Proposals towards the design of a Greek Deposit Refund System

21/06/2023

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10TH International Conference on Sustainable Solid Waste Management

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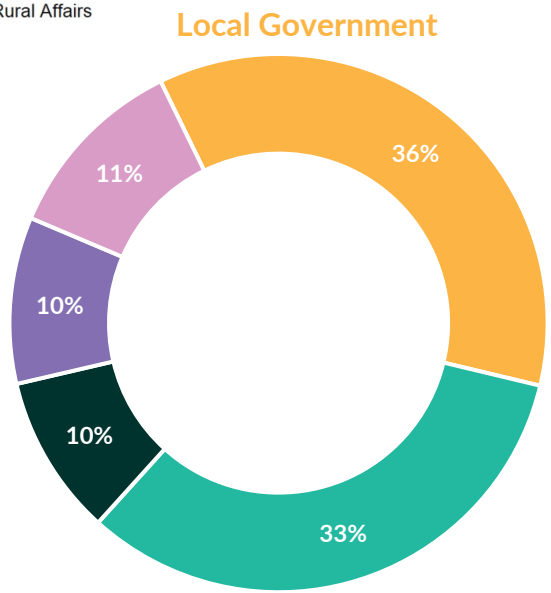
Eunomia Overview

National Government

Supranational Government

Non-Governmental Organisations

Private Sector



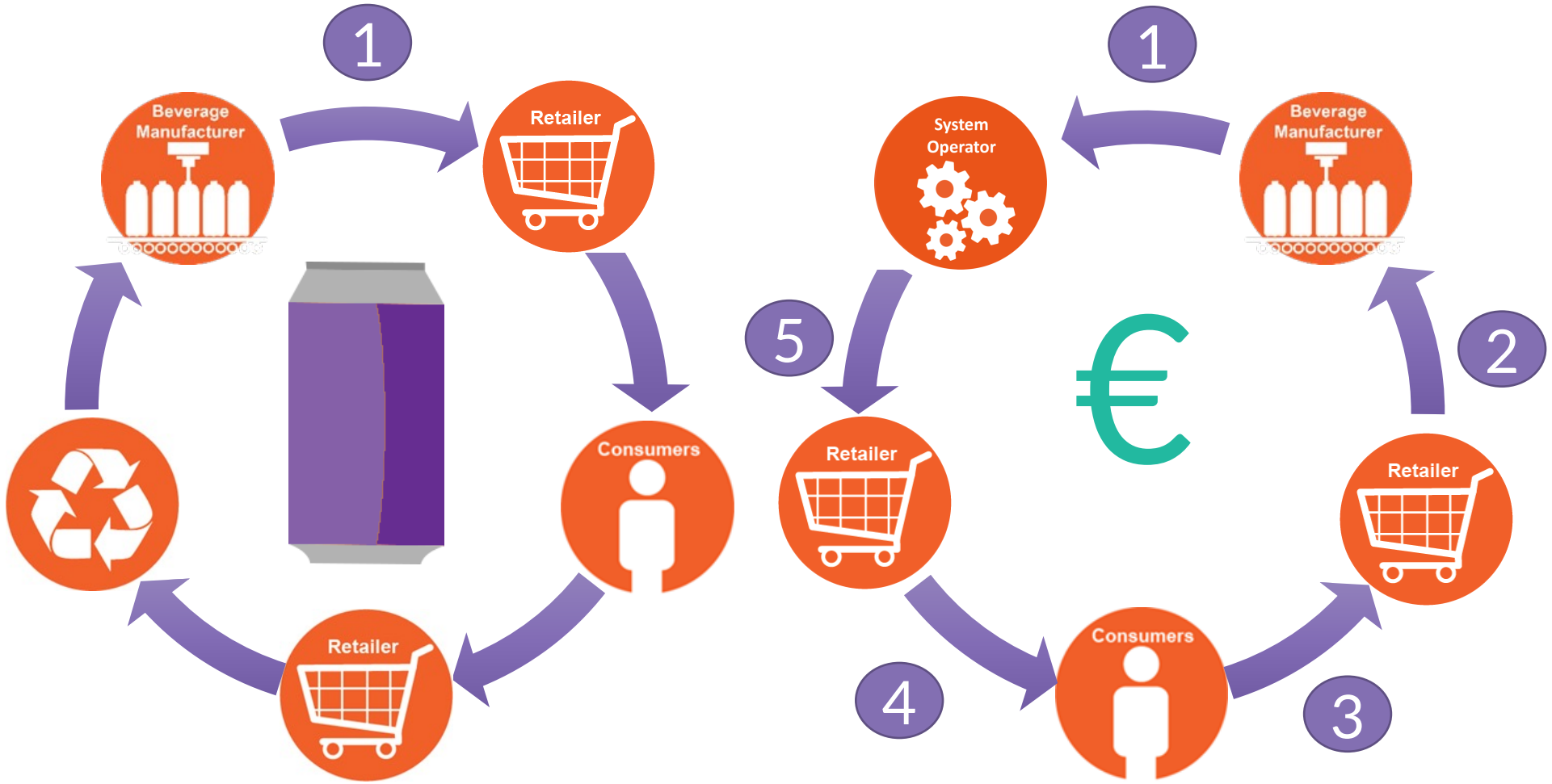
- 150+ consulting staff in the UK, EU, USA and NZ
- Independent and multi-disciplinary:
  - Environment, Engineering, Economics
- Holistic approach to corporate sustainability
  - Policy, Analytics and Feasibility
  - Business Case Development
  - Internal and External Communication
- Collaborative and bespoke - futureproofing

What is a Deposit Return System?

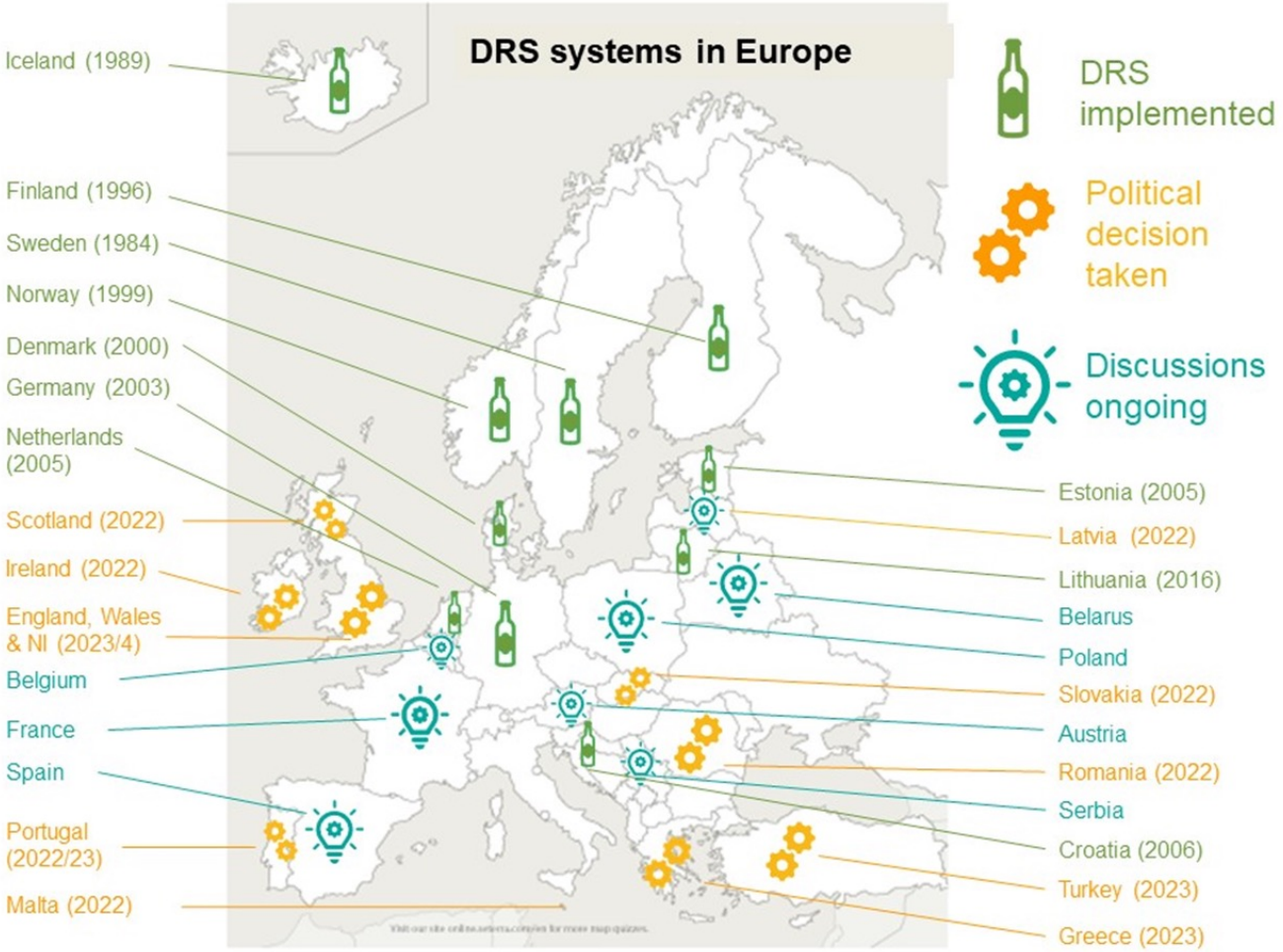
Applies a small deposit to incentivise consumers to return beverage containers

- Increase recycling
- Improve quality
- Reduce littering

How does a DRS work?



Where else has a DRS?

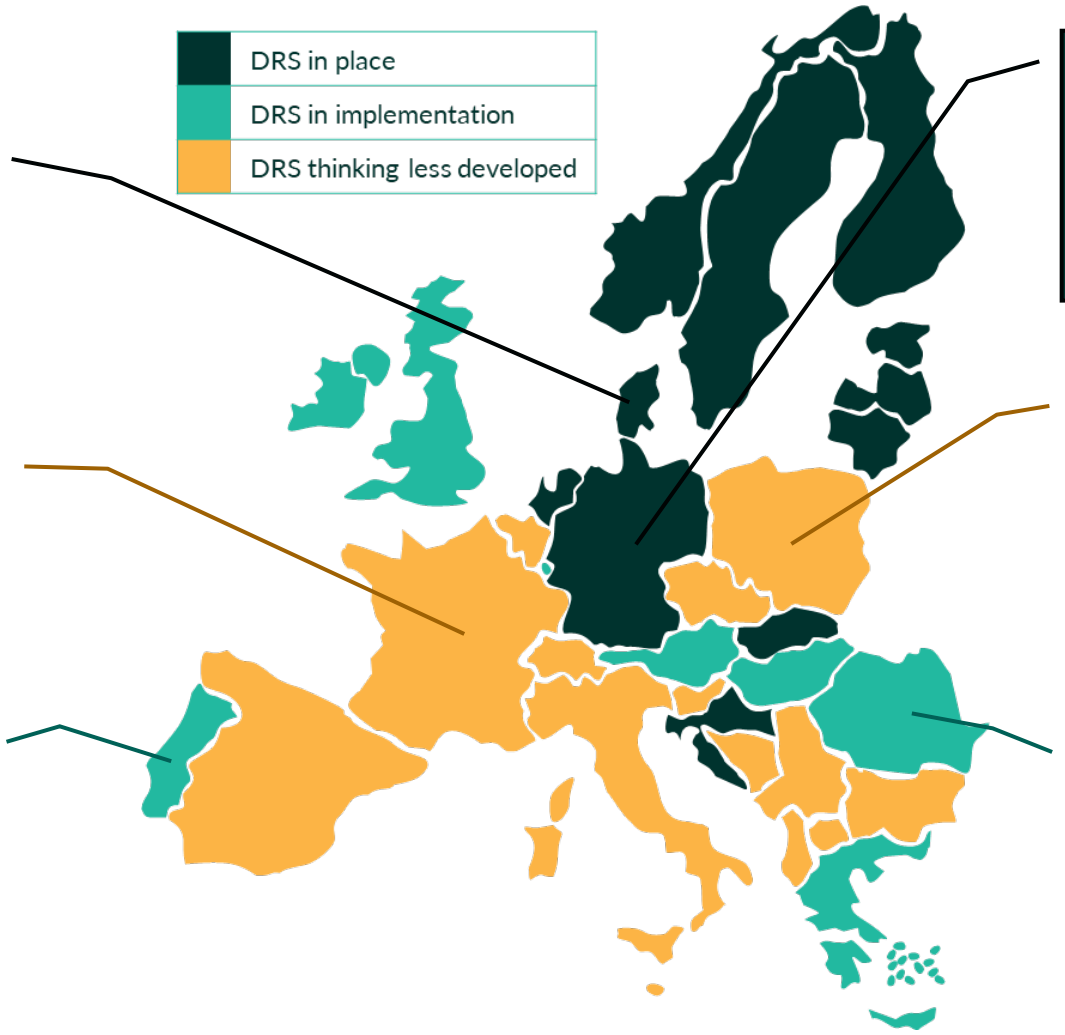


Status of DRS in Europe

Denmark:
Centralised system, established in 2002, covers plastic bottles, aluminium cans, and glass bottles.

France:
Prospect of a DRS through the Anti-Waste Law. Less developed thinking than other target countries

Portugal:
Implementing DRS, legislation not yet published, preparations have begun, and an industry organisation has been formed



Germany:
Not centralised system: operational since 2003, covers plastic, metal and glass, refillables

Poland:
Publication of a draft law in 2022, outlines early plans to introduce a DRS. Less developed thinking than other target countries

Romania:
Implementing DRS, legislation is published, expected to be operational by 2023

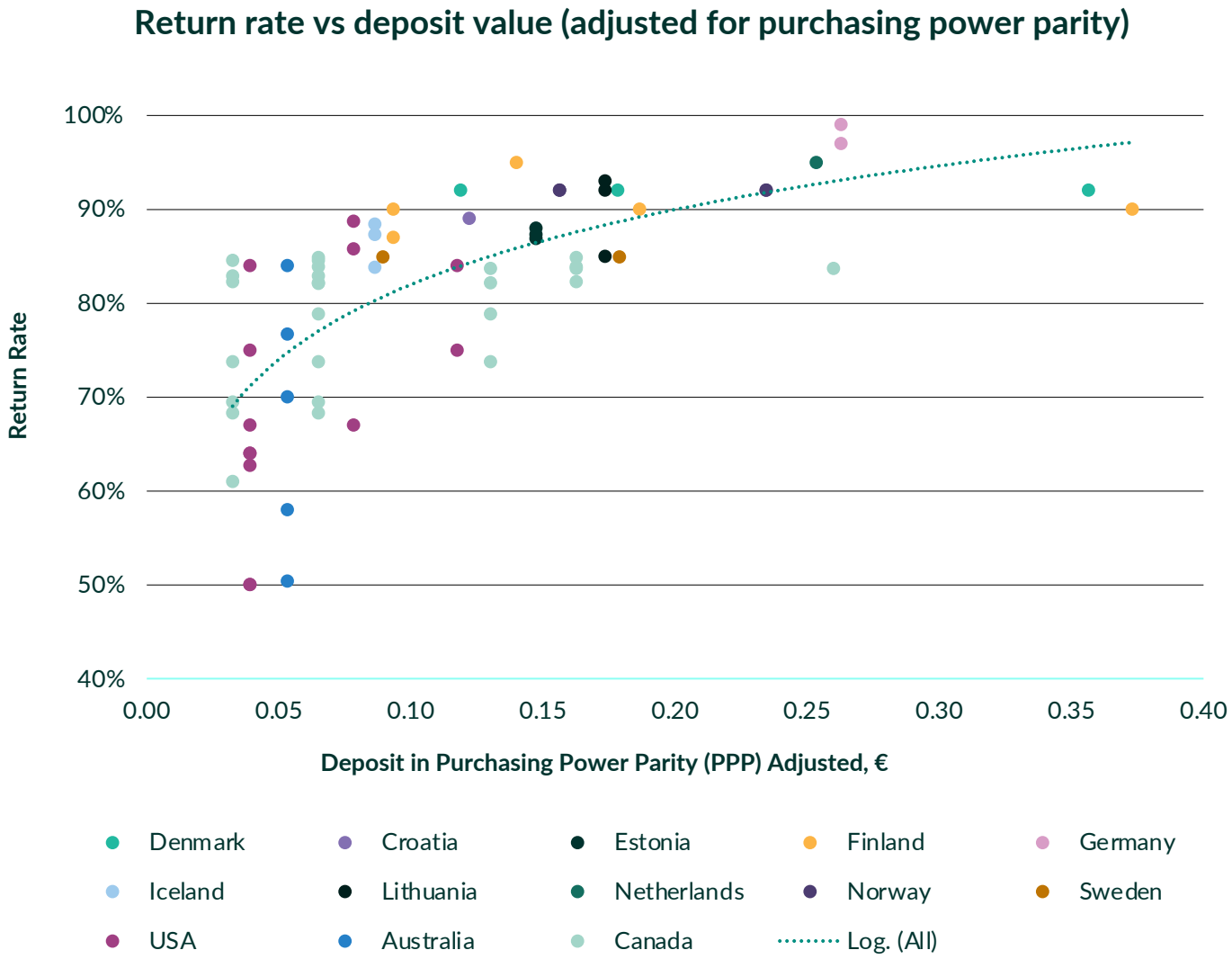
Background - DRS

Principles of high-performing systems:

- Obtain high-return rate
- A single, centralised system operator
- Convenient return network
- Appropriate deposit value

DRS funding model (centralised system):

- Unredeemed deposits
- Material revenues
- Producer fees,



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Why Deposits?

EU Perspective: EU-level Drivers

EU Framework Directive on Waste

- New targets for MSW
  - up from 50% (pre-amendment in 2018) using any of four methods, to:
  - 55% by 2025;
  - 60% (2030);
  - 65% by 2035
- **New measurement method proposed for measuring recycling targets (now set out in Implementing Regulations for MSW)**
- Requirement for fee modulation under EPR and full cost recovery for packaging

EU Directive on the reduction of the impact of certain plastic products on the environment (Article 6 and Article 9)

- Tethering of caps for plastic beverage containers
- Recycled content:
  - 25% recycled content for all single-use PET beverage bottles by 2025
  - 30% recycled content for all single-use beverage bottles by 2030
- Member states responsible
- Separate collection of single-use plastic beverage containers:
  - 77% by 2025;
  - 90% by 2029
- EPR costs extended (for packaging items and cigarette butts) to public waste collection and clean-up of litter
- **(a) establish deposit-refund schemes;**

EU Directive on Packaging and Packaging Waste

- New targets for plastic (and other) packaging
- Plastics: up from 22.5% (pre-amendment in 2018) to **50% (2025); 55% (2030)**
- New measurement method as per WFD
- **Requirement for fee modulation as per WFD**

Taxes on virgin plastic

- EU: €800/tonne of unrecycled plastic packaging - under consideration as a budgetary support measure
- Note:
  - Italy: €450/tonne – from July 2020? (compostables exempt)
  - UK: £200/tonne on all plastic packaging with recycled content <30% – already announced
  - Spain: tax on plastic food packaging out to consultation

EU–level Drivers and Capacity

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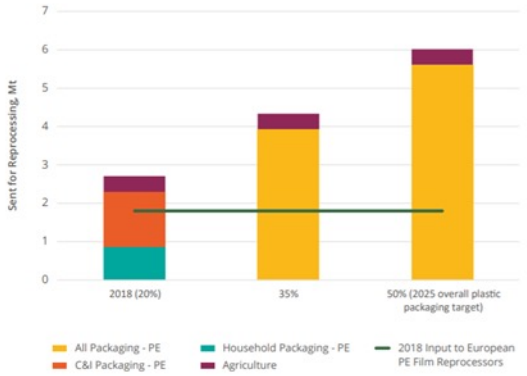
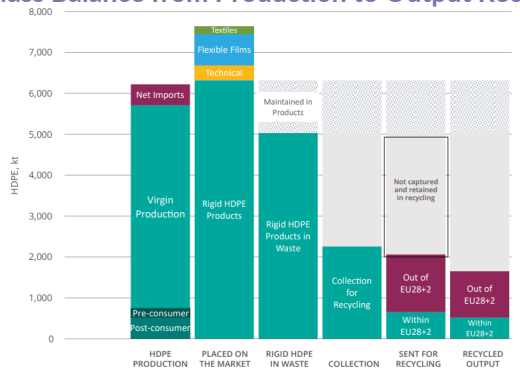
PE Film Input Volumes at Different Recycling Rates of Packaging Flexible Films, Mt

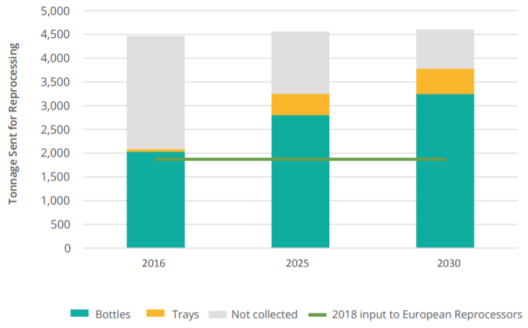


HDPE Mass Balance from Production to Output Recycling



- If we assume we'll reach 55% recycling for plastics there is insufficient capacity in reprocessing in Europe.
- Increased quantity of material collected can also feed high-quality recycling output into more mature markets

Potential Increase in PET Sent for Reprocessing by 2030



Source: https://www.plasticsrecyclers.eu/plastics-recyclers-publications

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Single Use Plastics Directive

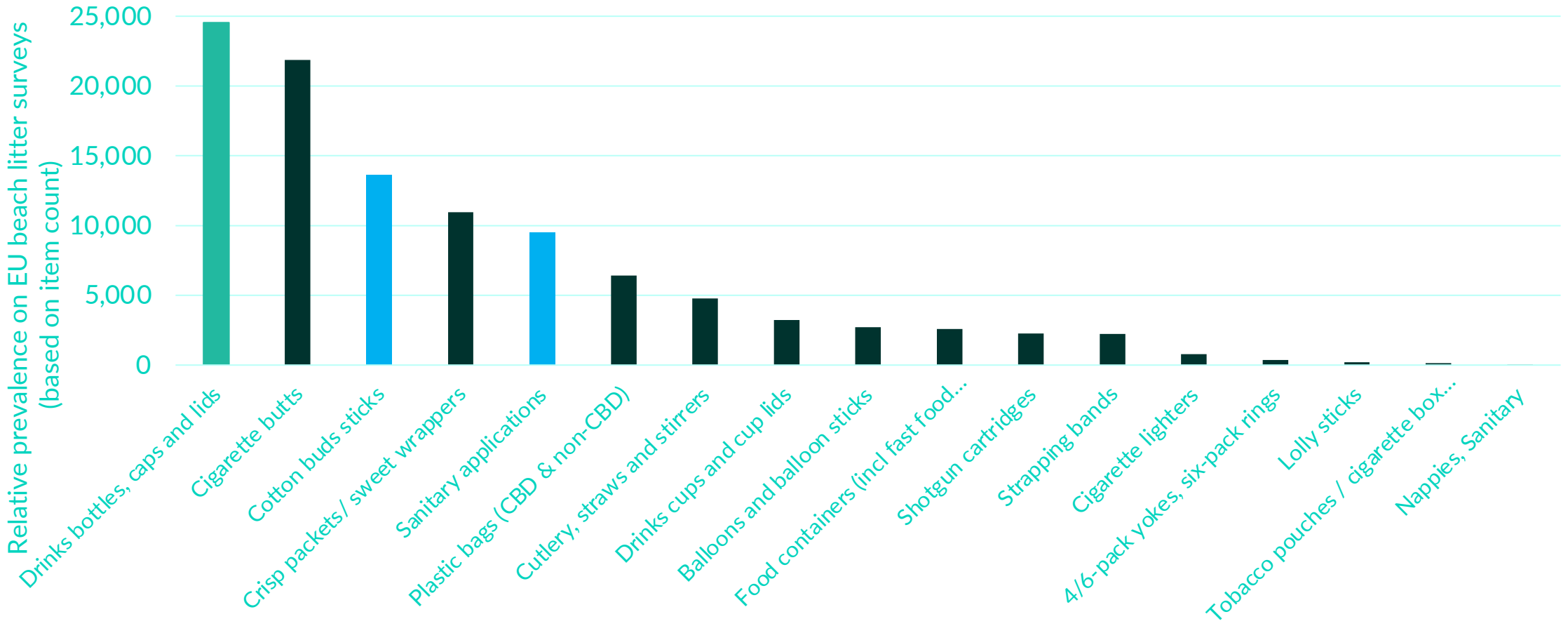
90% collection rate

Supply recycled content

Reduce litter clean-up costs

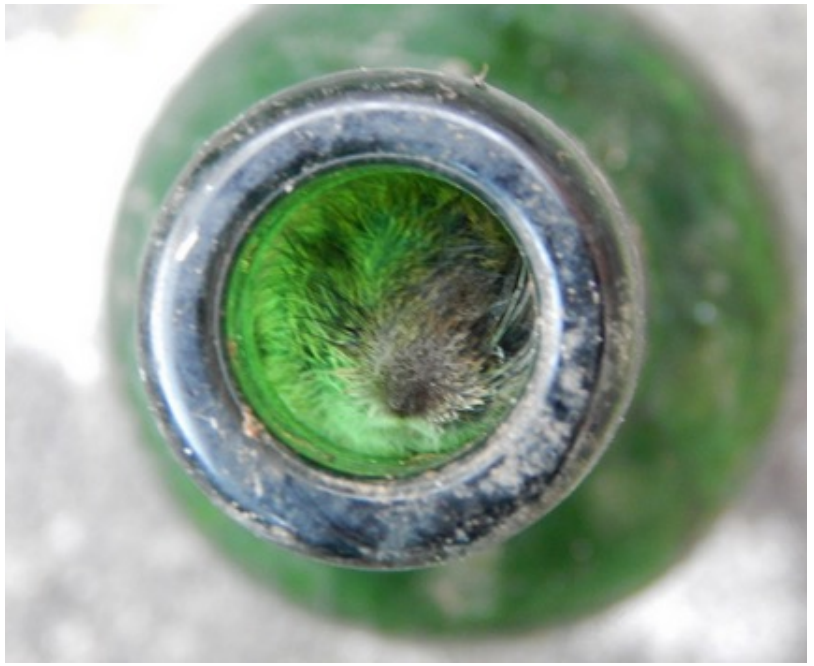
Awareness of Marine Plastics

Beach Litter



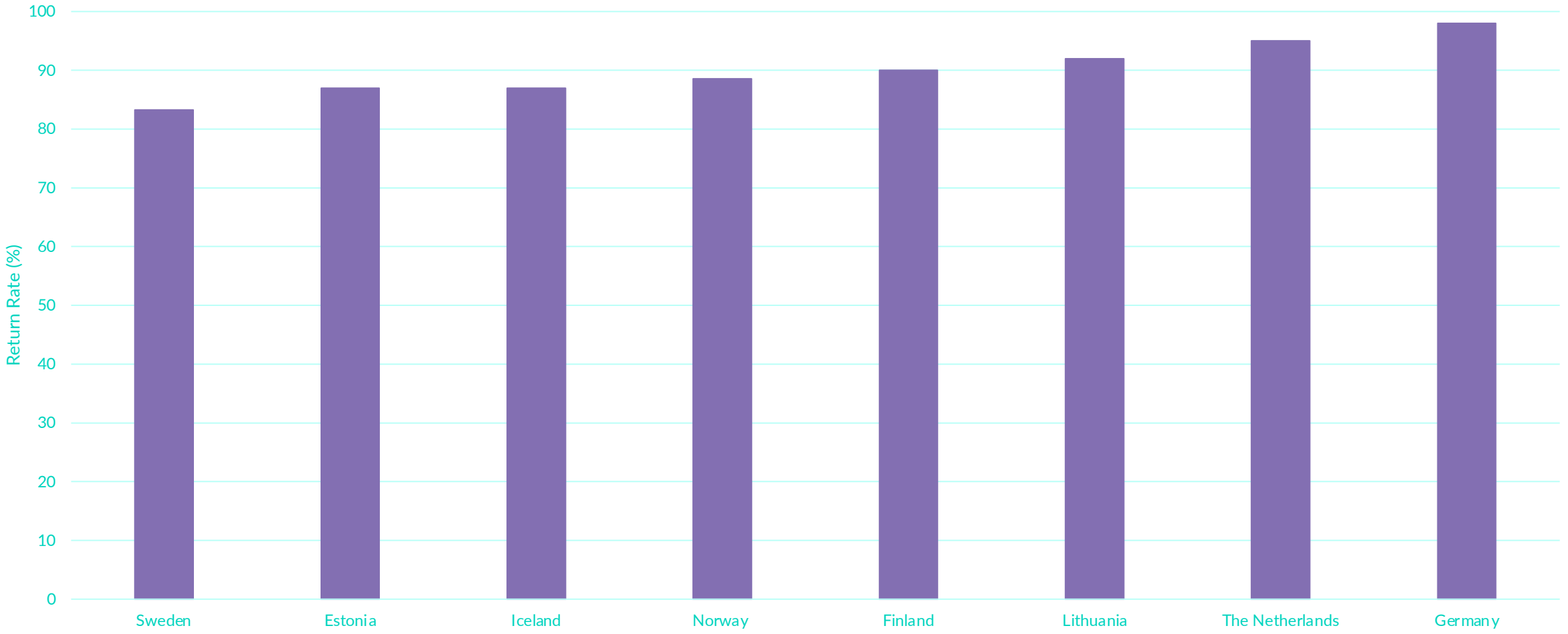
Terrestrial litter

Contain dead mammals



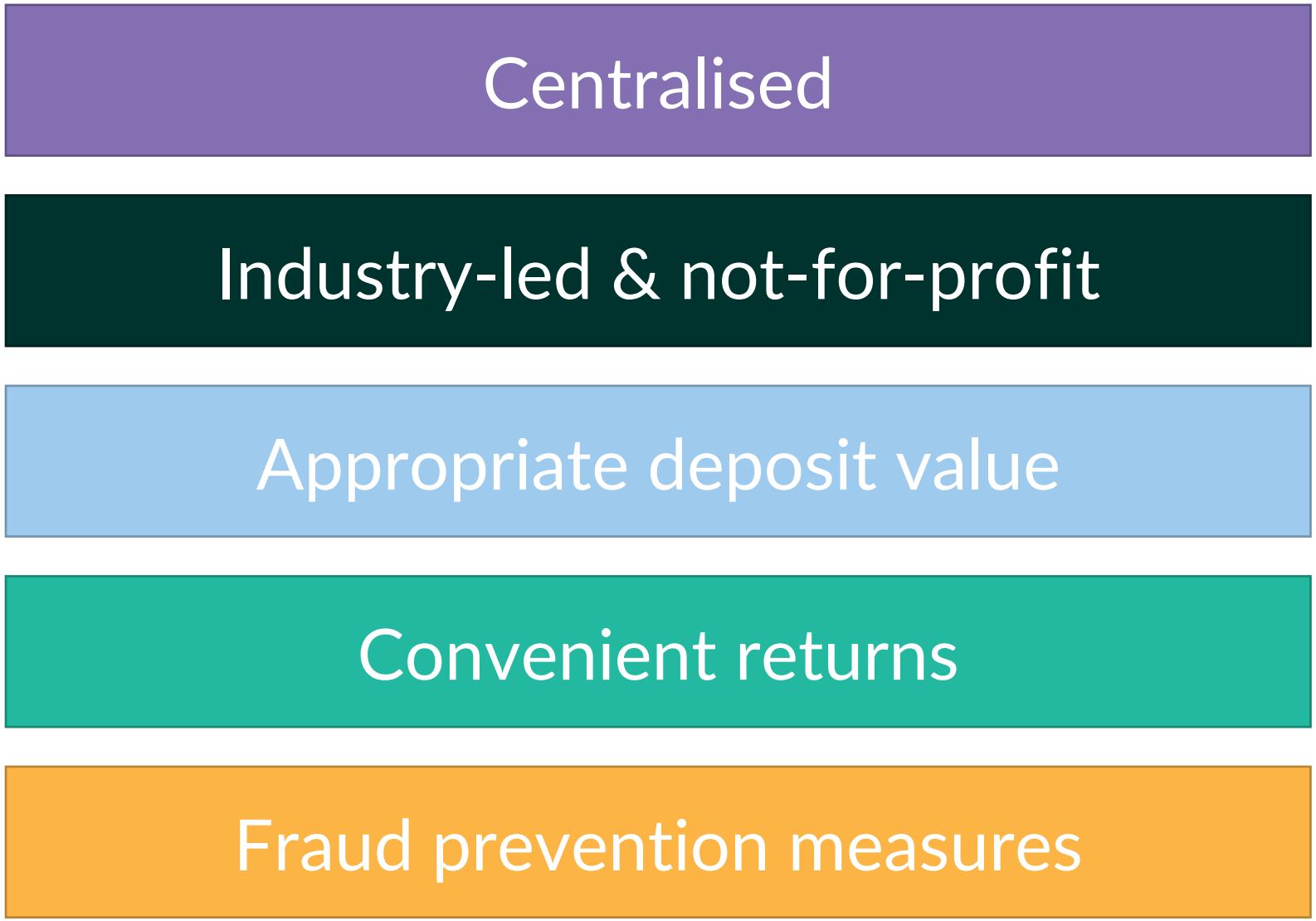
- **Clean-up costs**
- **Neighbourhood disamenity**

DRS plastic return rates



Key Design Principles

Effective & efficient systems



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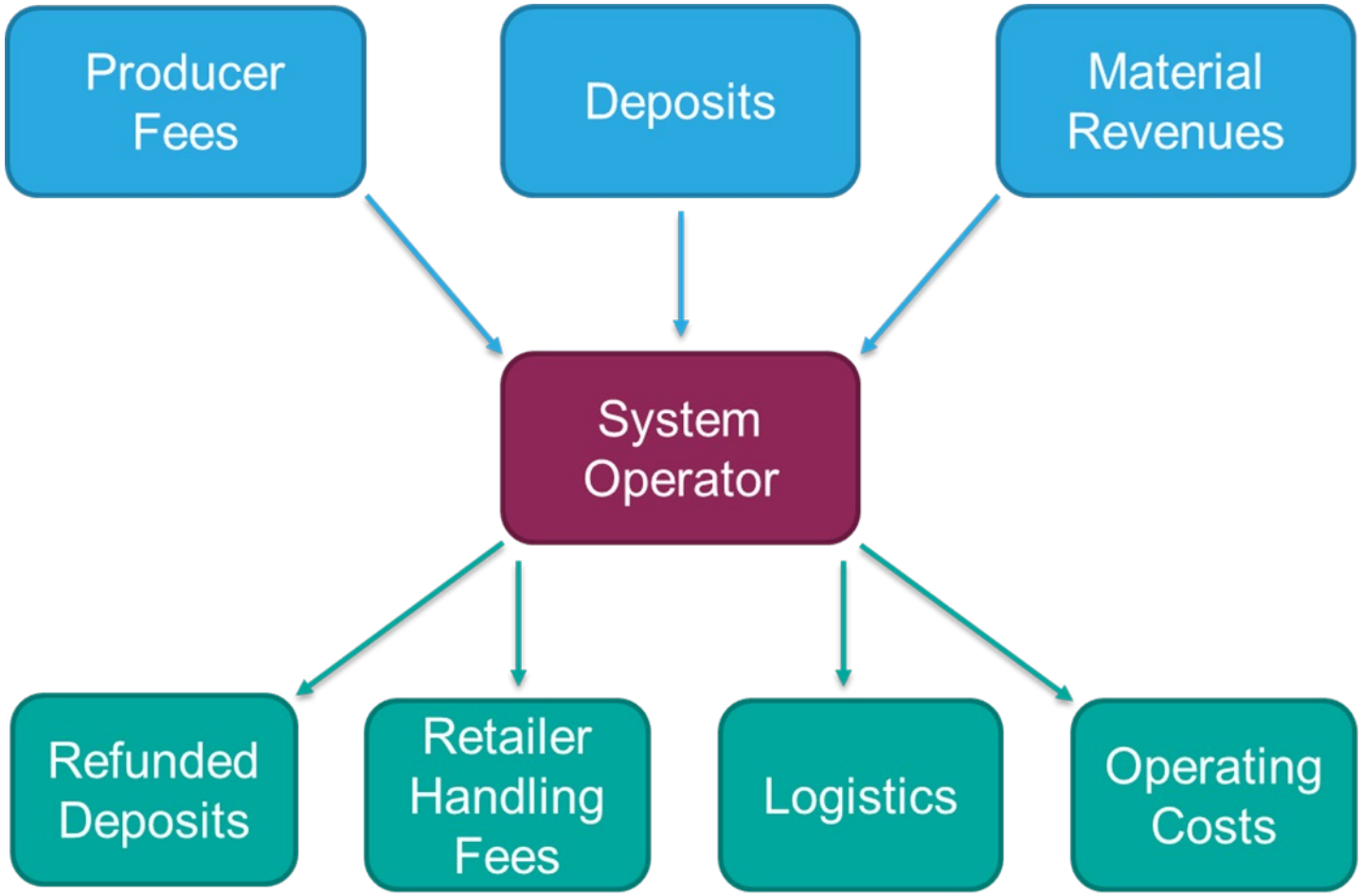
Funding

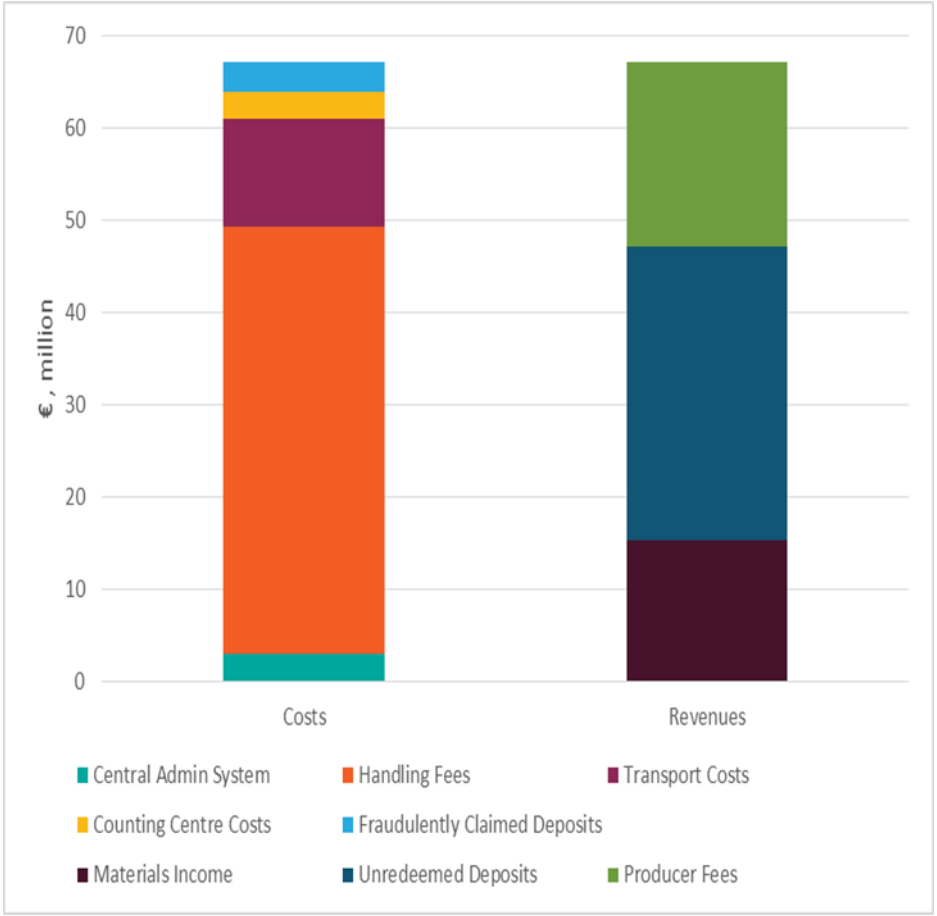

Producer Fees
Deposits
Material Revenues
System Operator
Refunded Deposits
Retailer Handling Fees
Logistics
Operating Costs

Cost & Benefit Studies

Ireland – Options for 90% collection

Rialtas na hÉireann
Government of Ireland

- ❑ Review current waste collections
- ❑ Alternatives to achieve 90% for PET
- ❑ DRS design & costs for bottles & cans
- ❑ Stakeholder consultation
- ❑ Improvements to kerbside not enough due to away- from-home consumption



DRS Design for Ireland

Component	Option Chosen for Ireland
Governance	Centralised; privately owned and operated; targets set by government (and/ or Beverage Container Tax)
Scope – Containers	PET & aluminium (specified in study requirements)
Scope – Beverage	Water; soft drinks; juices; beer; cider; pre-mixed spirits
Deposit Level	€0.20
Labelling	Deposit logo and reduced producer fee for national barcode
Return Infrastructure	Return to retail – any container can be returned to any participating retailer Compacting RVMs for large retailers Manual service for small retailers
Handling fees	Variable handling fee based on retailers' costs and Central System Operator's (CSO) savings.
Funding	Material Revenues Unredeemed deposits Producer fee for every container placed on the market
Target	90%

Irish DRS costs & benefits

€2.3 million
Annual environmental benefit

€95.8 million
Reduced annual litter disamenity

€0.026 - €0.032
Per container for retailers

€82 million
Initial set-up Costs

€20 million
Net Annual Cost

€0.0114
Producer Fee

Czech Republic – DRS design

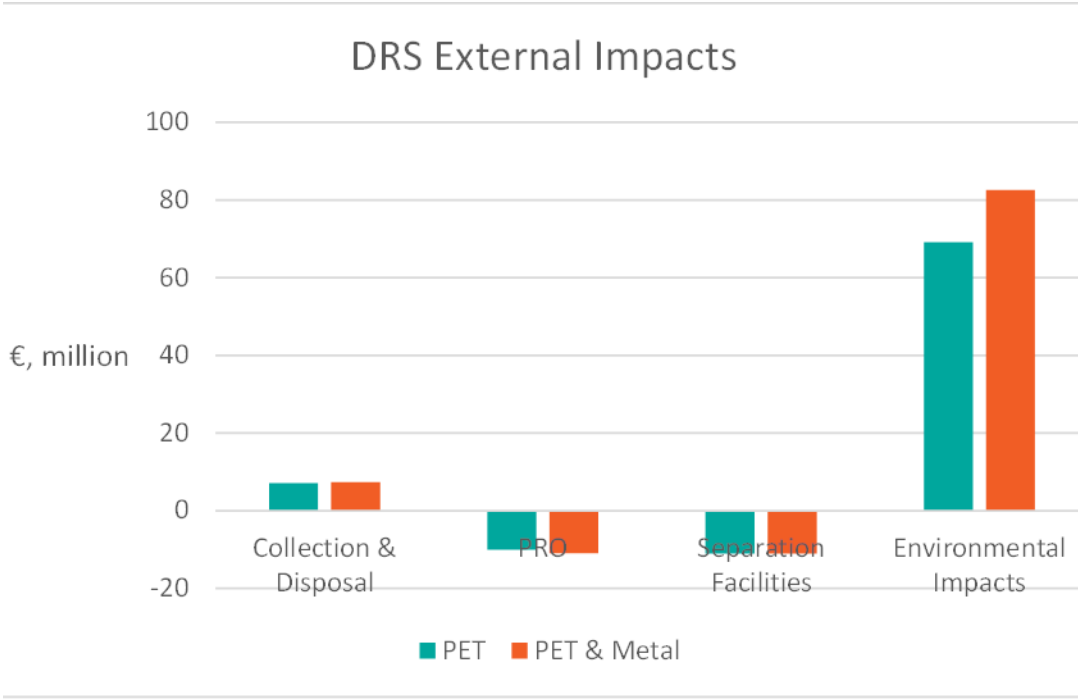
Designing & modelling a DRS to meet 90% target

Comparison of PET-only with PET & metal

Bring site collection and disposal savings

Lost revenue for separation facilities

Monetised environmental benefits



Czech DRS costs & revenues

€14.3 million – Annual net cost - PET only

€9.5 million – Annual net cost with cans

€0.01 PET Producer Fee

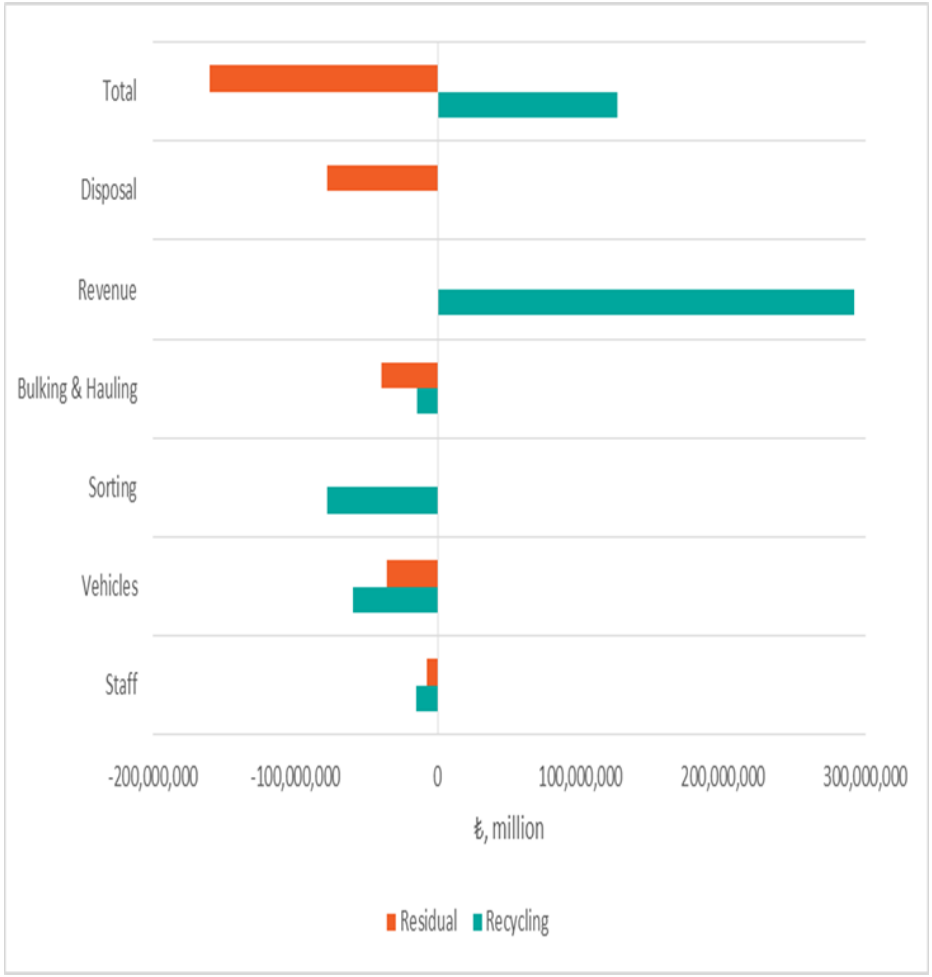
€0.0078 PET Producer Fee ‘0’ for cans

€0.02 - €0.03 for retailers

Turkey

TÜÇEM
Çevre Eğitimi ve Atık Yönetimi Derneği

- Designing & modelling DRS
- Annualised set-up costs
- Costs of collecting, transporting & counting containers
- Modelling impact on bring site collections
- Savings for existing waste management system



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Turkish DRS costs & benefits

€5 million
Annual Waste Management Savings

€16.3 million
Annual carbon & air quality benefit

€0.005 - €0.02
Per container for retailers

€77 million
Net Annual Cost

€0.006
Producer Fee

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New York – Job creation

Current system

Modernised system

Towards Implementation - Greece

Legislative Review

- ❑ Key provisions and requirements
- ❑ Roles and responsibilities outlined for each key stakeholder (i.e. DRS operator, retailer, municipalities etc.)
- ❑ Exemptions and other key elements

ΕΦΗΜΕΡΙΔΑ
ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ
ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

21 Ιουλίου 2022 ΤΕΥΧΟΣ ΔΕΥΤΕΡΟ Αρ. Φύλλου 3883

39599

ΑΠΟΦΑΣΕΙΣ

Αριθμ. ΥΠΕΝ/ΔΔΑ/76254/1331

Αρμοδιότητες και υποχρεώσεις όλων των εμπλεκόμενων μερών για την εφαρμογή συστήματος επιστροφής εγγύησης για τις συσκευασίες ποτών από πλαστικό, αλουμίνιο και γυαλί.

ΟΙ ΥΠΟΥΡΓΟΙ ΑΝΑΠΤΥΞΗΣ ΚΑΙ ΕΠΕΝΔΥΣΕΩΝ - ΠΕΡΙΒΑΛΛΟΝΤΟΣ ΚΑΙ ΕΝΕΡΓΕΙΑΣ

Έχοντας υπόψη:

1. Τις διατάξεις του άρθρου 90 του Κώδικα νομοθεσίας για την Κυβέρνηση και τα κυβερνητικά όργανα, που κυρώθηκε με το π.δ. 63/2005 (Α' 98), σε συνδυασμό με την παρ. 22 του άρθρου 119 του ν. 4622/2019 (Α' 133).
2. Τις διατάξεις του ν. 4819/2021 «Ολοκληρωμένο πλαίσιο για τη διαχείριση των αποβλήτων - Ενσωμάτωση των Οδηγιών 2018/851 και 2018/852 του Ευρωπαϊκού Κοινοβουλίου και του Συμβουλίου της 30ής Μαΐου 2018 για την τροποποίηση της Οδηγίας 2008/98/ΕΚ περί αποβλήτων και της Οδηγίας 94/62/ΕΚ περί συσκευασιών και απορριμμάτων συσκευασιών. πλαίσιο οργάνωσης
7. Το π.δ. 83/2019 «Διορισμός Αντιπροέδρου και Υφυπουργών, Αναπληρωτών Υπουργών και Υφυπουργών» (Α' 121).
8. Την υπό στοιχεία Υ2/2019 απόφαση του Πρωθυπουργού Κυριάκου Μητσοτάκη «Σύσταση θέσεων Αναπληρωτή Υπουργού και Υφυπουργών» (Β' 2901).
9. Την απόφαση του Διοικητικού Συμβουλίου του Ελληνικού Οργανισμού Ανακύκλωσης (Ε.Ο.ΑΝ) να εισηγηθεί το παρόν σχέδιο κοινής απόφασης Υπουργών Ανάπτυξης και Επενδύσεων και Περιβάλλοντος και Ενέργειας, η οποία ελήφθη κατά την 194η συνεδρίασή του/Θέμα 3 στις 24.06.2022 (αρ. απόφ. 194.3/24.06.2022).
10. Την υπό στοιχεία Α.Π. ΥΠΕΝ/ΔΠΔΑ/76225/1757/21.07.2022 εισήγηση του Προϊσταμένου της Γενικής Διεύθυνσης Οικονομικών Υπηρεσιών του Υπουργείου Περιβάλλοντος και Ενέργειας σχετικά με τις δημοσιονομικές επιπτώσεις της παρούσας κοινής υπουργικής απόφασης.
11. Το γεγονός ότι από την παρούσα απόφαση δεν προκαλείται δαπάνη σε βάρος του κρατικού προϋπολογισμού, αποφασίζουμε:

ΚΕΦΑΛΑΙΟ Α

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Key Provisions

Type of materials collected

i. aluminum up to 1 liter;

ii. glass up to 1,3 liters;

iii. plastic up to 3 liters;

Product type:

i. beer,

ii. wine,

iii. water,

iv. soft drinks,

v. juices and nectars,

vi. instant drinks, and

vii. milk

Key considerations

- Duplication of effort / cost
- Municipalities / EPR schemes / waste companies fear loss of revenue / trade
- Effect on sales
- Retailer opposition (handling fees?)
- Skewing of the market?

A good design…

- Not overly ‘regulated for’…
- … other than scope (and performance)
- Run by drinks cos / importers
- Unclaimed deposits support the system
- High enough deposit to drive high captures…
- … suitable fraud prevention systems implemented

A good design…

- Material revenues held by the system
- Smart handling fees / logistics
- Producer fees?
- Suitable links to EPR
- Accompanying measures to address competing products

Thank you!

Hara Xirou
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