Annex C13: Batteries

Rationale

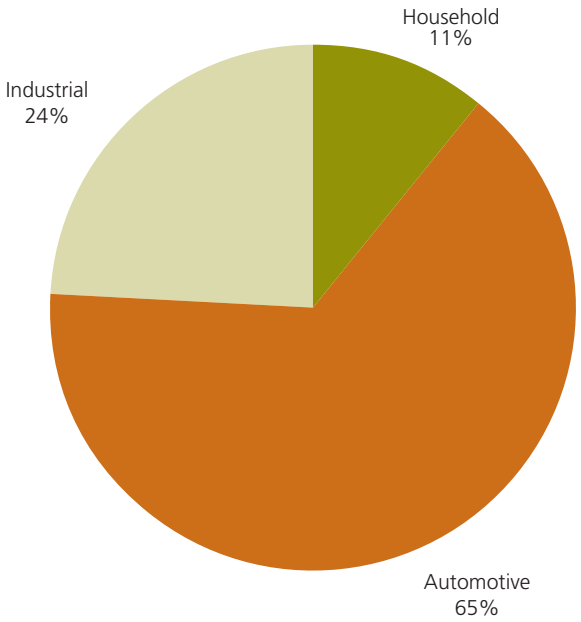
1. The Batteries Directive[1] was published in the Official EU Journal on 26 September 2006. The main objectives of the Directive are to contribute to the proper functioning of the internal market, to reduce the quantity of hazardous and non-hazardous waste batteries going to landfill and increase the recovery of the materials they contain. The UK has two years to transpose the Directive into national law. This means that a statutory producer responsibility system for managing waste batteries and accumulators (henceforth referred to as 'batteries') is due to be put in place in the UK by 26 September 2008.

Arisings, trends and projections

2. The Batteries Directive covers all types of batteries irrespective of their shape, weight, composition or use. There are three categories of battery as defined under the Directive:

- portable (non-rechargeable and re-chargeable household type);
- automotive; and
- industrial.

Chart C13.1: Estimated battery waste arisings by type, UK (2000)
(Total waste arisings 173,000 tonnes)



Source: Industry estimates.

[1] Directive of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC.

3. Predicting battery sales, and subsequent future waste arisings, cannot be carried out with precision because of uncertainty in the sources of data and the length of time it can take for some batteries to become waste when they are incorporated into equipment with long-term use.

Management routes

Collection

Portable (household) batteries

4. Around 2% of portable batteries that are put on the market are collected for recycling, with the majority going to landfill or incineration. The Waste and Resources Action Programme (WRAP) is carrying out battery collection trials to determine the most cost-effective way to collect portable batteries for recycling in order to meet the Batteries Directive targets. As part of the trials, WRAP has recently launched a range of pilot kerbside collection schemes in parts of the UK and battery 'drop-off' initiatives at major retailers in selected areas. Other trial battery collection methods, including postal return and community drop-off schemes, are expected to be launched in the near future. Some local authorities have already introduced facilities at household waste recycling centres for household battery collection and others collect batteries as part of multi-material kerbside collections. Some regionally based retailers have also set up schemes, although these are currently few and far between.

Automotive batteries

5. The majority of automotive batteries (over 90%) are collected for recycling. Many originate from vehicle dismantlers and scrapyards, with the remainder coming from vehicle breakdown services, civic amenity sites, battery producers, garages, distributors and waste management companies. In addition, other small-scale collectors play an important role, collecting around one third of batteries from small retail outlets and service garages and delivering them to scrap merchants.

Industrial batteries

6. Over 90% of large industrial batteries that arise as waste are collected for recycling. These batteries are mainly the lead acid type, but industrial nickel cadmium batteries are also collected for recycling. These come from sources, such as BT test meters, utilities and pre-payment meters and are designed for standby power, telecommunications, medical and military uses. Industrial nickel cadmium batteries are collected by organisations that have an environmental management system.

Treatment and processing

7. When alkaline (everyday) household batteries are treated and processed, one of the materials produced is steel (or a steel-manganese alloy). This metal is recycled through steel mills where it is melted down and used to manufacture new steel products.

8. 'Black mass' is also produced when alkaline household batteries are treated and processed. This is the compound which produces the electricity when the battery is used. It is possible to recover both zinc and manganese, along with other compounds from this material. Black mass is currently shipped to Europe from the UK for further treatment and this is likely to continue until such time as a UK facility is commissioned.

Policies and targets

9. Responsibility for implementation of the Batteries Directive will be shared between Defra and DTI. Defra is leading on the portable/household battery provisions and DTI is leading on the automotive/industrial batteries and single market provisions.

10. Two stages of stakeholder consultation are envisaged. The first stage has consisted of informal engagement with stakeholders in advance of the development of policy options. The second stage of consultation will be during Autumn 2007. This will involve a formal 12 week consultation on policy proposals accompanied by draft Regulations and a Regulatory Impact Assessment.

11. The necessary regulations will be developed to work towards delivering the key Directive provisions as listed below:

- a 25% collection rate for waste portable batteries to be met six years after entry into force of the Directive (September 2012). This collection rate rises to 45% to be met ten years after entry into force (September 2016);
- prohibition of final disposal of automotive and industrial batteries into landfill or by incineration, requiring, therefore, all industrial and automotive batteries to be collected and recycled;
- the Directive also prohibits the placing on the market of any batteries that contain more than a certain amount of mercury or cadmium by weight (although there are some important exemptions to the prohibition for batteries containing cadmium);
- separate recycling efficiency targets must be met; and
- producers of portable batteries, or third parties acting on their behalf, are to finance the net costs of collection, treatment or recycling of all separately collected portable batteries.

Implementation and timescales

12. The Batteries Directive was published in the Official Journal on 26 September 2006. The UK has 24 months to transpose the Directive's requirements into UK law.

Roles and responsibilities

Table C13.1: Roles and responsibilities

Stakeholder	Roles and responsibilities
Producers[2]	• Required to finance the collection, treatment and recycling of portable batteries
Central Government	• Engage stakeholders and develop policy via consultation
Public	• Participate in collection schemes
Waste management companies	• Subject to Directive implementation, may enter into contracts with producers to facilitate waste collection
Local Authorities	• Not obligated but are likely to participate where they do not incur additional net costs

Infrastructure and capacity needs

12. There is a lack of recycling capacity for household batteries in the UK and many of those that are collected are sent to France for recycling as there are no facilities in the UK to recycle certain chemistries. However, in 2005 a new treatment plant for alkaline and zinc carbon batteries (which are the main household types) was opened in the UK.

13. The most significant issue that needs to be addressed if the Directive targets are to be met is the lack of collection facilities for portable batteries. If 2012 targets are to be met, between 6,000 to 7,000 tonnes of batteries must be collected; currently only about 300 tonnes are collected each year.

14. Automotive and industrial batteries have more established recycling routes in the UK with the majority of lead-acid batteries being recycled in Derbyshire, though some are exported. Industrial nickel cadmium batteries are sent to France for recycling although these make up a small tonnage of industrial batteries placed on the market.

References

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. http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_266/l_26620060926en00010014.pdf

[2] "Producer" is defined as 'any person in a Member State that, irrespective of the selling technique used, including by means of distance communication as defined in Directive 97/7/EC of the European Parliament and of the Council of 20 May 1997 on the protection of consumers in respect of distance contracts, places batteries or accumulators, including those incorporated into appliances or vehicles, on the market for the first time within the territory of that Member State on a professional basis'. Producers are likely to include manufacturers, retailers, importers of appliances that contain batteries (e.g. EEE), vehicle importers and manufacturers and those that re-brand batteries.