A COMPLETE BATTERY RECYCLING SERVICE
—
FROM ORDERING TO THE RECYCLING REPORT

INDUSTRIAL BATTERIES • PORTABLE BATTERIES • BATTERY MATERIALS
A COMPLETE BATTERY RECYCLING SERVICE
— FROM ORDERING TO THE RECYCLING REPORT

At uRecycle® we offer a complete portable and industrial battery recycling service, covering all the steps from ordering, transportation and storage to recycling and reporting. We take care of everything on your behalf!

uRecycle® Group

uRecycle Group® consists following battery recycling companies:

- uRecycle® Industrial Batteries Oy
- uRecycle® Portable Batteries Oy
- uRecycle® Battery Materials Oy

We have operational experience primarily in Scandinavia and the UK, but we also have local partners in several northern European countries.

Our local partners operate in accordance with the uRecycle® concept, values and established processes.

Our business values are:

- Safety first and foremost
- Reliability & rapid response to issues
- Transparency to all stakeholders
- Customer-friendly approach
- Environmental stewardship
**OUR Strategy**

**SUSTAINABLE RECYCLING AND INNOVATION**

Today, because of our close relationships with our strategic partners and customers, we are:

- **Customer Satisfaction and Alignment**
  
  We are fundamentally aligned with our partners and customers to improve their financial performance and to invest in new technologies across our ecosystem.

- **Commitment To Our Employees**
  
  Our employees are our most important and valued assets.
  
  Well-being, morale and advancement are core to our values.

- **Commitment To Our Employees**
  
  Continuous Improvement of Business Processes
  
  Well-being, morale and advancement are core to our values.

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**OUR Business Aims 2018–2020**

**Europe:** One of the three largest battery recyclers at 20,000 MT per annum by 2020

**United Kingdom:** Main operator in battery recycling at 10,000 MT per annum in 2019

**North America:** Establish li-ion export operations in 2018 at 2,000 MT per annum and sorting/shredding operations in 2019

**Russia:** Establish export operations in 2019
We offer a complete battery recycling service for our clients across three different areas.

uRecycle® makes the recycling of batteries an easy and stress-free experience. We offer a streamlined package of services covering the packaging, storage, transportation and materials recycling of both industrial and portable waste batteries.

- uRecycle® Industrial Batteries Oy (est. 2014) provides a complete industrial battery recycling service. We offer a client portal, battery collection, ADR-compliant packaging solutions and transport and safe handling guidance.

- uRecycle® Portable Batteries Oy (est. 2006) offers a complete recycling service for all types of disposable and rechargeable portable batteries. We offer dock-to-dock transport, comprehensive sorting and materials recycling and thorough reporting.

- uRecycle® Battery Materials Oy (est. 2006) recovers and recycles waste battery materials using state-of-the-art technology. Our customers are sorting and recycling companies and compliance schemes across Europe.
THE MOST COMMON INDUSTRIAL BATTERIES

Electric forklifts, cleaning machines, reserve power batteries, emergency exit batteries, backup batteries (e.g. cash machines), electric vehicle (EV), hybrid vehicle (HEV) and plug-in hybrid vehicle (PHEV) batteries.

CHALLENGES WITH RECYCLING INDUSTRIAL-SIZED LITHIUM-ION BATTERIES

- How to recycle large-sized lithium-ion batteries?
- What should I know about the status of lithium-ion batteries before recycling?
- How to pack lithium-ion batteries for safe transportation?
- What kinds of documents are required to complete the lithium-ion battery recycling process?
- Who is responsible for recycling large-sized lithium-ion batteries?
- How do I ensure the batteries are recycled in compliance with the relevant standards?
- Where can I get more information about recycling large-sized lithium-ion batteries?

We offer a complete industrial battery recycling service for our clients.

- Recycling Services
- Educational services
- Packaging Solution Services
- Client Portal

uTrack recycling process

Client portal & collection request
Container receive check
Battery inspection & packing
Transportation & tracking
Recycling
Reports & invoices
Portable batteries are defined within the EU as sealed batteries with an upper weight limit of 3 to 4 kg (depending on the country). They are able to be carried by hand without difficulty and are not intended solely for industrial or automotive use. Typically they are used to power common household and consumer electrical devices such as torches, radios, clocks, watches, mobile phones, laptops, power tools and toothbrushes.

**BATTERY TYPES**

Portable batteries can be divided into two basic categories:

- **primary** i.e. disposable (e.g. alkaline, zinc-carbon, lithium, mercury oxide, silver oxide, zinc-air)
- **secondary** i.e. rechargeable (e.g. Li-ion, NIMH, NiCD, lead-acid).

Why recycle portable batteries?

The main components of portable batteries are metals. Some of these – in particular mercury, cadmium and lead – are toxic heavy metals which are hazardous to the environment. Mercury can be found in mercury oxide batteries, cadmium in NiCd rechargeable batteries and lead (plus corrosive sulphuric acid) in lead-acid batteries.

We offer portable battery recycling!

- Dock-to-dock, full service logistics management
- Comprehensive sorting and separation of all portable chemistries
- Sustainable recovery, shredding and recycling of all primary and secondary materials
- Comprehensive analytical and environmental reporting
- Regulatory, contract and permit management
A complete battery recycling service for all types of battery materials

**BATTERY MATERIALS**

uRecycle Battery Materials deals with the phase of the battery recycling process that takes place following battery sorting. Once waste batteries have been sorted according to their chemical composition, they are shred in a large shredder. The shredded batteries are then moved along a conveyer belt to a shaker, where they pass through a series of filters. This shredding and refining process results in a product called ‘black mass’, which contains electrolyte, zinc and manganese oxides and other metals. The black mass is then sold on to industry, where it is utilized in a range of applications.

**LONG TRADITION OF TECHNICAL KNOW-HOW IN BATTERY RECYCLING**

uRecycle Battery Materials has a long tradition of technical know-how in battery recycling. We are continually developing new technologies and processes to further increase the efficiency of battery recycling. Our customers are sorting and recycling companies and compliance schemes across Europe.

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**Legislation: The EU Battery Directive**

In 2006 the EU introduced the EU Battery Directive (2006/66/EC), a set of rules concerning the waste management of batteries in EU states. The directive aims to maximize the separate collection and recycling of waste batteries and reduce the amount of toxic heavy metals entering the environment by:

- Requiring battery producers to finance collection and recycling schemes (or to utilize existing local schemes).
- Requiring that all collected portable, industrial and automotive batteries are recycled.
- Prohibiting the disposal in landfills and incineration of industrial and automotive batteries.
- Setting minimum recycling efficiency targets for specific battery types.
- Setting maximum limits for the amount of mercury and cadmium contained in batteries (with some exemptions).
- Requiring a crossed-out wheelie bin symbol to be marked on all portable batteries (or on the packaging for AAA size and smaller batteries), along with the chemical symbol for mercury (Hg), lead (Pb) or cadmium (Cd) if the amounts of these heavy metals exceed certain levels.
Our near-term focus is to work closely with our strategic partners and customers on:

**Business Expansion**
- Improve collection programme performance
- Expand geographical footprint and market share
- Search for and create value for new strategic partners

**Blue-Sky Thinking**
- Prepare for the electric vehical revolution
- Reinvent the reverse supply chain
- Recover stored energy

**Continuous Process Innovation**
- Reinvent sorting and shredding processes
- Expand investment in new recovery technologies for raw materials

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**El-Kreisen**
- **ecosurety**
- **Selmont Trading**
- **Norsirk**
- **Tramel**

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To request an individual quote tailored to your needs, get in touch with us.

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