



4.4 Circular practices

Case study 9: Deposit Return Systems (DRS)

Description of the policy instrument

The EU has several policies in place to reduce waste and increase recycling. Its Circular Economy Action Plan²²⁰ aims to halve residual municipal waste by 2030, imposing on EU Member States a binding recycling target of 60 per cent. However, if municipal waste generation continues to grow, at least 72 per cent of waste would need to be recycled to meet the plan's target.²²¹

Designing and implementing regulatory instruments to increase recycling rates and reduce waste from packaging is challenging because it is derived from multiple materials and uses. Although some broad regulations, such as the Single Use Plastics Directive,²²² provide a combination of high-level and sector-specific requirements (including a 90 per cent collection rate for plastic beverage bottles by 2029 and a minimum of 25 per cent recycled plastic in PET bottles from 2025), its focus on plastics alone does not address the challenges of other packaging materials such as cardboard, aluminium and glass.²²³ Some other policy instruments, including Extended Producer Responsibility schemes, can be applied to a broader range of materials but not all uses.²²⁴ As a result, several different schemes, obligations and instruments will likely be needed at Member State level to meet EU targets for different uses and materials.

One policy instrument that can be especially successful in reducing beverage packaging waste and in increasing recycling rate and reuse, is the Deposit Return System (DRS).²²⁵ Under a DRS, a deposit fee is charged at the point of purchase, which is refunded to the purchaser when the packaging is returned via a specially designed system. DRSs can have extensive environmental benefits by reducing litter in cities and rural areas, achieving high collection rates around 90 per cent (which is higher than collection targets within Extended Producer Responsibility schemes) and

ensuring high-quality food-grade recycled material. The recycling of beverage containers also conserves energy and raw materials, as the materials are reused in new containers or other products.^{226,227}

Different types of DRSs are currently in operation in several European countries, including Norway, Denmark, Finland, Sweden and Germany, to name a few. However, these schemes vary widely in their design, scope and coverage, including which types of beverage containers and materials are accepted, the level of the deposit/refund and the ease of access to facilities where consumers can return them.²²⁸ These factors all influence their effectiveness: schemes that cover fewer materials have a lower overall impact on recycling rates, even if a very high share of the covered products, often around 90 per cent, is collected for recycling.²²⁹

Most DRSs in Europe are mandatory but apply only to certain materials and types of beverage packaging. Norway, however, operates a highly effective voluntary scheme, which relies on tax exemptions to incentivise producer participation – the higher the collection rate, the lower the environment tax, ceasing to be charged when it reaches 95 per cent. Interestingly, this scheme has been extremely successful, achieving return rates of over 90 per cent on single-use plastics bottles and metal cans.²³⁰ Refillable glass and PET plastic bottles were also included in the scheme until their removal in 2015 due to prohibitively high operating costs.²³¹

In 2020, around a quarter of the EU population used some type of DRS. However, due to the increasing legal requirements concerning packaging waste, a growing number of countries are considering its introduction or expansion.²³² To maximise the benefits from the new schemes, it would be ideal if they aligned with each other and with existing ones to increase consistency in scope, in effect moving towards one shared model applied across multiple Member States, safeguarding the single market. At the


moment, each country operates their own scheme, meaning that containers that are purchased in one country may not be accepted in another, or if accepted, the deposit value would not be returned to the customer, reducing the incentive to recycle foreign beverage containers.²³³

To tackle the challenges related to waste, overpackaging and sustainable production, the European Commission's upcoming revision of the Packaging and Packaging Waste Directive is expected to introduce a host of new regulations and amendments to existing legislation.²³⁴ Some representatives from the drinks industry are active in driving progressive regulation in this area. For example, Natural Mineral Waters Europe (NMWE), UNESDA Soft Drinks Europe and Zero Waste Europe (ZWE) have joined forces "to urge the EU to acknowledge the role of DRS and support the establishment of minimum requirements for new DRS in the revision of the EU Packaging and Packaging Waste Directive". Among other things, they support the inclusion of all relevant beverage packaging and the system should be designed to achieve at least 90 per cent return rates for each packaging material. These companies are also vocally expressing their "full commitment to collaborate with policymakers and local stakeholders in the implementation of efficient industry-wide collection schemes across the EU".²³⁵

EU-level regulation on DRS could be particularly effective in streamlining the various national DRS systems and in improving the recyclability of beverage packaging across borders.

Why did it work or not work?


Stakeholder engagement workshops and review of existing literature revealed both positive and negative views on national DRSs across the EU. These allowed us to identify a set of key elements to explain why certain DRSs work so well.

 High success rates are largely attributed to institutional factors, such as strong governance, performance reporting, enforcement and high levels of consumer engagement.²³⁶ High taxes on packaging materials and their disposal can also incentivise industry to support the development of cost-efficient DRSs and similar systems, as has been the case in both Finland and Norway.^{237,238}

Consumer engagement, in turn, is driven by factors such as recycling culture, consumer convenience and sufficiently high minimum deposit levels.^{239,240} Cultural considerations and social norms relating to recycling are particularly salient here. In countries such as Finland, where the DRS for refillable bottles dates back to the 1950s, the 'bring back culture' is well established and the use of refund incentives is deeply ingrained in the social conventions and everyday habits of its citizens.²⁴¹

The environmental impact of the DRS depends on consumer engagement which is driven by the scheme's design and scope, with a more comprehensive scope naturally being linked to greater collection rates for certain materials.²⁴² Technical considerations, such as designing the containers in line with the requirements of the deposit system and the recycling technology, are also important to maximise the efficiency of the system and to attain the highest possible economic value for the materials. The key advantage of the DRS over other collection methods is the high quality and separation of the collected waste,²⁴³ which can be further enhanced by high levels of convenience and transparency.

Overall, the Nordic countries are considered to provide the most successful examples, as they have managed to create the necessary economic incentives for consumers to bring back reusable packaging over time. The lessons from the Nordic countries are frequently cited by others when designing their own DRSs. For example, Slovakia, which implemented their first DRS in January 2022, applied much of the learning from the Nordic countries, focusing particularly on the convenience, transparency and technical considerations to facilitate uptake among consumers and to enable a vast array of products from different manufacturers to be covered by the system. Although the scheme is very recent, it is already regarded as a success, having facilitated the return of 100 million plastic bottles and metal cans in its first six months of operation.²⁴⁴

 In some other countries, such as Spain, anecdotal evidence and survey research suggests that attempts to introduce a DRS have not yet been particularly successful, partly because of a lack of enthusiasm and engagement among some key stakeholders, such as retailers, whose participation is essential for its successful delivery.²⁴⁵ Nevertheless, the government will reassess the introduction of a DRS if the current collection targets for plastic bottles are not met by 2023.²⁴⁶

Key learnings

The EU-wide recycling targets cannot be achieved at EU and Member State levels without further measures being implemented to reduce waste and increase recycling rates. The DRS has been successful in most countries, both in increasing the collection rate of the materials in scope and in reducing littering. Most successful cases share certain common features, such as convenience and cultural factors that ensure high levels of public engagement with recycling, alongside strong institutions and broad geographical coverage.

However, it is worth noting that DRSs are typically only applied to beverage packaging and are therefore not effective in increasing recycling rates of the same materials used for other purposes. Moreover, the impact of the DRS varies across countries due to differences in the types of beverage packaging included.

A DRS alone, no matter how effective and comprehensive, will not be able to achieve the necessary reduction in waste and recycling targets simply because so much packaging waste comes from products to which the DRS cannot be feasibly applied. However, alongside comprehensive Extended Producer Responsibility programmes, it is an important part of the set of policies that are needed to deliver the circular targets at EU and national levels, so it is necessary to ensure that the appropriate infrastructure and financial resources are made available to support more extensive and accessible DRSs across the EU. Best practices from countries such as the Nordics, as well as the recent successes in countries like Slovakia, can help others design effective and accessible schemes.

The business case study below illustrates how business action can help incentivise and increase circular practices in plastics beverage packaging.