

Department /Agency: Defra	Title: Impact Assessment of Implementation of European Batteries and Accumulators Directive (2006/66/EC) in the UK	
Stage: Full	Version: Two	Date: 15 December 2008
Related Publications: Consultation Document on Implementation of EU Batteries and Accumulators Directive (2006/66/EC) in the UK		

Available to view or download at:

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What is the problem under consideration? Why is government intervention necessary?

The problem under consideration is the appropriate level of environmental protection when spent batteries are discarded at the end of their life. Government intervention is needed because the full social costs of spent batteries are estimated to exceed the private costs leading to inefficiently low environmental protection.

What are the policy objectives and the intended effects?

The policy objective is to transpose the European Batteries and Accumulators Directive (2006/66) to provide the appropriate level of environmental protection where spent batteries are concerned. The intended effect is that manufacturers, professional importers and distributors take financial responsibility for treating and recycling separately collected spent batteries at the end of their life.

What policy options have been considered? Please justify any preferred option.

We considered two main options. The first was that all producers of portable batteries would need to join a single compliance scheme which would carry out some or all of their obligations under the Directive. The second option would allow a number of compliance schemes to operate on behalf of producers. The second option is the preferred one because we believe that competition between schemes will lead to lower costs to producers.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects? The policy will be monitored on an annual basis with a full-scale review planned for 2012 when the first collection target for spent portable batteries is to be achieved.

Ministerial Sign-off For SELECT STAGE Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

.....Date:

Summary: Analysis & Evidence

Policy Option: 1 (Single Scheme)	Description: Single Scheme Portable Batteries, 'Full Producer Responsibility' Industrial and Automotive Batteries, Internal Market provisions.
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COSTS	ANNUAL COSTS		Description and scale of key monetised costs by 'main affected groups' As a producer responsibility directive, the costs of the collection and treatment of batteries should fall on those who put batteries on to the market in the UK. Costs include collecting, sorting and treating batteries (rising to £9m pa by 2016), initial communication & scheme setup costs (£1.3m-5.4m) ongoing monitoring, communication and administration costs (£2.5m-3.5m).
	One-off	Yr	
	£ 1.3m to 5.4m	9	
	Average Annual Cost (excluding one-off)		
	£ 6.5m-9.9m	Total Cost (PV)	£ 50.4m – 80.9m
Other key non-monetised costs by 'main affected groups'			

BENEFITS	ANNUAL BENEFITS		Description and scale of key monetised benefits by 'main affected groups' The benefits accrue to society as a whole and are related to small reduced climate change impacts (£100k pa) and some human health benefits related to the reduced impact of battery disposal.
	One-off	Yr	
	£ 0		
	Average Annual Benefit		
	£ 0.85	Total Benefit (PV)	£ 6.4m to 6.5m
Other key non-monetised benefits by 'main affected groups' The impacts of reduced disposal on ecosystem health were not quantified or valued, nor were any non-market benefits of reduced natural resource extraction for primary battery production.			

Key Assumptions/Sensitivities/Risks No growth in disposable battery waste was assumed in the central case, however sensitivity analysis was carried out (see annex). Risks of infraction if targets are not met are not included above but could lead to costs of £8m per year to the tax payer. Infraction risk is also discussed in the annex.

Price Base Year	Time Period Years 9	Net Benefit Range (NPV) £ -74.5m to -43.9m	NET BENEFIT (NPV Best estimate) £ 74.5m
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What is the geographic coverage of the policy/option?	UK
On what date will the policy be implemented?	1 January 2010
Which organisation(s) will enforce the policy?	Environment Agency
What is the total annual cost of enforcement for these	£ 0.6m-0.7m
Does enforcement comply with Hampton principles?	Yes
Will implementation go beyond minimum EU requirements?	No
What is the value of the proposed offsetting measure per	£
What is the value of changes in greenhouse gas emissions?	£ 0.1m by 2016
Will the proposal have a significant impact on competition?	No

Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	Yes/No	Yes/No	N/A	N/A
Impact on Admin Burdens Baseline (2005 Prices)			(Increase -	
Increase	£ 1.3m-	Decreases	£	Net £ 1.3m-2.7m

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

Summary: Analysis & Evidence

Policy Option: 2 (Preferred Option)	Description: Multiple Scheme for collection, sorting and treatment on portable batteries
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COSTS	ANNUAL COSTS		Description and scale of key monetised costs by 'main affected groups' As a producer responsibility directive the costs of the collection and treatment of batteries should fall on those who put batteries on to the market in the UK. Costs include; collecting, sorting and treating batteries (rising to £9m pa by 2016), initial communication & scheme setup costs (£1.3m-5.4m) ongoing monitoring, communication and administration costs (£2.5m-3.5m).
	One-off	Yr	
	£ 1.3m to 5.4m	1	
	Average Annual Cost (excluding one-off)		
	£ 6.5m to 9.9m		Total Cost (PV) £ 50.4m – 80.9m
Other key non-monetised costs by 'main affected groups': Further savings may arise following review of the Batteries Regulations. In light of data for collection and treatment/recycling provided by producers upon registration and quarterly sales data, it will be possible to re-assess our current estimates and the levels of the de-minimis provisions which apply for distributors and producers.			

BENEFITS	ANNUAL BENEFITS		Description and scale of key monetised benefits by 'main affected groups' The benefits accrue to society as a whole and are related to small reduced climate change impacts (£100k pa) and some human health benefits related to the reduced impact of battery disposal.
	One-off	Yr	
	£	n/a	
	Average Annual Benefit (excl. one-off)		
	£ 0.85m		Total Benefit (PV) £ 6.4m to 6.5m
Other key non-monetised benefits by 'main affected groups' The impacts of reduced disposal on ecosystem health were not quantified or valued, nor were any non-market benefits of reduced natural resource extraction for primary battery production.			

Key Assumptions/Sensitivities/Risks No growth in disposable battery waste was assumed in the central case, however sensitivity analysis was carried out (see annex). Risks of infraction if targets are not met are not included above but could lead to costs of £8m per year to the tax payer. Infraction risk is also discussed in the annex.

Price Base '07	Time Period Years 9	Net Benefit Range (NPV) £ -74.5m to -43.9m	NET BENEFIT £ -43.9m (NPV Best estimate)
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What is the geographic coverage of the policy/option?	UK
On what date will the policy be implemented?	1 January 2010
Which organisation(s) will enforce the policy?	Environment Agency
What is the total annual cost of enforcement for these organisations?	£0.6m-0.7m
Does enforcement comply with Hampton principles?	Yes
Will implementation go beyond minimum EU requirements?	No
What is the value of the proposed offsetting measure per year?	£

What is the value of changes in greenhouse gas emissions?		£0.1m by 2016		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	Yes/No	Yes/No	N/A	N/A
Impact on Admin Burdens Baseline (2005 Prices)		(Increase - Decrease)		
Increase of	£1.3m-2.7m	Decrease	£	Net £ 1.3m-2.7m

Evidence Base (for summary sheets)

RATIONALE FOR GOVERNMENT INTERVENTION

1. Making and disposing of portable batteries and accumulators can have negative impacts on the environment and on public and animal health. Some batteries contain hazardous substances such as cadmium, mercury and lead. Cadmium, for example, can be toxic to aquatic invertebrates and can bio-accumulate and damage ecosystems. Batteries disposed of incorrectly can lead to such heavy metals leaking into the ground, causing soil and water pollution and endangering wildlife. Further impacts may arise indirectly from the disposal of batteries, as they contain a range of metals that can be re-used as a secondary raw material, so disposal means that alternative primary resources have to be used in the production of goods or energy. However, none of these effects are currently reflected in the market price for batteries.

2. Previous Community legislation on batteries (Directive 91/157/EEC) required Member States to set up collection schemes for those batteries covered by the Directive and required collected batteries to be recovered or disposed of. However, the Directive only applied to batteries containing more than specified amounts of mercury, cadmium or lead. Since these represent only about 7% of portable batteries placed on the market, the Directive did little to promote portable battery collection. As a consequence:

- Most portable batteries are still going for final disposal to landfill or incineration. In the UK, only about 3% of waste portable batteries are collected for recycling. Other countries are achieving much higher rates (based on 2002 figures) of between 14% in Spain and 59% in Belgium.
- Producers do not pay for the environmental costs arising from the disposal of waste batteries.
- There is a lack of publicity for battery collection points and, in some areas, a complete absence of collection facilities. This is probably because of the high costs of sorting and recycling mixed portable batteries. With sorting and recycling costs of around £1000 a tonne (excluding VAT) there has been little incentive for local authorities or others to collect batteries for recycling.

3 The EC Directive on Batteries and Accumulators 2006/66/EC came into effect on 26 September 2006. The UK's timetable for transposing the Directive's requirements into national law has been delayed by the complexity of the issues to be resolved and by the need for full stakeholder consultation. We expect to lay regulations in early 2009 with the first compliance period running from 1st January 2010 to 31 December 2010. Compliance periods will run from January – December thereafter.

4 The Directive aims to reduce the number of waste batteries going to landfill and increase the recovery and recycling of the material they contain. The Directive applies, with minor exceptions, to all types of portable batteries irrespective of their shape, weight, composition or use. Industry estimates that between 25,000 and 30,000 tonnes of portable batteries are currently placed on the UK market each year. Given the current collection rate of around 3%, this means raising the quantity of portable batteries collected from an estimated 600 tonnes to around 7,500 tonnes to achieve the 2012 collection target.

5 The Directive sets out a number of requirements for spent portable batteries:-

- Producers will pay for the collection, treatment and recycling of waste portable batteries.
- A minimum collection rate of 25% for portable batteries must be achieved by 2012, increasing to 45% by 2016. The Directive defines 'collection rate' as *"The percentage obtained by dividing the weight of waste portable batteries and accumulators collected...in that calendar year by the average weight of portable batteries and accumulators that producers either sell directly to end-users or deliver to third parties in order to sell them to end-users...during that calendar year and the preceding two calendar years"*.
- The Directive requires that collection schemes for the return of waste batteries are established and that accessible collection facilities are set up.
- When supplying batteries to end-users, distributors must take back waste portable batteries free of charge, unless an assessment shows that alternative existing schemes are at least as effective in attaining the environmental aims of the Directive. Distributors are defined in the Directive as *"Any person that provides batteries and accumulators on a professional basis to an end-user"*, and therefore includes retailers.
- Member States may exempt small producers from the provisions on the financing of collection, treatment and recycling of waste batteries (Article 18). The producers that may be exempted are *"producers which, relative to the size of the national market, place very small quantities of batteries or accumulators on the national market"*.
- Recycling efficiencies will need to be met for all types of batteries.

BACKGROUND: Costs of meeting the Directive targets

6 This impact assessment draws on a report by ERM Consulting who were employed by Defra to analyse the costs and benefits of meeting the Batteries Directive. Their report was published in October 2006 as “Battery Waste Management Life Cycle Assessment”¹.

7. The ERM report estimated the costs and benefits over the period 2006 to 2030 of meeting the Directive targets for consumer portable batteries in 2012 and 2016.

8. The report looked at different ways of collecting batteries and some scenarios about how these may develop in the future. ERM looked at nine scenarios. The scenarios were a mix of different types of collection (mostly kerbside collection, mostly Civic Amenity site, mostly collection in places like business and schools) and different types of recycling (UK provision, EU/UK provision, EU only). The report found little difference between the 9 scenarios in the total costs of separate collection, sorting and treatment of batteries.

9. ERM argued that producer responsibility would drive down sorting costs so that these costs could be halved. ERM’s assessment of treatment and recycling costs were based on a charge per tonne which varied by battery type and took into account the value of the products extracted in the recycling process. For some types of battery, the value of products extracted in recycling could be greater than the costs of treatment and recycling. The report also took into account possible economies of scale. Full details of the cost analysis are shown in chapter 6, pages 116 to 122 of the ERM report.

10. To estimate the costs and benefits of implementing the Directive, we compared these costs and benefits against a baseline scenario where the current very low levels of collection and recycling continue into the future. Table 1 shows the estimated collection, treatment and recycling costs of meeting the Directive against this baseline (where most batteries are simply disposed of).

11. The costs in Table 1 are based on those in the ERM report but with some differences. ERM assumed that battery collection would start to increase from 2006. This has not happened to any significant degree. We have, therefore, updated their figures to take into account the delay in increasing battery collection. This means that collection must increase more rapidly if we are to meet the collection targets for 2012 and 2016. This in turn means that costs increase more rapidly too. Disposal costs are adjusted for the increased landfill tax announced in the Budget 2007 and updated Defra figures on disposal costs (2007 prices). Numbers of batteries collected are slightly different to those in the previous partial impact assessment as a non-linear increase in battery collection was chosen to reduce the burden on interim targets early on. ERM’s collection,

¹ Available online at <http://www.defra.gov.uk/environment/waste/topics/batteries/pdf/erm-lcareport0610.pdf>

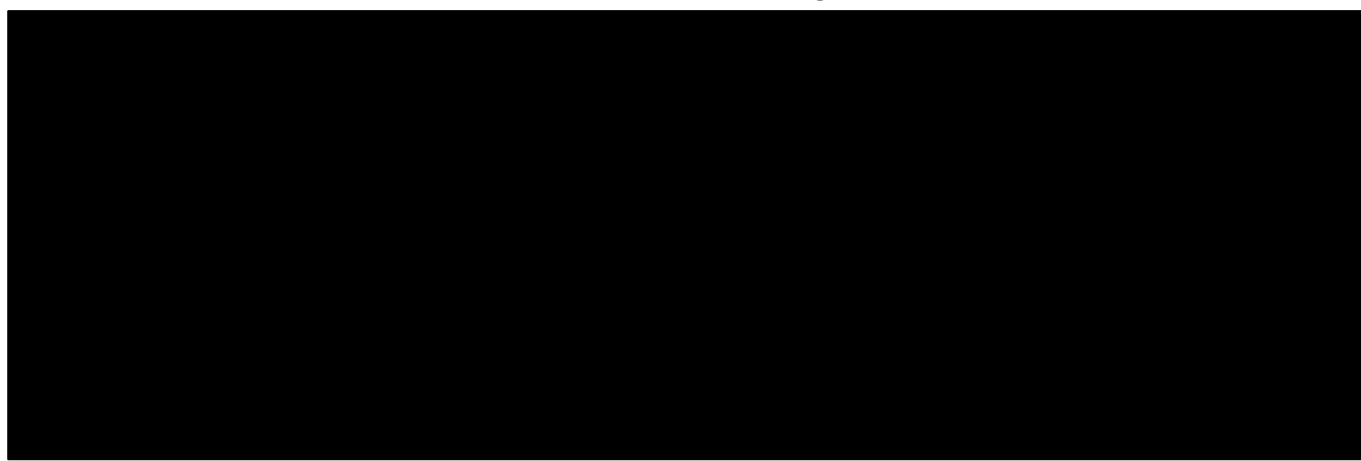
sorting and treatment estimates are inflated to 2007 prices. Present values are based on a discount rate of 3.5%.

12. In addition to the costs of collection, sorting and recycling there are administrative, publicity and monitoring/enforcement costs which fall to producers. These are discussed further in the “Policy Options” part of this Chapter.

13. The ERM report also quantifies and puts a value on some environmental impacts. The report estimates that, for every tonne of batteries treated, we could reduce global carbon dioxide emissions by between 198kg and 248kg. (This benefit arises as materials recovered in the recycling process can be used as a substitute for primary materials which tend in this case to take more energy to process.) Using this range, Table 2 applies Defra’s recommended shadow price of carbon to the tonnages of batteries that ERM estimate will need to be collected to meet the Directive². This assumes that the money value of carbon impacts increases by 2% per annum in real terms. Present values as before are based on a discount rate of 3.5%.

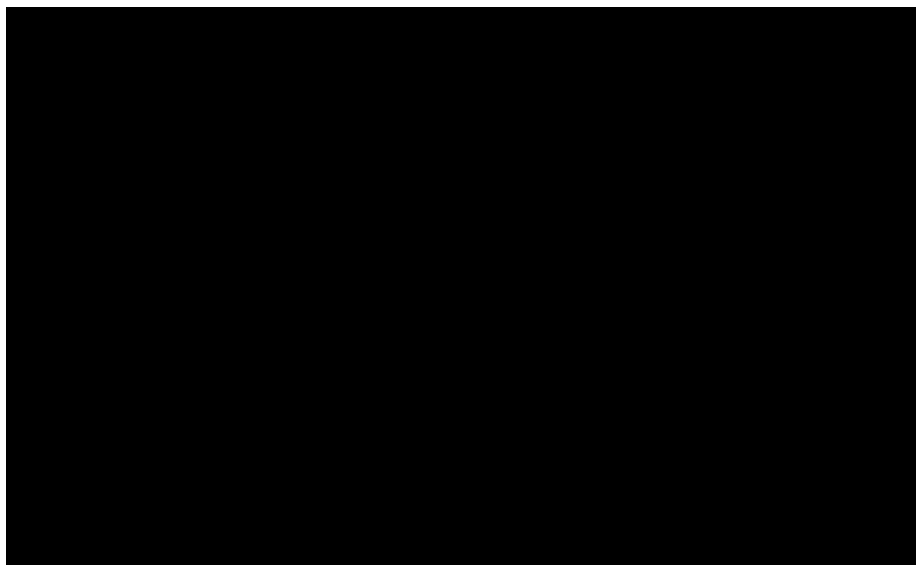
14. The coverage of other environmental impacts is less complete, with (mainly) the health impacts of a few pollutants (NO_x, PM₁₀, SO₂ and VOCs) valued in monetary terms. The impacts of other pollutants on human health, and all pollutants on ecosystem health, aquatic toxicity, acidification and eutrophication have not been included. The non-carbon values in Table 2 should be viewed, therefore, as the minimum values for wider environmental benefits. More details of the environmental impact valued can be found on page 127 of the ERM report. We have also inflated the environmental values in the ERM report to 2007 prices.

Table 1: Estimated costs of collection, sorting and treatment



² The central assumption in the ERM report is that battery arisings will remain constant; some sensitivity analysis was carried out around this in the life cycle assessment work, but not the cost estimates. The impact on costs of increasing battery growth at 2.5% per year is included in the annex to this evidence base.

Table 2: Partial assessment of the environmental benefits of increased treatment



Desired outcomes of the proposals

15. The desired outcome is that the regulations will introduce a producer responsibility system which will place obligations on producers to finance the collection, treatment and recycling of waste portable batteries and enable the UK to comply with the Batteries Directive. The intention is to achieve the environmental benefits of the Directive at least cost to businesses and without damaging UK competitiveness. To do this, the system will need to a) minimise costs for producers and for consumers; b) achieve a high level of compliance by producers (with non-compliance resulting in appropriate action being taken); and c) include a registration and data management system robust enough to provide timely and accurate reporting data to producers, the competent authorities, Government, and the European Commission.

16. The proposals will also need to ensure that the system develops a UK-wide battery collection infrastructure capable to achieve the collection targets and meet the requirements of the Directive. The collection framework should be accessible to consumers, taking into consideration population density. The existing civic amenity infrastructure could contribute to the collection network but, on their own, would not be enough to achieve the Directive's collection targets. Other types of collection facility will need to be established. This will include shops through the requirement for shops to take back batteries and the collection systems which Batteries Compliance Schemes will need to establish in order to meet their targets.

17. The proposals also aim to achieve a high level of participation by consumers to maximise the separate collection of spent portable batteries and minimise co-disposal with other household and municipal waste in the future.

Who will be affected?

18. Under the Directive, ‘producer’ is defined as any person in a Member State that, irrespective of the selling technique used, including by means of distance communication, places batteries or accumulators, including those incorporated into appliances or vehicles, on the market for the first time within the territory of the Member State on a professional basis, and are likely to include:

- Battery manufacturers
- Retailers of own label brands *only if importing the labelled batteries and putting them on the UK market for the first time*
- Importers of batteries
- Domestic Original Equipment Manufacturers (OEM) - *if placing batteries on the UK market for the first time*
- Pack assemblers - *only if the assembler places the batteries on the UK market for the first time*
- Importers of electrical equipment containing batteries when sold
- Distance sellers - *only if in other respects they fall within the definition of the directive*

19. A company will only be a producer if they are registered as a business in the UK and if they put batteries on to market for the first time in the UK. Battery manufacturers are, of course, the very first step in the production to consumer chain. However, in the UK, there are few, if any, domestic portable battery manufacturers and therefore many importers will be “producers” within the scope of this Directive.

20. Retailers and other distributors of batteries also have obligations under the regulations – the impact on them is considered later. Others groups will also have an interest in whatever arrangements are introduced. These include, for example:

- Consumers/end-users – both individuals and businesses
- Local authorities
- The waste management Industry including waste collectors

21. In addition to the industry stakeholders referred to above, implementation of the Batteries Directive involves a range of Government stakeholders:

- Department for Business, Enterprise and Regulatory Reform (BERR – formerly DTI) – are co-ordinating implementation of the Batteries Directive and leading on automotive/industrial batteries. Defra is leading on the portable battery provisions.

- Devolved Administrations – the Directive has to be transposed across the UK.

The Welsh Assembly and Northern Ireland Ministers have agreed that the provisions applying in their jurisdictions can be included in composite UK Regulations. In Northern Ireland there will be specific regulations to set up the fees and ensuring that the Directive is fully transposed. In Scotland, Scottish Ministers have agreed that the producer responsibility provisions should be transposed in UK Regulations. The Scottish Parliament will transpose the provisions of Articles 12 and 14 that are not dependent on producer responsibility by its own Regulations.

Environment Agency – EA will be responsible for the monitoring and enforcement of the Regulations with regard to Producer Responsibility in England and Wales, and may be responsible for some other aspects (e.g. registration and audit). The Scottish Environment Protection Agency and the Northern Ireland Environment Agency is expected to carry out this role within their jurisdictions.

- Another body – to be appointed – will be responsible for the monitoring and enforcement of the Regulations with regard to the distributors take back across the UK.

The UK consumer battery market

22. The consumer battery market comprises portable primary and secondary (rechargeable) batteries (also referred to in the Directive as “Accumulators”). The retail battery market (i.e. excluding batteries in products) has been estimated to have a value of £417m in 2007. According to International Market Research TNS, six battery brands share 72% of the consumer market by volume. The remaining 28% market share is held by ‘own label’ retail brands, and imported brands. A recent study by WRAP (Waste & Resources Action Programme, 2007) identified over 700 different brands of batteries arising in a sample waste stream of its kerbside collection trial. The value of the total UK consumer battery market in 2005 was £853 million. Most portable primary batteries are used by consumers and an estimated breakdown is given below.

Table 3: UK Consumer Battery Market – share by value and weight

Battery Sector	2000 share by value [†] (%)	2003 share by weight (t) [‡]
Primary	97	19,662
-Alkaline Manganese (AlMn)	76	14,899
-Zinc Carbon (ZnC)	17	4,628
-Button Cells	4	28
-Other	n/a	110
Secondary	3	5,187
Total	100	24,850*

23. UK sales data for portable primary batteries, recorded by the British Batteries Manufacturers Association (BBMA), classifies battery sales according to consumer (retail, wholesale and commercial) and non-consumer (industrial, government, Original Equipment Manufacture (OEMs) and military) shipments. In 2004, more than 90% of sales were to the consumer market. Of this, 88% consisted of general purpose batteries (AlMn & ZnC). A larger relative proportion of sales of lithium batteries and other primary chemistry were to the non-consumer market, owing to their more specific applications.

Battery collection, treatment and recycling

24. About 3% of waste portable batteries are thought to be recycled. The rate of recycling of rechargeable batteries is unknown. We do not know how many local authorities recycle batteries but a survey in 2005 found that 37 (14% of the 258 authorities who responded) collected batteries (WRAP, May 2005). A small number of these collect household batteries from the home. A few retailers have set up schemes and Lancashire County Council set up a battery collection scheme involving 258 participating schools with plans to extend this to 500 schools.

25. A number of waste management companies collect portable batteries in the UK, including G&P Batteries, Cleanaway, ECT Recycling and Loddon Holdings. Of these, G&P Batteries are the largest, collecting, sorting and recycling 500-600 tonnes of portable batteries per year with the majority coming from commercial sources.

26. WRAP, on behalf of Defra and the Devolved Administrations, trialled a number of different collection schemes to identify the best way to develop a UK battery collection infrastructure. The schemes were run in partnership with a selection of local authorities and not for profit organisations that already operated recycling collection services. The kerbside collection trials covered over 482,000 households in a mixture of high-rise, urban and rural situations across England, Scotland, Wales and Northern Ireland. The trials were extended to include methods of collection such as retailer take back at a selection of large stores (PC World, Homebase, Argos, Tesco and B&Q), community 'drop off' sites and postal returns schemes.

27. The kerbside collection trials were launched in April/May 2006, the retailer take back schemes were launched between October 2006 and March 2007 and the postal trial was launched in June 2007. The results up until March 2008 are shown below. Cost data is also shown but WRAP thinks these over-estimate the costs that producers will face because the trials had high start up costs and limited economies of scale by up to 40-50%. The WRAP trials provide evidence that producers should be able to save costs over time. The second year costs shown in Table 4 are much less than the first year ones.

Table 4: WRAP Trial Results (based on batteries collected and sorted by chemistry)

	Kerbside	Retailer	Community Drop-off	Postal
Total households served	482,000	201,000	219,000	38,000
Estimated population served	1,169,000	477,000	465,000	81,000
Total number of collections	110	829	8	5
Total weight of batteries collected (tonnes)	95	10.4	5.7	2.7
Cost per kg (year 2 trials)	£4*	£10	£10	£16

* Local authority costs. Collection by Community schemes was more expensive.

28. The ERM report – carried out before the WRAP trials – included an estimate of the potential scale of collection infrastructure that may be needed to meet the Directive targets:-

Potential Collection Infrastructure

The potential infrastructure that has been identified in the UK is outlined below and includes (ERM 2006):

- 197 coordinating waste authorities each of which could potentially introduce a kerbside collection of batteries; and 1065 CA sites that could collect waste batteries;
- An estimated 69,500 institutional points (retail outlets, schools etc.) that could operate as a battery collection point;
- 73 postal depots that could act as consolidation points for postal collection systems; and
- An estimated 50 lighting maintenance companies, each is likely to recover NiCd batteries through emergency lighting maintenance and provide for their consolidation and collection.

The number of collection points required to meet the Directive Targets have been determined based on a number of collection scenarios including:

- **Collection Scenario 1** where kerbside collection schemes are favoured;
- **Collection Scenario 2** where CA site collection schemes are favoured; and
- **Collection Scenario 3** where bring receptacle collection schemes, located in institutional premises (business/school/public/WEEE dismantlers etc.), are favoured.

Table 2.1: Number of Collection Points Required to Meet Directive Targets over Study

Scenario	No. Kerbside collection points			No. CA Collection Points			No. Institutional Collection Points		
	1	2	3	1	2	3	1	2	3
Year									
2012	101	18	49	95	543	95	18,517	18,517	35,459
2016	181	32	89	171	978	171	33,331	33,331	63,827

Battery treatment and recycling

29. There is only one UK treatment plant for household alkaline and zinc carbon batteries which has the capacity to treat between 500-1500 tonnes of batteries per year.

30. There are plans to build the UK's first specialist reprocessing plant for lithium ion batteries (used in mobile phones, AV equipment). Once operational it would be capable of handling 150 tonnes of waste lithium ion batteries per year, which is around a third of current UK annual usage.

31. There are two facilities for reprocessing mercury in button cells and one main facility reprocessing spent silver oxide batteries.

32. There are no UK facilities for recycling nickel cadmium (NiCd) batteries (used in power tools, emergency lighting), so those collected are generally exported to France for recycling.

33. The Directive and UK transposing Regulations may stimulate the further development of the UK's own reprocessing facilities for waste batteries.

Developing policy in partnership with stakeholders

34. A process of informal consultation with stakeholders took place between January and October 2007 and again between July and October 2008. This involved a series of stakeholder workshops supported by a website resource including papers and summaries of comments as well as targeted one to one meetings with sector and cross-sector stakeholder groups including battery producers, retailers and local authorities, and conference talks to provide regular updates on the implementation process. A formal public consultation ran from December 2007 to March 2008 on options for implementing the requirements of the Directive, with a Government response published in July 2008. Feedback received during both the informal and formal consultation process was used to develop and refine policy options. The Government also held meetings in August and September 2008 with retailers, producers, local authority representatives, the waste management industry and prospective producer compliance schemes. These helped in the preparation of detailed regulations.

35. The Scottish Executive and the Department of the Environment in Northern Ireland have been responsible for consulting local stakeholders in parallel to the consultations by the project team in England and Wales.

36. We have considered the impact tests on race, disability and gender equality and human rights. We have concluded that the policy proposals under consideration will not have any significant impact in these areas.

POLICY OPTIONS

37. The Government's first consultation paper on implementing the Batteries Directive set out two broad options - a single compliance scheme which all producers would have to join and multiple schemes. After studying the responses to this consultation, the Government announced in July 2008 that we had decided to choose the option of allowing multiple compliance schemes. This section presents the analysis supporting that decision. The single scheme option (option 1) is presented in order to provide a fuller understanding of the reasons why we have chosen the policy option we are going to introduce – i.e. multiple compliance schemes.

Option 1: A Single Compliance Scheme

38. Under this option, producers (i.e. any person who places batteries on the UK market for the first time on a professional basis), would have been required to discharge their obligations by joining a single Scheme which would:

- set up and maintain a register of producers;
- set up an infrastructure to collect portable batteries;
- ensure that the collection targets set in the Regulations are achieved;
- establish and run a publicity campaign to raise consumer awareness of the need to recycle batteries;
- collate the data, which producers are required to provide by the Directive, and report on this as necessary;
- arrange the necessary battery collection, treatment and recycling as required by the Directive, and channel producer funding to finance this in accordance with producers' market shares.

39. A potential advantage of having a single compliance scheme was that it could combine the functions key to achieving the objectives of the Directive. These include a planned approach to collection, communications and data handling. This option assumed that collectors and treatment and recycling facilities would compete to provide services to the scheme; and that producers might arrange their own collection, treatment and recycling in some circumstances.

40. The Scheme would have paid a fee to the environment agencies to cover the cost of producer data audit and registration.

41. The Scheme would have charged producers a cost recovery registration fee. This would be an administration fee to recover cost of the Scheme set-up and ongoing costs and a fee for publicity, both of which would be charged in accordance with market share. A compliance fee for collection, treatment and recycling would also be charged per weight of

batteries to members (except to those members making their own collection, treatment and recycling arrangements).

42. The Scheme would have submitted an operational plan for approval by the Secretary of State demonstrating how it intended to discharge the obligations of its members.

Economic impact

Benefits to stakeholders – producers

43. The possible benefits to producers identified in the Partial IA were:

1) Standardisation of consumer information and higher consumer participation - A single national campaign should lead to more consumers returning batteries for recycling. A single communications campaign should also cost less than separate campaigns by a number of schemes.

2) Standardisation of data collection and management –would result in simplicity and clarity for producers and the monitoring body. This might have led to time savings in monitoring the data and therefore reduce administrative costs.

3) Managed approach to collection infrastructure – The Single Scheme would have ensured that there was a UK-wide approach to developing the collection infrastructure. This could have avoided schemes and battery collectors competing for easy collection networks only. Planning logistics centrally could also avoid duplication of effort. Also, having only one administrator offering terms and conditions to collectors might increase the likelihood that certain ‘potential collectors’ will be willing to enter into collection contracts with the scheme. If there are a number of schemes offering a range of different contracts, this may result in certain establishments, e.g. schools, local authorities, not participating due to confusion around which scheme to choose.

4) Competition amongst collectors, and treatment and recyclers – The scheme would have let contracts by competitive tender to collectors, treatment/ facilities and recyclers. Provided there are enough collectors/recyclers this might have minimised costs through competition between these firms.

Costs to stakeholders – producers

Compliance cost: Collection, sorting and recycling

44. The background section of this IA includes ERM’s 2006 estimates of the costs of collection, sorting and recycling which we have updated to present values. Current collection, sorting and recycling costs for 1 tonne of mixed portable batteries are estimated to be in the range £1000 to £1300 per tonne and are projected to decrease to between £650 and £950 per tonne by 2016 when the volumes of batteries and recycling efficiencies reach Directive target levels. These are averaged values and

are based on a typical mix of batteries that would be expected to arise at, for example, the kerbside, and collecting many small quantities of batteries from different types of collection sites, with the assumption that the transport logistics would be reasonably efficient.

45. As discussed under option 2, we think that a single scheme would be more likely than multiple schemes to lead to costs at the higher end of the projected range. Our estimate of the costs for a single scheme to collect, sort, treat and recycle batteries is, therefore, the higher estimate in Table 1 – e.g. £8.2m in 2012.

46. By way of comparison, the total operational costs for other Member States, based on 9 countries, range between £592-£2222 per tonne (median £688 per tonne). The total operational costs for the UK can be further divided into categories and industry estimates of these include: collection £30-500 per tonne, sorting £70-150 per tonne and recycling £550-1000 per tonne.

Compliance cost: Communication

47. Costs for a national publicity campaign are considered in more detail under Option 2. The estimated cost of a coordinated communications campaign would be £1-5 million. However, if consumer participation started to wane and thus impacted on achieving targets, renewed communications efforts would be required, possibly on an annual basis with a cost of £0.5-1m.

Administrative Costs

48. Producers will be required to provide sales data for batteries sold in the relevant year and the previous two years. The estimate below is based on figures provided by an existing compliance scheme on sales data submitted by WEEE producers in 2007. The large ranges can be attributed to the fact that some companies find reporting straight forward whilst others, who may need to rely on a number of parties in order to collate data spanning 3 years, may need longer. It is assumed that as battery producers become more familiar with the reporting process these costs will reduce over time.

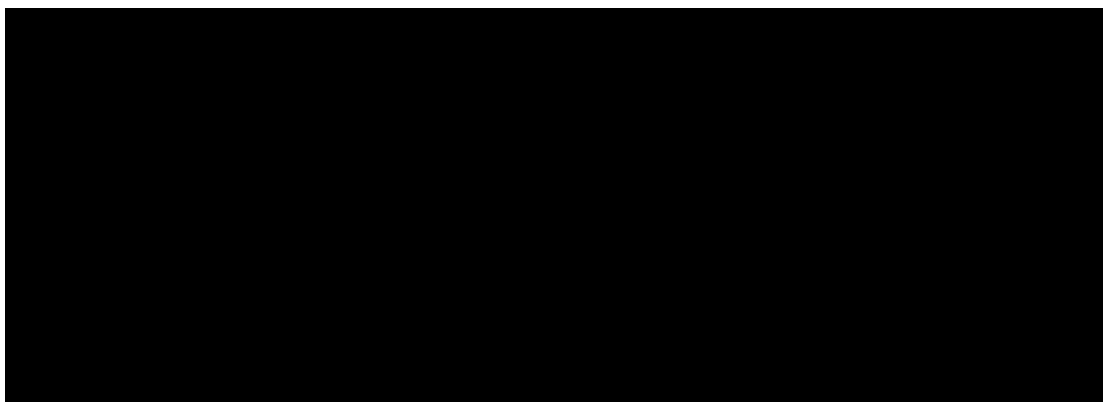
49. One estimate is that, on average, it takes 8 days (1 day = 8 hours) for producers to complete one data submission to a scheme. Given a current wage rate of £10.69 (reference – Annual Survey of Hours and Earnings 2005), this gives a cost of £684.16 per data submission. In addition, producers indicate that they spend on average £1200 on each data submission (range £0-£200,000) on other unspecified activities (suspected to be IT systems or use of external consultants). These estimates do not include the time taken for general research into the regulations or into different producer schemes available, which again can vary significantly between producers.

50 The total unit administrative cost to producers for data submission is an estimated £2.8 million (based on 1,500 producers). As with sorting costs in the ERM study, it is in producers' interests to reduce administrative burdens of data collection. We, therefore, have assumed that this figure could also be halved.

Scheme set-up and administrative Costs

51. Scheme set up and administrative costs are discussed in detail under Option 2. While a single scheme is likely to be able to benefit from economies of scale and not having to duplicate administrative functions, competition among multiple schemes is likely to bear down on administrative costs. We have, therefore, assumed that there would be no difference in the total administrative costs between multiple and single schemes.

Table 5: Estimated total costs to producers of meeting the Directive requirements under a single scheme (compared to baseline)



Meeting accessibility requirements

52. Providing an accessible collection infrastructure to end-users, as required by the Directive, is likely to be easier under a single Scheme.

Environmental impact

53. A balance is needed between ensuring that there are sufficient collection points to achieve the targets and that these are accessible for the local population, whilst managing the negative environmental impact of multiple collection points. The Scheme would be able to ensure that collection logistic networks are fully optimised nationally thus managing the negative impact to the environment from additional CO₂ emissions.

Social impact

54. This policy option takes account of rural proofing. Under the Directive the provision of accessible collection points must be proportionate to the population density of an area.

Option 2: Multiple Compliance Schemes

55. Each scheme will be responsible for:-

- Setting up a collection infrastructure to meet the requirements of their members under the Batteries Directive, in particular the collection targets;
- Running a publicity campaign to raise consumer awareness of the collection infrastructure that the scheme has set up;
- Registering producers and reporting these to the Environment Agency;
- Collating data that producers are required to provide and reporting this information to the Environment Agency;
- Arranging the necessary battery collection, treatment and recycling as required by the Directive, and channelling producer funding to finance this in accordance with producers' market share.

56. There will be a two-stage approval process for compliance schemes. At the first stage, each scheme will be required to submit an outline operational plan. This will be developed into a full plan at the second stage and this will form the basis of approval of schemes by the Secretary of State. The plan will set out how a scheme intends to discharge the obligations of its members for a period of three years. Once the plan is approved, the scheme will register with the Environment Agency. The scheme will submit an update to its operational plan annually.

57. Each scheme will pay a fee to the Agency to cover producer registration, data management and compliance monitoring of their members.

Economic impact

Benefits to stakeholders – producers

Potentially lower compliance cost – multiple schemes should deliver low cost compliance for producers as they will have the option of choosing one from a selection of schemes who are likely to take different approaches to fulfilling their members' obligations.

Potentially greater competition amongst collectors and treatment & recyclers – multiple compliance schemes will compete for collectors and treatment and recyclers and this will encourage price competition and market development in these sectors which will help keep costs down.

Again, this will depend on the extent to which there is competition between collectors/ firms that treat and recycle batteries.

Recognised model – the multiple scheme approach is in line with previous producer responsibility models.

Costs to stakeholders – producers

58. Our assessment of collecting, treatment, and recycling, communication, administration, set up and monitoring and enforcement costs were shown in the assessment of option 1. In general terms these are also valid for the multiple schemes options but with some differences. These differences are explained in the paragraphs that follow.

Compliance cost: Collection, sorting and recycling

59. Estimated costs of collection, sorting and recycling are shown in the background section. We expect these costs to be significantly lower under the multiple scheme approach. This judgement is supported by experience under the Waste Electrical and Electronic Equipment (WEEE) regulations. Information from one compliance scheme suggests for example that transport costs for rural local authorities collecting fridges have halved and that treatment costs for TVs and monitors have been reduced by the same amount. Costs do vary between schemes and between different categories of WEEE but there seems to be a strong case that competition is bearing down on costs (and improving treatment standards) and that these trends will continue.

60. For batteries, there was even under a single scheme, some potential for competition among treatment facilities and recyclers to provide services to the scheme. However, there would only have been in at least one of the scenarios one buyer of services. This meant that producers would have had little choice even if the single scheme was inefficient. Multiple schemes will drive schemes to act efficiently in purchasing transport, sorting treatment and recycling services (or risk losing members to other schemes). We, therefore, expect multiple schemes to lead to costs at the lower end of the projected costs shown in Table 1. In 2012, for example, we estimate that the collection, treatment and recycling costs will be £6.6m. The figures in Table 1 suggest that for the period 2010-2016 the multiple schemes approach could save producers £13.0m.

Communication

61. The Government will carry out some publicity in advance of the first compliance period. However, schemes will need as required by the Directive to fund publicity for consumers. We estimated – under the single scheme obligations – the cost of a one-off campaign as being between £1-5 million. If consumer participation started to wane and thus impacted on achieving targets, renewed communications efforts would be required, possibly on an annual basis with a cost of £0.5-1m. Schemes will need to

carry out marketing to inform consumers about the collections that the scheme provides. This cost will vary depending on the type of collections that a scheme undertakes but we expect it for example to cover providing branded material for stores, working with local authorities on material for householders etc. The additional cost of such activities is likely to be much smaller than that a scheme contributes to the national campaign.

62. Costs would be incurred under the following areas:

- Marketing which includes the cost of preparing the collection devices (labelling of boxes/bags), leaflets, posters, etc, and distributing these to householders;
- Public Relations which covers activities such as photography, press releases, articles in the trade and local press, radio and TV interviews, promotions, promotional staff. In broad terms the figures would be: less than £1 million for a non-broadcast campaign (i.e. excluding TV or radio); £1 million to £3 million for a radio and other media (excluding TV) campaign, which would increase to between £3 million and £5 million to include TV advertising.

Producers' Administrative Cost

63. The administrative costs per producer in supplying data should be no different to that under the single scheme. Our estimate, therefore, is that it will cost £684 per data submission with - assuming that there are 1,500 battery producers – a total administrative cost to producers of £2.8 million. We assume – as per Option 1 - that battery producers will become more familiar with the reporting process and these costs will reduce over time. We, therefore, assume that this figure could be halved.

Scheme Set-up Costs

64. Scheme set-up costs will vary depending on a number of factors including:

- Size of proposed scheme
- Whether it is part of an existing infrastructure (e.g. existing Civic Amenities; IT database systems)
- Whether it is an extension of any other business such as collectors or recyclers
- Geographic coverage

65. The total on-going operational costs for a medium to large scheme operating over a period of a year prior to the implementation date are estimated to be between £300k and £400k. This cost is based on the expansion of a scheme to cover batteries that is already in existence. These costs include legal, web sites & IT, marketing and member recruitment, member training seminars, collection and recycling contract set up, and overheads. This also includes the compliance member administrative cost (contact centre and telephone services) of around £50k. The registration fee would be additional to this estimate.

Equivalent costs for a smaller scheme with fewer members would be more in the region of around £100k. The scheme would also require nationwide transport related marketing activities, including transport containers.

66. The costs of assessing data (availability, accuracy & probing). The annual cost of assessing data provided to the Scheme by producers (based on 1,000-1,500 battery producers) is £200-250k. The cost of assessing the data from collectors, treatment and recyclers is relatively small in comparison and can be included in this total cost. Specific activities include: checking data and other information submitted by producers to the appropriate Scheme; amending data and other information to ensure that the data collected meets the UK's data reporting needs under the Batteries Directive.

- Registration, including initial data handling will be £170-200 k pa. This assumes annual producer registration is required for data purposes, includes help desk facilities and some data checking when the information has been submitted but excludes IT development costs (£70k-£100k). Note: If a Scheme was responsible for collating the registration details and then passed this directly through to the Agencies, then the cost saving would only amount to between £25-55k pa depending on the number of schemes and the type of information to be held on the public register.
- Data reporting to the Commission will involve a cost of between £18-£29k per submission. Specific activities would involve: collating data from compliance scheme(s) and other sources to generate a report for BERR/Defra; and checking that regulatory and business data and information to be submitted to the European Commission are as comprehensive as required.]

Scheme Administration Costs

67. The Environment Agencies' costs in relation to the batteries regulations will be met by producers, and can be broken down as follows:

- The Agency's proposed standing annual charge for portable batteries schemes is £149K. Specific activities include:
 - Registration of Members
 - Scrutiny of the operational plan and monitoring of performance against it
 - Receipt and processing of data
 - Assessment of compliance
 - Development of IT system and guidance

The charge also covers set up costs such as the development of an IT system to support the registration of producers and the development of procedures and guidance. Those costs amount to £650K and will be

incurred during the first two years of implementing the regime (i.e. 2010 and 2011), but will be recovered over the first five years of charging.

In addition, producer members representing more than 0.01% of the UK market share – i.e. producers above the de-minimis exemptions for small producers will be individually monitored. There will be an additional annual charge of £5,000 for each large producer, however, it is estimated that there should be less than 50 such producers in the UK.

Table 6 below shows the overall regulatory costs (UK)

		2009/10	2010/11	2011/12	2012/13
Applications	Portable	£51,000	£0	£0	£0
Scheme Monitoring	Portable	£597,000	£597,000	£597,000	£597,000
Reprocessor/ Exporter Approval/ Monitoring	Portable	£29,235	£29,235	£29,235	£29,235
Totals	Portable	£677,235	£626,235	£626,235	£626,235

Table 7 - summary of the annual and one off costs

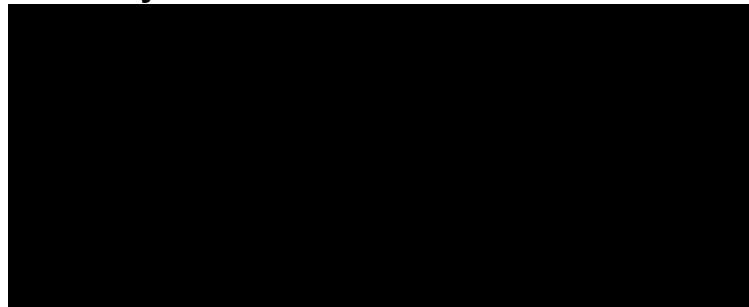


Table 8 Estimated total costs of meeting the Directive requirements (compared to baseline)



Unintended consequences

- Schemes may not be willing to set up accessible collection points in remote areas. Also, once a scheme has achieved its collection targets it may be unwilling to service collection points that do exist in difficult to access or remote regions, leaving these sites uncleared.
- Co-operation between schemes may be difficult to achieve with multiple schemes; particularly in the areas of managing collection sites and communications.
- In seeking out the most cost-efficient compliance scheme, producers may neglect to focus on the main requirement of the Directive which is to meet the targets.
- A multiple scheme approach may result in small schemes being established that may not be viable in the long term. While, the market may eventually correct itself leaving only the more cost effective schemes, this could, depending on the length of time this process takes, increase the risk of not meeting the targets. In addition, too many small schemes may limit effective co-operation between schemes.

Environmental impact

68. Co-operation between Schemes will be needed to ensure that the environmental impact of transport to collect batteries is kept to a minimum.

69. Publicity campaigns will need to be joined-up to ensure higher consumer participation in battery collection and the reduction of batteries going directly to landfill.

Social impact

70. Enabling schemes to compete for collection sites may result in limited availability of accessible collection points for end users. Less productive

or remote collection points may be considered less desirable to schemes wanting to minimise on costs and maximise quantities of batteries collected. However, again, this may be avoided with more cooperation between schemes.

Costs to Government

71. The environment agencies will be responsible for ensuring that batteries producers who should register, do so. There is no difference between the single and multiple schemes options in estimated costs which we expect to be an annual cost of about 130k for England and Wales, £13K in Scotland and £6.5k in Northern Ireland. This will be met by Government not by producers. Specific activities include: the identification of unregistered producers; checking the business and regulatory status of potential non-compliance; checking businesses through site visits and inspections by Area staff; and taking appropriate enforcement action against businesses which fail to comply.

Conclusion on Multiple and Single scheme options

72. The analysis above suggests that the bulk of producer costs will be for collection, sorting, treatment and recycling of batteries. We expect multiple schemes to lead to lower costs in this area because of the element of competition between schemes.

SMALL PRODUCERS

73. Under the provisions of the Directive, all producers are required to register with a compliance scheme. However, Article 18 of the Directive gives Member States discretion to exempt small producers from meeting the collection, treatment and recycling costs, provided that this does not impede the proper functioning of collection and recycling schemes. The UK proposes to take advantage of this exemption.

The approach

74. The proposal is to exempt small producers from financing collection, treatment and recycling. The Government proposes to exempt producers who have less than 0.01% of the batteries market. These producers would still need to join a scheme and to report their sales. Their obligations for collection, treatment and recycling will be added to those of the other producers.

Economic impact

Benefits to stakeholders – producers

75. This proposal aims to avoid a disproportionate impact on small producers. Costs of enforcement, monitoring and administration will be potentially lower as a result of the exclusion of all small producers.

Costs to stakeholders – producers

76. The proposal will place another financial burden on other producers. However, the very low *de minimis* proposed means that the extra cost to be picked up by other producers will be small. The UK batteries market is estimated to be in the range of 25-30,000 tonnes per year (we have used the existing estimates of 24,849 tonnes for the purposes of this Impact Assessment). The market is dominated by a small number of large producers with a large number of smaller companies supplying niche markets. 0.01% represents, therefore, only 3 ton of batteries a year.

77. A producer of 3 tons of batteries would have an obligation to collect, treat and recycle 0.5 tons of batteries (25%) in 2012. The estimate in this IA is that under the multiple schemes approach sorting, treatment and recycling costs in 2012 will be £800 per ton. Industry figures suggest that 99.9% of the batteries market is supplied by large producers. This means that these large producers will only need to pay for extra collection, treatment and recycling costs of about £2,400 in 2012. The extra costs would be shared among the large producers in line with their market share.. If we assume there are 30 or so large producers the average extra cost for a producer in 2012 as a result of the exemption would £800.

Unintended consequences

- Producers may try to ‘split’ up their companies to qualify for the small producer ‘threshold’.

Environmental impact

78. No change – the same volume of batteries will be collected, treated and recycled.

INTERIM TARGETS

79. There must be a huge increase in the amount of batteries collected if we are to meet the targets in the Directive. Some stakeholders have argued that interim targets would be useful to assess progress towards the Directive’s targets. The Government agrees.

The approach

80. We propose to set interim targets that schemes should collect 10% of their members' market share in 2010 and 18% in 2011. Schemes will be assessed against these targets. If the scheme is failing badly, its approval could be withdrawn. However, the main purpose of the interim targets is to assess whether schemes are on target and to identify action they might take if it looks like the 2012 or 2016 target will not be met. The targets for 2013, 2014 and 2015 will be 30%, 35% and 40% respectively.

Economic impact

Benefits to stakeholders – producers

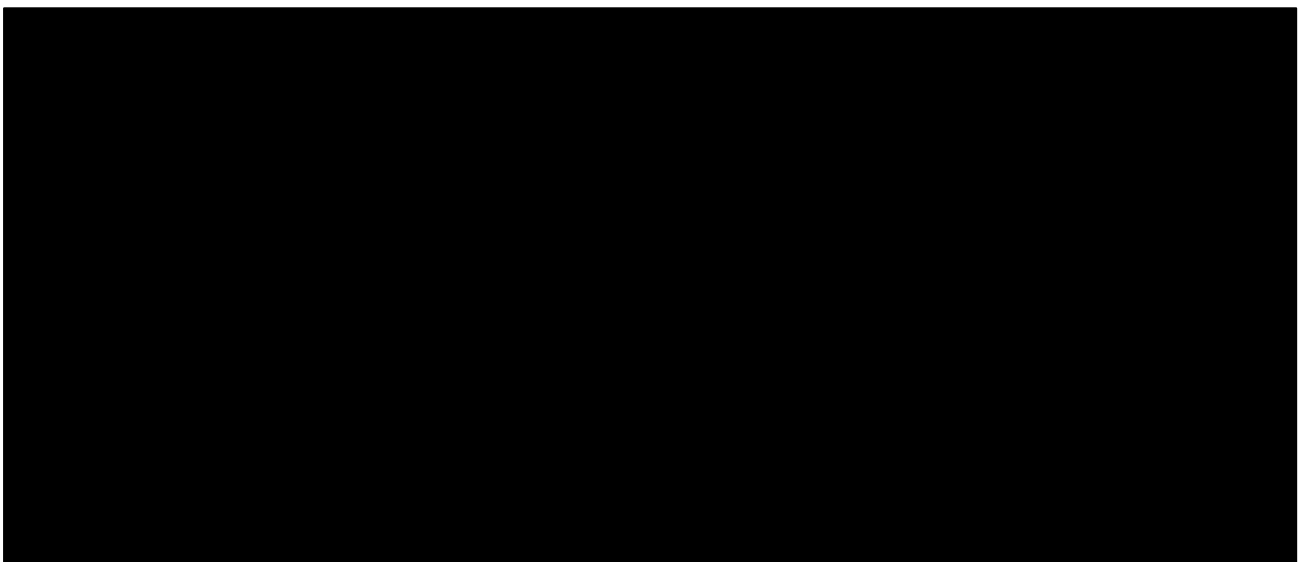
81. Reduces high risk of non-compliance, allows schemes and producers to identify where action needs to be taken

Costs to stakeholders – producers

82. We expect that producers and schemes will start putting in place collection measures to ensure that they can meet the 2012 targets. In theory, producers and schemes could do little or nothing to increase collection until 2012 and then not increase collection again until 2016.

83. We do not believe that it is realistic to move from the current very low rate of collection to meeting the Directive's targets in a single year. However, if it were possible to do without interim targets, then schemes could save money in the years 2009-2011 and 2013-2015 by not increasing battery collection in these years. This is illustrated in the following table:

Table 9 – Financial Impact of no interim targets



Unintended consequences

84. If schemes do not collect until 2011 there is a higher risk of the UK not meeting its overall collection targets. Not using interim targets therefore carries a higher risk of infraction which is likely to be at least £8 million (i.e. charge from the European Commission for infraction to a Member State). This is explained in more detail in the Annex.

Environmental impact

85. Since schemes will collect from 2009 rather than 2011 under the interim targets, there will be an additional environmental benefit. The following tables display this, showing a net increase in partial environmental benefits valued worth £2.1m in present value terms.

Table 10: Partial environmental impact with interim targets

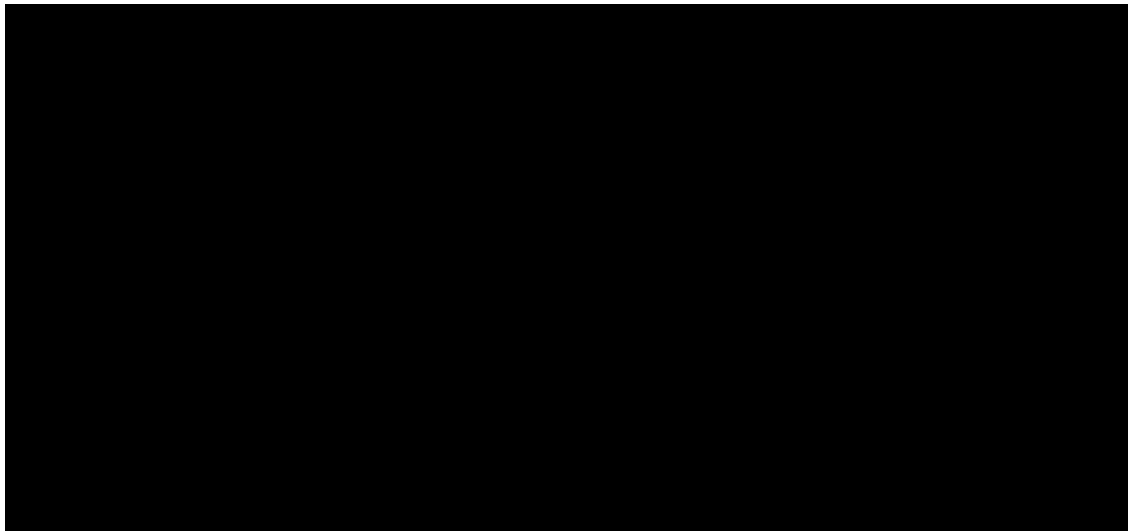


Table 12: Partial environmental impact of without interim targets

DISTRIBUTOR REQUIREMENTS

The approach

86. Retailers supplying new portable batteries will be required to take back any type of waste portable batteries free of charge and to inform consumers that they take back batteries. However, shops will not have to take back batteries if they:-

- Have a floor space of less than 280m² (Sunday trading laws)
- Sell less than 16 kilogrammes of batteries per year.

87. We estimated that the CO₂ emissions saved by recycling 4kg of portable batteries is equal to the emissions of a vehicle travelling 5 kilometres. Therefore, in order for it to be worthwhile for a store to collect batteries we need to take into account how far the batteries will need to be transported to a collection hub as well as the volume of batteries collected. To calculate the de-minimis, we have assumed that that there will be quarterly collections from retail premises.

88. In the first consultation, we considered requiring distributors to take batteries to consolidation points. However, the requirements of other waste legislation and the adverse environmental impacts of many retailers transporting small quantities of batteries has led us to decide that the collection of batteries from distributors should be funded by producers and organised by compliance schemes.

Economic Impact

Benefits to stakeholder - Distributors

89. Distributor take-back will not impact significantly on distributors, since the only cost to be borne is the space in the shop front for a waste

portable batteries container. Furthermore, the exemption for small retailers aims to avoid a disproportionate impact on small shops who have a limited floor area and only sell small quantities of batteries a year.

Benefits to stakeholder - producers

90. Battery collection by retailers will help producer schemes to achieve their targets. Retailers provide a convenient and accessible way for consumers to return batteries. The small distributor exemption will mean that compliance schemes will be able to direct their resources to the most effective means/types of battery collection, rather than having to collect from many small shops collecting only a few batteries each.

Costs to stakeholders – distributors

91. The approach could lead to a disparity between retailers (distributors) in the meeting the costs of the regulations. For example, some producers (i.e. distance sellers) who are also distributors may not have commercial premises to offer take back. In these instances alternatives take back routes such as postal service could be offered to customers, at a different cost than for a distributor that is able to offer in-store take back. Similarly, some distributors may receive a greater proportion of customers using in-store take back and this could result in higher cost to the business compared to quieter less frequented stores.

Costs to stakeholders – producers

92. The requirement to collect from distributors above the exemption limits to some extent the freedom of schemes to choose the collection methods that are most cost-effective or otherwise suit them best.

Unintended consequences

- Distributors who sell only a small quantity of batteries may consider that the requirements of the obligation outweigh the benefits of selling batteries and decide not to sell batteries.
- The exemption for small distributors could lead to less coverage of remote areas. However, the larger distributors and local authority Civic Amenity sites should still provide an accessible network (taking into account population density).

Environmental impact

93. Larger retailers are likely to use back-haul facilities to their distribution centres and collection points funded by the scheme can be incorporated into the overall collection network, so it is likely that this proposal will result in a more efficient collection network and fewer transport emissions than if all retailers had to take back batteries.

94. Requiring all retailers to take back batteries could lead to more road movements involving small quantities of batteries and a significant increase in emissions from road transport. This implies that a very large number of deposit points would be required for small retailers in order to prevent net environmental cost.

95. Assuming that a collector from a small retailer had to travel 5km to reach a consolidation point, it would have to deposit between 140 to 230 AA batteries in order to ensure that the benefits of recycling are not offset by the carbon emissions from transport. Many small retailers are unlikely to collect this number of batteries, therefore net environmental costs would be incurred.

Social impact

96. Distributors provide a convenient way for people in remote areas or people who cannot drive to recycle batteries. The exemption for small retailers will lead to some decrease in the coverage of collection schemes but we are not able at this stage to highlight any areas that may be particularly affected.

Annexes

1. Interim targets and Infraction

The interaction between interim targets and potential infraction risk is an important one. Whilst interim targets may demand higher collection and treatment of batteries than might otherwise be collected in the absence of these targets, they may also increase the likelihood of meeting targets in the EU target years of 2012 and 2016, thereby reducing the potential risk and cost of infraction.

The main evidence base presented the costs of and benefits of interim targets relative to meeting targets just in time, i.e. collecting 25% and 45% of batteries just in time in 2012 and 2016 respectively. This seems unlikely to be successful, however it gives a very conservative extreme of the cost of imposing interim targets. The table below shows these additional costs. It is assumed that any start-up costs as well as annual cost are delayed until 2012 in the “just in time” scenario until then batteries are disposed of as in the baseline.

As compared to the extreme just in time scenario, this suggests *unnecessary* (in terms of meeting EU targets) battery collection encouraged by interim targets would cost society £18.3m to £30.5m. However, this is unrealistic as it is unlikely that there would not be a more gradual increase in battery collection in the run up to target years.

This also fails to consider the risk of failure in “just in time scenario”. The minimum infraction fine for non-compliance is expected to be £8m per year, which would be borne by the government.

If interim targets make compliance with the directive 50% more likely, we could attach a monetary value to this benefit of £4m (in nominal terms) in each of the years that the UK avoids a fine.

Discounted to make this comparable to the present day costs and benefits presented in the tables above the equivalent value of a 50% reduction in the likelihood of infraction fines is presented below:



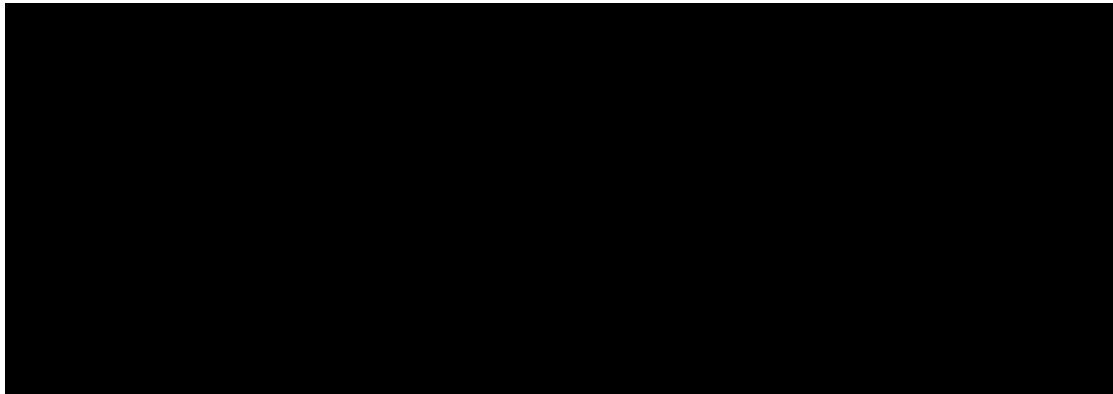
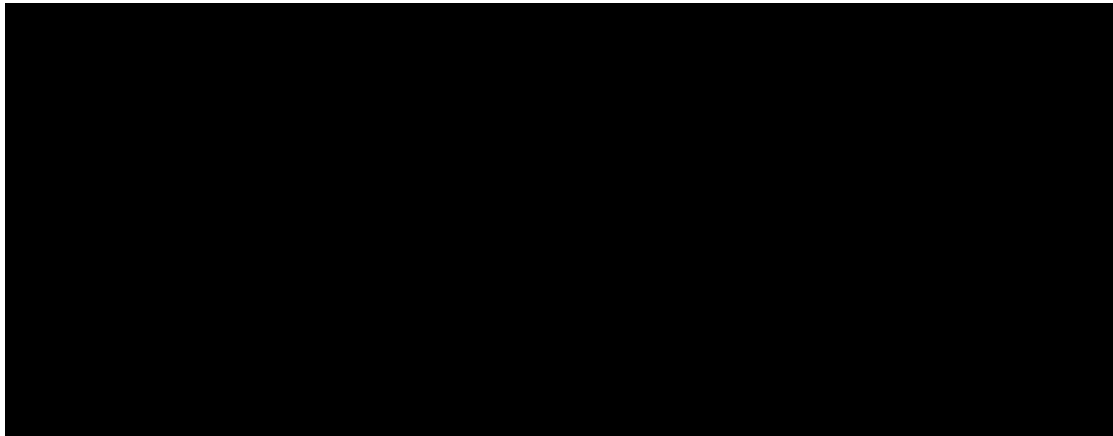
This reduces how we perceive the costs to society as a whole of interim targets. If the costs relative to a “just in time” scenario are very likely to be significant over estimates and interim targets significantly reduce the likelihood of missing the collection targets, and therefore fines in each year after 2012, it becomes more likely that they will in fact have a net benefit to society.

2. Increases in the number of batteries placed on the market

In the absence of other evidence the ERM report assumed zero battery growth. This assumption has also been adopted throughout the previous evidence base.

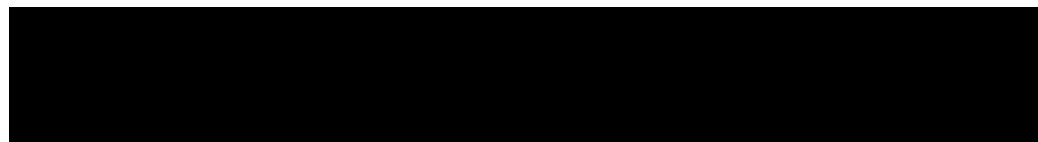
The tables below show the impact of a growth in battery volumes placed on the market of 2.5% per year.

This translates through to the amount of batteries required to be collected through a moving average. The proportion of batteries required to be collected relates to the average of the number of batteries placed on the market in the current and preceding 2 years.



As can be seen the impact is relatively small, the present value impact on the costs and benefits are presented below. The increases in costs are partially offset by the increase in the measured (incomplete) environmental benefits.

The existence of economies of scale in treatment and the uniform nature of the environmental benefits suggests that the net benefit of the policy will be less than proportionately impacted by growth in battery volume.



SPECIFIC IMPACT TESTS

Legal Aid

It is not clear to what extent those who would be subject to the Batteries and Accumulators Directive are eligible for legal aid, but as implementation of the Directive is not expected to have any material effect on the criminal or civil liability of those who are subject to the obligations of the Directive, it should not have any impact on legal aid in the UK.

Race Equality Assessment

The Batteries and Accumulators Directive does not have as one its aims race equality explicitly. However, one of the aims of implementation of the Directive is to provide equal, and high, levels of environmental and health protection across the UK, irrespective of race.

Disability Equality

The Batteries and Accumulators Directive does not have disability equality as one of its aims explicitly, and it is not believed that implementation of the Directive will have a significant impact in this area.

Gender Impact Assessment

The Batteries and Accumulators Directive is not aimed at overcoming gender inequalities or eliminating barriers to inequality, and it is not believed that implementation of the Directive will have a significant impact in this area.

Human Rights

Implementation of the Batteries and Accumulators Directive is not expected to impact on the rights and freedoms of individuals as set out in the Human Rights Act 1998.

Rural Proofing

Implementation of the Batteries and Accumulators Directive is not expected to have any significant impacts on rural areas or circumstances because it applies to all batteries and spent batteries wherever they are used or are discarded as waste.