PORTUGAL

Detailed description of how the data on batteries and accumulators have been compiled according to Directive 2006/66/EC

June 2024

Data reference year: 2022

Submited by:

Portuguese Environment Agency (APA)
Rua da Murgueira, 9- Zambujal Ap. 7585
2611-124 Amadora-Portugal
tel: (351) 21 472 14 74 | fax: (351) 21 471 90 74
Email: geral@apambiente.pt
http://www.apambiente.pt

Contact details:
Sílvia Ricardo
Mafalda Mota
Ana Henriques
Departamento de Resíduos
Divisão de Fluxos Específicos e Mercados de Resíduos
E-mail: silvia.ricardo@apambiente.pt
mafalda.mota@apambiente.pt
ana.henriques@apambiente.pt

General information

Pursuant to the requirements laid down in Directive 2006/66/EC of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and Commission Regulation 493/2012 laying down detailed rules regarding the calculation of recycling efficiencies of the recycling processes of waste batteries and accumulators, the Member States must calculate, from reference year 2011 onwards, the collection rate for waste portable batteries.

In addition to the abovementioned Directive, the Commission's decision 2008/763/EC of 29 September, establishes a common methodology for the calculation of portable batteries annual sales to end users. Collection goals are established in article 10 (2), being 2012 the first reference year for its report.

Article 12(5) of the Directive establishes that Member States shall report on the levels of recycling achieved in each calendar year concerned and whether the efficiencies referred to in Annex III, Part B have been met. They shall submit the information to the Commission within six months of the end of the calendar year concerned.

The present report, which has its data presentation based on the Eurostat's e-Damis system spreadsheet "BATT Excel questionnaire", aims to fulfil the abovementioned obligations by reporting the data from the reference year of 2022.

The data collected was reported to Eurostat, through e-Damis4 system spreadsheet "BATT Excel questionnaire", on 28 June 2024.

National legislation for the regulation of the waste batteries and accumulators management and its licenced entities

Decree-Law 152D/2017, of 11 December, in its current wording, unifies all the previous legal documents concerning the specific waste flows management system under the extended producer responsibility and, as such, transposes the Directive 2006/66/EC of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators to our national legislation.

The national legislation concerning waste batteries and accumulators is available for consultation on the Portuguese Environment Agency website: https://www.apambiente.pt/residuos/residuos-de-pilhas-e-acumuladores.

As stated in Decree-Law 152D/2017, of 11 December, in its current wording, all batteries and accumulators producers are obliged to submit their waste management through an individual or integrated system. It is considered a producer any natural or legal person who, irrespective of the selling technique used, including distance communication within the meaning of Decree-Law No. 143/2001, of April 26, in its current wording, and non-including whoever exclusively provides financing under or pursuant to any finance agreement, unless he also acts as a producer, within the meaning of the following subparagraphs:

i) Is established in the national territory and manufactures the product, including those incorporated in appliances, equipment or vehicles, under its own name or trademark, or has the product designed or manufactured and markets it under his name or trademark in Portugal;

ii) Is established in the national territory and proceeds with the resale, rental or any other form of availability on the market, in Portugal, under its own name or trademark, of the product, including those incorporated in appliances, equipment or vehicles, produced by other suppliers, not considering the reseller as a producer if the producer's brand is affixed to the product, in accordance with the provisions of the previous subparagraph;

iii) Is established in the national territory and places a product on the market, including those incorporated in appliances, equipment or vehicles, coming from a third country or another Member State of the European Union;

iv) Sell, rent or otherwise make products available on the market, including those incorporated in appliances, equipment or vehicles, through distance communication techniques, directly to private users or non-private users in Portugal and is established in another Member State of the European Union or in a third country;

In the reference year of 2022, there were four Waste Batteries and Accumulators Producer Responsibility Organizations (PRO), acting under different licensing scopes:

- **O Electrão – Associação de Gestão de Resíduos (former Amb3E – Associação Gestora de Resíduos)**
  Was first licensed on 20 of January of 2010, managing an integrated system for portable waste batteries and accumulators and industrial batteries and accumulators, including the ones incorporated in WEEE devices pursuant the established in article 9 (6) of Decree-Law 6/2009, of January 6 (since, revoked by Decree-Law 152D/2017, of December 11) and the synergy potential arising from the management of both the Waste Portable Batteries and accumulators flow and the WEEE flow.
  The first licensing period was extended up until 2016, with one year renewable periods, until the current licensing cycle begin, in 2018.
  Their current license for the integrated management of waste portable batteries and accumulators was approved by the Portuguese Government Order 11275-D/2017, of December 19, and is in effect since the 1st of January of 2018. The license for the O Electrão integrated management system for waste portable batteries and accumulators is in effect up until 30 June 2024 and a new license is being prepared to enter into force on the 1st of July 2024.
- **ERP Portugal – Associação Gestora de Resíduos**
  Was first licensed on 4 of March of 2010, managing an integrated system for portable waste batteries and accumulators and industrial batteries and accumulators, including the ones incorporated in WEEE devices pursuant the established in article 9 (6) of Decree-Law 6/2009, of January 6 (since, revoked by Decree-Law 152D/2017, of December 11) and the synergy potential arising from the management of both the Waste Portable Batteries and accumulators flow and the WEEE flow.
  The first licensing period was extended up until 2016, with one year renewable periods, until the current licensing cycle begin, in 2018.
  Their current license for the integrated management of waste portable batteries and accumulators was approved by the Portuguese Government Order 11275-A/2017, of December 19, and is in effect since the 1st of January of 2018. The license for the ERP Portugal integrated management system for waste portable batteries and accumulators is in effect up until 30 June 2024 and a new license is being prepared to enter into force on the 1st of July 2024.
- **GVB – Gestão e Valorização de Baterias, Lda**
  Was first licensed on 24 of March of 2010, managing an integrated system for automotive waste batteries and accumulators and industrial batteries and accumulators (mostly EV and stationary batteries and accumulators).
  The first licensing period was extended up until 2016, with one year renewable periods, until the current licensing cycle begin, in 2018.
  Their current license for the integrated management of waste portable batteries and accumulators was approved by the Portuguese Government Order 11275-E/2017, of December 19, and is in effect since the 1st of January of 2018. The license for the GVB -

Gestão e Valorização de Baterias integrated management system for waste portable batteries and accumulators is in effect up until 30 June 2024 and a new license is being prepared to enter into force on the 1st of July 2024.

- **VALORCAR – Sociedade de Gestão de Veículos em Fim de Vida, Lda.**
  Was first licensed on 23 of July of 2009, managing an integrated system for automotive waste batteries and accumulators and industrial batteries and accumulators (mostly EV and stationary batteries and accumulators).
  The first licensing period was extended up until 2015, with one year renewable periods, until the current licensing cycle begin, in 2018.
  Their current license for the integrated management of waste portable batteries and accumulators was approved by the Portuguese Government Order 11275-C/2017, of December 19, and is in effect since the 1st of January of 2018. The license for the Valorcar – Sociedade de Gestão de Veículos em Fim de Vida Lda integrated management system for waste portable batteries and accumulators is in effect up until 30 June 2024 and a new license is being prepared to enter into force on the 1st of July 2024.

The Directive 2006/66/EC of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators, amended by Directive 2013/56/EU of 20 of November, establishes the obligation of registry for batteries and accumulators producers, in each member state, with their national competent authorities and provide them information concerning the type of batteries and accumulators that are placed on the market each year as well as the chosen management system in use for each type of battery and accumulator.

With the entry into force of Decree-Law 152D/2017, of December 11, in 2018, the producers registry has become a part of the Portuguese Environment Agency responsibilities and is managed through an electronic platform named Sistema Integrado de Licenciamento do Ambiente (SILiAmb).

Although the information is registered by the producers on the abovementioned platform, the information analysis that takes place each year has proven that the said platform is not yet completely reliable. For that reason, the data used in the production of this report, concerning the Placing on Market information, was obtained through the PROs for this specific waste flow, as they are obliged to send our Agency an activities annual report that includes the POM data.

Chapter A: Data on Sales, Collection and Collection Rate according to Article 10 (3) of the Batteries Directive and according to Commission Regulation (EU) No 493/2012

Targets

The batteries directive establishes that Member States shall achieve the following minimum collection rates for portable batteries and accumulators:

i) 25%, by 26 September 2012;
ii) 45%, by 26 September 2016.

Calculation methodology

The Annex I of the 2006/66/EC Directive establishes the calculation methodology to monitor the compliance of the collection rates defined on its article 10. For the year 2021 the calculation formula was:

$$Collection\ Rate_{2021} = 3 \times \frac{Collection_{2021}}{Sales_{2019} + Sales_{2020} + Sales_{2021}}$$

The Commission's decision 2008/763/EC, of 29 September, establishes, a common methodology for the calculation of annual sales of portable batteries and accumulators to end-users, defining that:

i) Member States shall calculate the annual sales of portable batteries and accumulators to end-users in a given year, as the weight of portable batteries and accumulators placed on the market in the territory of the Member State in the year concerned, excluding any portable batteries and accumulators that have left the territory of that Member State in that year before being sold to the end-users;
ii) The placing on the market of each battery shall be counted once.
iii) The calculation provided shall be based on collected data or statistically significant estimates based on collected data.

Information sources

Being the national waste authority, the Portuguese Environment Agency, obtains its data through the registry of data, by PROs, in SIRER (Sistema Integrado de Registo de Resíduos), which is integrated in the SILiAmb platform previously mentioned.

The data registry by the PROs allows us not only to access the performance of each system, but also, the performance of the batteries and accumulators waste flow management on a national level.

The PROs, alongside this registry of information, submit a written report to the National Waste Authority containing a review of the activities carried out in the previous year.

For the collection rate targets, the information that originates from SIRER allows us to obtain the following data:

i) Batteries and Accumulators producers identification, as well as the amounts (units and weight) of batteries and accumulators placed on the market, considering the type of battery (portable, automotive or industrial) and its chemical composition[1];
ii) Batteries and Accumulators collection operators and their origin (municipalities, distributors, collection campaigns, and others), the type of batteries and accumulators collected (portable, automotive or industrial), the LoW code and the amount collected.

As previously mentioned, the data used in the production of this report, concerning the Placing on Market information, was obtained through the PROs for this specific waste flow, due to fact that the data registered on the SILiAmb platform by the producers is not always accurate, as many of them are unfamiliar with the definitions, resulting in often poorly filled forms and the information not being completely reliable.

An attempt to clarify the data submission for the producers was made in 2022, and a communication was sent to them and the PROs reinforcing the need for accurate information, so that we can have more reliable data to report. As a result, some of the values for the Portable Batteries and Accumulators placed on the market and the tables presented in this report, referring to data of years 2019 and 2020, reflect that data update (with the proper explanatory footnote).

As such, the available data are presented below in accordance with the established waste organization at a national level and aligned with the targets defined in the Batteries Directive.

A1: Sales and collection

Table 1 - Portable batteries and accumulators placed on the market

[1] zinc-carbon, alkaline, lithium-ion, zinc-air, nickel-cadmium, nickel-metal-hydride, silver oxide, nickel hydroxide, lead-acid or other

Year	PoM (ton)
2018	2 455,71
2019*	2 168,24
2020*	1 520,36
2021	2 870,06
2022	2 762,58

**Corrected values.*

Table 2 - Portable batteries and accumulators collected

	2018	2019	2020	2021	2022
TOTAL (ton.)	668,84	752,85	387,52	427,44	481,49

Despite the Placed on the Market values correction that took place last year, there is still a major difference between the values presented for the reference years 2019 to 2022.

As explained in our previous reports, this difference is related with the phasing out (2020) and formal closure for business (2021) of one of the five PROs that were licensed for this specific flow: Ecopilhas.

This process caused a disruption on the waste management market for batteries and accumulators, mainly affecting the portable batteries results.

Despite the gradual growth of the collection values on the last two years presented, it is clear that the market hasn't yet recovered the major change occurred in its players.

A2: Collection rate

Table 3 – Portable batteries and accumulators collection rate

	2018	2019*	2020*	2021	2022
TOTAL	31,0%	32,9%	18,9%	19,6%	20,2%

**Corrected values*

Thus, the portable batteries and accumulators waste collection rate achieved for the last 5 reference years was 31,0%, 32,9%, 18,9% and 19,5% and 20.2%, respectively.

There was a major crash in the collection rate, between 2019 and 2020 which the PROs and other stakeholders, despite their efforts to adjust to the new reality, haven't yet successfully compensated.

Although we can see a small improvement in the reference years of 2021 and 2022, there is still a lot of work to be done in order to achieve the minimum targets set out in the Batteries Directive and prepare for the new targets that will come with the enforcement of the new batteries regulation.

Chapter B: Data on Recycling and Recycling Efficiencies according to Article 12 (5) of the Batteries Directive

Targets

The batteries directive establishes that Member States should achieve the following minimum recycling efficiencies:

i) 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;
ii) 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; and
iii) recycling of 50 % by average weight of other waste batteries and accumulators.

Calculation methodology

The Batteries Directive established that detailed rules regarding the calculation of recycling efficiencies shall be added no later than 26 March 2010, but those rules only came to light when the Commission Regulation (EU) No 493/2012 of 11 June 2012, laying down, pursuant to Directive 2006/66/EC of the European Parliament and of the Council, detailed rules regarding the calculation of recycling efficiencies of the recycling processes of waste batteries and accumulators was published.

Information sources

As explained in Chapter A, the data obtained by the Portuguese Environment Agency originates in SIRER and are conjugated with the information sent to us by the PROs on their annual activities reports.

The information obtained from SIRER, concerning de amount of recycled waste allows us to measure the amount of recycled waste by the batteries and accumulators waste treatment operators identification, as well as the amounts (weight) of batteries and accumulators treated, which valorisation operation the waste was submitted to and its destiny (country), the type of batteries and accumulators treated, its chemical composition [2] and its LoW code[3].

B1: Recycling input and output for lead acid, Ni-Cd and other batteries and Recycling efficiencies for lead acid, Ni-Cd and other batteries

For the reference year 2022, there is only one recycling facility operating in Portugal and it recycles only lead batteries.

Following the collection of all waste lead-acid batteries and accumulators in Portugal, only 59,8% were treated in the country. The remaining 40,2% were shipped for treatment and recycling abroad (Spain).

The Portuguese recycler for lead batteries and accumulators has reported, pursuant the Article 3(4) of the Commission Regulation (EU) No 493/2012 of 11 June, that its recycling efficiency was 73,8% and the recycled lead content was 98,25%.

[2] It's not always possible to obtain this data in an individual manner, as it consists in a mix of collected waste that is shipped out for recycling

[3] By itself, this information doesn't always allow us to obtain the waste specific chemical composition.

From the foreign operators only the global recycling efficiencies are known, as they are reported to the Portuguese Environment Agency by the PROs. The recycling efficiency varies from 65% to 79,8%.

No information on the recycled lead content is available for those operators.

Due to the lack of complete information regarding the foreign operators, it is only possible to estimate masses for the input and output fractions, both total and for lead content.

The values presented for the total global recycling efficiencies and for the recycled lead content are also estimated.

For the calculation, it was considered the same composition elements of the input fraction as the one from our national recycler, as well as the same recycled lead content.

As such, the values presented in the table 2 of the "WASTE_BATTDAT_A_2022_PT" spreadsheet for W160601 and W160601Pb are an estimate.

The estimated values for the recycling efficiency, considering the amount shipped out for all the recyclers (foreign and domestic) are presented in table 4, below.

Table 4 – Recycling efficiency concerning waste lead batteries and accumulators*

	2018	2019	2020	2021	2022
	Chumbo-ácido				
Recycling Efficiency	72,2%	71,5%	72,2%	73,1%	73,3%

** Estimated values, as they are calculated using data of the recycling efficiency sent to PROs by the foreign recyclers*

As for waste from Nickel-Cadmium Batteries and Accumulators and other chemical systems, the waste collected was all sent for recycling abroad, as there are no recyclers in Portugal for this type of waste.

The information on the recycling of this type of waste was provided by the by the PROs and not by the recyclers, referring only to global values of the recycling efficiencies.

We also have no information on the elemental composition of the input fraction, nor on the recycled cadmium content.

Due to the impossibility to obtain data on the values for the input and output masses of the waste, it is not possible to calculate and report values for W160602, W160602 CD and W160605 in Table 2 of the spreadsheet "WASTE_BATTDAT_A_2022_PT".