

# CollectNiCad

*The voice of the nickel-cadmium battery  
manufacturers, users, and collectors.*



**Industrial and portable nickel-cadmium batteries.  
Towards a closed loop.**

CollectNiCad is the European Association formed by portable and industrial nickel-cadmium (Ni-Cd) battery manufacturers and by Equipment Manufacturers incorporating those batteries in their equipment.

*Nickel-cadmium batteries are rechargeable. They achieve several hundred to several thousand cycles according to their applications.*

### Ni-Cd batteries are a key technology for advanced applications

- Nickel-cadmium (Ni-Cd) batteries are used in advanced applications in the fields of aeronautics, space and defence, stand-by power, railways, power tools, telecommunications and other specialty applications. Ni-Cd batteries are sold as large industrial units and as power packs integrated in portable electrical equipment.

### Ni-Cd batteries contribute to the sustainable use of natural resources

- Ni-Cd batteries are selected by Original Equipment Manufacturers (OEMs) and end-users because of their key characteristics such as the ability to deliver large peak current, the long term storage capacity, the continuous charge ability and because they can be deep discharged. In addition, they offer a very long cycle life, a high resistance in extreme operating conditions and abuse, a wide operating temperature range, a little loss of capacity when stored and a reasonable cost while satisfying all these technical features.

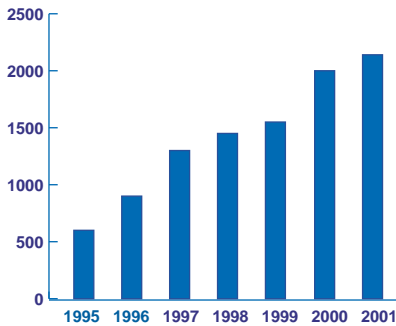


- In specific applications such as safety equipment, power back-up equipment, cordless power tools or emergency lighting, Ni-Cd batteries remain the essential technology and OEMs need them to continue offering the required level of quality and performance to their customers. For these applications Ni-MH or Li-ion batteries cannot provide the same performance as Ni-Cd batteries.
- The members of CollectNiCad will continue to contribute to the technological evolution of batteries to meet the requirements of end-users who need products powered by rechargeable batteries.

### Ni-Cd batteries are collected efficiently and collection rates will increase in the future

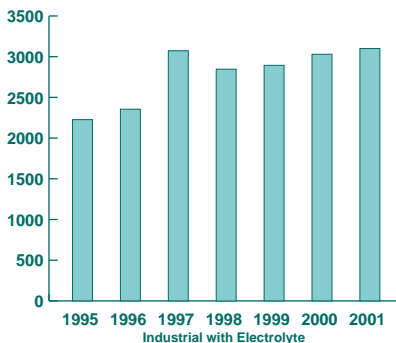
- Despite the fact that EC Directive 91/157 has not been implemented in all EU Member States and does not set collection targets, Ni-Cd batteries have been collected efficiently in countries where public, municipal and private collection programmes are in operation.
- Spent industrial Ni-Cd batteries are being collected through take back systems that secure their efficient collection.
- The amount of spent portable Ni-Cd batteries collected has increased by more than 20% every year over the past five years.

*Where safety and reliability are key features, Ni-Cd batteries are preferred to alternative technologies.*



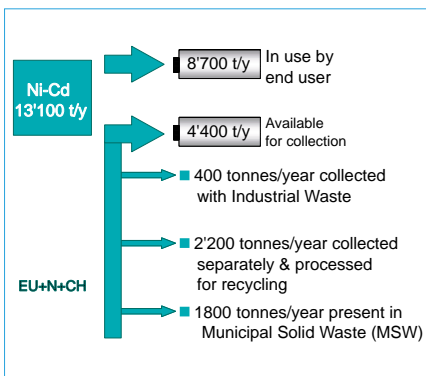
Collection of spent Portable Ni-Cd batteries

(EU MS + CH + N) .  
Data in Tonnes / year.  
(Source CollectNiCad)



Collection of spent Industrial Ni-Cd batteries

(EU MS + CH + N) .  
Data in Tonnes / year.  
(Source CollectNiCad)



The mass balance of portable Ni-Cd batteries

(Source CollectNiCad)

## An efficient collection system will guarantee that Ni-Cd batteries are used within a closed loop

- The objective of the EU legislation should be to ensure the separate collection of Ni-Cd batteries to prevent them from entering the municipal waste stream. CollectNiCad supports the need for a pan-European legal framework laying down common rules for organising collection and recycling schemes for spent rechargeable batteries.
- CollectNiCad continues to take a proactive role alongside the European authorities, the Member States and the collecting bodies in developing closed-loop applications for Ni-Cd batteries and in maximising collection efficiency (measurable targets, schedule of implementation, monitoring and reporting, economic instruments for implementation).

## When Ni-Cd batteries are collected efficiently their presence in municipal waste streams is negligible

- CollectNiCad supports the establishment of specific targets for the collection of Ni-Cd batteries in the EU legislation. Collection targets should be expressed by reference to the amount of spent batteries available for collection and not by reference to the quantities of batteries sold in a given year. Indeed, there is no direct relationship between quantities collected and quantities introduced on the market the same year.

The life of a Ni-Cd battery can exceed ten years in main applications and home storage of equipment incorporating rechargeable batteries is very common.

- Industry is prepared to evaluate and report regularly the real impact of Ni-Cd batteries on the environment using a transparent methodology jointly developed by industry and authorities.

- CollectNiCad recommends expressing the collection efficiency through the following formula:

$$\text{Collection Efficiency} = \frac{\text{Quantity of spent batteries collected separately}}{\text{Total quantity of spent batteries produced}}$$

- In this formula the "total quantity of spent batteries produced" represents the quantity of spent batteries that are collected separately and the quantity that are disposed of through the waste streams. Such a formula not only expresses the collection efficiency but also identifies clearly the quantity entering the waste stream.

This approach is already implemented by several existing battery collection systems in the Member States. It is widely supported by the collecting bodies and the recyclers.

**Collection and recycling:  
the most efficient waste  
management strategy.**

**Ni-Cd batteries are  
recycled efficiently.  
The recovered cadmium  
(purity > 99.9 %) is re-  
used in the manufacture  
of new batteries.**

- The implementation of the WEEE Directive will further increase the collection efficiency of spent batteries as they will be collected together with the equipment covered by the WEEE directive. This will significantly support the existing collection programs and help collection programs taking off in countries where the 91/157 Directive has not been yet enforced. Most importantly it will significantly contribute to addressing the question of "hoarded" batteries and of original equipment.
- Today, no potential risk has been identified in the manufacture, in the use of Ni-Cd batteries and at their end of life. Consequently the phasing out of Ni-Cd batteries is unjustified. In addition, according to the Council resolution of 1988, when risk reduction measures are justified, the implementation of efficient collection and recycling schemes for Ni-Cd batteries is recommended.

**Socio-economic aspects**

- The Ni-Cd rechargeable battery industry is present in Europe in various economic sectors: manufacture of batteries, pack assembly, equipment manufacture, electrical equipment installation, distribution and recycling. It is an economic activity composed mainly of a network of small and medium enterprises active in all EU Member States. These are represented by European professional organizations like EPTA (European Power Tools Association) and CELMA (Federation of National Manufacturers Associations for Luminaires and Electrotechnical Components for Luminaires in the European Union) as well as by National Federations for electrical and electronic equipments.
- The Ni-Cd rechargeable battery industry is contributing to the commercialization of technologies that improve human welfare in daily life. It is a critical part of the mobile energy world, which develops innovative technological solutions to meet the ever growing needs of modern society. The marketing of these products has a positive impact on employment in Europe and contributes to innovative research and development programs within European companies.
- The specific nature of the Ni-Cd recycling industry is that it is directly dependent on existing production capacity of new batteries. The development of its activity associated with an improved collection efficiency of spent batteries will impact positively on the economic environment of the European Battery industry.

**CollectNiCad Members**



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