



European  
Automobile  
Manufacturers  
Association

# ACEA Position Paper

## Revision of Batteries

## Directive 2006/66/EC



July 2017

## KEY RECOMMENDATIONS

The European Automobile Manufacturers' Association (ACEA) expects the review process of Batteries Directive 2006/66/EC to start in the following months. The automotive industry would like to contribute to ongoing and future discussions by offering some key recommendations:

- a. Definitions of second-life/second use and re-use should be harmonised across existing European waste legislation;
- b. The producer or importer of automotive batteries and accumulators can only be held responsible for what it has initially put on the market;
- c. Regarding industrial batteries coming from end-of-life vehicles, End-of-Life Vehicle Directive 2000/53/EC dealing with the complete vehicle should prevail over any other legislation;
- d. As nearly 100% of industrial and automotive batteries are already being collected, any additional obligations would be of no added value;
- e. Recycling efficiency targets for industrial batteries should be process-related and achievable.

# 1. DEFINITION OF SECOND-LIFE/SECOND USE AND RE-USE OF INDUSTRIAL BATTERIES

ACEA acknowledges the lack of legal certainty and clarity about the terminology often used with regard to batteries. 'Second use' is not defined in any of the related waste Directives, nor is the term 're-use' defined in the Batteries Directive. However, a definition of 're-use' is provided in the End-of-Life Vehicles (ELV) Directive, in the Waste Framework and in the Waste, Electrical and Electronic Equipment (WEEE) Directives.

- a) 'Re-use' means any operation by which components of end-of life vehicles are used for the same purpose for which they were conceived (End-of Life Vehicles Directive 2000/53/EC, Article 2.6).
- b) 'Re-use' means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived (Waste Framework Directive 2008/98/EC, Article 3.13).
- c) The definitions of 're-use', laid down in Article 3 of Directive 2008/98/EC shall apply (Directive 2012/19/EU on Waste Electrical and Electronic Equipment).

Consequently, the absence of a legal definition of 're-use', 'raises issues regarding the Extended Producer Responsibility for batteries in case of re-use or second use. Hence, ACEA believes that there is a clear need for harmonised definitions across the different Waste Directives.

In the absence of a clear legal definition, ACEA proposes that the 'second-life' of industrial batteries should be defined as any second use of industrial batteries other than their initial usage or application as stipulated by the producer, who placed the industrial batteries for the first time on the market. Furthermore, according to the waste hierarchy prolonged second usage is clearly superior to pure material recycling.

A flowchart indicating ACEA position on second use can be found in the Annex of this position paper. ACEA supports the second use of batteries when the battery remains under the responsibility of the producer acting as the first entity placing the battery on the market.

Industrial batteries which are no longer fit for their initial purpose or application (propulsion of electric vehicles (EV), hybrid electric vehicles (HEV), battery electric vehicle (BEV), plug-in hybrid electric vehicle (PHEV), etc) or which are no longer used due to other reasons after dismantling, can be transferred into second-life utilisation. The provider of a second-life product shall decide whether second-life utilisation is feasible based on the actual condition of the industrial battery and its internal cells/modules (eg capacity, charge-discharge properties, safety in use, etc).

This company shall also perform the necessary testing, classification, disassembly, re-organisation, re-shuffling and assembly including proprietary trademark affixing to indicate the battery product as a second-life battery. As of then, the producer of a battery for second-life utilisation holds product liability and producer responsibility. This company is also responsible for the treatment of all parts and components (eg cells) of the original dismantled industrial batteries, which are not used in the second-life batteries and therefore shall take the principal producer responsibility under the waste legislation. In addition, an official mechanism to monitor responsibility changes should be introduced to make clear which organization is responsible.

The second-life definition should be in line with the reuse definition in the Waste Framework Directive currently under revision. ACEA believes that is very important to avoid any confusion between 're-use' (which occurs before a product becomes waste), and 'preparation for re-use' (which takes place when the product has become waste). The possibility to effectively reuse and remanufacture products should not be compromised by a premature definition of the products as waste. The prolonged lifetime of products will allow them to keep their value within the economy, in line with the waste hierarchy for the efficient use of resources.

## 2. TAKE-BACK OBLIGATIONS

Battery or accumulator means any source of electrical energy generated by direct conversion of chemical energy and consisting of one or more primary battery cells (non-rechargeable), or consisting of one or more secondary battery cells (rechargeable), that are connected and / or encapsulated within an external jacket, to form a complete unit that the end user is not intended to split up or open. Only complete HEV-ELV, EV, and HEV batteries should be considered. In general, it is important to understand that there are two main sources of batteries: those coming from end-of-life vehicles and batteries from services events.

- a) With regard to batteries coming from end-of-life vehicles, the auto industry reiterates that automotive products reaching the end of their life are regulated by End-of-Life Vehicle Directive 2000/53/EC. It should prevail over any other legislation as the ELV Directive deals with the complete vehicle, including any automotive battery or industrial battery.
- b) As for batteries coming from services, only a very small number of complete industrial battery packs from serviced electrified vehicles will reach the end of their useful life: most of them will be reused, remanufactured or reintroduced in the loop and can therefore not be covered by a potential collection target, as such an approach would definitely lead to double counting.

Producers of automotive batteries and accumulators are subject to the take-back obligation

pursuant to Articles 8(3) and 8(4) of the Batteries Directive. ACEA acknowledges the fact that manufacturers and importers of such batteries are obliged to organise a system to take back from end users complete industrial batteries that producers and importers have put on the market in specific configurations and for clearly defined purposes.

ACEA also recognises that financial responsibilities for possible net costs arising from required treatment are implied in such take-back obligations. Automobile manufacturers would like to comment on required take back obligations for industrial batteries applied for specific purposes and services in motor vehicles – such as propulsion batteries for electric vehicles (EV) and hybrid electric vehicles (HEV).

ACEA would like to emphasise that a producer or importer can only be held responsible if the end-user claims for the take back of the complete battery system / pack that the producer / importer has initially put on the market for the traction of EV or HEV for a distinguished purpose in the vehicle. According to the automotive industry, the end user should be considered as the ultimate consumer of a product, especially if the product has been designed for this particular use case. Battery collection organisations, authorised end-of-life vehicle treatment facilities and second-life utilisation enterprises are not considered to be end users.

Different to collection systems for portable consumer batteries, the number of take-back locations will be limited since removal and handling of large industrial batteries will require special skilled personnel, suitable equipment and facilities for handling and storage. According to End-of-Life Vehicles (ELV) directive 2000/53/EC, complete batteries mounted on ELVs will fall under the scheme of this directive. Only if a complete industrial battery is removed from the vehicle and offered to an industrial battery recycler, the batteries Directive should prevail. Maintenance of EV and HEV batteries (aftermarket replacement) which are declared to be waste, shall fall under the Batteries Directive.

### 3. COLLECTION TARGETS

According to Article 10, paragraph 1 of the Batteries Directive (2006/66/EC), annual collection and sales figures shall include only batteries and accumulators incorporated into appliances (Articles 8(3) and 8(4)). Regarding industrial batteries, the Directive does not set collection targets but it does specify the obligation for Member States to ensure that appropriate collection schemes are in place. Such schemes are linked to take-back obligations for automotive manufacturers.

In the Frequently Asked Questions (FAQ) document on the batteries Directive<sup>1</sup>, the European Commission states that the take-back obligations for automotive batteries, combined with the ban on landfilling and incineration, is enough to ensure that batteries are collected. Furthermore, the FAQ specifies that – unlike portable waste batteries – industrial and automotive waste batteries are large, their users are professionals, and they are mainly collected by professionals, due to their economic value. Thus, nearly 100% of industrial and automotive batteries are already being collected.

In line with the European Commission's statement from May 2014, ACEA believes that the implementation of collection targets for industrial batteries used in electrified vehicles should be avoided for the following reasons:

- a) Despite rising consumer interest in electrified vehicles, the take up of this technology across the European Union remains limited. Vehicles sold today are expected to only reach their end of life in 10 to 15 years from now. The low number of electrified vehicles on our roads combined with the longevity of these vehicles, would make the potential implementation of collection targets for industrial batteries used in electrified vehicles unreliable. It is almost impossible to foresee the volume of traction batteries that could be accounted for through collection targets over the next two decades, regardless of the technology used.
- b) Efforts to reach potential collection targets would lead to early replacement of industrial batteries from electrified vehicles still meeting industry's operating standards, hence increasing the overall environmental impact. This argument is supported by several generic life-cycle analyses, which demonstrate the high environmental impact of industrial batteries' production stage.
- c) ACEA would like to recall the above-mentioned argument that there are two main sources of batteries: those coming from services most of which will be reused, remanufactured or reintroduced in the loop and batteries from end-of-life vehicles, already covered by the ELV directive.

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<sup>1</sup> Frequently Asked Questions on Directive 2006/66/EU on Batteries and Accumulators and Waste Batteries and Accumulators (Updated version, May 2014) – European Commission:

<http://ec.europa.eu/environment/waste/batteries/pdf/faq.pdf>

## 4. RECYCLING EFFICIENCY

European Commission Regulation 493/2012 defines the efficiency of a recycling process as the ratio obtained by dividing the mass of output fractions accounting for recycling, by the mass of the waste batteries and accumulators input (fraction expressed as a percentage).

ACEA believes that recycling efficiency should refer to the recycling processes rather than to the different types of batteries. Recycling of different types of batteries will result in different recycling efficiencies because of the different batteries chemistries and types. It is however possible to compare different recycling processes (eg mechanical treatment, pyro- and hydrometallurgical processes) allowing a more reliable correlation of the results.

From this perspective, the Batteries Directive includes the following minimum targets for recycling efficiency:

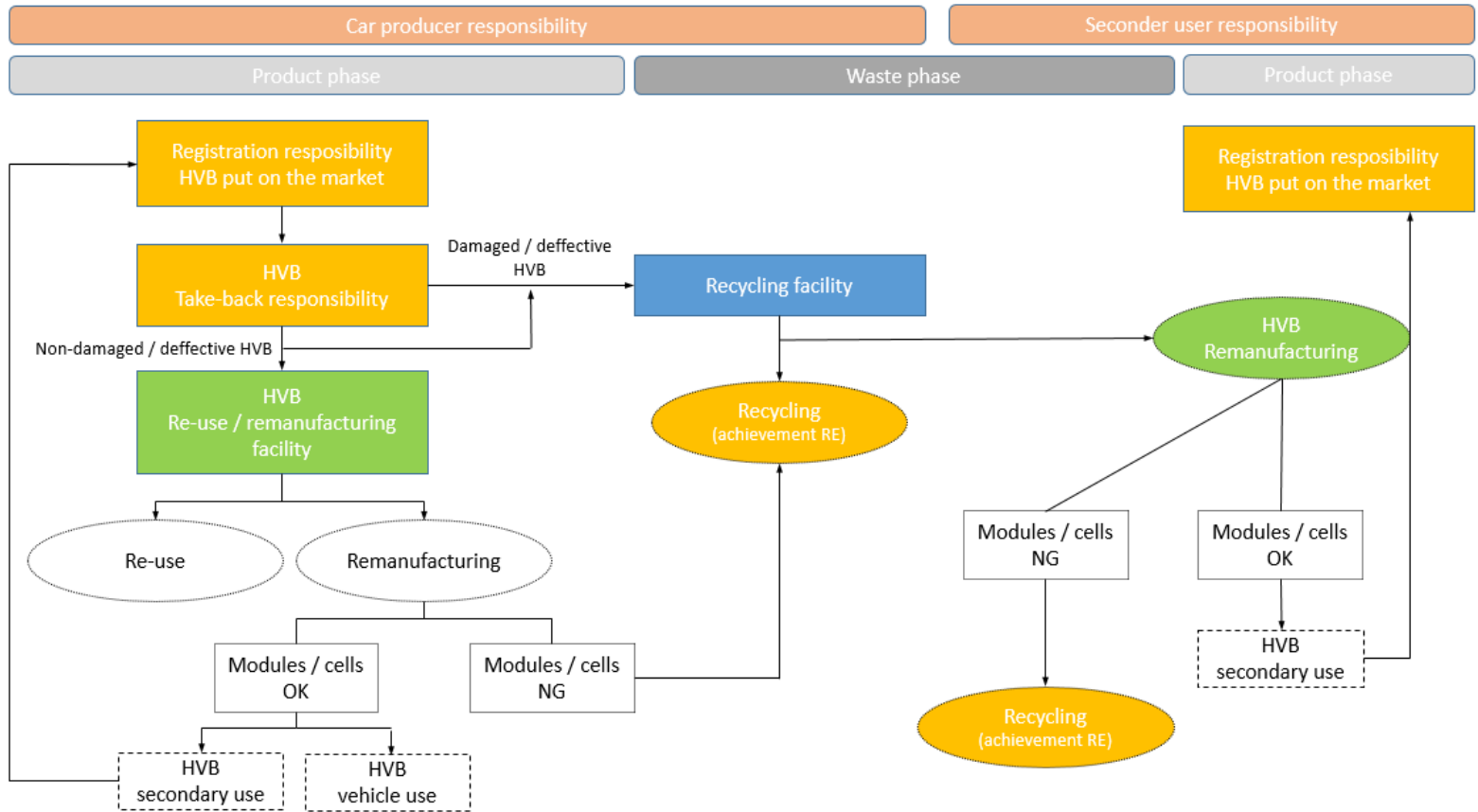
- a) Recycling of 65% by average weight of lead-acid batteries and accumulators, including recycling of the lead content to the highest degree that is technically feasible while avoiding excessive costs.
- b) Recycling of 75% by average weight of nickel-cadmium batteries and accumulators, including recycling of the cadmium content to the highest degree that is technically feasible while avoiding excessive costs.
- c) Recycling of 50% by average weight of other waste batteries and accumulators.

Industrial batteries (if not nickel-cadmium or lead-acid) should achieve a recycling efficiency of 50%. The most common industrial batteries currently used in passenger cars are either made of nickel-metal hydride (NiMH) or lithium-ion (Li-ion). Achieving the 50% recycling efficiency target is driven by the value of the secondary raw materials (mainly Co, Ni and Cu) and the technological process. Li-ion batteries consist of different chemical compositions, such as NMC, NCA, LMO and LFP. Given the variety of chemical compositions the recycling process of Li-ion batteries is much more challenging than the one of NiMH and the recycling efficiencies will differ according to the amount of available end-of-life batteries of the most common chemical composition and the content of the valuable and recyclable metal phase.

The calculation of the recycling efficiency on process level indicates much clearer where optimisation potentials for recycling can be realized along the process and allows to determine recycling efficiency for new battery types based on the related recycling processes.

Due to the current challenges and increasing requirements in electrification of transport as well as the resulting rapid development of advanced battery concepts and related recycling processes, ACEA advocates an achievable, process-related resource efficiency target of 50% for waste batteries (other than nickel-cadmium or lead-acid ones).

# ANNEX I







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## ABOUT ACEA

- ACEA represents the 15 Europe-based car, van, truck and bus manufacturers: BMW Group, DAF Trucks, Daimler, Fiat Chrysler Automobiles, Ford of Europe, Honda Motor Europe, Hyundai Motor Europe, Iveco, Jaguar Land Rover, PSA Group, Renault Group, Toyota Motor Europe, Volkswagen Group, Volvo Cars, and Volvo Group.
- More information can be found on [www.acea.be](http://www.acea.be) or [@ACEA\\_eu](https://twitter.com/ACEA_eu).

## ABOUT THE EU AUTOMOBILE INDUSTRY

- 13.3 million people – or 6.1% of the EU employed population – work in the sector.
- The 3.4 million jobs in automotive manufacturing represent over 11% of total EU manufacturing employment.
- Motor vehicles account for some €413 billion in tax contributions in the EU15.
- The sector is also a key driver of knowledge and innovation, representing Europe's largest private contributor to R&D, with €54 billion invested annually.
- The automobile industry generates a trade surplus of €90.3 billion for the EU.