



Position Paper

Deposit-Refund Systems

1. Actual situation

According to the Batteries Directive¹, Member States have to achieve the following minimum collection rates:

- (a) 25 % by 26 September 2012;
- (b) 45 % by 26 September 2016.

These targets prove to be challenging, even for mature schemes.

Article 9 of the stipulates that Member States may use economic instruments to promote the collection of waste batteries and accumulators.

Some stakeholders suggest that a Deposit-Refund System, an economic instrument that is used in most countries for beverage packagings and that intends to achieve some behavioural change, could help to increase the collection rate for batteries.

2. Definition and functioning of a deposit-refund system

OECD² describes the functioning of Deposit-Refund Systems (DRS) as follows:

“A charge is levied when the product is sold and then fully or partly refunded when the good or its container are returned after use. Such arrangements can be mandatory or instituted on an entirely voluntary basis by producers themselves, where the recovery of items is sufficiently valuable.”

The principal behavioural change is supposed to come through the incentive that the refund gives for returning the used product. In addition, the initial deposit acts like a product tax on those consumers who do not intend to return the product and redeem the deposit.

¹ Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC

² OECD (2015)), Creating Incentives for Greener Products: A Policy Manual for Eastern Partnership Countries, OECD Green Growth Studies, OECD Publishing, Paris

In general, it pursues the same objectives as “Extended Producer Responsibility” (EPR), which is defined by OECD as a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products.

EPR schemes are the result of the implementation of legislation imposing various obligations on producers, not only including the requirements to collect and recycle end-of-life products, but also the prevention, communication, sensibilisation,...

Compared to other economic instruments, DRS and EPR can both be targeted more precisely to achieve separation of wastes so as to promote greater re-use, recycling or the safer waste management of particularly hazardous materials.

3. Conditions for a deposit-refund system

Deposit-refund systems can be useful to ensure high collection rates for certain waste products. This is especially interesting for:

- Products that can be reused
- Products that contain hazardous substances.
- Products containing valuable materials

Refunding the deposit should provide an incentive that ensures a high rate of compliance with environmental legislation.

If a DRS is introduced, it is required that the submitted product categories are well defined and the products can be identified by a simple visual inspection by a non-professional.

The level of the incentive is of the utmost importance for the success of a DRS. If the deposit is too high, the risk of fraud (e.g. by the import of waste products) is an imminent threat to the viability of the system, especially if the incentive is higher than the value of the submitted goods. If the incentive is too low, it may not be effective.

For products with a rather long lifespan, one should take into account the inflation that might impact the value of the deposit/refund, in addition to the fact that adjustments are more difficult for such products.

It is required that the mechanism of charging deposits and paying refunds can be operated at acceptable cost, taking into account the environmental benefit. Despite the relative simplicity of the concept, implementation of a DRS may involve considerable complexity and high costs of operation which may act as a burden on producers, distributors, retailers, collection points and consumers.

The rotation of products is an extremely important element. While a DRS might seem logical for products with a short lifespan and thus a high rotation, it is not fit for product with a long lifespan.

A successful implementation of a DRS requires an effective market surveillance by the national authorities, in order to limit the negative effects mentioned above.

4. Existing deposit-refund schemes

The products most frequently subject to DRS are bottles, cans and other drinks containers.

Batteries are often cited as a product category submitted regularly to DRS. However, we have knowledge of only one case in Europe where some kind of DRS was applied for a short time for portable batteries.

Denmark introduced a DRS for nickel-cadmium (NiCd) batteries in 1996. As the collected amounts were never refunded to the consumers, it should rather be considered as an environmental tax in order to discourage the use of NiCd batteries.

5. Adequacy of deposit-refund systems for the collection of batteries

While deposit-refund systems seem especially interesting for products that can be reused, that contain hazardous substances, or that contain valuable materials, this doesn't apply to batteries.

Typically, batteries cannot be reused.

Thanks to the European legislation, in particular the Batteries Directive, the use of mercury and cadmium has been prohibited for portable batteries (the only exceptions remaining some NiCd batteries for emergency lighting and the medical applications).

As the submitted products have to be well defined and easily identifiable, it does not seem appropriate to submit some specific categories of batteries, as they cannot be distinguished by consumers. It would require a very clear marking of the submitted batteries, which is not feasible on all batteries given the size of an important number of batteries (like button cell batteries, which can be all kinds of chemistries).

If all batteries would be submitted, it should be very clear what the basis is for the deposit/refund, especially in the case of battery packs composed of cells or stacks of cells. Quite often, the same cells or stacks of cells are used for different types/sizes of batteries or battery packs. A marking would still be required in order to distinguish the batteries put on the market before the entry into force and those put on the market afterwards.

Any marking would not only represent a serious cost for producers, it would also imply an important trade barrier.

Given the small size of batteries and the high number of products put on the market with a relatively low value, the risk of fraud is extremely high. The import of waste batteries becomes an imminent threat. One truckload of button cell batteries could represent a very high refund.

While the concept of a deposit-refund system might seem to be simple and straightforward, the implementation may prove to be very complex and to imply a high operational cost. In particular for batteries, the points-of-sale for consumers are in most countries not or only partially the same as the collection points for waste batteries. Only 35% of the waste batteries are collected through the retail channel. This could lead to a substantial reduction of the density of the collection network, thus leading to a lower convenience for the consumers and an inevitable decrease of the collection rate. The other option, to provide the necessary equipment to enable possible refunds at all existing collection points, implies an extremely high operational cost.

While DRS is fit for products with a short lifespan and a high rotation, like bottles, cans and other drink containers, this does not apply to batteries. Several studies indicate that even for portable primary (non rechargeable) batteries, the average lifespan exceeds four years.

Besides the fact that this long lifespan makes a DRS less effective, the results will only be visible after a very long period.

A successful implementation of a DRS requires an effective market surveillance by the national authorities, in order to limit the negative effects mentioned above.

6. Conclusion

As indicated by OECD³, the objectives of the Deposit-Refund Systems can also be achieved through Extended Producer Responsibility Schemes:

“Typically, EPR schemes are much less prescriptive about how the waste management outcomes are to be achieved and place the responsibility on the participating firms to achieve the required outcome. This flexibility allows firms to select the most cost-effective ways of achieving the required outcomes. In general, EPR will be more suitable than mandatory deposit-refund systems for managing wastes from products where refund arrangements would be costly or difficult to operate.”

The implementation of the EPR has led to an effective collection and recycling of waste batteries. The added value of a DRS seems rather limited, while the negative effects are obvious and outweigh the possible environmental benefit.

Furthermore, EPR does not only include the requirements to collect and recycle end-of-life batteries, but also the prevention, communication, sensibilisation,...

As a result, Eucobat does not support the principle of a DRS on batteries.

7. About Eucobat

Eucobat is the European association of national collection schemes for batteries. They assure that all waste batteries are collected and recycled in an ecological sound way, and contribute this way to a better environment.

Eucobat aisbl
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³ OECD (2015)), Creating Incentives for Greener Products: A Policy Manual for Eastern Partnership Countries, OECD Green Growth Studies, OECD Publishing, Paris