

# 1. EEB mini-briefing on Deposit-refund schemes for achieving high collection rates

March 2004

## General

The primary benefit of a deposit-refund schemes is that it provides a very clear incentive for returning products. Most deposit schemes, until now, are used for packaging. In Germany a deposit –refund scheme exists for car batteries. In Switzerland there is the possibility, already embedded in battery collection legislation to introduce such a deposit-refund scheme.

Schemes are known for large bottles and/or cans in the Netherlands, Denmark, Sweden, Norway, Finland and the USA (Maine, Michigan, Massachusetts and California). Information of the Dutch organisation NFI shows that a collection rate of PET of minimum 95% is feasible compared to a collection rate of 78% of glass (voluntary return system).

In order to ensure a high level of environmental protection it is crucial that high collection rates of portable batteries, including NiCd, are achieved. Bearing mind that even a collection rate of **60%** is equivalent to accepting that at least 600 tons of pure cadmium are potentially released into the environment. This is wholly unacceptable from the point of protecting the environment<sup>1</sup>! (Hence the importance of stipulating collection rates of **90%** and above and ensuring that in the future cadmium is not placed on the market at all).

According to studies<sup>2</sup> the incremental costs of increasing collection rates is mostly due to the information campaigns – multiplying the original collection costs by up to factor of 10 in some cases. Whilst it is obvious that deposit refund schemes also have their costs, if we accept the goal of reducing the tonnes of cadmium released to the environment to the absolute minimum the challenge is to find the most costs effective way to do so.

According to studies<sup>3</sup> done in the UK on administrative costs related to the management of the deposit fund and funds from unreturned batteries. One study estimated the cost of a deposit system to cover all portable consumer batteries would be £19.4m (at 1991 prices). A rough calculation based on 2002 g/inhab sales portable batteries and using the costs estimates of information campaigns from the

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<sup>1</sup> According to the Commission proposal itself, 75,2% of the 2.638 tons cadmium used in the EU-15 are incorporated in batteries and accumulators. Of these 1.984 tons, between 75% and 80% are used in the production of portable nickel-cadmium batteries and accumulators. This corresponds to quantities between 1.488 and 1.587 tons of cadmium.

<sup>2</sup> Impact assessment on selected policy options for revision of the battery directive, Bio Intelligence, July 2003 – p117

<sup>3</sup> Environmental Resources Limited, *Deposit/Refund Systems for Beverage Containers and Batteries*, a study for DTI and DoE, 1991.

Biointelligence study would suggest that deposit-refund would be approximately half as expensive as the costs of information campaign investment necessary.<sup>4</sup>

There would therefore appear to be a strong argument in favour of deposit-refund schemes as a vital component of ensuring high collection rates of batteries – especially NiCd batteries – that have already gone on the market.

The EEB therefore proposes a new paragraph in article 9 – *Member States shall set up minimum deposit schemes on all batteries. The level of the deposit should be sufficient to ensure high consumer motivation.*

Some extra information:

### **The Swiss battery legislation**

Section 5 of the Swiss legislation on batteries introduces the phase out of small nickel-cadmium rechargeable batteries. Namely, from 2004, cadmium content within small nickel-cadmium batteries in household waste shall not exceed 3000 kg per year. The law stipulates that if this cannot be achieved, a mandatory deposit-refund system could be introduced. (Section 2.5.4, page 51).

As far as we know the introduction of this clause is now under discussion in Switzerland.

### **Car batteries in Germany**

In Germany an ordinance on batteries and accumulators was passed in March 1998 and came in force in October 1998. The main elements of the ordinance are:

- a general obligation for retailers to take back all spent batteries and leave them to the producers for recycling or disposal;
- an obligation for retailers to inform customers about the possibilities of returning spent batteries free of charge;
- an obligation for customers to bring back spent batteries to retailers or special return stations;
- a prohibition to bring into circulation alkali-manganese batteries containing more than 0.025 per cent of mercury or appliances with built-in batteries containing hazardous substances which cannot be removed by the customer after use; and
- a deposit of 15 DM (7.5EUR) for car batteries.

### **The Swedish Osthhammer case**

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<sup>4</sup>Estimate - 400g/inhab sold in 2002 in UK (portable batteries incl NiCd) = 400\*58 million pop UK/100 000=23200 tonnes\*extra 2000EUR/tonne for info campaigns to increase collection to 60%= approx 46.4 million EUR information campaign costs. Compare this to approx. 25.2 MEUR estimated by ERL in 1991.

Östhammar, a Swedish municipality in the north of Uppsala, made the experience of a refund (buy-back) system for small consumer batteries. Consumers, when bringing back their spent batteries to shops, would get a refund of 25 öre (0.03 Euro in today's value) per battery. The cost was covered by municipal budget, most likely from general waste fees. If a consumer brought a large quantity of batteries, shops would have been able to send him/her to a municipal collection system. However, according to the shops, this never happened in reality.

Although the exact figure is not readily available, partly because they were not able to determine the figures for potential amount to be returned, it was well above 80% collection. The lesson learned here is that relatively low incentives to consumers can achieve rather high collection rate.

Other experiences have shown that raising awareness is not enough to achieve high collection rate (as found in the pilot project on Bornholm, a Danish island). It should come hand in hand with either extreme convenience or small economic incentives, or both.

*Note:* Collecting only Ni-Cd does not make sense, as consumers do not differentiate.

**For more information please contact**

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