

Ditch the disposable lifestyle

Rechargeable batteries have up to 32 times less impact on the environment than disposable batteries

UNIROSS Study on the Environmental Impact of Batteries

London, 27th December 2007

UNIROSS, European leader in rechargeable batteries, today announced the results of the world's first independent study* that compares the environmental impact of disposable batteries with rechargeable batteries.

This study shows that, for a same quantity of energy produced, rechargeable batteries have up to 32 times less impact on the environment than disposable batteries.

"No study has ever shown the environmental benefits of rechargeable batteries. Today, when the choices of responsible consumption are at the heart of the debate, the UNIROSS study proves that switching from disposable to sustainable is not only possible, but also necessary." stresses Peter Keen, MD of UNIROSS.

The WWF fully endorses this independent study from UNIROSS.

"In the UK, 660 million batteries are bought each year. 95 percent of these are disposable - cumulatively that's an enormous amount of batteries heading straight to landfill, releasing damaging chemicals into the environment. It's wasteful and it's unnecessary," says Colin Butfield, Head of Campaigns at WWF-UK. "The average person in the UK is living as though we have three planets worth of resources at our disposal, which is totally unsustainable. Rechargeable batteries are an easy environmental win - they have 28 times less potential impact on climate change than disposable batteries, and while using them won't reduce your standard of living, it will hugely reduce your impact on the planet."

The study found that for the same amount of energy produced, rechargeable batteries have:

- **Up to 23 TIMES less impact on non-renewable natural resources**
Rechargeable batteries consume up to 23 times less non-renewable natural resources (fossil and mineral) than disposable batteries. This result can be explained by the much higher number of disposable batteries that have to be produced to provide the same amount of energy.
E.g. when you use rechargeable batteries to create 1kWh of energy, the impact on non-renewable natural resources is comparable to extracting 1kg of petroleum. Using disposable batteries is comparable to extracting 19kg of petroleum.
- **Up to 28 TIMES less impact on global warming (CO₂)**
Climate change means an increase in the average temperature of the earth's surface caused by an increase in the greenhouse gas effect. Rechargeable batteries have up to 28 times less impact on climate warming than disposable batteries. This ratio can mainly be explained by the impact caused when manufacturing disposable batteries and distributing them (transportation in trucks and the related greenhouse gas emissions).
E.g. when you use rechargeable batteries to create 1kWh of energy, the impact on global warming is comparable to driving 16km by car. Using disposable batteries is comparable to driving 457km.

- **Up to 30 TIMES less impact on air pollution (ozone pollution)**
Photochemical oxidation is responsible for peaks of ozone and toxic emissions. Rechargeable batteries have up to 30 times less impact on ozone pollution than disposable batteries.
E.g. when you use rechargeable batteries to create 1kWh of energy, the impact on air pollution is comparable to driving 73km by car. Using disposable batteries is comparable to driving 2,320km.
- **Up to 9 TIMES less impact on air acidification**
The air acidification indicator consists of the accumulation of acidifying substances in the atmosphere particles. When it rains, these acidifying substances pollute ecosystems and soil. Rechargeable batteries have up to 9 times less impact on air acidification than disposable batteries.
E.g. when you use rechargeable batteries to create 1kWh of energy, the impact on air acidification is comparable to driving 2,122km by car. Using disposable batteries is comparable to driving 19,812km.
- **Up to 12 TIMES less impact on water pollution**
The sedimentary eco-toxicity indicator evaluates potential toxic risks due to the emission of chemicals into aquatic ecosystems.
For a given quantity of available energy, rechargeable batteries have up to 12 times less potential toxic risks for fresh water and sea water sediments than disposable batteries.
E.g. when you use rechargeable batteries to create 1kWh of energy, the impact on water pollution is comparable to emitting 227mg of mercury into water. Using disposable batteries is comparable to emitting 2,731mg of mercury.
- **An additional benefit: reduced waste**
The study drew up a list of raw materials used for each type of battery (disposable and rechargeable), taking into account all of the materials used. Using rechargeable batteries provides:
 - real savings on packaging waste, since one pack of rechargeable batteries is needed to obtain 1kWh of energy compared with 93 packs of disposable batteries
 - a way of reducing the amount of batteries that end up in landfill

Each year, around 660 million of household batteries are sold in the UK of which between 99% ends up in landfill.¹ The average household uses approx 21 batteries per year.² Changing to rechargeable batteries is not only greener for all the reasons stated above, but also cost effective.³

Notes to the editor:

*** Study methodology**

The UNIROSS study, carried out by [Bio Intelligence Service](#), is based on a comparative Life Cycle Analysis (LCA) between a Ni-MH rechargeable batteries and its charger and a disposable battery (nominal capacity of batteries and rechargeable batteries: 2500 mAh). This method measures and compares the environmental impact of the two types of batteries at all stages of their life cycle: production, sale, use and end-of-life, on the basis of a given quantity of energy produced (1 kWh).

Bio Intelligence Service evaluated 11 indicators of potential impact on the environment. The challenge of these indicators is to express the environmental impacts of the product throughout its life cycle. Five major environmental impact indicators were used to constitute the eco-profile of a rechargeable battery: consumption of natural resources, climate changes, ozone pollution, air acidification and water pollution. The study also took into account the impact of batteries in terms of waste.

This study underwent a critical review by an independent institute: [the Fraunhofer Institute](#) of Germany.

About UNIROSS

Founded in Bristol in 1968, UNIROSS offers rechargeable energy solutions for consumers as well as for industries and professionals. UNIROSS batteries are sold in leading stores in the UK, including Argos, B&Q, John Lewis, Asda and Amazon.

¹ Study by Mintel in 2006

² www.wrap.org.uk

³ 500 disposable Duracell Ultra M3 AA batteries cost around £380 while a Uniross charger with 2 double AA batteries that can be charged around 500 times starts from £7.99

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Source: Uniross study carried out by Bio Intelligent Service

HQ is based in Lognes, France, and there are another 14 sites across the world, including a distribution centre near Bristol in the UK. UNIROSS is listed on the Euronext Paris Stock Exchange.

The company is committed to sustainable development beyond the production of its products. UNIROSS is the initiator of the UNIROSS Circle for Sustainable Development (Sustainable Development Think Tank) and the co-founder of the European association, RECHARGE, whose goal is to promote the⁴ use of rechargeable batteries and to increase collection rates. UNIROSS has been a partner of the WWF since May 2006 and is carrying out awareness actions with this association to encourage the use of rechargeable batteries by the general public. More info at www.uniross.com

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