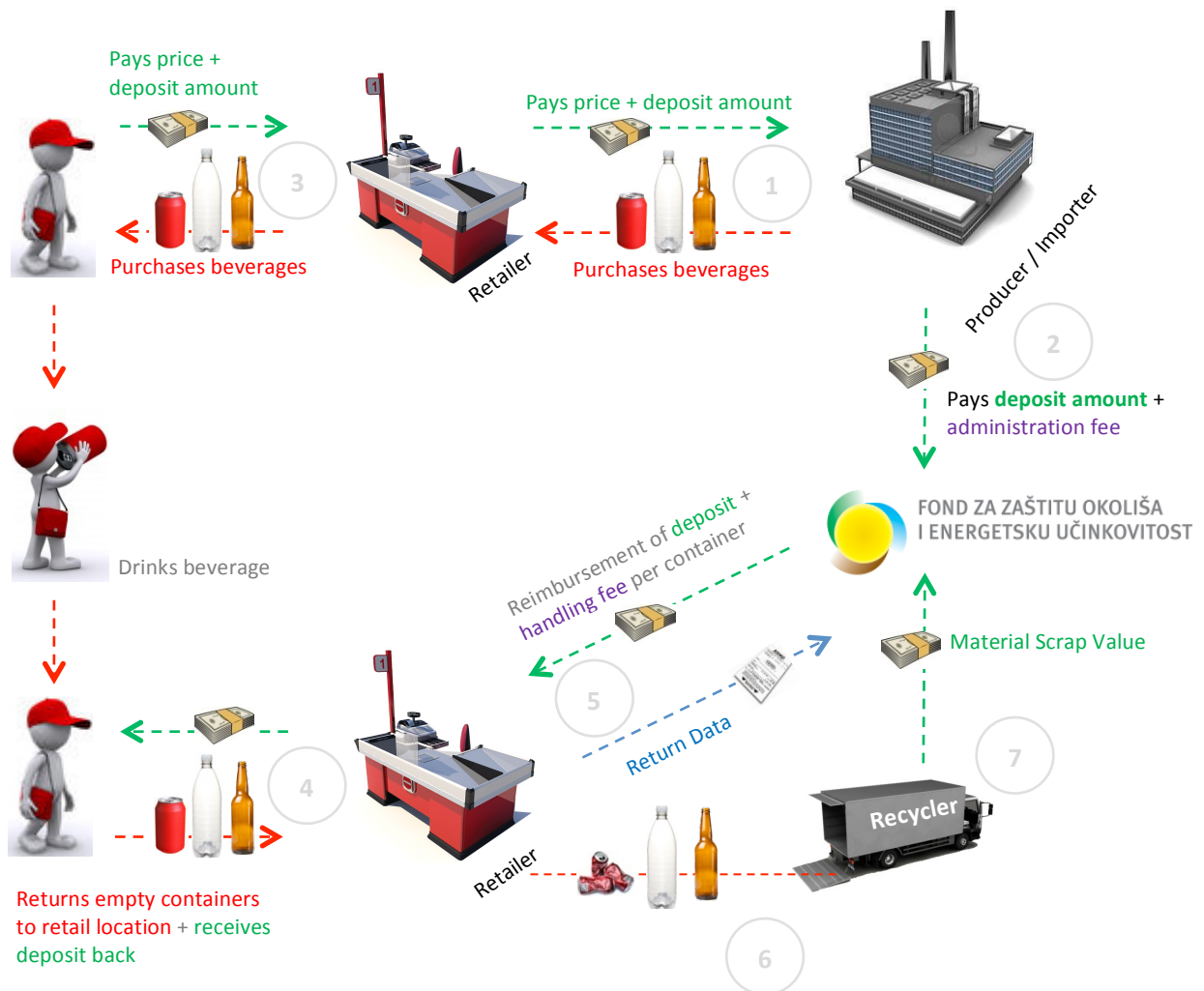
Environmental Protection and Efficiency Fund

SYSTEM RESULTS (2016)

Total Return Rate:

Up to 87%

MONEY MATERIAL FLOW





DENMARK

Population: 5.6m

Website: 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) Plastic 0.5l: 1.5 DKK (€0.2, USD\$0.22) 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) Plastic < 1l: 6.7 øre (€0.009, USD\$0.0097) Plastic > 1l: 10.4 øre (€0.014, USD\$0.015) Glass: 14.8 øre (€0.019, USD\$0.0214)
RVM with compaction:	Metal: 1.4 øre (€0.0019, USD\$0.0020) Plastic < 1l: 1.8 øre (€0.0019, USD\$0.0026) Plastic > 1l: 2.4 øre (€0.0032, USD\$0.0035) Glass: 7.1 øre (€0.0095, USD\$0.0103)
Producer administration fee:	Plastic: €0.02822 (USD\$0.03) - €0.03628 (USD\$0.04) Can: €0.01209 (USD\$0.01) - €0.05510 (USD\$0.06) 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

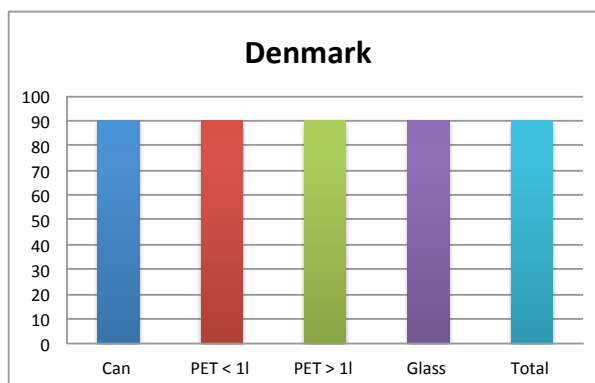
REDEMPTION SYSTEM

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

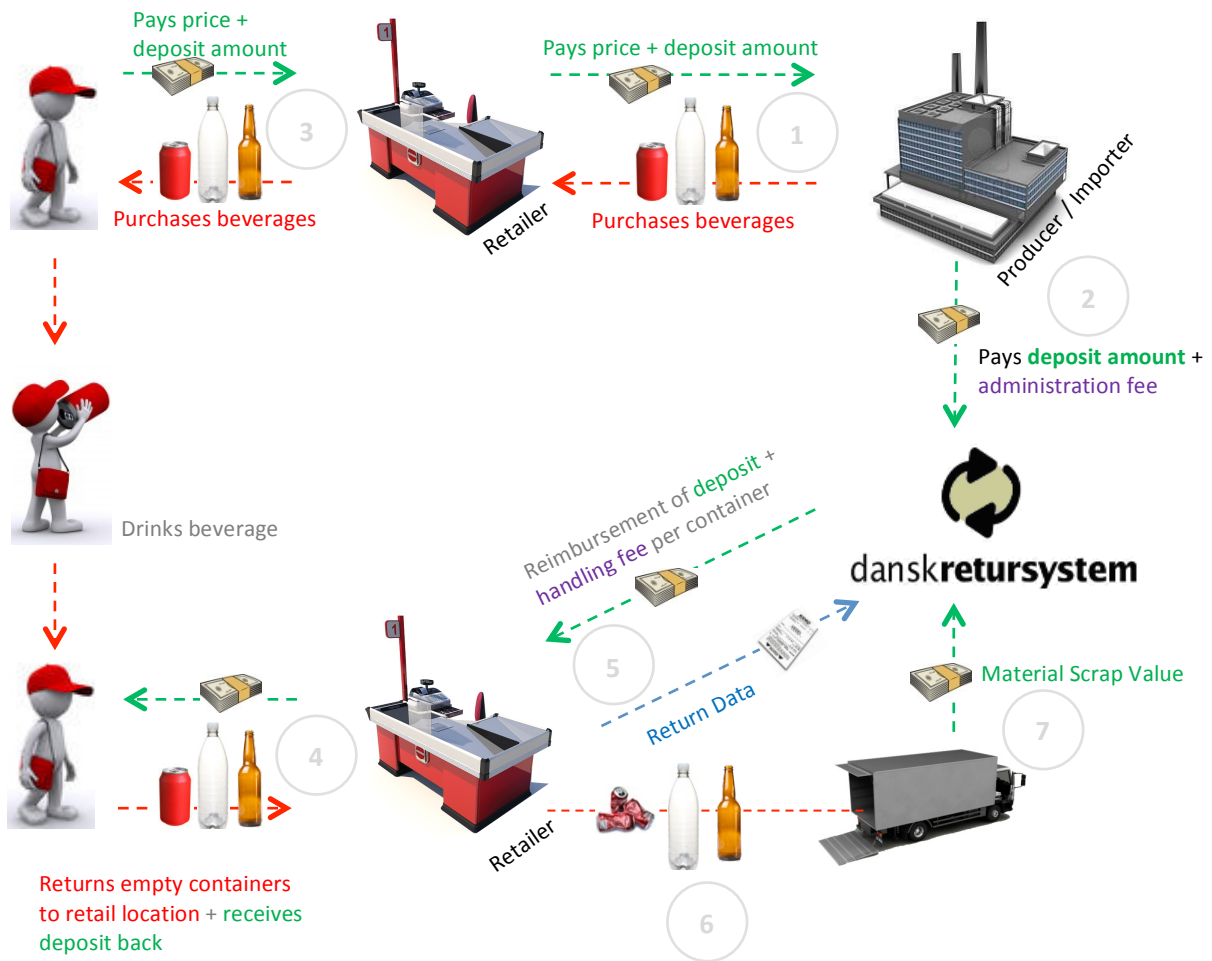
SYSTEM RESULTS (2016)

Total Return Rate: 90%

Can 90%
PET < 1l 90%
PET > 1l 90%
Glass 90%



MONEY MATERIAL FLOW





ESTONIA

Population: 1.3m

Website: 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 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

Deposit (initiated by Producer/Importer):

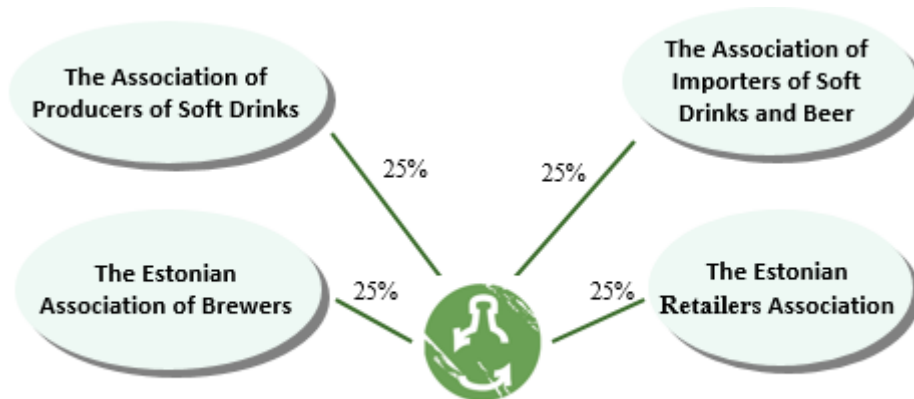
Metal, plastics, glass (all sizes):	€ 0.10 (USD\$0.11)
Unredeemed deposits:	Eesti Pandipakend OÜ (producer responsibility organization)

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

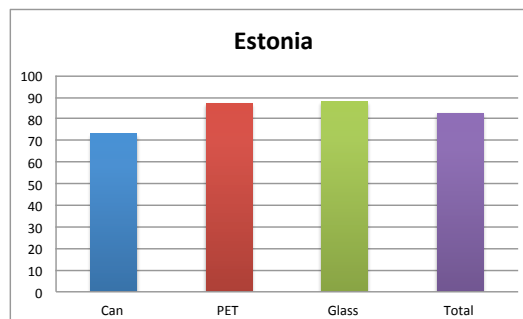
Return to Retail Retailers selling deposit containers are required to take back the containers on their premises. If retailer sales area is over 200m² it is a must, if it is between 20-200m², retailer can apply to get freedom from that obligation, that is analyzed and decided by the local municipality. Urban vendors under 20m² of sales area are not obligated to take back deposit containers. Collection system is 94% automated / 6% manual.

Material owner: Eesti Pandipakend OÜ

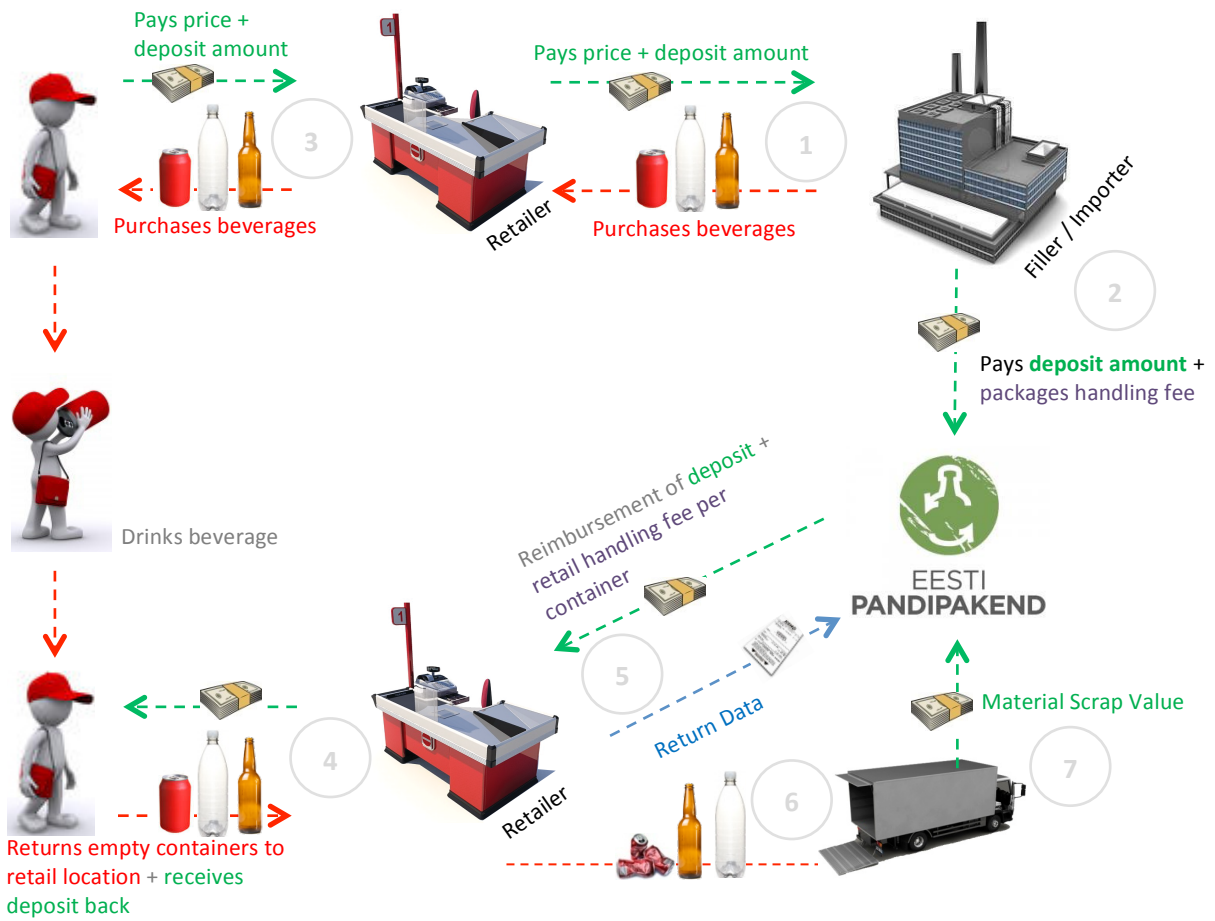
SYSTEM RESULTS (2017)

Total Return Rate: 82.7%

Can	73%
PET	87%
Glass	88%



MONEY MATERIAL FLOW





FINLAND

Population: 5.4m

Website: 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:

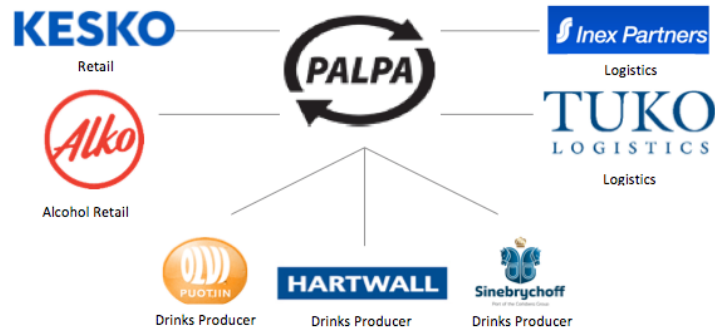
- Plastic: €0.01720 (USD\$0.02) – €0.11568 (USD\$0.13)
- Metal: €0.00935 (USD\$0.01)
- Glass: €0.08640 (USD\$0.10) – €0.13680 (USD\$0.15)

SYSTEM OPERATOR

Clearing System: Centralized

System Operator & Administrator: Suomen Palautuspakkaus Oy (PALPA)

System Finance: Material revenue/Unredeemed deposits/Administration Fee



REDEMPTION SYSTEM

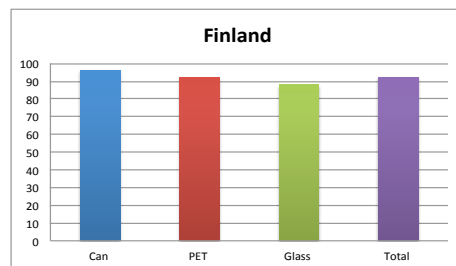
Return-to-Retail: 5,815 retail recycling points / 8,758 HORECA recycling points / 343 shared recycling points. Collection system is 95% automated / 5% manual.

Material owner: Suomen Palautuspakkaus Oy (PALPA)

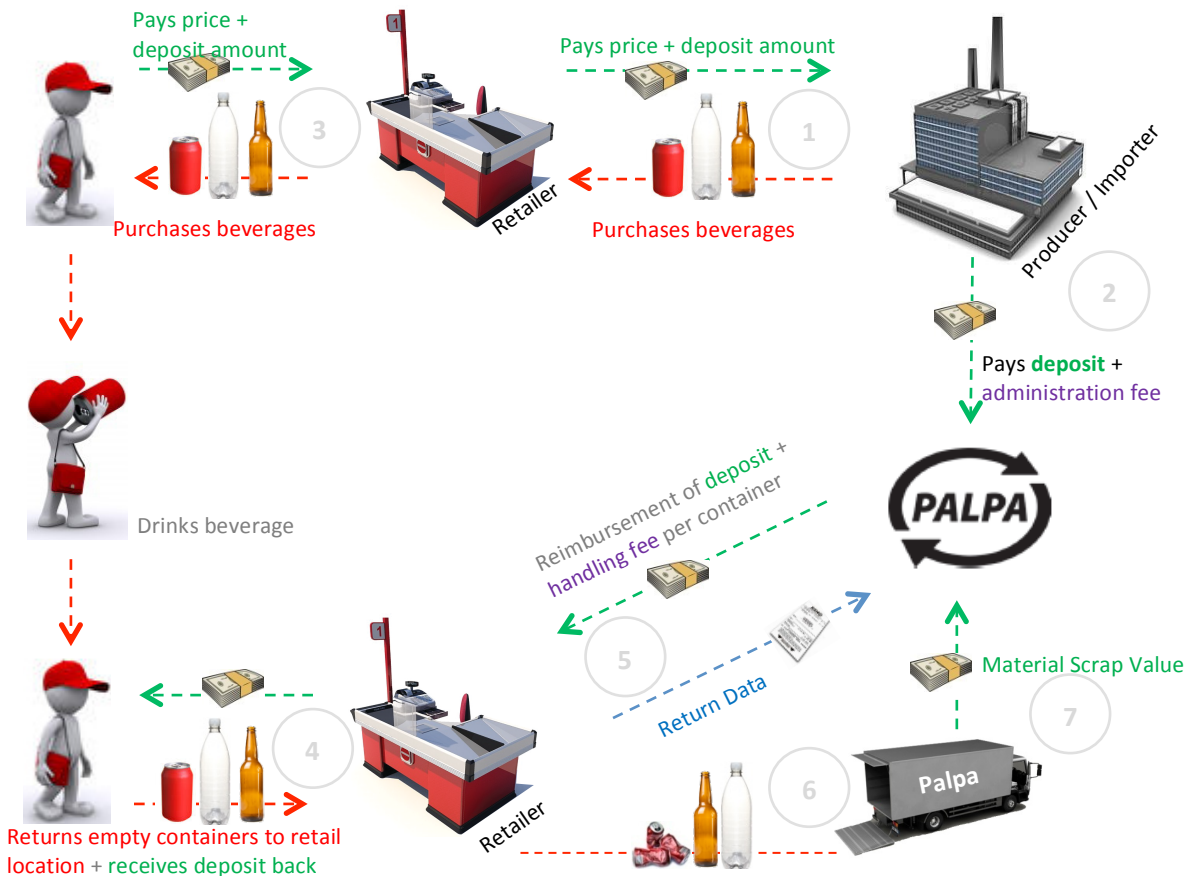
SYSTEM RESULTS (2016)

Total Return Rate: 92%

Can 96%
PET 92%
Glass 88%



MONEY MATERIAL FLOW





GERMANY

Population: 81.9m

Website: 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%

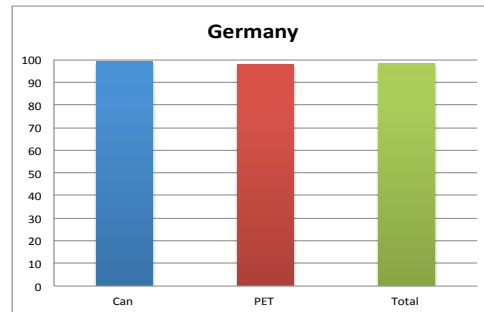
German Food Association 50%

REDEMPTION SYSTEM

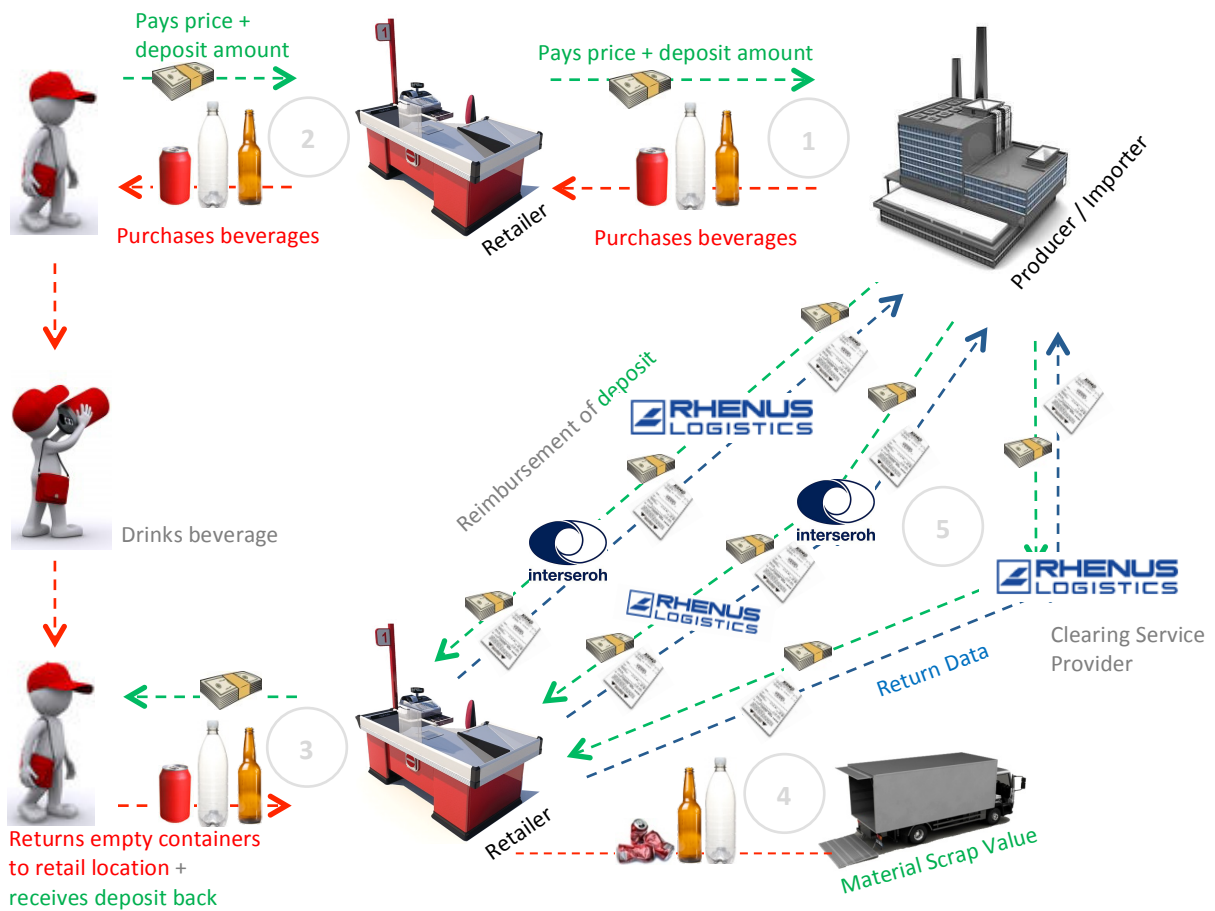
Return-to-Retail:	Approx. 135,000 Retailers are only obliged to take back the material fractions they sell. Retailers < 200m ² are only obliged to take back the brands they sell. Collection system is 80% automated / 20% manual
Material owner:	Retail

SYSTEM RESULTS (2015)

Total Return Rate:	98.4%
Can	99%
PET	98%



MONEY MATERIAL FLOW





ICELAND

Population: 0.3m

Website: www.endurvinnslan.is



MANDATE

Law No. 52/1989

Enacted: 1989

Implemented: 1989

Authority: Ministry of Environment

PROGRAM SCOPE

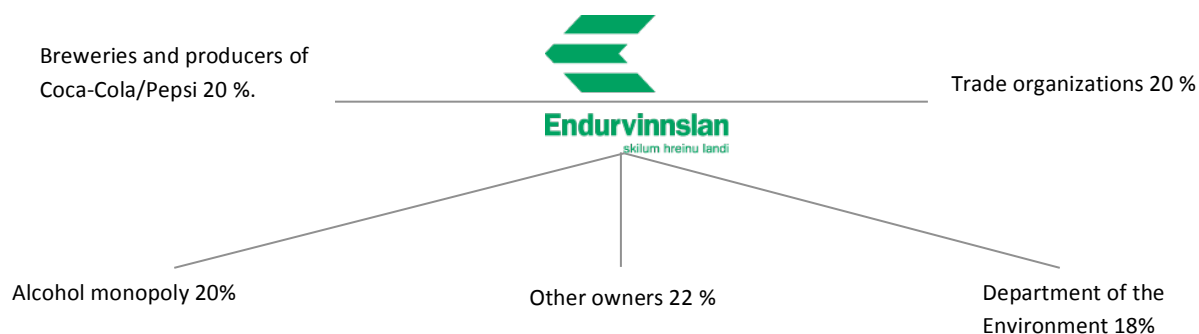
Material:	Plastic (predominantly PET), metal (aluminum), glass
Beverage type:	All ready-to-drink beverages; wine and liquor
Excluded:	Milk and milk products; juice extract

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

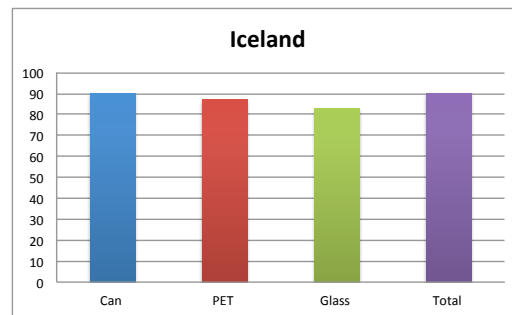


REDEMPTION SYSTEM

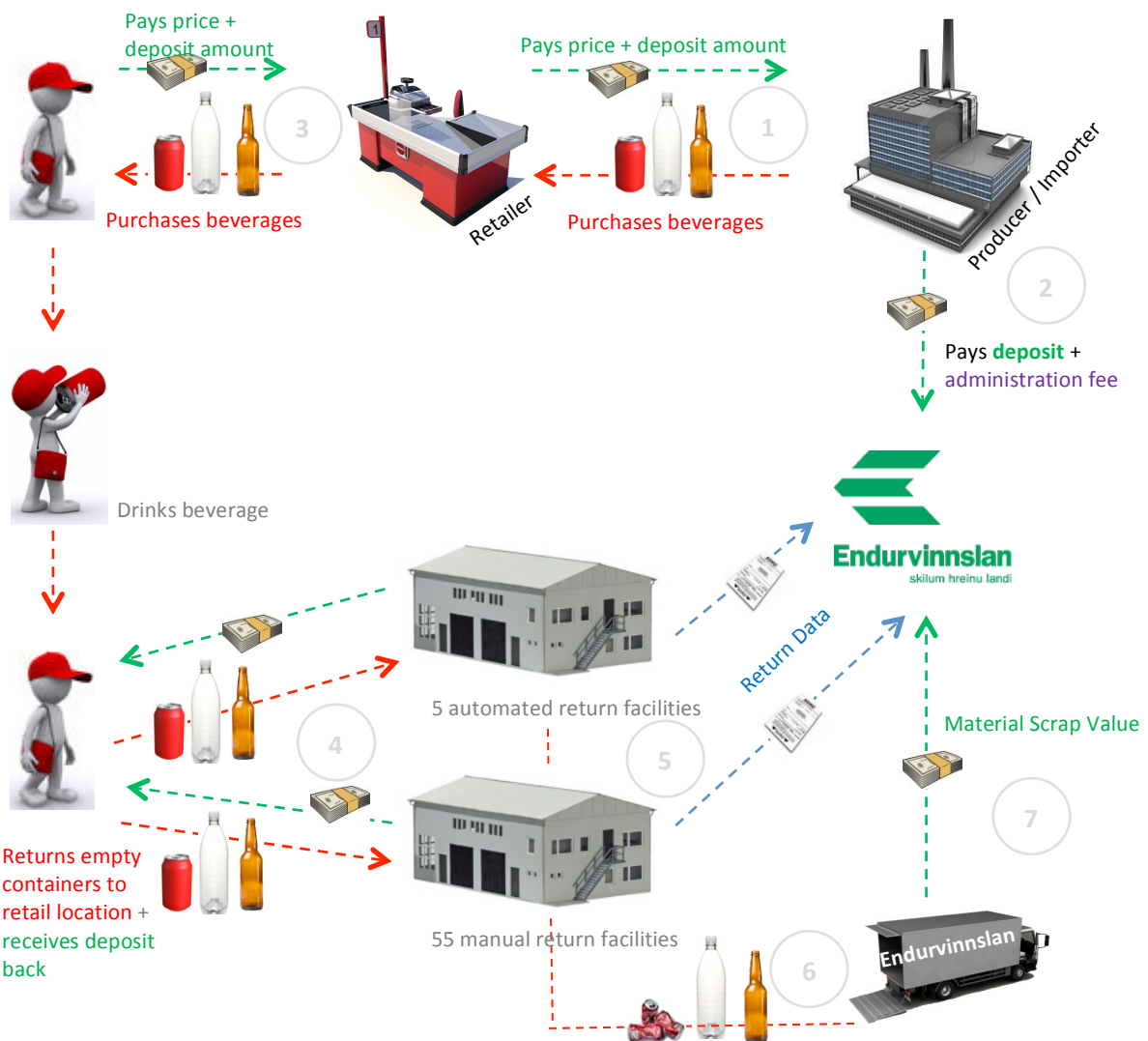
Return to Depot:	60 return facilities operated by central organization (55 manual facilities and 5 automated facilities (no need for consumer to sort))
Material owner:	Endurvinnslan Hf

SYSTEM RESULTS (2014)

Total Return Rate:	90%
Can	90%
PET	87%
Glass	83%



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)

Handling Fee:

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:

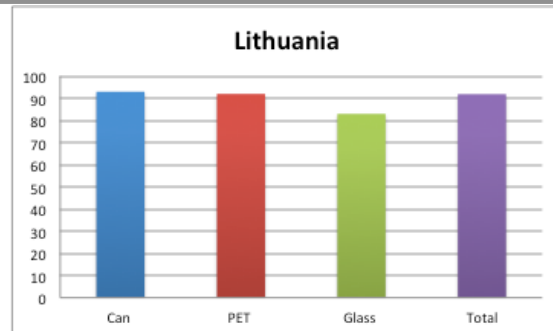
Containers can be returned for a refund of the deposit in all shops with an area of >300m²

Material owner:

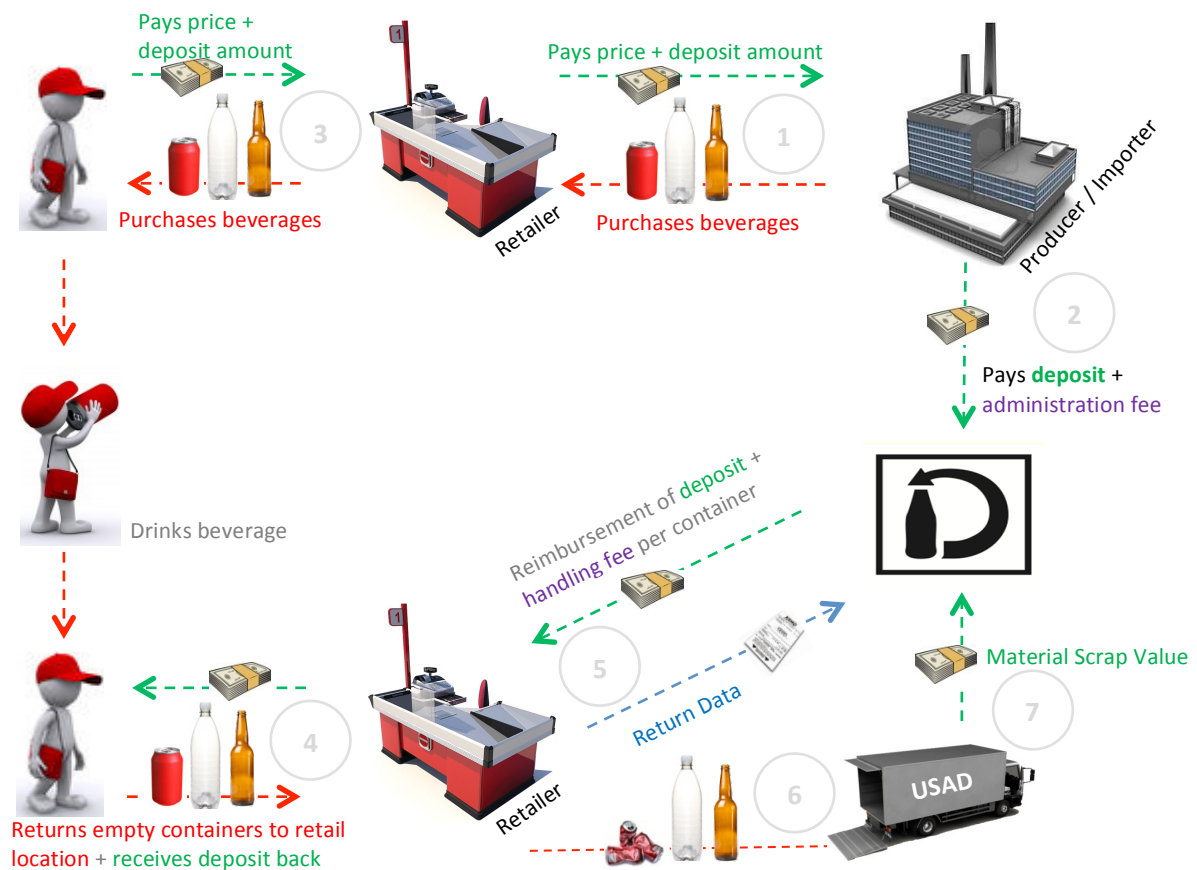
USAD

SYSTEM RESULTS (2017)

Total Return Rate:	91.9%
Can	93%
PET	92%
Glass	83%



MONEY MATERIAL FLOW





THE NETHERLANDS

Population: 16.8m

Website: 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 ≤ 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

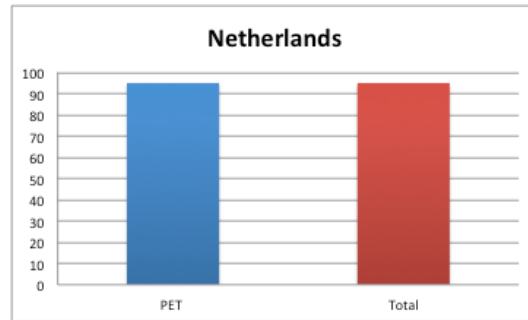
Clearing System:	Centralized
System Operator & Administrator:	Stichting Retourverpakkingen NL

REDEMPTION SYSTEM

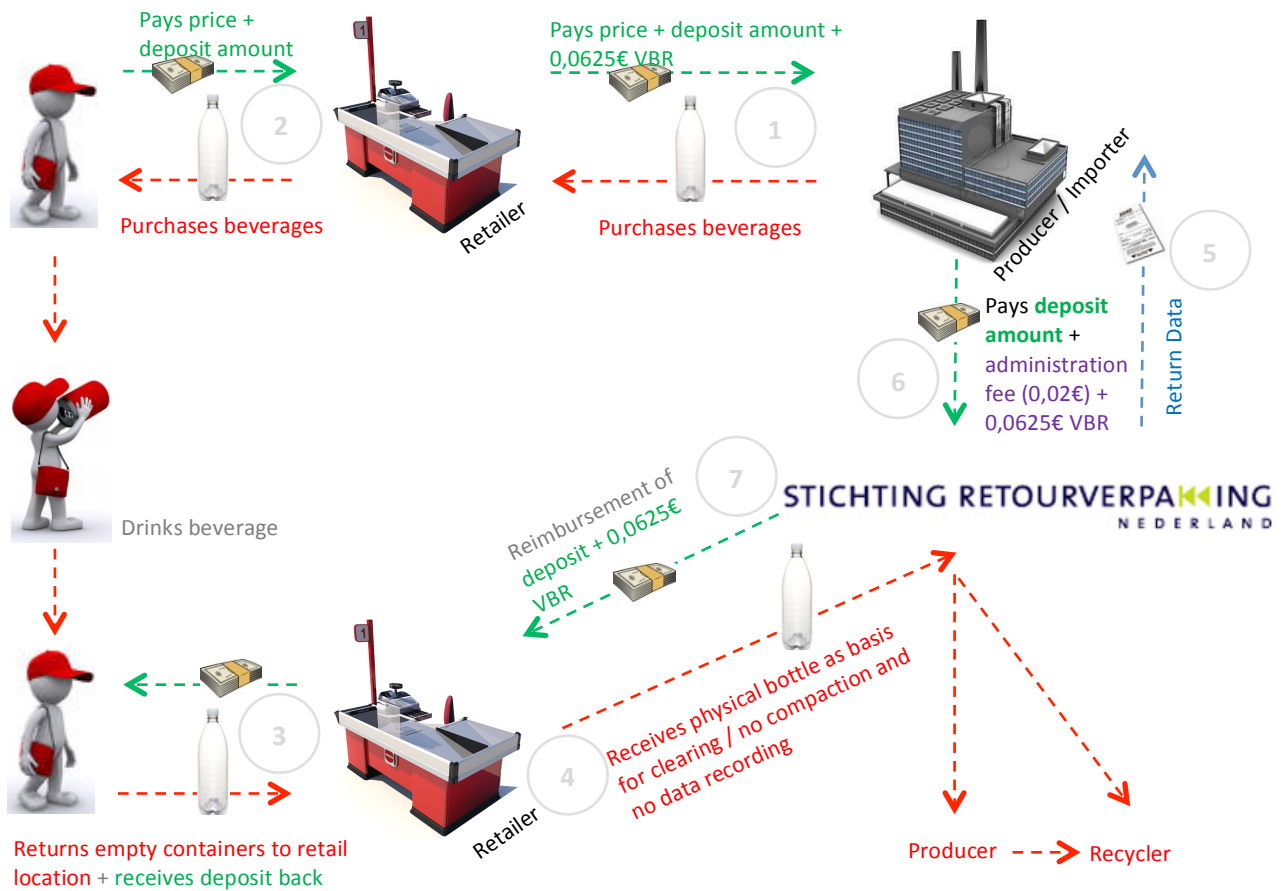
Return to Retail	Collection system is 89% automated / 11% manual
Material owner:	Beverage producers

SYSTEM RESULTS (2016)

Total Return Rate:	95%
PET	95%



MONEY MATERIAL FLOW





NORWAY

Population: 5.3m

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



MANDATE

Product Control Act / Regulations relating to the recycling of waste

Enacted:	1997
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, concentrates, milk products. The regulation does not regulate type of product

Excluded:

DEPOSITS AND FEES

Deposit:	Initiated by Producer/Importer
Deposit value:	Plastic, metal ≤ 0.5l: 2,- NOK (€0.21, USD\$0.25) Plastic, metal > 0.5l: 3,- NOK (€0.31, USD\$0.38)
Unredeemed deposits:	Infinitum AS (formerly Norsk Resirk)
Handling Fee:	RVM with compaction: Plastic 0,25 NOK, Can 0,20 NOK Manual og RVM without compaction: Plastic 0,10 NOK, Can 0,05 NOK
EPR cost/fee:	Alu can 0,0012 NOK, Plastic bottles 0,18 NOK

SYSTEM OPERATOR

Clearing System:	Centralized
System Operator & Administrator:	Infinitum AS
System Finance:	Material revenue / unredeemed deposits / EPR fee

Grocery Manufactures'
Service Office (7.5 %)

INFINITUM

Federation of Norwegian
Food and Drink Industry
(7.5 %).

Norwegian Association of
Wholesale Grocers (33.5 %)

Coop Norway (15 %)

Norwegian Federation of
Petrol Dealers (1.5 %)

The Norwegian Brewers'
Service Office (35 %)

REDEMPTION SYSTEM

Return-to-Retail

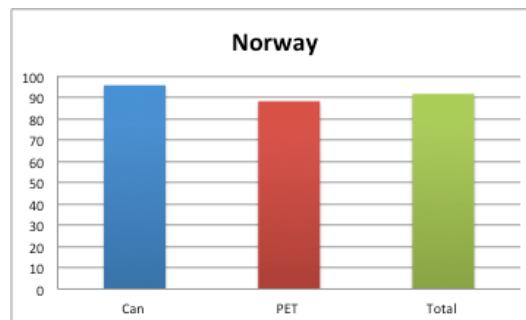
3 500 grocery stores with RVM, 97 % of the total collection.
11 500 manual collection-/return points, 3% of total collection.

Material owner:

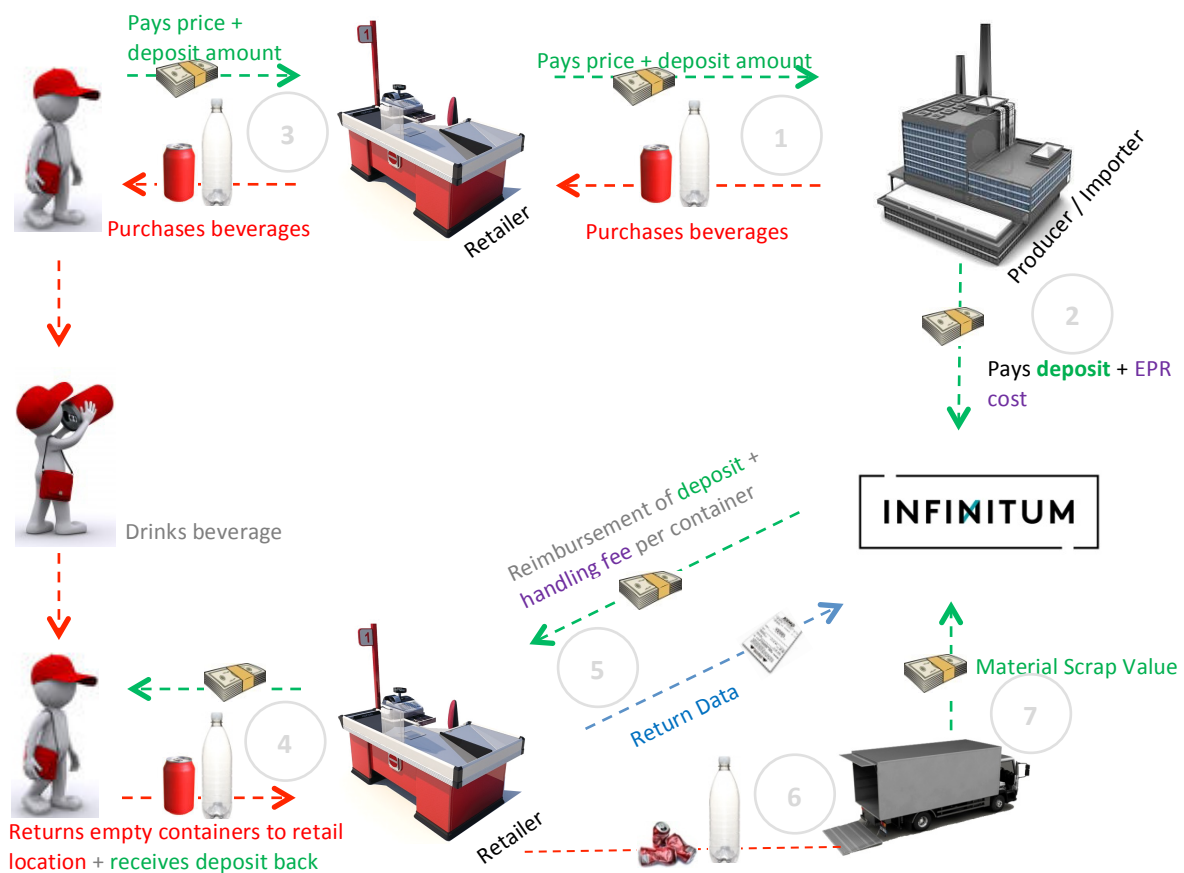
Infinitem AS

SYSTEM RESULTS (2016)

Total Return Rate: 91.7%
Can 95.7%
PET 88.2%



MONEY MATERIAL FLOW





SWEDEN

Population: 9.5m

Website: 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

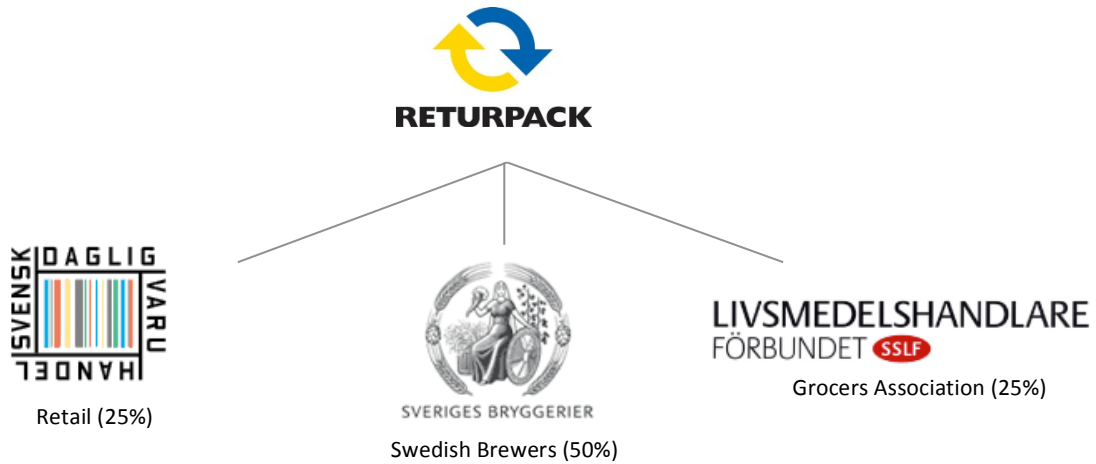
Material:	Plastic (predominantly PET), metal (aluminum/tinplate) (Note: The historical two laws governing aluminum can and PET bottle recycling had narrower definitions: drink packaging made of aluminum, and bottles that are made of polyethylenetereftalat. The definition in the new law (Ordinance 2005:220)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

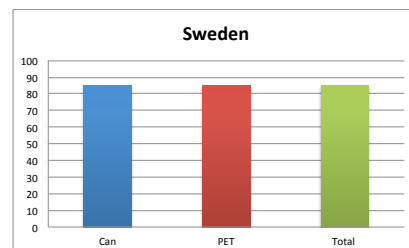


REDEMPTION SYSTEM

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

SYSTEM RESULTS (2016)

Total Return Rate:	84.9%
Can	84.9%
PET	84.9%



MONEY MATERIAL FLOW

