



## MAKING A DIFFERENCE, ONE BATTERY A TIME

### SLIDE 1. Making a difference, one battery at a time

Good morning.

Today, I'd like to talk to you about battery recycling

### SLIDE 2. Do you use batteries?

How many products do you have at home or carry around that contain batteries?

Disposable batteries may be found in toys, torches, clocks, calculators and watches.

Rechargeable batteries are found in electric toothbrushes, cameras, laptops and mobile phones.

[PROP – battery operated products]

Each year we throw away about 620 million batteries or 36,000 tonnes.

They weigh as much as ten thousand elephants.

It works out at 24 waste batteries from every person, every year.

### SLIDE 3. What are batteries made of?

Batteries are made from valuable metals. They may contain nickel, cadmium, lead, mercury or silver. It takes a lot of energy to extract these metals from the earth and process them.

More than 70% of the energy needed to make an alkaline battery is used when the raw materials are extracted from the ground and refined.

### SLIDE 4. What happens to our waste?

Until recently, when your batteries ran out, there wasn't much choice except to throw them in the bin.

Just 2% of waste batteries were recycled in 2009.

The remaining 98% went to landfill sites, like this one, with the rest of the rubbish from our bins. So the valuable metals inside them were lost.

However that's all now changed.....I'll tell you why later.

### SLIDE 5. Why should we recycle batteries?

Recycling batteries saves energy.

The recycling process separates the valuable metals. They are then sold and used to make new products.

This reduces the demand for more raw materials from the earth and the energy used to extract and refine them.

Recycling cuts carbon dioxide (CO<sup>2</sup>) emissions and helps to tackle climate change.

For example, four times more energy is needed to produce steel from raw iron ore than it does from recycled material.

### SLIDE 6. What happens when they are collected?

What happens to your batteries once you've put them in the collection box?

The batteries from the boxes are taken to a central place and emptied into containers, each holding around a tonne of batteries.

They are then loaded onto trucks and shipped to a treatment centre.

First batteries are sorted into different types according to the metals they contain.



### **SLIDE 7. How are batteries reprocessed?**

Batteries are shredded.

The steel casings are separated from the battery core, which is called black mass, using strong magnets.

Steel and black mass are then heated to over 1000 °C in separate furnaces. The different metals can then be recovered using different processes.

### **SLIDE 8. What happens to recycled batteries?**

The battery sludge from reprocessing may be used by cement factories or for road building.

The metals recovered from battery recycling can be used in many products:

- Zinc is used in car manufacturing, as it helps prevent rusting
- Lead and silver can be refined, so that they are pure enough to make new batteries
- The steel from battery casings could end up as cabling on a suspension bridge, a food can or even new battery casings

### **SLIDE 9. What has changed?**

So what is different now?

A new law came into force on 1 January 2010.

Companies which make batteries - or products with batteries inside them - must now collect and recycle 45% of the amount in weight that they sell each year.

This law will help to reduce environmental damage and the loss of the earth's resources caused by putting batteries into landfill.

If we recycle our batteries:

- The metals and other materials in them can be used again
- Energy is saved, as fewer raw materials are needed to make new products
- Less waste goes to landfill sites

### **SLIDE 10. What can you do?**

We, as a school, use more than [24 x number of pupils and staff] of batteries each year

[To work out battery use in kg for the whole school, use this formula:

Number of pupils and staff x 0.023 x 24 = weight in kg. It would fill xxx of these battery recycling boxes (a box holds 25kg)].

So what can we do?

[PROP – box + batteries. Put battery into ERP collection box]

Every battery which goes in this box goes a little way to helping the UK reach its target of recycling 45% of all the batteries that are sold each year.

### **SLIDE 11. Thank you**

Thank you