



# European Deposit Systems as a Cost-efficient Tool for High Quality Recycling of Beverage Containers

Anna Larsson,  
Director, Reloop Europe

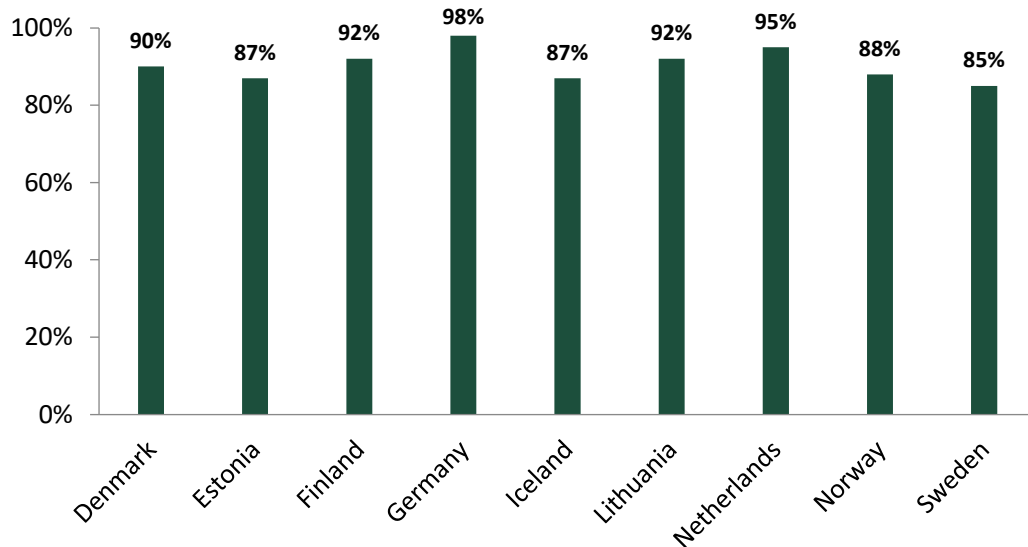


# High Collection Rates and Food Grade Quality



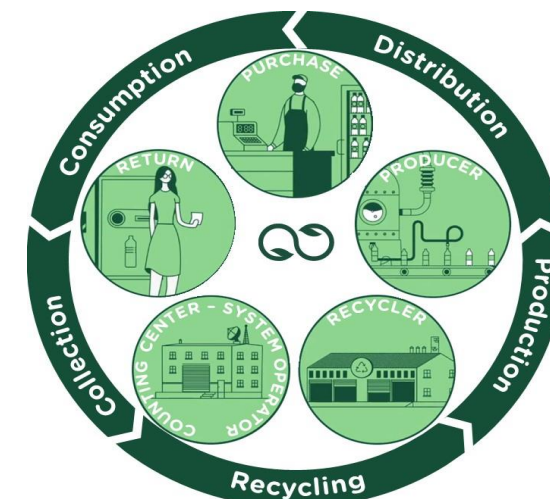
Deposit systems for beverage containers comply with **high collection targets** as well as high **quality recycle**.

In some countries, thanks to deposit systems, **loop of PET is already closed**.



The collection rates of the beverage packaging subject to the deposit system are over 85%. This is why many countries have already implemented the deposit system. Also, the Single Use Plastic Directive recommends deposit schemes to tackle the challenge of the plastic pollution.

**Coca-Cola in Western Europe transitions to 100% recycled plastic (rPET) bottles in two more markets**



The operators of the deposit systems allow the packaging specifications that ensure most optimal recycling for the purposes of closed loop recycling. The containers in deposit systems are eco-designed for food grade quality which ensures high sales prices securing lower producers' fees. Applying of eco-modulation motivates producers to use packaging material which maximizes recycling yields.

In Sweden and Norway, the PET loop is closed on the country level!



# Recycle Content and Reduced Carbon Footprint



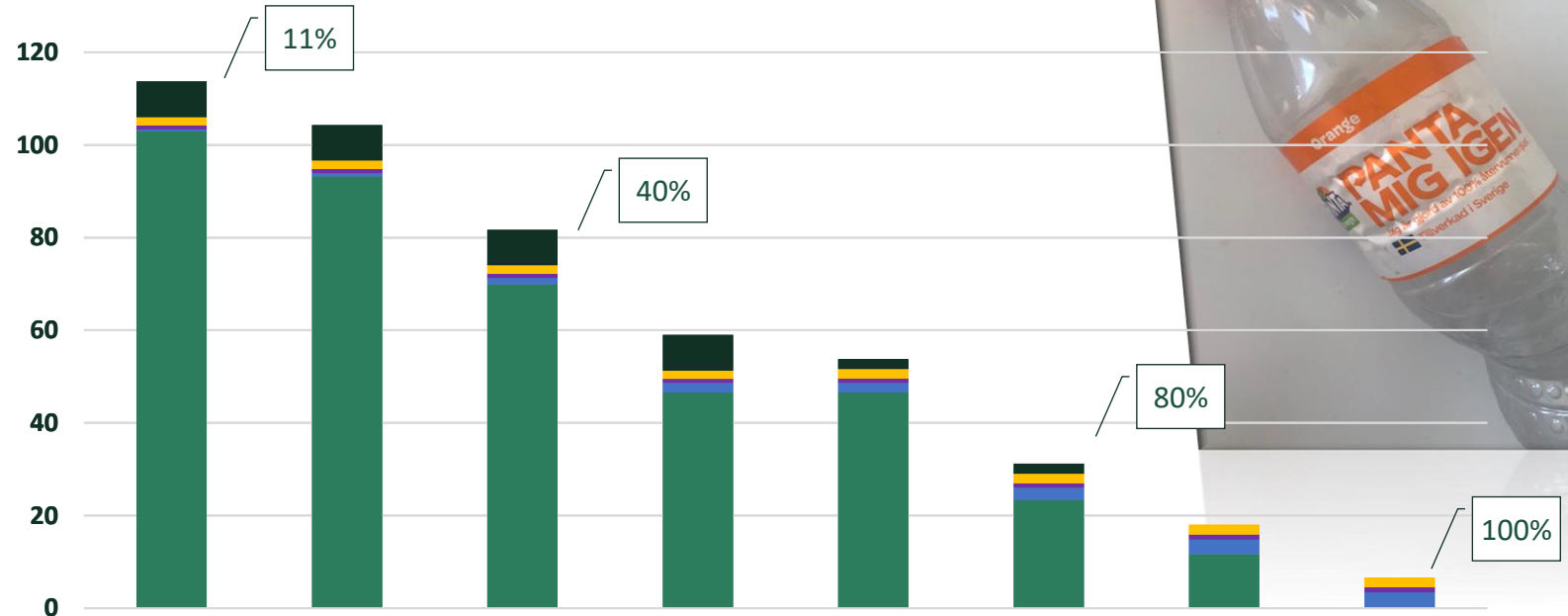
## EU requirements:

Beverage bottles must be made from **25% recycled rPET** by 2025, and **30% in 2030 recycled plastic** – all kinds.

## Bevcons from plastic should be separately collected:

77% by 2025

90% by 2029



Incineration (incl. Transport)	7,7	7,7	7,7	7,7	2,2	2,2	0,0	0,0
Transport from consumers to recycling	1,8	1,8	1,8	1,8	2,0	2,0	2,1	2,1
Reverse vending machine	0,9	0,9	0,9	0,9	1,0	1,0	1,1	1,1
rPET in preform	0,4	0,7	0,7	2,0	2,0	2,7	3,1	3,4
vPET in preform	102,9	93,2	93,2	46,6	46,6	23,3	11,7	0,0
<b>Total</b>	<b>113,8</b>	<b>104,4</b>	<b>81,7</b>	<b>59,1</b>	<b>53,9</b>	<b>31,3</b>	<b>17,9</b>	<b>6,6</b>

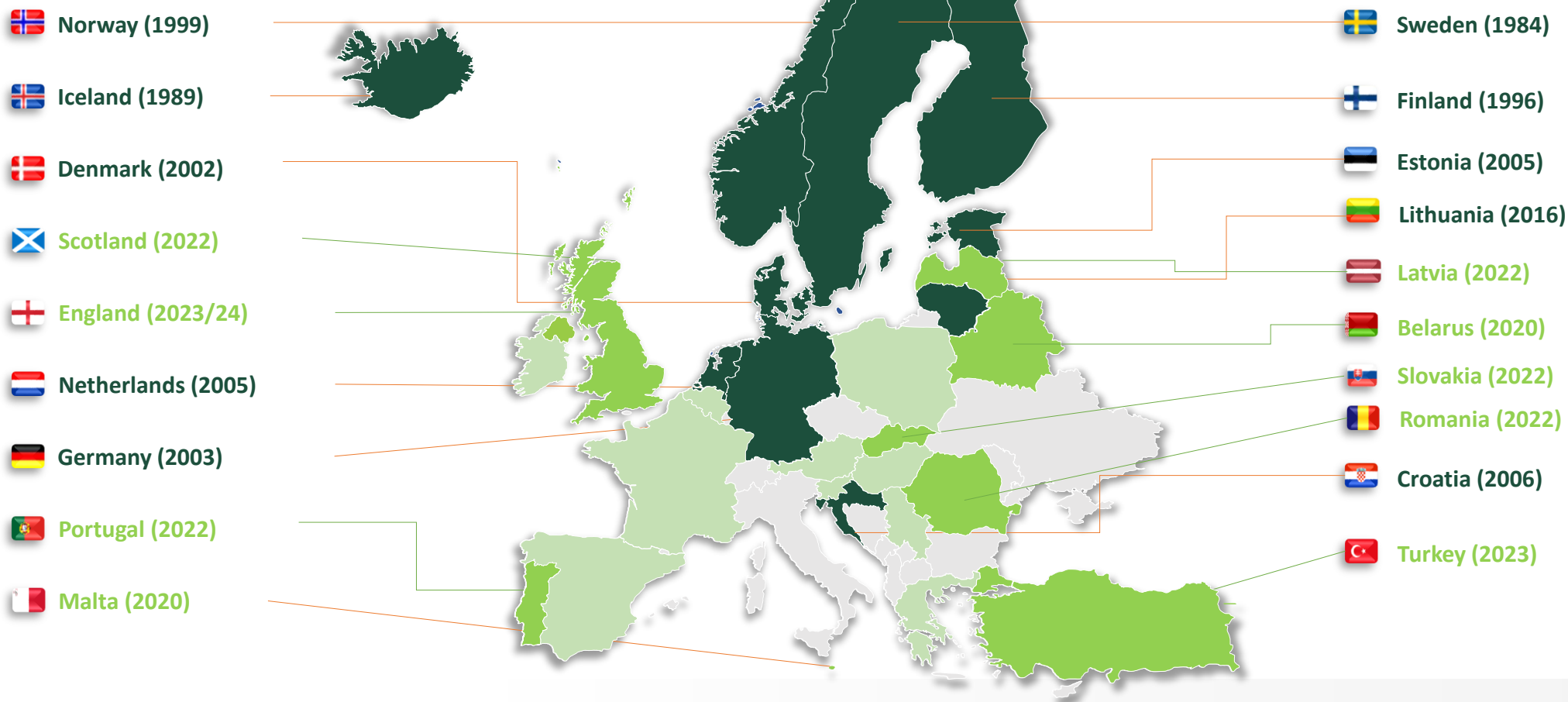
Values in rectangles represent the % of the recycling content. Draft is elaborated based on the *LCA of beverage container production, collection and treatment systems*; Østfoldforskning



# Deposit Systems in Europe – Current Development



## Deposit return systems implemented, under implementation and discussed





# Standard European Deposit System



<b>Centralized clearing</b>	Island	Croatia	Sweden	Norway	Finland	Lithuania	Estonia	Denmark	Netherlands	Germany	<b>Decentralized</b>
<b>System management by producers</b>	Island	Netherlands	Sweden	Norway	Finland	Lithuania	Estonia	Denmark <sup>1</sup>	Croatia		<b>State operator</b>
<b>Return to retail</b>	Germany	Croatia	Sweden	Norway	Finland	Lithuania	Estonia	Denmark	Netherlands	Island	<b>Redemption center</b>
<b>Bar code<sup>2</sup></b>	Island	Germany	Sweden	Norway	Finland	Lithuania	Estonia	Denmark	Netherlands <sup>3</sup>	Croatia	<b>Tonnage</b>
<b>Obligatory by law</b>	Island	Germany	Sweden	Croatia	Netherlands	Lithuania	Estonia	Denmark	Finland	Norway	<b>Fee<sup>4</sup></b>

1 upon public procurement

2 reporting on put to market and information on collected packages are based on EAN code identification

3 in border areas

4 fee for uncollected packaging (Norway) or fee applied if the producer has not joined the deposit system (Finland)



# Upcoming Deposit Systems in Europe



<b>Centralized clearing</b>	Slovakia	Latvia	Malta	Scotland
<b>System management by producers</b>	Slovakia	Latvia	Malta	Scotland
<b>Return to retail</b>	Slovakia	Latvia	Malta	Scotland
<b>Bar code</b>	Slovakia	Latvia	Malta	Scotland
<b>Obligatory by law</b>	Slovakia	Latvia	Malta	Scotland



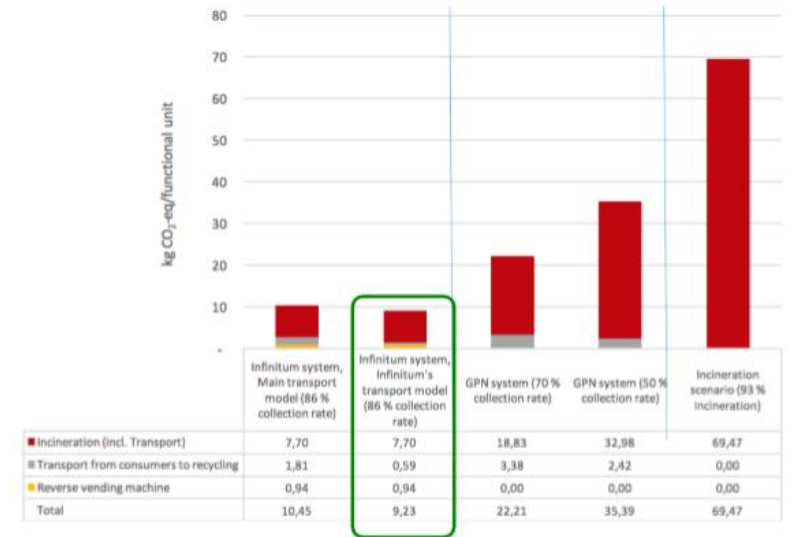
Automated collection point, Estonia



### Return to retail

Return to retail model is a **standard in Europe** and this model secures highest convenience for the citizens and lowest possible carbon footprint from the collection of the containers.

The choice of the shops subject to the obligation is determined by the retail structure in an individual country.



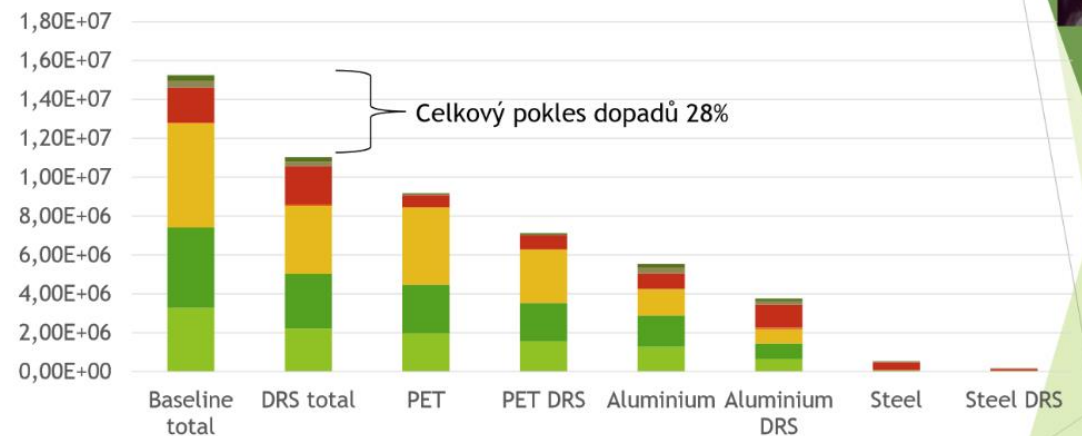
Source of information on carbon footprint of the deposit systems:  
 Norway: *LCA of beverage container production, collection and treatment systems*, Østfoldforskning;  
 Czech Republic: *Life cycle assessment study on the treatment of plastic and aluminum packaging for beverages*, Faculty of Environmental Technology, UCT Prague



Collection points Photo Reeloo Shops bigger than 200m<sup>2</sup> (Estonia), 300m<sup>2</sup> (Lithuania)



## Srovnání nezálohového a zálohového systému





# Packaging Scope



Country	Plastic	Metal	Glass
Croatia	•	•	•
Denmark	•	•	•
Estonia	•	•	•
Finland	•	•	•
Germany	•	•	•
Island	•	•	•
Lithuania	•	•	•
Netherlands	•	From 2022	
Norway	•	•	
Sweden	•	•	





# Products' Scope



	Croatia	Denmark	Estonia	Finland	Germany	Island	Lithuania	Netherlands	Norway	Sweden
water (still, sparkling)	•	•	•	•	•	•	•	•	•	•
soft drinks	•	•	•	•	•	•	•	•	•	•
juices and nectars	•		•	•		•	•		•	
beer	•	•	•	•	•	•	•		•	•
cider	•	•	•	•	•	•	•		•	•
alcohol beverages	•	<10%	<6%	•	•	•	•		•	•
wines	•			•		•	in PET		•	in PET
liqueurs	•			•		•			•	
spirits										in PET
milk		<0,2l								



Interestingly, in Sweden, although juices are not subject to the obligatory DRS, more and more producers decide to include juice products into the scheme on voluntarily basis. Multilayer package is exchanged by a PET bottle as the DRS has become a synonym of reliable recycling.



## OPEX



The operational cost of the deposit system is covered by the system operator and includes:

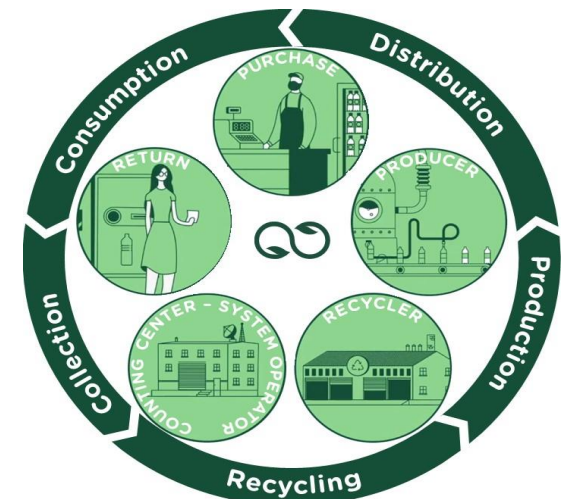
- Handling fees (for the collection service performed by the retailers)
- Transport and logistics
- Administration and marketing

Updated handling fees can be found here:

<https://www.reloopplatform.org/wp-content/uploads/2020/04/Fact-Sheet-Handling-Fees-6April2020.pdf>

DRS operator's incomes include:

- Sales of recyclables (recyclables are the ownership of the system operator)
- Unredeemed deposit
- Put to market fees





## CAPEX



Producers and importers cover the investment and operational costs of the deposit system. The investment cost for the producers include:

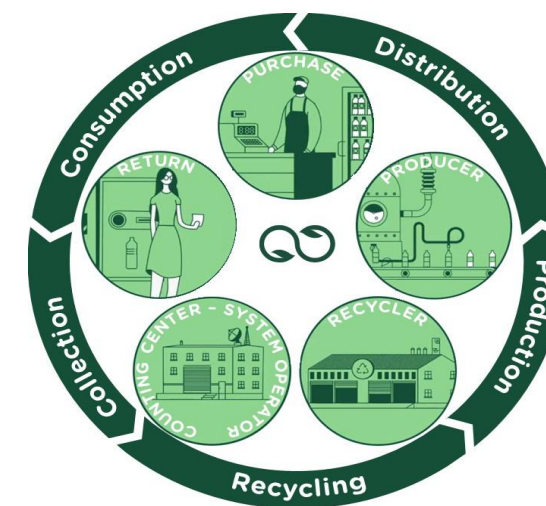
- The establishment of the deposit operator entity,
- The counting/logistics centres,
- PR campaigns proceeding the start-up of the deposit system

RVMs are normally not subject to the investment of the system operator. The system operator covers the investment cost later on via the handling fee – compensation for the collected bevcons (per unit basis/ differentiated: automated/manual)

RVMs are placed in the retail locations through:

1. Purchase by the individual retailers/retail chains
2. Procurement of the collection service per retail chain
3. Procurement of the collection service by the system operator (see Lithuania)

Option 2 and 3 implies capex of the technology provider compensated through the handling fees







Anna Larsson  
Director, Reloop Europe

E: [anna.larsson@reloopplatform.org](mailto:anna.larsson@reloopplatform.org)  
WWW: [reloopplatform.org](http://reloopplatform.org)