Reloop Platform

Opportunity and feasibility analysis of the deployment of the Mixed Deposit System in France (reuse and recycling of beverage packaging)

Final report

May 14, 2024

Building a better working world

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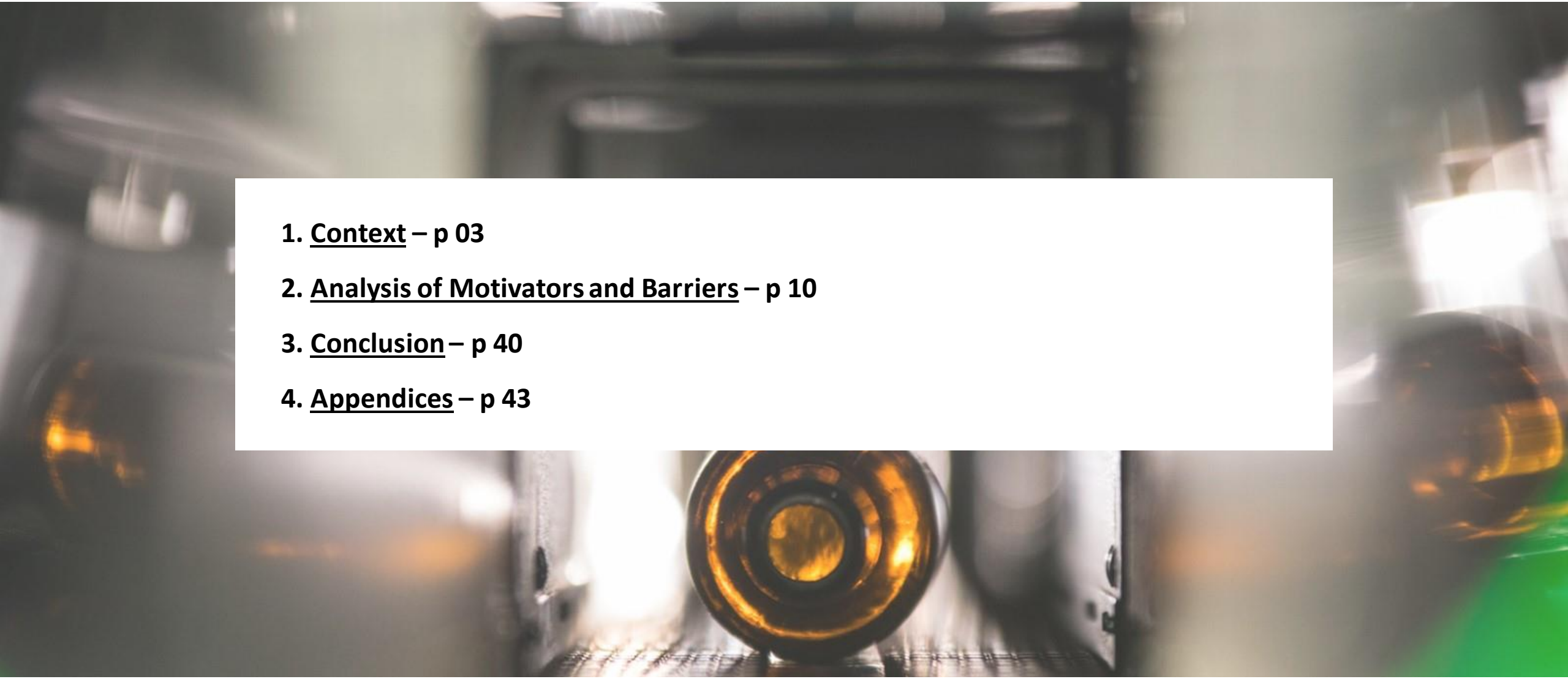


1 Context

1 *The regulatory framework for reuse is developing in France and the EU, but its deployment in France remains relatively limited for the moment*

An ambitious regulatory framework

AGEC Law - 2020

The *loi anti-gaspillage pour une économie circulaire* (anti-waste law for a circular economy) aims to encourage the reuse of all packaging (primary, secondary, tertiary), through an ambitious objective:

10 % of reused packaging put on the market in France in 2027[1].

Packaging and Packaging Waste regulation (PPWR) - 2022

This regulation adopted by the European Parliament in April 2024 also sets targets in terms of reuse, in particular concerning beverage packaging (excluding milk and wine):

10% (mandatory) of reused packaging put on the market in 2030[2] .

40 % (aspirational) of reused packaging put on the market in 2040[2].

Reuse in France, a currently limited practice

Generally very marginal in France

Historically, reuse systems existed for glass packaging, but there is no longer a large-scale system for reuse in France, today.

3 % beverage packaging is reused in France (approximately; most of it in the catering sector)[3].

Reuse is most developed in the beverage sector[5].

Reuse is still practised in certain regions and sectors[4] [5]

Alsace Region

Foothold remained strong for certain products (beers, mineral water,...):

- 25 million bottles reused each year,
- 30% of stores equipped with reverse-vending machines.

Hospitality sector

The sector's practices are favourable to reuse:

- 40% of bottles are returned and reused
- Stainless steel beer kegs are recovered by suppliers for reuse.

Sources: [1]Anti-waste circular economy law ; [2]Proposal Packaging and Packaging Waste - European Commission ; [3]For the full implementation of the AGEC Law, Collective of NGOs and Solution Providers - 2024; [4]Zero Waste France, [5]Reuse of packaging and alternatives to single-use plastic packaging – Report of Task 3, ADEME - 2022

The large-scale launch of reuse in France is encouraged by all the players in the sector: public authorities, eco-organisations, producers, distributors, and solution providers

A history of incentives by government actors and eco-organizations

EoI ADEME/Citeo – 2019-2020

- Between mid-June 2019 and December 2020, ADEME and CITEO jointly conducted a call for expressions of interest (EoI) **"Developing high-performance systems for the reuse of glass packaging"** [1].
- **34** winning projects in **14** regions were supported and **€4 million** in aid was awarded.

Call for projects "Even more reuse" - Citeo – 2023

- In 2023, CITEO launched a call for projects aimed at financing and supporting projects to **develop the reuse of household packaging**[2].
- **€39 million** has been dedicated to the development of reuse in 2023[3].
- **152 reuse projects were financed**[3].

ReUse approach – CITEO – 2024

- CITEO coordinates the ReUse approach, which aims to imagine an operational model for reuse that will make it possible to achieve regulatory objectives (10% of packaging reused by 2027)[3].
- **5 reusable packaging standards** have been developed as part of this approach[3].

A multitude of experiments initiated by private players

Many initiatives are emerging (start-ups, regional initiatives, industrialists, etc.)

Bout'à Bout' · UZAJE · Ma bouteille s'appelle REVIENS · La Consigne de Provence · Jean Bouteille · oc'consigne · Alsace consigne · Rebooteille – Suivons la consigne ! · CONSIGN'UP · RÉUTILIZ

Deposit for reuse at Carrefour

Carrefour · Coca-Cola · HEINEKEN

Programme launched in 2023 – in partnership with Coca-Cola, Heineken France and Citeo – for **150 Carrefour City stores in Paris**. This experiment aims to be extended to other regions with a target of reaching 500 stores by 2026[4].

Le Fourgon, a reuse start-up

A start-up created in 2021, Le Fourgon is demonstrating the concept of **delivering beverages in returnable packaging** in 2023[5].

Sources: [1]ADEME Presse ; [2]Building, experimenting and financing the development of reuse - Citeo ; [3]Citeo website – Our impact ; [4]Carrefour headquarters; [5]Le Fourgon

1 *The deposit return system is one of the motivators for developing reuse*

There are several possible forms of reuse, one of which is the deposit-return system[1]

- Reuse **with a financial incentive** to return the packaging (deposit, gratuity, etc.),
- Reuse **without incentive to return**,
- The filling of reusable packaging by the consumer in store thanks to **bulk sales**,
- The filling of reusable packaging by the consumer at home thanks to a **refill system**.

The deposit for reuse has the advantage of encouraging the behaviour of returning the packaging

The return rate is generally **lower** when a reuse scheme is put in place without a financial incentive to encourage the consumer to return the packaging.

- In its 2018 study - *Analyse de 10 dispositifs de réemploi ou réutilisation d'emballages ménagers en verre*, ADEME compared several systems, one of which did **not apply a deposit** on its reusable bottles.
- The system without a deposit was found to be the one with the **lowest return rate** (12%, compared to 48-97% for the other schemes), in particular due to the lack of financial incentive (but also due to a limited number of return points or poor communication). This system was ultimately the most expensive and the least advantageous from an environmental point of view.
- The **provision of financial compensation or deposit** was identified as one of the recommendations of the study.

A high rate of return: a necessary condition for successful reuse from an economic and environmental point of view

The **number of uses of** a reusable bottle has a strong influence on the environmental and economic impacts of a reuse device according to the 2018 ADEME study - Analysis of 10 schemes for the reuse of household glass packaging.

- For example, in the case of the METEOR brewery, **reuse is more advantageous than single use from an environmental point of view after 2 uses** of the bottle.
- However, a **high return rate is essential** to guarantee several cycles of reuse of the bottles and thus environmental and economic benefits.

Sources: [1]Reuse of packaging and alternatives to single-use plastic packaging – Report of Task 3, ADEME - 2022

One of the motivators identified to support the deployment of reuse is the mixed deposit (1/2)

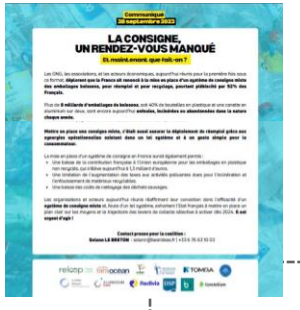
The mixed deposit system is supported by some NGOs and solution providers

The CESE has been in favour of the mixed deposit system since 2019

"The CESE is in favour of framing the deposit system for recycling to finance the deployment of reuse and to plan the end of the production and consumption of single-use plastic"[1].

28 players position themselves in favour of the mixed deposit

- A consortium of stakeholders (NGOs, solution providers, etc.) is in favour of the implementation of the mixed deposit, with the publication in February 2024 of a joint position paper "For the full implementation of the AGEC law".
- This note recommends, among other things, "the operational implementation of a mandatory mixed deposit system for reuse and recycling on a national scale in 2026"[2].



Faced with the dual challenge of reuse and recycling, manufacturers now support the mixed deposit

"Setting up a mixed deposit system also means ensuring the deployment of reuse thanks to the operational synergies existing in such a system and a simple gesture for the consumer"[3].

Sources: [1]CESE, [2]Usine Nouvelle; [3]The deposit, a missed opportunity

1 One of the motivators identified to support the deployment of reuse is the mixed deposit (2/2)

The State and other public actors adopt more contrasting positions with regard to the mixed deposit

ADEME's position on the potential for synergies between a deposit for recycling and a deposit for reuse has evolved

ADEME - Deposit for the reuse and recycling of beverage bottles - 2021
"Operational synergies [...] seem weak. »

ADEME - European benchmark – deposit systems for the reuse and/or recycling of packaging - 2023
"Synergies between deposit systems for recycling and deposit for reuse can be put in place, mainly at the take-back stage."

The mixed deposit, not yet considered as a solution by the legislator

For example, the Information Report to the Senate No. 850[1] of 2023 **does not consider the mixed deposit as a possibility**. It is in favour of the deposit for reuse but against the deposit for recycling (the appropriateness of which should be reassessed in 2026).

The AGEC Law provides for the possibility of mixed deposits (Art. 66)

"... the procedures for implementing one or more **deposit schemes for recycling and reuse**. »

Sources: [1]Information report to the Senate n°850 "on behalf of the Committee on Regional Planning and Sustainable Development on the deposit for reuse and recycling on packaging", published on 5 July 2023

1 *The purpose of this study is to examine the appropriateness of deploying a mixed deposit versus a deposit for reuse only*

The mixed deposit is one of the possible solutions to achieve the regulatory objectives for recycling and reuse:

The abandonment of discussions on the deposit for recycling[1]

- The deposit for recycling was initially considered to meet the objectives of the SUP directive and the AGEC law: **to reach a 90% collection rate for recycling plastic bottles by 2029**.
- The public authorities have given up on its implementation for the time being[2].

The desire to deploy reuse on a large scale

- Ambitious objectives have also been set for the **development of reuse**, with studies and experiments that include a **deposit for reuse[3]**.

The context of PPWR in favour of the mixed deposit

- In view of the objectives of the **draft European PPWR regulation**, it is appropriate to deploy a **mixed deposit in** order to meet these objectives in an efficient manner[4].

In this context, the present study aims to examine the appropriateness of the implementation of the mixed deposit system by comparing two situations:

1. **Deposit for reuse only**

   Continuation of the classic model of a clear dissociation between the recycling and reuse sectors

2. **Mixed deposit**

   Deposit for recycling and reuse

Sources: [1]France renounces the deposit to recycle plastic bottles, Le Monde - 2023; [2]The Senate has asked that the opportunity to implement the deposit for recycling be reassessed in 2026 Information report to the Senate n°850 "on behalf of the Committee on Regional Planning and Sustainable Development relating to the deposit for reuse and recycling on packaging", published on 5 July 2023. [3]See slides 2 and 3; [4]Proposal Packaging and Packaging Waste - European Commission

2 Analysis of Motivators and Barriers

2 *The mixed deposit system has advantages but also drawbacks, which are explored in this study*

The mixed deposit system for beverage containers offers a number of technical and economic advantages and motivators, detailed in this study, however certain barriers associated with its deployment remain.

- ✓ Motivator 1 : Operational and financial pooling possibilities for take-back points and systems (RVMs in particular), and potentially the collection scheme, the sorting and counting sites, and the transport and the management of the system (administrative, monitoring, communication, etc.)
- ✓ Motivator 2: Limitation of market effects between products with almost all beverages returned for recycling and/or reuse, as opposed to only a portion, in the case of a deposit for reuse alone (which may lead to a shift of purchases towards non-refillable single-use packaging products)
- ✓ Motivator 3 : Faster deployment of the deposit for reuse if the system is coupled with the deployment of the deposit for recycling, taking into account the associated volumes
- ✓ Motivator 4 : Simplification of the sorting process for the consumer with the same sorting procedure for all products in the same category (for example, all water containers are deposited and returned in the same way by consumers)
- ✓ Lever 5 : Possible strengthening of the public's support for a deposit on a larger number of products and a more frequent returns
- ✓ Lever 6 : Contribution to a reduction in littered waste, particularly on products for on-the-go consumption (in the case of beverages), potentially even stronger than the deposit for recycling (wider scope) or kerbside collection (higher take-back rate)
- ✓ Lever 7: In terms of recycling: improved food grade quality of certain separately collected streams, more certainty that recycling targets for returnable materials will be met, and for the reuptake targets for recycled plastic
- ✓ Lever 8 : Contribution to the achievement of regulatory targets (reuse rate, collection rate for recycling of plastic beverage bottles, reduction in the number of single-use plastic bottles placed on the market, contribution to recycled plastic reincorporation targets)

- × Barrier 1 : Mixed deposit system, implying a need for operational and logistical optimization, necessary for the proper functioning of the system, particularly on the recovery network given the volumes, dedicated spaces and handling activities (optimization measures must be considered to serve both the deposit for recycling and the deposit for reuse)
- × Barrier 2: Significant changes in the organisation and practices of existing players brought about by the introduction of the deposit for recycling and reuse (disruption of the balance between producers and recyclers, intensification of competition between recyclers, changes in the scope of the household packaging EPR, articulation with the SPPGD, etc.)
- × Barrier 3 : Additional constraints for the consumer due to a deposit affecting more products: greater amounts of the deposit to be incurred at the time of purchase, storage and return of more empty packaging, additional costs for the consumer in the event of non-return of the packaging

Sources: European Benchmark of deposit systems for the reuse and/or recycling of packaging, ADEME – 2023; Interviews with foreign operators; Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023

Motivator 1 : *Pooling is possible between the deposit for reuse and the deposit for recycling at the take-back stage (1/8)*

- It is possible to take back returnable packaging for recycling and reuse at the same take-back points and RVM[1].
- This is the case in many European countries, including: Germany, Latvia, Lithuania, Estonia, Sweden, Netherlands.

Benefits of RVM pooling
(available for select vendors only)

- **Reduced footprint[2]** : for an RVM with a façade and storage bins in the backroom, having a mixed RVM instead of two separate RVMs saves at least the surface area of the shared façade.
- **A reduction in OPEX and CAPEX[2]** : reduction in the cost of acquiring, installing, maintaining, and electricity the RVM through the use of a common RVM instead of two separate RVMs.

→ **Example** : For RVMs with multiple collection bins (example below[3]), the **following gains** can be expected:

Configuration 1 :

- 1 RVM deposit for reuse (1 glass storage bin)
- 1 RVM deposit for recycling (2 PET storage bins / cans)

Configuration 2 :

- 1 Mixed RVM with 3 Storage Bins (PET/Cans/Glass)

Footprint: 16% reduction from Configuration 1 footprint

Costs : Reduction of RVM rent cost by 14-18% compared to configuration 1[4]

Advantages of pooling take back points

The pooling of certain operations[2]:

- Cost of maintenance and debugging of machines:
  - The travel of a technician is the highest cost item in the context of maintenance.
  - Maintenance costs can therefore be pooled in the presence of more than one machine at the same recovery point.
- Machine cleaning cost:
  - Pooling is also expected when several machines are present at the same recovery point.

Sources: [1]Based on our observations in countries with a mixed deposit system, take-back points are sometimes equipped with separate RVMs for recycling and reuse due to high traffic, but in the case of lower traffic, RVMs are common for recycling and reuse; [2]Interviews with foreign operators and RVM manufacturers; [3]TOMRA internal site ; [4]Considering an additional cost of 1% for a mixed RVM with storage bins, compared to a recycling RVM, and a 1% discount for a reuse RVM only compared to a recycling RVM.

2 Motivator 1 : *Pooling logistics between a deposit for reuse and a deposit for recycling is possible (2/8)*

ADEME had concluded in its 2021[1] study that the synergies between the logistics flows of the two systems were weak.

However, this study predates the entry into force of the deposit for recycling in Latvia, which for its part pooled, for the flows of returnable packaging for reuse and recycling, the facilities dedicated to sorting/counting and the vehicles used to transport them.

In Lithuania, the deposit for reuse has been in place for 18 years, but some players (such as Coca-Cola or mineral water producers) joined the system in 2016 at the same time as the introduction of the deposit for recycling. They have entrusted the management of their reusable glass bottles to the deposit system operator for recycling at the collection, sorting and washing stages. For the flows from these new entrants, logistics are therefore shared between a deposit for recycling and reuse[2].

Latvian Case Study[3]

Facilities dedicated to sorting/counting returnable packaging

- **The counting centre (unique in Latvia) is the same** for recycling and reuse.
- It is used to sort and prepare single-use packaging for recycling, count uncompacted single-use take-back packaging, and inventory and store reusable glass packaging.

Vehicles used to transport returnable packaging

- For BBH bottles, the **logistics flow** is the same as for single-use bottles, with reverse logistics, at the same collection points and with the same transport network.
- A significant part of reverse logistics is carried out by distributors (~50% of volume), making it possible to reduce costs.

Advantages of pooling logistics

Economic and operational efficiency : possible savings made by pooling the infrastructure and staff employed during the collection, transport and sorting/counting stages[2].

Sources: [1]Deposit for the reuse and recycling of beverage bottles, ADEME – 2021; [2]Interviews with foreign operators; 3DIO website and Report Depozta-sistmas-darbbas-organizanas-un-stenoanas-plns (Organisation and implementation plan for the operation of the deposit system) – 2022; Images: TOMRA

Motivator 1 : *The management by the joint operator of the recycling deposit and the reuse deposits can also be pooled. (3/8)*

- In several countries, there is only one centralised operator that manages both the recycling deposit and reuse deposit schemes.
- This is the case of: Latvia and Estonia[1].
- A deposit operator manages variable costs, proportional to the number of packages taken back, and fixed costs (human resources, communication, IT, marketing, legal, offices, etc.). These fixed costs represent about 10% of the operator's total costs[1].

Advantages of pooling the operator of the mixed deposit system

Cost optimization

- **The fixed costs** of a deposit operator (around 10% of total costs[1]) can be partially pooled in the case of a common operator for recycling and reuse.
- **Cost of human resources and operator offices**
  - Synergies may exist between the **functions of the staff employed** for a deposit for recycling and deposit for reuse operator[1].
  - The number of FTEs (full-time equivalents) can be **reduced** in the case of a mixed deposit operator compared to the number of FTEs for a deposit operator for recycling and a deposit operator for reuse, so the cost of human resources can be reduced in the case of a mixed deposit.
  - Pooling may also take place at the premises of the common recycling and reuse operator. For example, Latvia, the sorting centre of the deposit operator DIO for reuse and recycling also houses the offices of the operator's employees.
- **Communication costs:** Some operators have reported the possibility of pooling the two schemes as part of joint awareness campaigns[1].

Multiplying synergies

- Having a single operator for both systems makes it possible to **deploy them simultaneously** and therefore to **multiply synergies** at all stages, according to the ADEME[2] Benchmark study.
- This study identified the pooling of the operator as a **possible option** in view of the **concomitant considerations** on the deposit for recycling and the deposit for reuse.
- However, the study warns of the **increased complexity** of setting up such a system, which is currently observed in only two small countries.

Sources: [1]Interviews with foreign operators; [2]European benchmark of deposit systems for the reuse and/or recycling of packaging ADEME – 2023

2 Motivator 1 : *Simplified economic modelling has been carried out in order to measure the cost optimisation that can be envisaged in the case of a mixed setpoints (4/8)*

Three scenarios were defined in the framework of this study to model the implementation of a mixed deposit, compared to a deposit system for reuse with motivators for improving kerbside collection.

		Scenario 1	Scenario 2	Scenario 3
Scenario Name		**Deposit for reuse and motivators for improving kerbside collection (ambitious trajectory)**	**Deposit for reuse and motivators for improving kerbside collection (intermediate trajectory)**	**Deposit for reuse and recycling (mixed deposit) and motivators for improving kerbside collection (intermediate trajectory)**
Deployment		Concurrent deployment of the deposit for reuse and motivators in year 1 (2026 to aim to achieve the objectives of reuse in 2027[1] and collection for recycling in 2029[3])		Concurrent deployment of the deposit for recycling and reuse in year 1 (2026 to aim to achieve the objectives of reuse in 2027[1] and collection for recycling in 2029[3])
Deposit for reuse	**Scope**	**PPWR scope: Material** : Glass only (PET excluded) / **Products** : Excluding milk, wine and spirits		
	System Type	**Mandatory national scheme[4]**, managed by a single operator and enabling the achievement of reuse objectives[1].		
Deposit for recycling	**Scope**			**European scope[2]:** • **Materials** : PET (light/dark), Cans (aluminum, steel) • **Products** : Excluding milk, wine and spirits
	System Type			• **Mandatory national system,** managed by a single operator and making it possible to achieve the target performance of collection for recycling by 20293 with a low level of uncertainty[2].
Kerbside collection	**Scope**	All household packaging.		Non-returnable packaging.
	Trajectory[2] [5]	**Ambitious trajectory** : • Performance improvement motivators pushed to the maximum, • Requires significant modifications, • Could make it possible to achieve the target performance of collection for recycling by 2029[3], but with a high level of uncertainty.	**Intermediate trajectory** : • Reinforces the deployment of certain motivators (compared to actions already decided or planned), • Requires the implementation of additional resources, • Would not achieve the target collection performance for recycling[3].	**Intermediate trajectory** : • Reinforces the deployment of certain motivators (compared to actions already decided or planned), • Requires the implementation of additional resources.

Sources: [1]10% of reused packaging placed on the market in France, AGEC law (by 2027) and PPWR (by 2030); [2] European scope resulting from the study : Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [3]90% collection rate for recycling of plastic bottles, AGEC law; [4]Mandatory above a certain surface area, voluntary in the other cases, the same hypothesis as that of the ADEME study of 20232; [5]Prospective on the motivators (non-deposit) for improving the performance of collective collection, ADEME – 2023

2 Motivator 1 : *Simplified economic modelling has been carried out in order to measure the cost optimisation that can be envisaged in the case of mixed setpoints (5/8)*

These scenarios were built on the basis of the ADEME study – Scenarios with and without a deposit for recycling[1].

1 Deposit for reuse only

2 Mixed deposit

Scenario 1

Deposit for reuse and motivators for improving kerbside collection (ambitious trajectory):

It consists of the following elements:

- kerbside collection system with an ambitious trajectory (ADEME 2023) – its cost is known,

+

- Implementation of a system dedicated to the deposit for reuse.

Scenario 2

Deposit for reuse and motivators for improving kerbside collection (intermediate trajectory):

It consists of the following elements:

- kerbside collection system with intermediate trajectory (ADEME 2023) – its cost is known,

+

- Implementation of a system dedicated to the deposit for reuse.

Scenario 3

Deposit for reuse and recycling (mixed deposit) and motivators for improving kerbside collection (intermediate trajectory):

It consists of the following elements:

- European scenario deposit system (ADEME 2023) – its cost is known,

+

- Adaptation of this system to cover packaging for reuse.

Significant synergies are possible between the deposit for recycling and the deposit for reuse at the take-back stage and in connection with the management of the system by the operator, so the costs of these steps have been calculated as part of the simplified modelling.

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023

Motivator 1 : *Assumptions were made to achieve a simplified modelling of the different scenarios (6/8)*

Comparability of systems

- In this study, the full absolute costs associated with each scenario were not calculated.
- Only the costs of the steps that can give rise to the **pooling** of the deposit for recycling and the deposit for reuse, or the steps for which the **costs of the reuse system are different** between the scenarios have been calculated (which excludes, for example, the calculation of washing costs, which are identical in the different scenarios).

Governance

- In the case of mixed instructions:
  - A **national and mandatory system** (beyond a certain threshold, identical to the ADEME 2023 study), operated by a **centralised operator**, has been modelled.
  - This study chose a **common operator** for the deposit for recycling and deposit for reuse schemes, in order to pool synergies and optimise costs.

Take-back stage

- To achieve **similar reuse performance**, the **take-back network must be identical** between the three scenarios. Thus, the network defined in the framework of the European scenario of the 2023 ADEME study – Scenarios with and without a deposit for recycling have been taken up with the mobilisation of 58,032 take-back points.
- **In the absence of significant pooling between the manual take-back** of returnable packaging for recycling and for reuse (costs proportional to the number of containers taken back, clean and separate storage methods of packaging for reuse, volumes of packaging for manual reuse identical between scenarios, etc.), only the costs of automated take-back were evaluated.
  - As part of the **deposit for recycling and reuse**, **mixed RVMs** have been modelled (i.e. RVMs similar to those used for the deposit for recycling only, for which a bin is dedicated to reuse), in number and size similar to those defined in the scenario of a deposit for recycling only, with two exceptions: i) an increase in the size of RVMs in drive-thrus (small RVMs as modelled have only one bin and do not allow for the return of single-use and reused packaging) and ii) the lack of automated take-back of reusable packaging returned to mini-markets due to lack of space (these points of sale only keep an RVM for small recycling).
  - In the case of the **reuse deposit alone**, an **adjustment of the number of RVMs** was made, taking into account a smaller number of containers to be taken back than in the deposit for recycling (e.g. 1 RVM instead of 2 in the supermarket).

Logistics steps

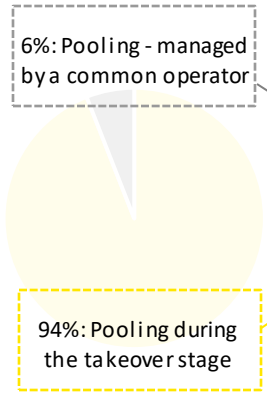
- Reuse requires dedicated processes and spaces, which cannot be shared with recycling.
- The savings that could be made on **transport to the collection/sorting/counting infrastructures** in the event of pooling facilities for reuse and recycling have been estimated and **appear to be limited**.
- Thus, **no pooling** was considered significant at the logistics stages and the associated costs were not calculated.

Motivator 1 : *The costs of setting up a deposit for reuse alone would be significantly higher than adapting the deposit system for recycling to accommodate reuse flows (7/8)*

Calculation of the recovery and management cost differential between scenarios

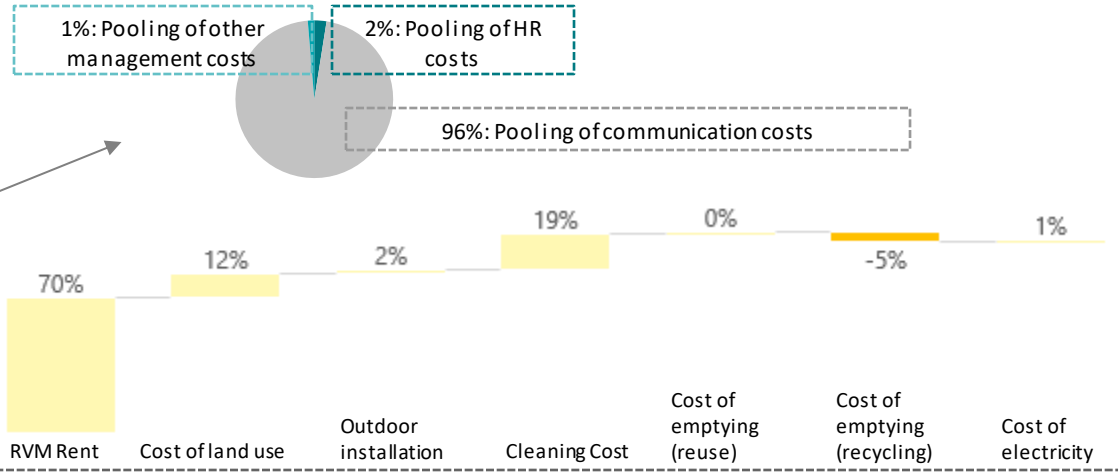
- As part of the modelling, the following costs were calculated for the **automated recovery stage** and the operator **management costs:**
  - **A = Cost of the deposit for reuse alone** (scenarios 1 and 2).
  - **B = Additional cost associated with adding the deposit for reuse** to the deposit for recycling (scenario 3),
- Calculating the differential between the cost of the reuse deposit scenarios alone and the additional cost associated with adding the reuse deposit to the recycling deposit amounts to performing operation **A – B.**
- For the **costs of managing the system**, the cost of setting up an operator dedicated to the deposit for reuse alone is higher than the cost of managing a deposit system for reuse in addition to the deposit for recycling of 10 to 12 million euros / year.
- For the **automated take-back** stage, the cost of setting up a deposit system for reuse alone is higher than adding a system from the deposit for reuse to the deposit for recycling from 169 to 186 million euros / year.
- In **total**, the cost of setting up a deposit system for reuse alone is higher than adding a system from the deposit for reuse to the de posit for recycling of **X** = 179 to 198 million euros / year.

Two major cost items: management costs and automated recovery costs...



Reuse differential: X = A – B	
Subtotal **managing the system**	€10 to €12 million
Subtotal Automated Recovery	€169 to €186 million
Total	€179 to €198 million

... which are broken down as follows:



2 Motivator 1 : *A deposit system for reuse with motivators for improving kerbside collection in an ambitious trajectory would result in a significant additional annual cost compared to the implementation of a mixed deposit (8/8)*

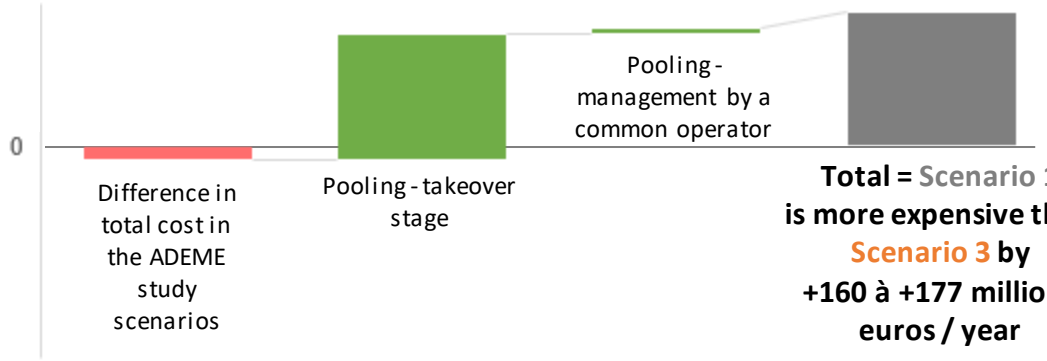
Calculation of the total cost differential between the different scenarios

- The **cost of the different scenarios resulting from the ADEME[1] study**, detailed below, is added to the extra cost associated with the implementation of reuse (**X**):

	Scenario Name	Net cost – ADEME study[1]
... The costs of the motivators for improving kerbside collection with an ambitious trajectory **= C**	**Scenario 1**	€1.8M
... The costs of the motivators for improving kerbside recycling with an intermediate trajectory **= D**	**Scenario 2**	€1.6M
... The costs of the European scenario (which includes the implementation of the deposit for recycling and the activation of the motivators for improving kerbside collection (SC) with an intermediate trajectory for non-returnable packaging) **= E**	**Scenario 3**	€1.9M

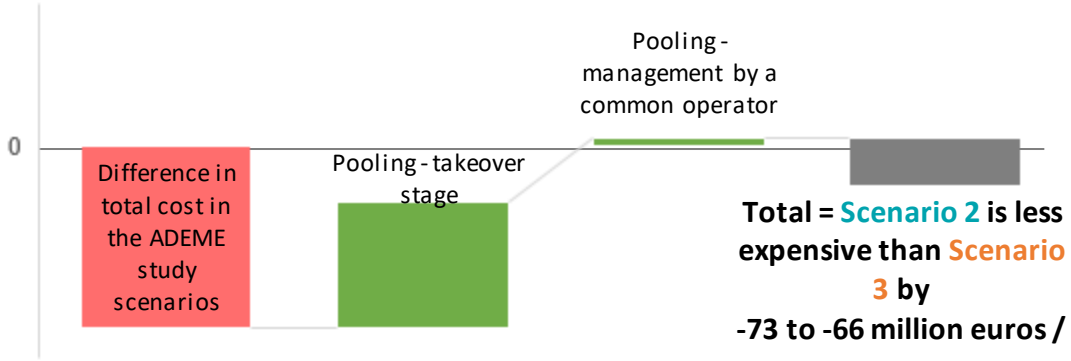
- A **cost differential** was calculated between the reuse-only scenarios and the mixed-deposit scenario, taking into account the differences in the total costs of each scenario. This calculation of the differential is equivalent to performing the operation **C – E + X** or **D – E + X**.
- The following results were achieved:

Cost differential: **scenario 1 (reuse deposit and ambitious trajectory SC) – scenario 3 (mixed deposit)**



Total = Scenario 1 is more expensive than Scenario 3 by +160 à +177 millions euros / year

Cost differential: **scenario 2 (reuse deposit and intermediate trajectory SC – scenario 3 (mixed deposit)**



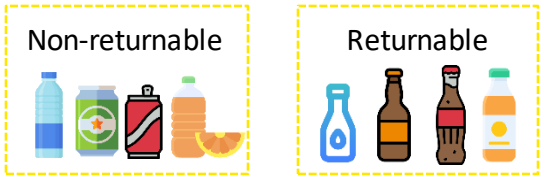
Total = Scenario 2 is less expensive than Scenario 3 by -73 to -66 million euros / year

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023

2 Motivator 2 : *The mixed deposit makes it possible to return products regardless of their material and to limit market effects*

In the case of a deposit for reuse only, consumers have the choice for the same product between returnable glass packaging and light single-use packaging :

Deposit for reuse only:



Mixed deposit:

A risk of distortion of competition and competitiveness of the offer in the event of a deposit for reuse alone

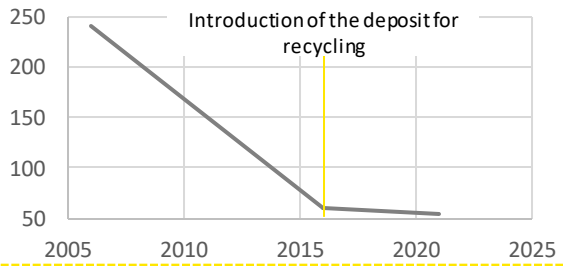
- Returnable packaging has significant disadvantages from the consumer's point of view (these constraints for the consumer are explored in Brake 3).
- This could push them to turn to non-returnable single-use packaging rather than returnable packaging. The challenge of demand would then be passed on to supply via the low sales of producers and distributors committed to reuse and ultimately to their adherence to the promotion of reuse and the potential for larger-scale deployment.

This phenomenon has been observed in the past in some European countries

- Due to competition with single-use packaging, the **market share of the deposit for reuse has decreased in the majority of European countries over the** last 20 to 30 years[1]. According to the OECD, annual sales of single-use packaging increased by 60% and those of reusable packaging decreased by 39% between 2000 and 2015[2].
- Moreover, **there is no example of a European country with a national deposit system for reuse alone**, **without a deposit system for recycling**. There are therefore no data on the evolution of the market share of the deposit for reuse in a context where, for the same product, reused packaging would be faced with non-returnable single-use packaging.
- However, there is data on the impact on income related to the reuse deposit scheme when a new recycling deposit scheme is introduced:

Lithuania:

Evolution of reuse turnover (in millions of euros) before/after the implementation of the deposit for recycling:



Sources: [1]European benchmark of deposit schemes for the reuse and/or recycling of packaging, ADEME – 2023; [2]Deposit-refund systems and the interplay with additional mandatory extended producer responsibility policies, OECD - 2022

Motivator 3 : *Implementation and ramp-up times could be reduced if the deposit for recycling and the deposit for reuse were to be implemented at the same time (1/2)*

The **implementation period** of a system is the time necessary between the decision to apply Article 66 on the deposit system by decree and its operational implementation.

Deposit systems for recycling and reuse with complementarities in their implementation

They both require[1]:

- Setting up governance,
- Negotiation of handling fees, financial and operational model between the various actors (operating contracts),
- The acquisition and installation of recovery equipment and adaptation of the recovery network,
- Communication with the consumer.

Implementation times may be reduced in the event of a mixed deposit

- The implementation times could be reduced if the deposit for recycling and the deposit for reuse were implemented at the same time (compared to the total time that could be expected with the implementation of one system and then the other).
- Indeed, certain stages of implementation could be pooled (communication with consumers on the two systems, installation of mixed RVMs, shared logistics, etc.).

Rather short implementation times in the benchmark countries

- **The implementation time for the recycling deposit** can vary from 2 to 2 and a half years on average between the legislative adoption of the recycling deposit and its operational implementation[2]. It is difficult to estimate it for reuse (age of the systems).
- **Concurrent deployment of the deposit system for recycling and reuse** :
  - There are several examples of countries that have implemented a deposit system for recycling and reuse at the same time (or a new system for one of the two):

	Latvia	Estonia	Netherlands
Implementation Timeline – Mixed Deposit	13 months	12 months	24 months

  - These three countries seem to have succeeded in implementing a mixed deposit in similar or shorter time frames than those usually observed in the benchmark for the implementation of the deposit for recycling alone.

→ However, it is difficult to draw conclusions from a small number of countries.

Sources: [1] Scenarios with and without a deposit for the recycling of beverage packaging, ADEME – 2023; [2] European benchmark of deposit systems for the reuse and/or recycling of packaging, ADEME – 2023

Motivator 3 : *Implementation and ramp-up times could be reduced if the deposit for recycling and the deposit for reuse were to be implemented at the same time (2/2)*

The ramp-up time of a system is the time needed between its operational implementation and the achievement of target performance.

Complementarities in the ramp-up of deposit schemes for recycling and reuse

They both require, in particular:

- Information and awareness among consumers of the "deposit return" common to the two systems[1].
- The establishment of a dense network of collection points[1].

Ramp-up times may be reduced in the event of a mixed deposit

Deploying a deposit for recycling and a deposit for reuse at the same time could allow:

- A better understanding of the new sorting system (deposit system) by the consumer (see Motivator 4).
- Easier deployment of a dense network of checkpoints. The deployment of a deposit for recycling requires the establishment of a dense network upon which the deposit system for reuse could be based.

Short ramp-up times in the benchmark countries

- **The ramp-up time for the recycling deposit** is about 2 years on average between operational implementation and the achievement of target performance[2].
- **The average ramp-up time for the deposit for reuse** is not known (difficult to estimate due to the age of most of the systems[2]).
- **Concurrent deployment of the deposit system for recycling and reuse** :

	Lithuania	Latvia
Collection rate for recycling	• 75% achieved in the first year of launch of the deposit system (2016) • 92% in the second year (2017)[2] • Scope: all returnable packaging for recycling and reuse: PET bottles, cans and glass bottles	• 83% collection rate of PET bottles after 2 years of deployment, more than the European target of 77% in 2025[3] • Scope: PET bottles

- According to the ADEME[2] Benchmark study, several countries have managed to achieve the target performance with the deployment of a mixed deposit system within a time frame similar to those usually observed for the ramp-up of the deposit system for recycling alone.

→ However, it is difficult to draw conclusions from a small number of countries.

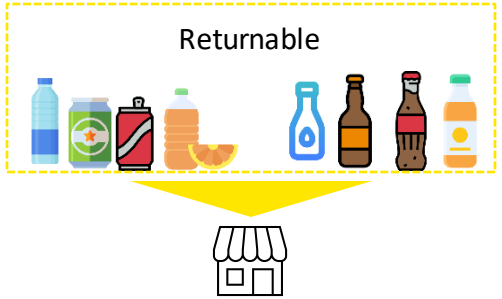
Sources: 1Scenarios with and without a deposit for the recycling of beverage packaging, ADEME – 2023; 2European benchmark of deposit return systems for the reuse and/or recycling of packaging, ADEME – 2023; 3Latvia's deposit return system yields 80% return rate in two years | Packaging Europe – 2024

Motivator 4 : *The mixed deposit simplifies the consumer's new sorting process (deposit system), which is identical for all products in the same category*

In the case of a mixed deposit, the consumer adopts a **single return system** for a product category, regardless of its packaging.

Deposit for reuse only

Mixed deposit



A more understandable system for the consumer[1]

- For example, all water, soda, juice and beer are returnable and their packaging (whether bottles for reuse, plastic bottles or cans for recycling) must therefore be returned to the take-back point, a **unique and easy-to-understand process**.
- In the case of a deposit for reuse alone, the **sorting process is different** for the same product depending on its packaging material (for example, a reusable glass beer bottle brought back to the take-back point and a beer can covered by the SPPGD).

A better return rate for both schemes[1]

- The fact that return locations are easily identifiable, accessible, and convenient has been identified as the most important driver for consumers to return their packaging[2]. Thus, the return rate of the mixed deposit could be better than that of the deposit for reuse alone.
- The arrival of the deposit for recycling has had a positive effect in some countries on the **rate of collection for recycling** but also on the **rate of return of reused packaging.**
  - In Latvia, the rate of collection for recycling increased from 45% to 83% and the rate of reuse from 50% to 90% after the introduction of the deposit for recycling and reuse[3].
- The market share of reuse, in a context of decline in many countries, also seems to be able to benefit from the introduction of the deposit for recycling.
  - **In Lithuania**, after years of decline, the market share of reuse has increased following the introduction of the deposit for recycling in 2016.
  - **In Germany[4]**, the introduction of the recycling deposit in 2003 has stabilised the decline in reuse over the last 20 years and has enabled the juice industry to re-offer a competitive reusable offer given the scope of juice coverage by the recycling deposit.

Sources: [1]European benchmark of deposit return systems for the reuse and/or recycling of packaging, ADEME – 2023; [2]The French and the deposit system for beverage packaging, Reloop-IPSOS – 2023; [3]Public support for deposit return systems, Reloop – 2024; [4]Reuse and recycling systems for selected packaging from sustainibility perspective, PWC, 2011

Motivator 5 : *The deposit system generally has the support of the public*

1/3: What is the opinion of French consumers on the mixed deposit?

Consumers are mostly in favour of deposits in general

Despite the constraints identified, **the deposit for reuse as recycling is popular with the consumers** according to several studies:

Proportion of consumers in favour of the deposit (in general, without distinction between recycling and reuse):

92 % based on the Reloop-IPSOS[1] survey

70 to 75% according to the scenarios based on the CNEC survey[2]

Consumers who prefer a deposit system for recycling to the current kerbside collection system:

1/2 according to the ADEME study[3], while 1/4 of consumers prefer the current system.

2/3 of those who are reluctant to sort say they are ready to participate (Reloop-IPSOS[1])

Consistency of results between surveys

Consumer support for the reuse deposit versus the recycling deposit varies across surveys:

	Deposit for recycling	Deposit for reuse	Mixed deposit
Reloop survey (IPSOS, 2023)	**86 %**	**90 %**	**92%**
ADEME survey (Kantar Public, 2023)	**81 %**		
Boissons rafraîchissantes de France Survey (Toluna Harris, 2023)	**83 %**		
CNEC survey (Toluna Harris, 2023)	**70 to 80%** (light packaging)	**88 %** (glass packaging)	

Support from associations and NGOs in favour of the mixed deposit system

A number of environmental associations and NGOs have come out in favor of the mixed deposit[4]:

Fondation tara océan explorer et partager · SURFRIDER FOUNDATION · EXPEDITION 7e CONTINENT · MERTERRE · ON EST PRÊT · Expédition MED · EC2027 · Réseau Vrac & Réemploi

Sources: [1]The French and the deposit system for beverage packaging, Reloop-IPSOS – 2023; [2]Survey on the deposit system for recycling, CNEC - 2023; [3]Prospective study on consumer perceptions and practices in the event of the implementation of a deposit system for the recycling of beverage packaging, ADEME – 2023; [4]Usine Nouvelle

Lever 5 : *The deposit system generally has the support of the public*

2/3: What is the opinion of consumers on the mixed deposit system around the world?

Consumers are overwhelmingly in favour of the deposit for recycling in many countries

Proportion of consumers supporting The deposit for recycling or mixed deposit in their country on average[1]:

81 % Support for **the introduction** of the deposit for recycling / mixed deposit

79 % Support for **the expansion** of the deposit for recycling / mixed deposit

84 % Support for the **current deposit system** for recycling / mixed deposit

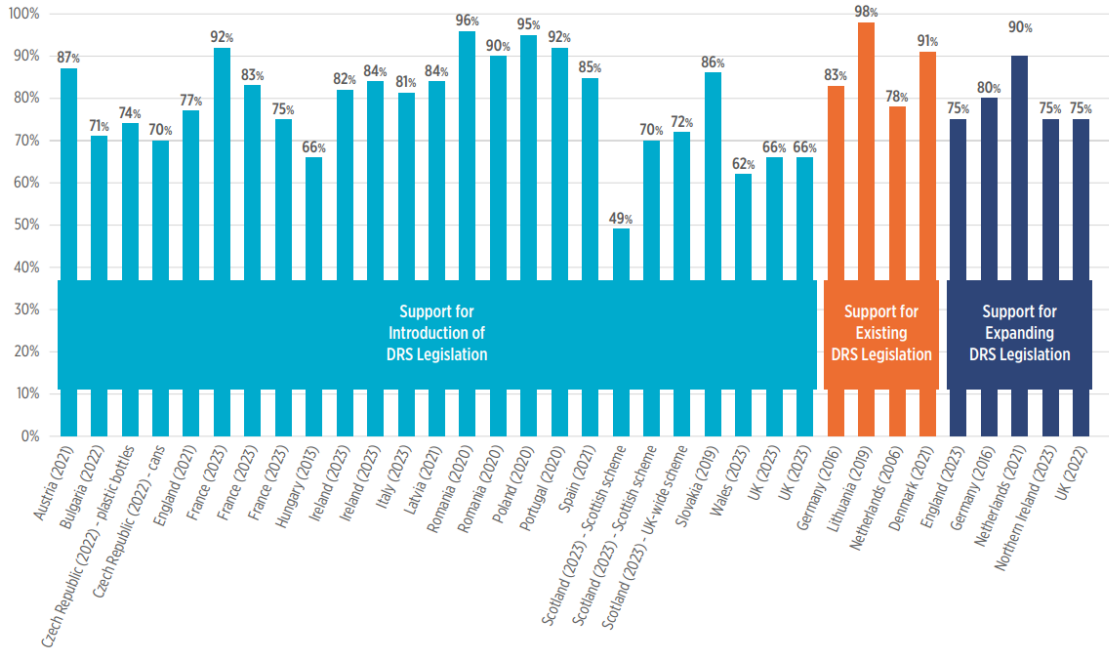
Consumers are largely in favour of the deposit for recycling in Europe

Proportion of Lithuanian consumers who consider the deposit system necessary or somewhat necessary:

93 % of which 70% consider it necessary[2]

Proportion of consumers supporting the deposit for recycling in their country on average[1]:

Figure 1: Public support for deposit return legislation in Europe



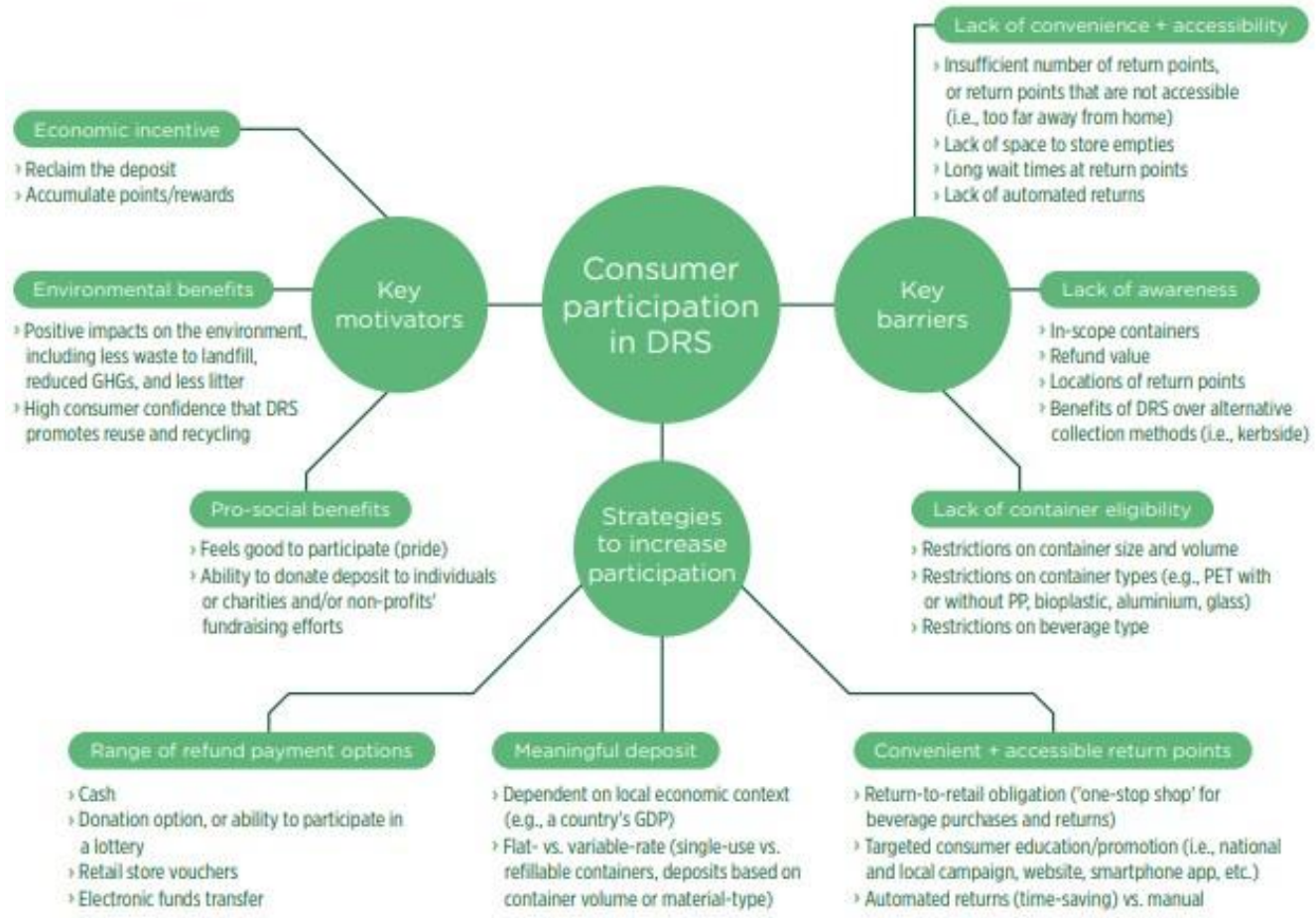
Sources : [1]Public support for deposit return systems, Reloop – 2024 ; [2]Etude consommateur, Fabula USAD - 2023

Motivator 5 : *The deposit system generally has the support of the public*

3/3: Barriers and motivators of the deposit system for consumers around the world

International literature review on the motivators and barriers for the deposit system

Summary of key motivations and barriers to DRS participation and strategies to increase engagement, based on Reloop's review of consumer surveys



Sources : Consumer-participation-in-DRS-factsheet.pdf (reloopplatform.org)

Motivator 6 : *The deposit for recycling could contribute to reducing the presence of littered waste*

"Deposits could help recycling to really take off and reduce the littering and dumping that scars many developing countries," ; "Getting plastics pollution under control will benefit us all." [1]

Several studies have shown the effects of introducing a deposit system for recycling on the presence of littered waste

- One of the supposed effects of the recycling deposit is the **"significant" reduction in littered waste**, with a reduction of at least 50% being expected[2], up to 80%[3]. In addition, a less polluted environment the deposit system reduces the act of littering of other non-returnable packaging by up to more than 40%[3].
- Several studies have been carried out in countries where the deposit system has been introduced, making it possible to estimate the **decrease in littered waste** after the introduction of the deposit for recycling.

Latvia	Denmark	Netherlands
61% reduction in plastic waste and 49% reduction in returnable litter on the Baltic Sea coastline between 2021 and 2023[4].	70% reduction to 90% of the presence of cans in littered waste[5].	70-85% reduction in the presence of plastic bottles in littered waste[6].

Reduced litter also perceived by citizens

54 % of Latvians believe that the coastline has been cleaner since the deposit system was introduced[4].

Lack of data on deposit for reuse effects

- No study has been identified to measure **the effect of the implementation of a deposit for reuse on littered waste**.
- A reuse scheme is usually already in place before a reuse deposit system is introduced, which makes it difficult to assess the effects of the reuse deposit alone.
- That said, the expected effects of the deposit for reuse would be linked to the very fact that the packaging is returnable, but also to the potential to reduce the number of single-use packaging.

Sources: [1]A price on their heads: how bottle deposits help beat plastic pollution, UNEP – 2017; [2]European Benchmark of deposit return systems for the reuse and/or recycling of packaging, ADEME – 2023; [3]Fact Sheet: Deposit Return Systems Reduce Litter, Reloop - 2021; [4]Latvia's deposit return system yields 80% return rate in two years | Packaging Europe – 2024; [5]Costs and effects of the deposit on small bottles and cans, CE Delft – 2017; [6]Control of beverage packaging in litter, Rijkswaterstaat – 2022

2 Motivator 7 : *The deposit system also offers a number of advantages in favour of recycling*

Better quality of recycling flows

- The implementation of a deposit system is associated with greater **quality of the recycled material**[1].
  - The deposit for recycling makes it possible to **limit contamination** by products other than food (such as beauty or household cleaning products for example).

"Deposit scenarios could improve the quality of certain flows, which would lead to market development opportunities (in particular in closed loops – food packaging) and to "bonuses" on take-back prices (e.g. aluminium cans)[1]

Reuptake of the material facilitated by the management of the mixed deposit system by a centralized organization

- In this case, the deposit-bearing body is generally the owner of the material[2].

"It could thus be easier to **prioritise the sale of recycled materials for closed-loop use** in the beverage or food sector (through a regulatory obligation or by voluntary approach by the deposit operator) compared to other sectors (e.g. textiles, construction, etc.), whose products are currently poorly recycled, or recycled in an open loop"[1]

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [2]European benchmark of deposit systems for the reuse and/or recycling of packaging, ADEME – 2023

Motivator 8 : *The mixed deposit could thus contribute to the achievement of various objectives…*

1/4 : … in particular owing to the effects of the implementation of a deposit for reuse on the reuse rate

Achieving reuse rate targets

Objective 1:
10 % of packaging reused in 2027[1]

- The reuse deposit is **one of the motivators for developing reuse**, and therefore potentially achieving the regulatory objectives of reuse rate.
- Several **types of deposit systems for reuse** exist in Europe[2],
  - One of the possible options is that of a national system operated by a centralised operator that could make it possible to:

> "to ensure better coordination between the mechanisms and would offer certain possibilities for synergy (recovery point, communication, RVM, governance)"[2]

  This issue of coordination and national deployment could contribute to achieving Objective 1 on time.
  - In order to maximize the synergies between a deposit for recycling and a deposit for reuse, the **mixed deposit appears** to be an interesting option,
    - The presence of the deposit for recycling in addition to the deposit for reuse would also make reuse more competitive in the eyes of the consumer (as detailed in Motivator 2).

Sources: [1]AGEC law - law n° 2020-105 of 10 February on the fight against waste and the circular economy; [2]European benchmark of deposit systems for the reuse and/or recycling of packaging, ADEME – 2023

Motivator 8 : *The mixed deposit could thus contribute to the achievement of various objectives…*

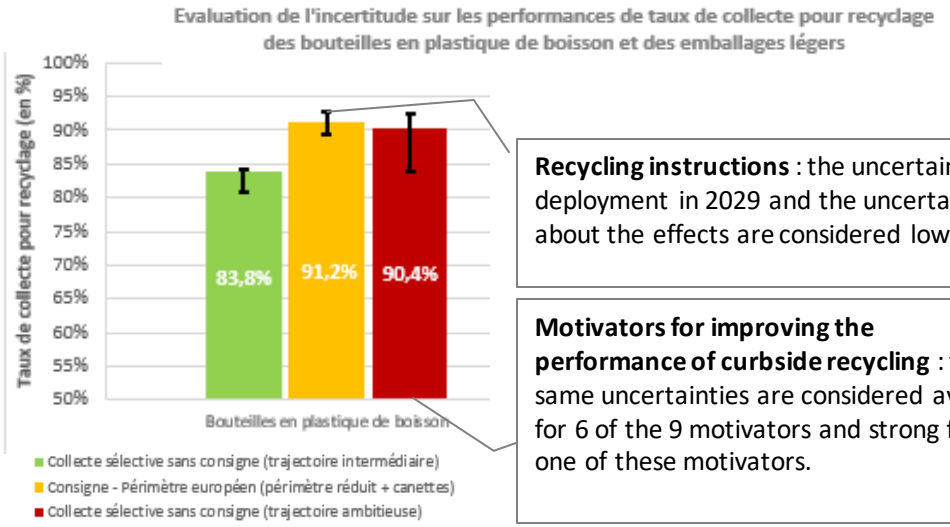
2/4 : … in particular owing to the effects of the implementation of a deposit for recycling on collection for recycling rates

Greater certainty that collection targets will be met for recycling plastic beverage bottles

Objective 2:

90 % collection rate for recycling of plastic beverage bottles in 2029[1 2]

- According to the modelling carried out for the ADEME study on the impacts of the deposit for recycling[3], **this objective could be achieved** through the implementation of the deposit for recycling or the deployment of motivators to improve the performance of curbside recycling.
- However, the recycling deposit is associated with **lower levels of uncertainty** regarding the achievement of the regulatory objectives for **the recycling collection rate of plastic beverage bottles[3]:**



Recycling instructions : the uncertainty of deployment in 2029 and the uncertainty about the effects are considered low.

Motivators for improving the performance of curbside recycling : these same uncertainties are considered average for 6 of the 9 motivators and strong for one of these motivators.

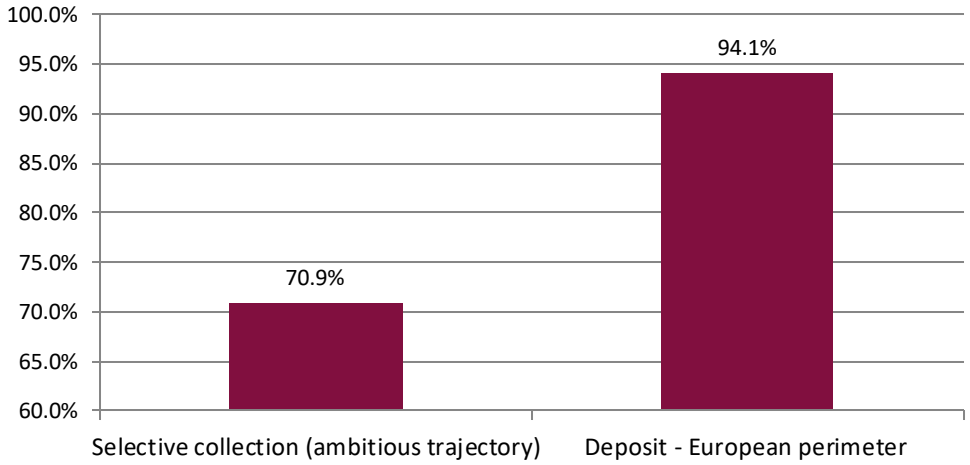
Achievement of collection rate targets for single-use metal beverage packaging facilitated by the deposit for recycling

Objective 3:

90 % collection rate for recycling of single-use metal beverage packaging in 2029[4]

- According to the modelling carried out for the ADEME study on the impacts of the recycling deposit1, **this objective would be achieved with the recycling deposit (94.1% collection** rate for recycling expected) **but not with the deployment of motivators to improve the performance** of kerbside collection (collection rate for recycling of **70.9%** expected).

Can recycling collection rate[1]



Sources: [1]SUP Directive - Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment; [2]AGEC Law - Law No. 2020-105 of 10 February on the fight against waste and the circular economy; [3]Scenarios with and without a deposit for recycling of ADEME beverage packaging – 2023 [4]Proposal Packaging and Packaging Waste - European Commission

Motivator 8 : *The mixed deposit could thus contribute to the achievement of various objectives…*

3/4 : … in particular owing to the effects of the implementation of a deposit for recycling on the rate of reincorporating recycled plastic and the number of plastic bottles

A contribution to the objectives of reincorporating recycled plastic into bottles

- The deposit for recycling allows for greater **availability of recycled material**, especially for materials "in tension" such as PET, in order to better meet market demand[1].

"Recyclers receive more and better recoverable materials"[2]

- This improved availability of the material could **contribute to the achievement of the objectives of reincorporating recycled plastic into beverage bottles**:

Objective 4:
30 % of recycled plastic for all plastic bottles starting in 2030[3]

The mixed deposit could contribute to the achievement of the reduction objectives of the number of plastic bottles put on the market

Objective 5:
-50 % Number of single-use plastic bottles put on the market by 2030[1]

- One of the effects of the implementation of a mixed deposit could be a **shift in consumption from single-use plastic bottles to bottles for reuse**.
  - In the presence of a **mixed deposit**, the constraints to the purchase of a single-use plastic bottle are identical to those associated with the deposit on the reusable bottles made of glass or another material.
  - On the other hand, in the case of **a deposit for reuse associated with the motivators for improving the performance of kerbside collection**, the single-use non-returnable plastic bottle has an advantage over the returnable reusable bottle made of glass or another material, which would not encourage the achievement of this objective.

- In addition, one of the expected effects of the deposit for recycling would be the reduction in the quantities of beverages purchased:

25 to 30% of French people plan to reduce their consumption of sodas, juices or water in plastic bottles[4]

  - However, this effect should be verified: according to a study and literature review[5] conducted by Reloop, no case study provides evidence to suggest that the implementation of a deposit system has caused a drop in sales of plastic bottles.

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [2]European Benchmark of deposit schemes for the reuse and/or recycling of packaging. ADEME – 2023; [3]Decree No. 2021-1610 of 9 December 2021 on the incorporation of recycled plastic in beverage bottles; [4]Prospective study on consumer perceptions and practices in the event of the implementation of a deposit scheme for the recycling of beverage packaging. ADEME – 2023; [5]Reloop-Impact-of-DRS-Report.pdf (reloopplatform.org)

Motivator 8 : *The mixed deposit could thus contribute to the achievement of various objectives…*

4/4 : … owing to the effects of the implementation of a deposit for reuse, and provided that the two measures are deployed concomitantly

This contribution is conditional on the concomitant deployment of the deposit for recycling and reuse

- A deployment of the mixed deposit system in 2026 would make it possible to achieve objectives 2 and 3 in 2029 (in view of the expected implementation and ramp-up times).

Objective 2: **90 %** collection rate for recycling of plastic beverage bottles in 2029[1] [2]

Objective 3: **90 %** collection rate for recycling of single-use metal beverage packaging in 2029[3]

- On the other hand, the deployment of **voluntary and regional reuse systems** and then a **deposit for recycling** could:
  - Complicate the **implementation of synergies** between the two systems[4]:

A non-pooled take-back system : RVMs dedicated to the deposit for reuse alone are more difficult to adapt in a second phase to a deposit system for recycling (requiring the addition of RVMs and the in-depth modification of existing RVMs).

A process of sorting for the consumer would be divided into two stages with a risk of lack of clarity in keeping up with the changes.

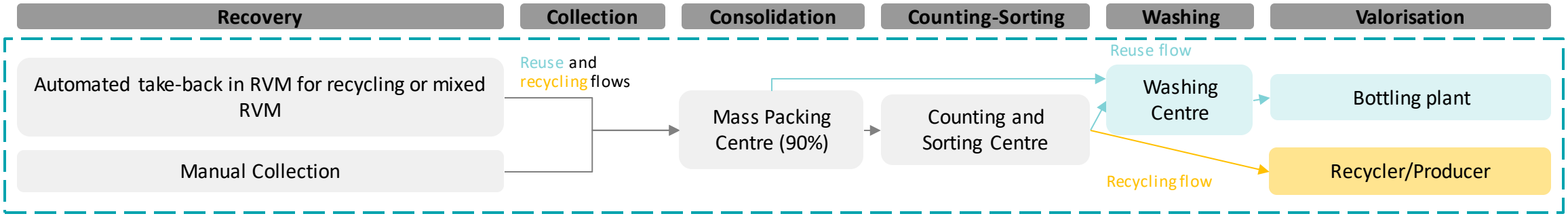
  - Lead to **lower** short-term performance.
    - If the choice is made for a smaller network for a deposit system for reuse alone, the consumer's return behaviour would be lessened and could be negatively impacted.
    - In the case of a mixed deposit, all returnable packaging benefits from a knock-on effect. The consumer's return process is common and the volumes of take-back packaging are significant, especially on the recycling side. This could be beneficial for the performance of reuse, compared to a reuse system alone.
  - Extend the **time it takes to ramp up** the system (see Motivator 3).
- This two-stage deployment could take place due to the European obligations (PPWR) to set up a deposit for recycling in the event that **the threshold of 80%** collection rate for recycling of plastic bottles and cans is not reached by 2026[3].

Sources: [1]SUP Directive - Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment; [2]AGEC Law - Law No. 2020-105 of 10 February on the fight against waste and the circular economy; [3]Proposal Packaging and Packaging Waste - European Commission ; [4]European benchmark of deposit schemes for the reuse and/or recycling of packaging, ADEME – 2023

Barrier 1 : *In the case of mixed deposit systems or reuse alone, operational and logistical optimization is necessary for the proper functioning of the system*

Optimization measures must be considered at the start to serve both the recycling deposit and the reuse deposit

- The system should assess the potential for pooling in the event of a mixed deposit or reuse alone and provide an appropriate and efficient logistics service to the actors in the value chain, particularly at the level of the return points (see Brake 2).
- A logistical and economic balance based on volumes, distances, and other optimizations (e.g. standards) should be sought.
- Logistics diagram of a mixed deposit system:



At the take-back stage, in the case of **a deposit for re-use alone**, the **network of the collection points and RVMs** set up would be perfectly calibrated for the for reuse flows.

In the case of **a mixed deposit**, with the system also being used for recycling, the **number of mixed RVMs** could be much higher than needed of the deposit for reuse, but would facilitate the consumer's new sorting behaviour (for deposit redemption) and would facilitate **high performance**.

It is possible to **pool logistics** between the deposit for recycling and the deposit for reuse (as is the case in Latvia or partially in Lithuania).

- A **fair balance** would have to be found to allow **pooling between the deposit for recycling and the deposit for reuse** at this stage, with the aim of economic and operational efficiency, without giving rise to a deposit system for reuse alone that is not optimized because of the integration of the deposit for recycling into the same system.
- Indeed, for the deposit for reuse to be advantageous from an economic and environmental point of view, the **distance** between the place of consumption / place of reuse, and the place of washing / bottling must be reduced.
- The **network of counting & sorting centres** will therefore have to be optimised in the event of a mixed deposit to minimise transport distances for the two systems.

Barrier 2 : *The deposit for recycling and reuse leads to significant changes in the organization and practices of existing players*

1/5: Impact on the upstream value chain: Retailers and Distributors

A logistical and operational constraint for the recovery network

- Distributors, in charge of the takeover, would be given a new role in the event of the implementation of a deposit system, involving[1] in particular:

  - The installation of "**appropriate collection systems** (RVMs in particular)",
  - "The management of **physical flows** (transport of the volumes collected, sorting of the different flows, collaboration with the actors of the downstream chain, etc.)",
  - "The provision **of storage space** in order to store the packaging taken back before it is collected".

- Reuse involves specific needs, in particular in terms of available space and handling for storage, sorting and collection.

The logistical and operational constraint for the collection is higher in the case of a mixed deposit

- This constraint borne by distributors is **higher in the case of mixed deposits** because they are in charge of taking back larger **volumes** of packaging[1].
- However, this constraint could be **offset** by the economic aspects of the system, in particular through **handling fees and logistics optimisation measures (pooling, standardisation).**

"Handling fees are compensation paid to collection point operators to compensate for the costs incurred by points of sale for the return of eligible packaging by consumers."[1]

Handling fees are regularly calculated or negotiated between distributors and operators.

A network of return points complementary to that of distributors can be envisaged

- A network of return points complementary to that of distributors in the heart of the village (operational issue) or in densely populated urban centers (available space issue) could be considered. These could thus target the mixed deposit of packaging as well as other products covered by EPR and that are eligible to be returned (e.g., batteries, small electronics, textiles, light bulbs, etc.).
- A trans-REP (Tribu[2]) initiative supported by solution providers in collaboration with local authorities is already emerging in France, based on the principle of rewards for plastic bottles.
- 96% of French people are in favour of this type of new system including returnable packaging[3].

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [2]€Tribu – Reducing your waste is a matter! ; [3]The French and the deposit system for beverage packaging, Reloop-IPSOS – 2023; Photos: City of Romilly-Sur-Seine.

Barrier 2 : *The deposit for recycling and reuse leads to significant changes in the organization and practices of existing players*

2/5: Impact on the upstream value chain: producers

The issue of marking is nuanced for producers and distributors

- The addition of a **marking** allowing the consumer to identify returnable packaging and the associated sorting gesture could require **investments** for packaging manufacturers[1].

Germany[2]:

Example of a marking on packaging to allow the consumer to identify returnable packaging that can be returned for recycling.

- However, these investments **should be estimated** because they are part of a broader trend to strengthen traceability in the agri-food sector, a major challenge in the sector[3].

A possible increase in eco-contributions of the EPR for household packaging

- The **eco-contributions paid** by producers under the EPR for household packaging could be impacted by the removal of a large number of packaging from the scope of the EPR due to the deposit for recycling and the deposit for reuse[1].
- This effect **of potential increase in eco-contributions** could be enhanced by the **context of increases in eco-contributions already driven** by additional contributions related to litter, reuse, and out-of-home.

But the financial impact for producers is significant, with or without a deposit

- However, ADEME concluded in its study on the impacts of the deposit for recycling[1] that:

"The no-deposit scenario would require **financing by producers** [...] higher than in the scenarios with a deposit. »[1]

- Thus, an **increase in eco-contributions** could be observed in all scenarios allowing the regulatory objectives to be met (90% collection rate for recycling of plastic bottles), with or without a deposit for recycling.

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [2]European benchmark of deposit systems for the reuse and/or recycling of packaging, ADEME – 2023; [3]It's time to be honest about how we trace produce through our food chains, The Guardian – 2014

Barrier 2 : *The deposit for recycling and reuse leads to significant changes in the organization and practices of existing players*

3/5: Impact on the downstream value chain – kerbside collection and sorting operators

The deposit for recycling packaging that was previously returned only via kerbside collection would lead to a **reorientation of flows** that would introduce several reorganisation needs for the **players in the downstream value chain,** and in particular the sorting centres. The latter have made significant investments in their modernization[1].

Necessary reorganisation for collection and sorting operators in the event of the introduction of the deposit for recycling[2]

- The **material revenues of existing sorting centres** would be significantly reduced:
  - Beverage packaging represents a significant part of the material revenue of current sorting centres, and would be directed to dedicated sorting centres in the case of a deposit system.
  - Reuse will have the effect of reducing the volumes of recyclable packaging in sorting centres.
  - This could be partly compensated financially by the eco-organisations and/or the State, at least on a temporary basis, given the investments of the current depreciation. And/or on the basis of a **review[4] of the roles and responsibilities of the producers and local authorities** on the financial and operational scope of the EPR household packaging.
- The balance in place in the **relations established between operators and recyclers** would be disturbed:
  - A reorganisation will have to be considered in the event of the introduction of the deposit, particularly in view of the new governance in place, the investments made in the sorting centre and the risks borne by the pickers.
- Part of the demand would be centralised around the deposit operator (collection and sorting):

"Certain measures could help to offset this concentration effect (allotment of contracts, requirement for transparency on the publication and award of calls for tenders, minimum commitment periods, etc.)" [2]

Players also affected by the introduction of new EPR

- The introduction of **new EPR** with an operational dimension will also disrupt the pre-established balances.
- They could also **partially offset losses** related to the redirection of beverage packaging flow[3]:

"[The reorientation of returnable flows] will not result in the destabilisation of the industrial collection and sorting tool, since in parallel with this change, the implementation of the new EPR for catering and industrial and commercial packaging should bring in more than 1 million additional tonnes that will have to be managed by the SPPGD"[3].

Sources: [1]Information report to the Senate n°850 "on behalf of the Committee on Regional Planning and Sustainable Development relating to the deposit for reuse and recycling on packaging", published on 5 July 2023; [2]Scenarios with and without a deposit for recycling of ADEME beverage packaging – 2023 ; [3]Impact on the Public Service for Waste Prevention and Management of the implementation in France of a deposit for the reuse and recycling of beverage packaging, EC2027 – 2023; [4]FRANCE STRATÉGIE Policy Brief n°131 - 18.0 (strategie.gouv.fr); Image: Le Parisien.

Barrier 2 : *The deposit for recycling and reuse leads to significant changes in the organization and practices of existing players*

4/5: Impact on the downstream value chain – recyclers

The deposit for recycling packaging that was previously only taken back by kerbside collection would lead to a reorientation of flows that would introduce several reorganisation needs for the **players in the downstream value chain,** and in particular recyclers.

Necessary reorganisation for recyclers in the event of the introduction of the deposit for recycling

In the event of the introduction of the deposit for recycling and reuse:

- Only returnable materials would be impacted, unlike the scenario of improving the performance of kerbside collection with an ambitious trajectory, which will result in **an increase in the volume of packaging collected for recycling over a wider scope of packaging**. However, the feasibility of implementing this scenario and achieving the target performance for collection for recycling remains uncertain[1]. The increase in the volume of packaging to be taken care of by recyclers would be significant in both cases.
- As the return pathways for recycling are cleaner, **fewer purification steps** would be necessary, which could impact some recyclers and lead to a **loss of income**.
- **Access to the material** could prove more difficult for some actors[1]:

> "The concentration of the management of some recycled materials presents a risk of inequality in access to the material, which will have to be anticipated. Smaller players may be more likely to suffer this effect"[1]

- **New recyclers** could enter the market and lead to increased competition.
- Depending on the way in which the system is organised and managed, **partnerships or specific commercial relationships** could be developed between recyclers, producers/distributors and the deposit system operator, which could lead to significant changes for the players already in place (e.g. some deposit operators may choose to specifically select recyclers according to the materials used).
- Reuse will have the effect of reducing the volumes of packaging to be recycled by recyclers.

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; Image: Unsplash

Barrier 2 : *The deposit for recycling and reuse leads to significant changes in the organization and practices of existing players*

5/5: Impact on the Public Service for Waste Prevention and Management (SPPGD)

Additional costs would be expected for the SPPGD to achieve regulatory objectives

- In its 2023[1] study, ADEME concluded that, for all scenarios that make it possible to achieve the regulatory objectives of 90% collection rate for recycling of plastic bottles, ...

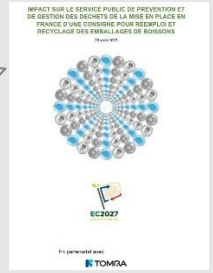
> ... "the net management costs of lightweight packaging in the SPPGD **would increase significantly** "[1]

- However, these incremental costs to the SPPGD would be **close with or without a recycling deposit**.
  - The costs modelled in the context of the above-mentioned ADEME study **vary by less than 1%** between the deposit scenario (European scope of the PPWR) and the scenario without a deposit (with motivators to improve the performance of selective collection – ambitious trajectory)[1].

But a financial impact for local authorities should be limited

- According to the ADEME study on the impacts of the recycling deposit[1] and the EC2027[2] study, the mixed deposit will **not destabilize** the SPPGD:
  - Local authorities will not see their **support** decrease or their **out-of-pocket expenses** increase:

> "**No decrease in support** since the tonnes of packaging separately collected by the SPPGD will continue to increase (with a different mix than the current mix)"[2].



> "The **amounts of support** from eco-organisations to local authorities would be similar in all scenarios [with or without a deposit for recycling]"
> "The **remaining cost to be paid by local authorities** (excluding IT and OMR diagnosis) would also be substantially similar in all scenarios (4% difference maximum), or even slightly less in the scenario without a deposit [for recycling]"[1]

Sources: [1]Scenarios with and without deposit for recycling of ADEME beverage packaging – 2023 ; [2]Impact on the Public Service for Waste Prevention and Management of the implementation in France of a deposit for the reuse and recycling of beverage packaging, EC2027 – 2023

Barrier 3 : *The deposit implies additional constraints for the consumer*

49 % of consumers find the deposit to be **restrictive**[1], whether it is a deposit for recycling or reuse.

An economic constraint linked to the deposit in general

- The consumer must **pay the amount of the deposit**, which can be a constraint for the consumer.
- The perception of this constraint varies in the different studies carried out:

62 to 67% of consumers fear being penalized financially for their shopping[2].

52 % of consumers fear that they will have difficulty obtaining a refund of the deposit, even though it is 100% refundable[3].

8 % believe that the amount of the deposit would have a negative impact on their purchasing power[1].

A constraint related to storage and the return behaviour for returnable packaging

- The consumer must **store and return** the packaging to retrieve the deposit.

65 % of consumers find it difficult to store empty packaging before returning it[2].

60 % of consumers find it difficult for them to travel to the take-back point with their empty packaging[2].

An additional constraint hypothesis in the event of a mixed deposit

- In the case of a **mixed deposit, compared to a deposit system for reuse alone with reinforced kerbside collection**, the volume deposited is larger, so the constraints related to the deposit for recycling are added to those of the deposit for reuse.

An impact due to the synergies between the two systems

- There are many **synergies** between the two schemes for the consumer, who can bring back his returnable packaging for recycling or reuse at the same time.

  Thus, the mixed deposit is no more restrictive than the deposit for reuse alone from the point of view of the **return process**, which is common between the two systems.
- Despite the constraints identified, the deposit - for reuse as well as recycling - is supported by consumers according to several studies (see the elements presented in Lever 5).
- However, consumer support seems to be slightly more marked for the deposit for reuse than for the deposit for recycling.

Sources: [1]The French and the deposit system for beverage packaging, Reloop-IPSOS – 2023, [2]Prospective study on consumer perceptions and practices in the event of the implementation of a deposit system for the recycling of beverage packaging, ADEME– 2023; [3]Survey on the deposit system for recycling, CNEC - 2023

3 Conclusions

3 *The mixed deposit system offers many advantages, particularly in terms of cost optimization and achieving regulatory objectives, but some barriers remain to be overcome to ensure its deployment*

1 Operational and financial pooling

- The mixed deposit system offers financial and operational pooling possibilities, particularly during the take-back stage, which could make it possible to optimise the costs of the deposit for recycling and deposit for reuse systems (in the order of €169 million per year) while achieving the regulatory objectives (in particular in terms of collection rate for recycling).

2 More certainty in achieving regulatory objectives

- The mixed deposit could contribute to the achievement of various objectives, including:
  - The recycling collection rate target for plastic beverage bottles (90% in 2029), which could be achieved with more certainty through the recycling deposit than with the activation of the motivators to improve the performance of kerbside collection,
  - The target for the collection rate for recycling of cans (90% in 2029), which could be achieved thanks to the deposit for recycling and not only with the activation of the motivators to improve the performance of kerbside collection,
  - The target of a reuse rate (10% in 2027) could be achieved in the event of a mixed deposit. This mechanism would also make it possible to avoid certain difficulties related to the large-scale deployment of reuse within the set deadlines.

3 Limitation of market effects

- The deposit for reuse is more competitive in the presence of a deposit for recycling. In the case of a deposit for reuse alone, non-returnable single-use packaging would be at an advantage.
- The mixed deposit makes it possible to deposit all packaging for the same product, regardless of its material, and to limit market effects.

3 *The mixed deposit system offers many advantages, particularly in terms of cost optimization and achieving regulatory objectives, but some barriers remain to be overcome to ensure its deployment*

4 Common sorting process

- In the case of a mixed deposit, the consumer adopts a single return process for a type of product, regardless of its packaging.
- The sorting process is simpler and understandable for the consumer with the mixed deposit. In comparison, the differentiated sorting process in the case of a deposit for reuse only, between returnable and non-returnable packaging for the same product is more complex.
- This could ensure a better return rate for recycling and reuse.

5 Significant changes in the organisation and practices of existing players

- Distributors, in charge of taking back returnable packaging, would be forced to make major logistical changes.
- Collection, sorting and recycling operators, the SPPGD, and retailers would also need to reorganise certain processes.
- Consumers would have to adopt a new sorting behaviour, associated with certain economic constraints (due to the deposit amount being 100% refundable but having to be advanced) and constraints in terms of storage and return of the packaging.

4 Appendices

- **PPWR** : Proposal Packaging and Packaging Waste Regulation
- **RVM** : Reverse Vending Machine
- **EPR** : Extended Producer Responsibility
- **SPPGD** : Public Service for Waste Prevention and Management

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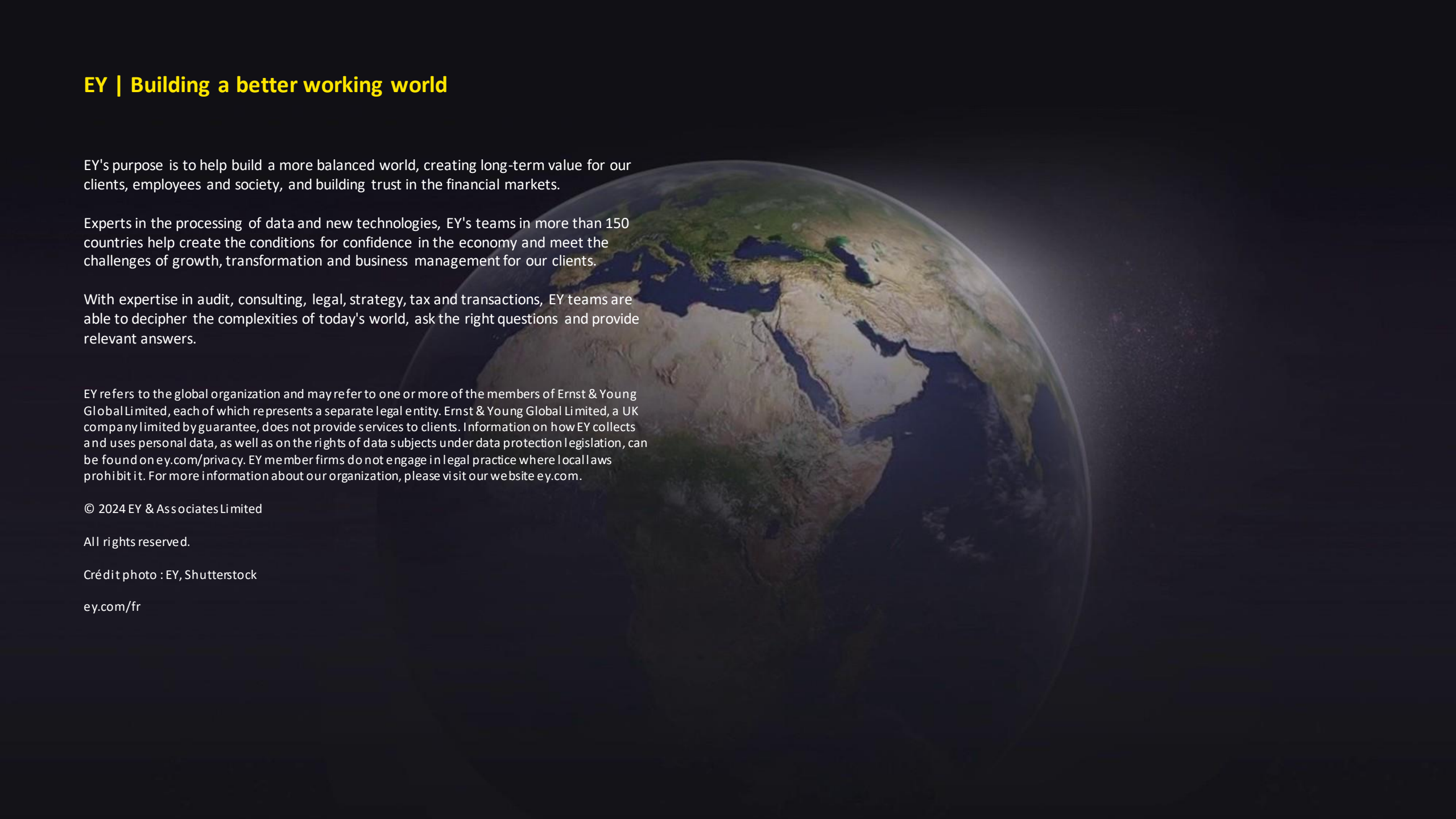

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