PHASING OUT PRIMARY BATTERIES WILL GO AGAINST THE GREEN DEAL

Primary Batteries

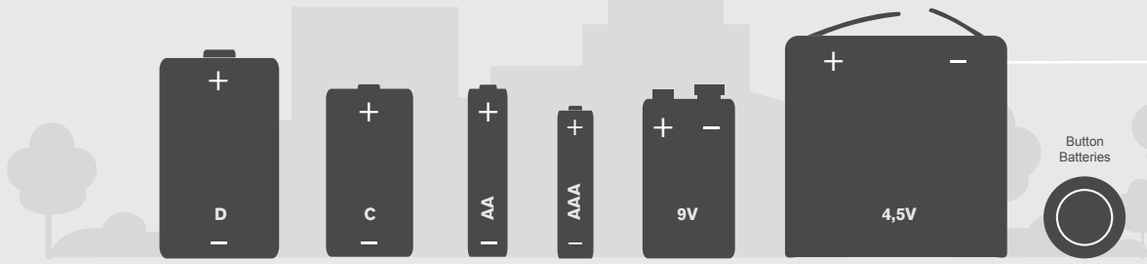
TECHNOLOGIES

PRIMARY LITHIUM ION

ZINC CARBON

ALKALINE MANGANESE

FORMATS



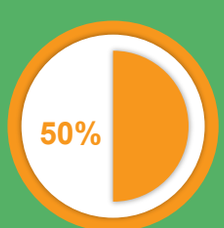
- **NOT A SINGLE USE PRODUCT**
- **LONG SHELF LIFE**
- **CONSTANT LOW SELF-DISCHARGE LEVEL**
- Used in different appliances for long periods of time
- **IMMEDIATE SOURCE OF ENERGY**
- **CONVENIENT** Immediately ready to be used at all times
- Organised collection and recycling infrastructure exists
- 100% of waste batteries collected are recycled
- Recycled battery material is a contributor to the circular economy
- **ACCEPTABLE COST**

Better for the environment in low drain applications

BEST CHOICE FOR LOW DRAIN DEVICES WHICH REQUIRE LOW AND CONSTANT ENERGY LEVELS

THE HIGHER SELF-DISCHARGE RATE AND NEED FOR REPEATED RECHARGING OF RECHARGEABLE BATTERIES MAKES THEM LESS SUSTAINABLE IN LOW DRAIN DEVICES

Phasing out primary batteries will sent to waste all devices which are not compatible with rechargeable batteries and would become obsolete



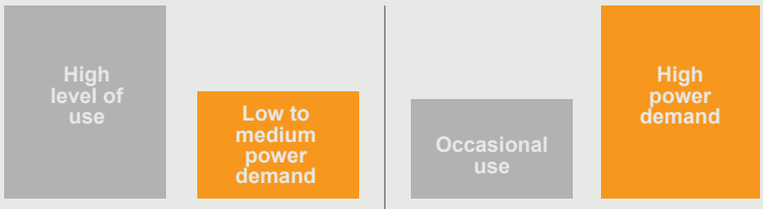
Low drain devices represent over **50%** of the **battery-powered devices market**

On average a **European household** (195 million in EU) has **23,9 battery-powered devices**

WHEN TO USE A PRIMARY OR A RECHARGEABLE BATTERY?

BEST USE
Primary Batteries

BEST USE
Rechargeable Batteries



LOW DRAIN APPLICATIONS

High level of use (constant in some cases), accuracy & reliability essential:

- Wall clocks and watches
- Smoke alarm detectors
- Remote controls

Up to 10 years in operation without need for replacement or recharging

HIGH DRAIN APPLICATIONS

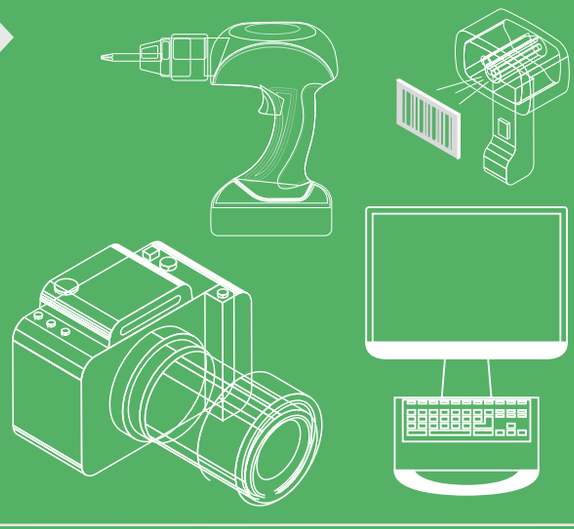
Used occasionally and requiring high power:

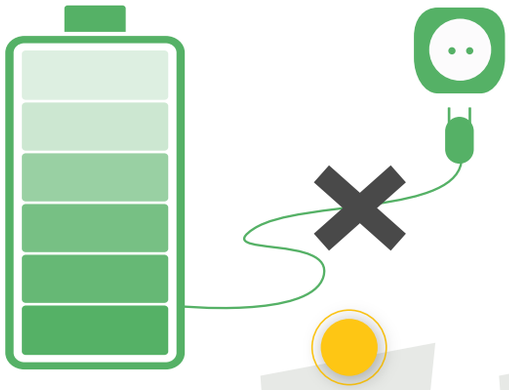
- Digital camera
- Photo flash
- Power tools

Recharging required every few hours of operation

PRIMARY AND RECHARGEABLE ARE BOTH NEEDED!

MANY PRODUCTS HAVE ALREADY TRANSITIONED TO RECHARGEABLE BATTERIES WHERE THIS IS TECHNICALLY POSSIBLE AND ADVANTAGEOUS FROM BOTH AN ENVIRONMENTAL AND ECONOMIC POINT OF VIEW





RECHARGING IS NOT ALWAYS POSSIBLE

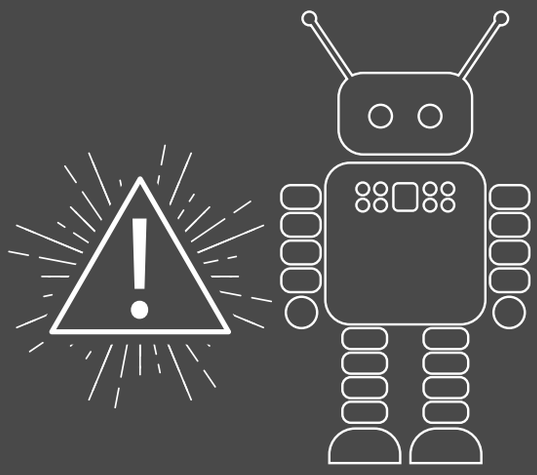
in some cases there is no alternative to primary batteries:

- Remote areas with poor or no connection to the grid
- Disaster and emergency situations where there is no power
- Small appliances with no space for integrating a charging circuit
- The support function of the product like medical implants, pacemakers, or defibrillators
- Need for accuracy in measurement devices

SAFETY RISKS ARISING FROM DIRECT REPLACEMENT OF ALKALINES WITH LITHIUM ION RECHARGEABLE

A lithium ion rechargeable battery has much higher voltage than a primary alkaline battery. This means that if we place an AA-size lithium-ion battery into a device designed for AA alkaline primary batteries, the higher voltage would destroy the device and could cause a fire or explosion.

Compliance with existing IEC standards is essential



CONSEQUENCES OF PHASING OUT PRIMARY BATTERIES?

TO THE ENVIRONMENT

- Waste creation due to premature scrapping of an extreme amount of devices which would become obsolete without primary batteries
- The most sustainable solution to power low drain appliances will no longer be available for consumers
- No gains in environmental sustainability or GHG emissions
- Not in line with the objectives of the EU Green Deal

TO THE ECONOMY

- The end of the primary battery industry in Europe and consequently the loss of jobs in related sectors: collection schemes, retail, transport, supply chain, recyclers, just to mention some.
- Impact on products using primary batteries requiring complete re-design, re-validation and re-registration to cater for:
  - Higher self-discharge rate of rechargeables
  - More complicated battery management circuits including complete new mechanical designs
  - More electronics (cables, chargers)
  - Peripheral recharging instruments (extremely inconvenient in some cases such as medical implants)
- As a result, existing manufacturing lines will become obsolete and new custom manufacturing lines will be required.

TO THE VARIOUS SECTORS USING PRIMARY BATTERIES

Being ubiquitous products, they are essential to sectors such as:

- Medical equipment
- EEE
- Electronic safety technology equipment
- Information and communications technology sector
- Utility metering

Phasing out primary batteries is contrary to Europe's ambitions to create a competitive, circular, sustainable and safe environment and economy. Instead, EPBA supports setting up **minimum quality standards** which will ensure European consumers have the **safest and highest-quality choices** available to power their appliances.

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