QUALITY REPORT

Description of the data submitted according to the

Commission Decision 2005/293/EC on the monitoring of the reuse/recovery and reuse/recycling targets on end-of life vehicles

DIRECTIVE 2000/53/EC OF18 SEPTEMBER 2000

DATA FOR THE YEAR 2024

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Context

Article 7(2) of Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 defines the targets that Member States must meet regarding the reuse, recovery and recycling of end-of-life vehicles (ELV). To monitor compliance with these targets, the Commission adopted Decision 2005/293/EC of April 1, 2005, which sets out detailed guidelines for member states, including an annex with tables to fill in to indicate whether the targets have been met.

In this report, the Portuguese Environment Agency, as the National Waste Authority, presents the results of ELV management in Portugal in 2024, thus ensuring compliance with data reporting obligations.

National legislation and ELV management

Directive 2000/53/EC was transposed into national law through Decree-Law No. 152-D/2017 of 11 December, subsequently republished in Annex V of Decree-Law No. 102-D/2022 of 10 December. The ELV legal framework has since been progressively updated through the following amendments:

- Rectification nº 3/2021 of 21 January;
- Decree-Law nº 9/2021 of 29 January;
- Law nº 52/2021 of 10 August;
- Decree-Law nº 11/2023 of 10 February;
- Decree-Law nº 106/2023 of 17 November;
- Decree-Law nº 24/2024 of 26 March;
- Decree-Law nº 34/2024 of 17 May;
- Decree-Law nº 139-A/2025 of 30 December.

Decree-Law 152-D/2017 establishes an integrated management system for specific waste streams, including ELVs. Management entities manage this system and are responsible for encouraging operators to comply with the established management objectives.

This law promotes a reduction in the amount of waste generated and encourages continuous improvement in the environmental performance of those involved in the life cycle of vehicles, especially those involved in their treatment.

This instrument also provides that operators taking part in the vehicle's life cycle should take the appropriate measures so that:

- the following targets were achieved by 1 January 2006
    - the reuse and recovery of ELV increase to at least 85%.
    - the reuse and recycling of ELV increase to at least 80%.
- the following targets were achieved by 01 January 2015
    - the reuse and recycling of ELV increase to at least 85 %
    - the reuse and recovery of ELV increase to at least 95 %.

These objectives will only be achieved through the combined efforts of stakeholders, from vehicle manufacturers/importers to operators who treat ELV, to manufacturers of vehicle components and materials, to distributors and end consumers.

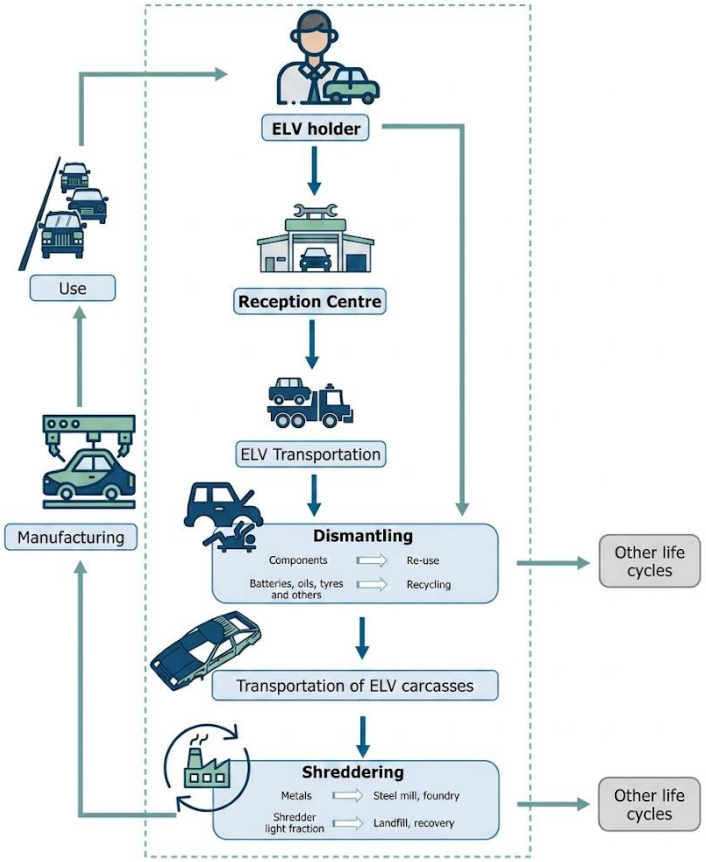
Since July 2004, VALORCAR - Sociedade de Gestão de Veículos em Fim de Vida, Lda. has been responsible for managing the integrated ELV system in Portugal. Over the years, its license has been granted, extended or renewed through the following joint orders:

- Joint Order nº. 525/2004, of August 21;
- Joint Order nº. 6839/2010, of February 5;
- Joint Order nº. 13092/2010, of August 3;
- Joint Order nº. 525/2004, of August 21;
- Joint Order nº. 13092/2010, of August 3;
- Joint Order nº. 5959/2016, of May 4;
- Joint Order nº. 2178-A/2018, of March 1;
- Joint Order nº. 342/2022, of January 11;
- Joint Order nº. 14321/2022, of December 15;
- Joint Order nº. 13288-D/2023, of December 29.

VALORCAR plays an essential role in the sustainable management of this waste stream, promoting the collection, recovery and recycling of ELVs throughout Portugal.

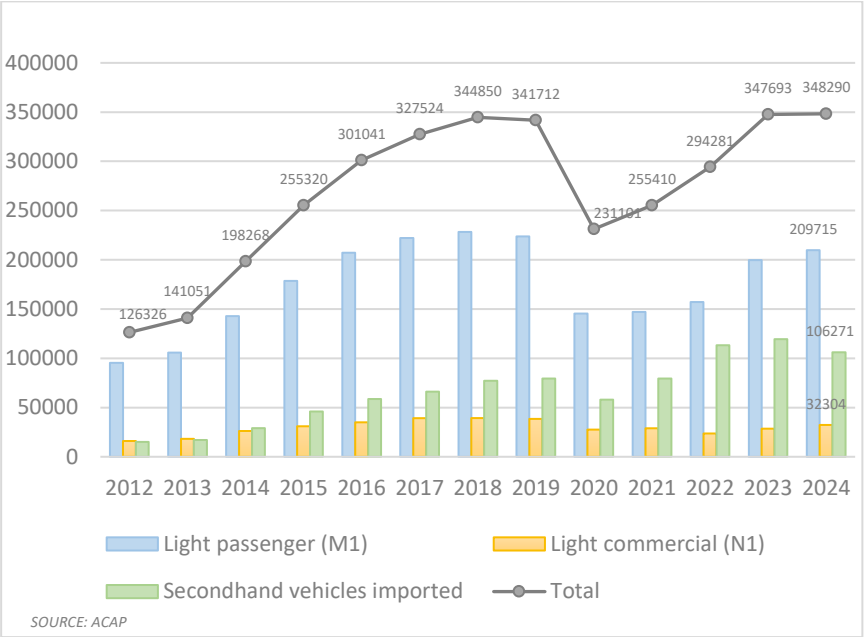
The ELV treatment circuit involves several stages to ensure the reuse and recycling of materials, minimising environmental impact (Figure 1). The process begins with the vehicle being delivered to a reception centre and then dismantled to separate components such as batteries and oils. The metal structure is then broken down and sent to steel mills, while the remaining materials are sent for recovery or appropriate disposal. This system promotes the efficient management of ELVs, contributing to the sustainability of the automotive industry.

Figure 1 – ELV treatment circuit



Current situation of the national vehicle market

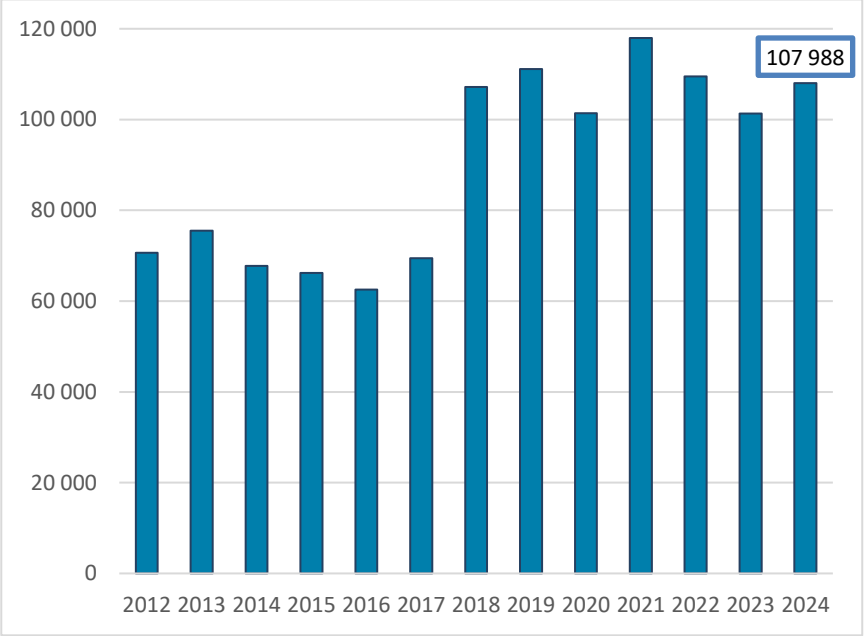
In 2024, according to ACAP (Associação Automóvel de Portugal), a total of 242.019 new light vehicles were registered in Portugal by the official brand representatives, of which 209.715 were passenger cars (M1) and 32.304 light commercial vehicles (N1), which represents an increase of 6.1 % on the previous year (Graphic 1). Additionally, there was a reduction in the number of used cars imported, falling from 119.547 units in 2023 to 106.271 in 2024. This reflects a 11 % compared to 2023.



Graphic 1 - Annual evolution of new and imported used vehicle registrations in Portugal (2012–2024)

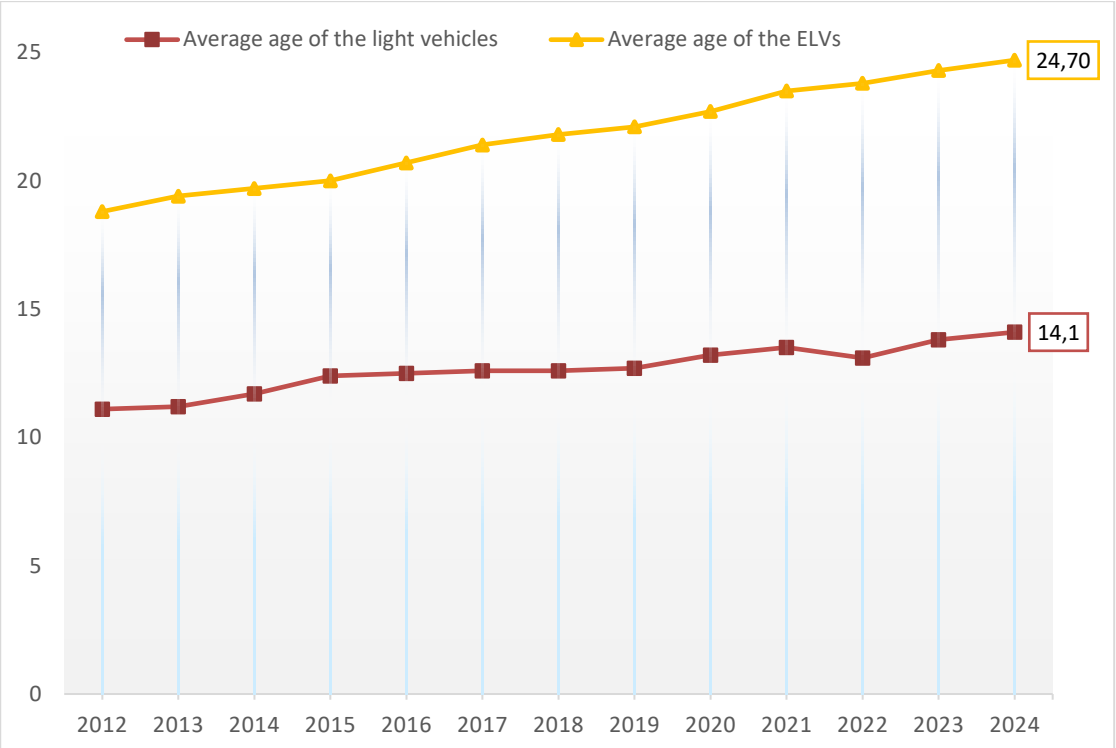
ELV on national territory

According to information from dismantlers, 107.988 ELV were received in 2024, representing a 6,6 % increase (6.160 vehicles) compared with the previous year (Graphic 2).



Graphic 2 – Number of ELV received by dismantling operators

According to ACAP, the average age of the national fleet of light passenger vehicles (approximately 5.970 million vehicles) has been increasing since 2000, reaching 14,1 years in 2024 (Graphic 3). The average age of the ELVs received by dismantlers was 24,7 years.

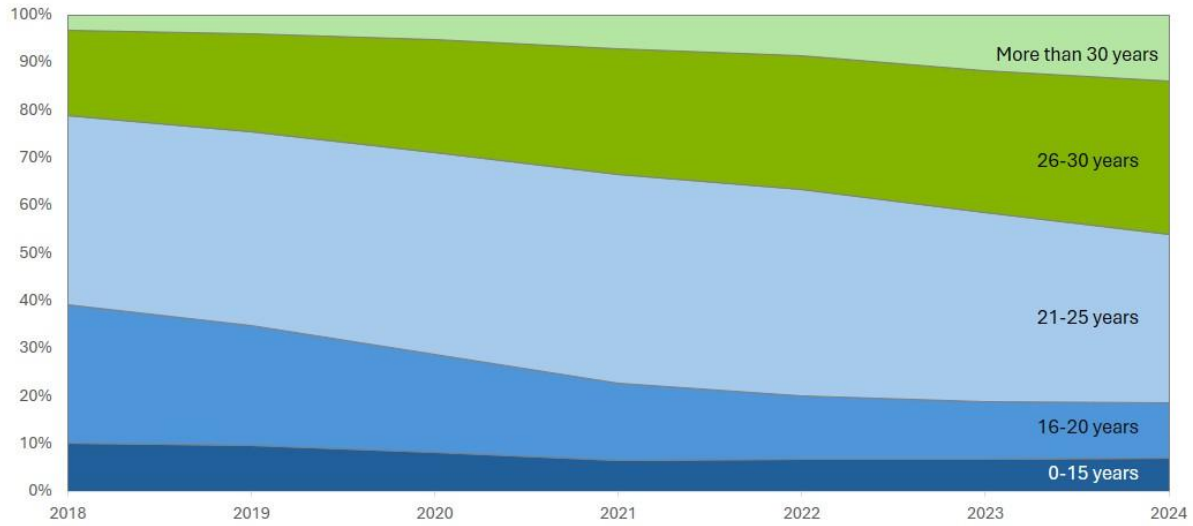


Graphic 3 – Average age of vehicles and ELV

The following graphics characterise the ELV received by the dismantlers.

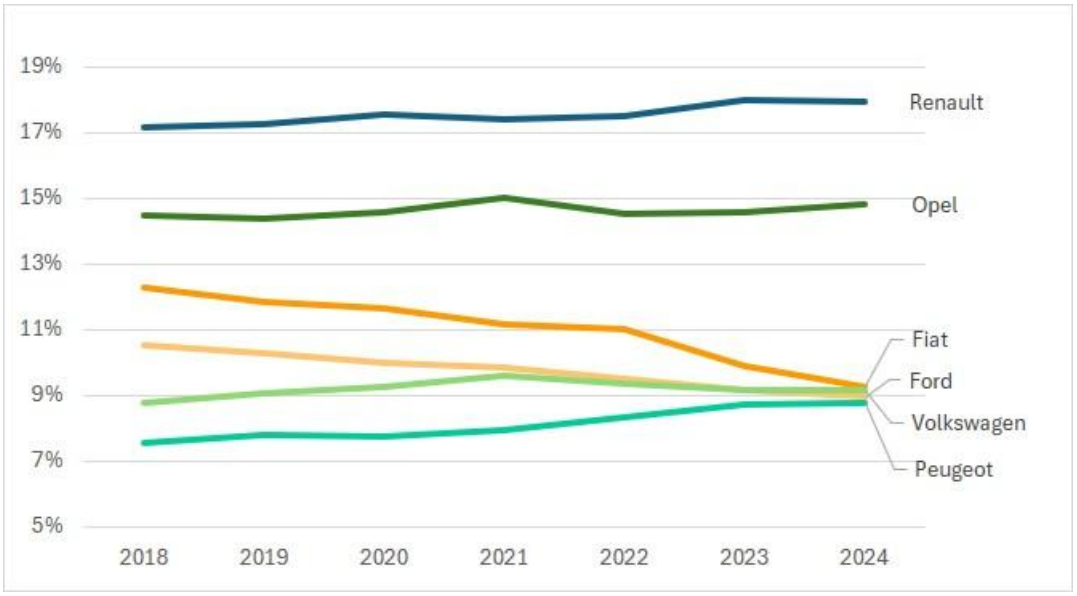
With regard the category of ELV received, the light passenger vehicles (category M1) continue to predominate over light commercial vehicles (category N1).

Between 2018 and 2024, we saw a shift in the profile of the vehicle fleet. In 2018, most vehicles (around 80%) were less than 25 years old (blue bands). By 2024, the situation had changed dramatically: vehicles over 26 years old (green bands), which had previously been in the minority, now accounted for almost half of the entire fleet (Graphic 4).



Graphic 4 – Age distribution of ELVs dismantled between 2018 and 2024

The Graphic 5 shows how the volume of ELVs from the six vehicle makes with the highest volume changed from 2018 to 2024. These six vehicles make together accounted for approximately 70% of all ELVs processed in Portugal over this period.

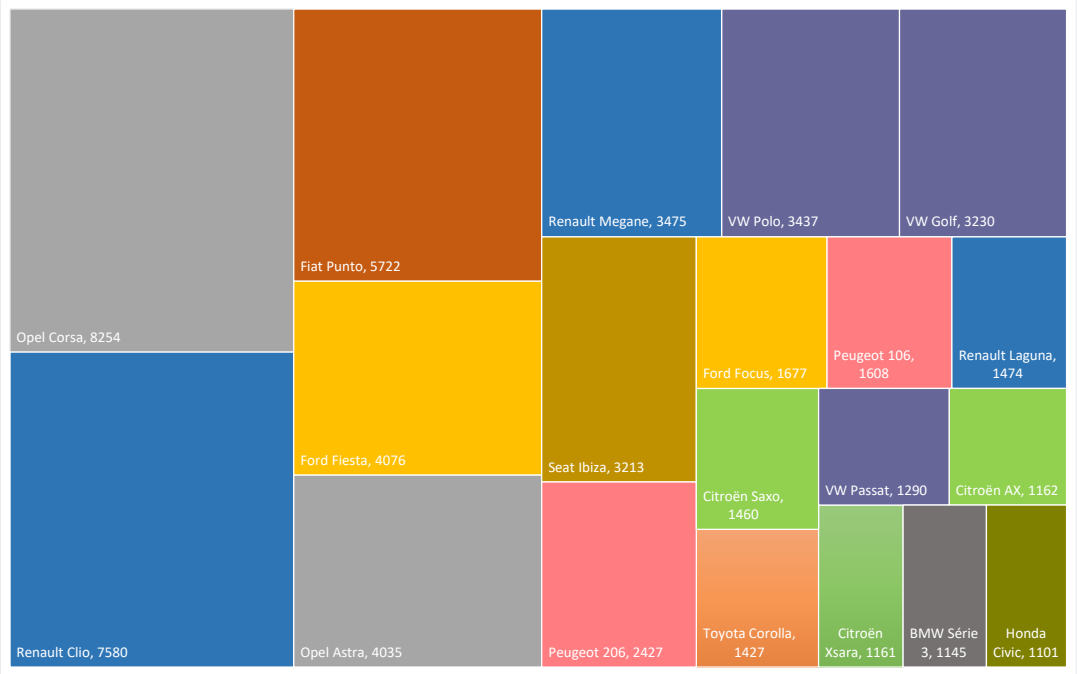


Graphic 5 – Evolution by make of the ELV surrendered to the dismantlers (2018-2024)

In 2024, there is a marked convergence among Fiat, Ford, Volkswagen, and Peugeot, while Renault and Opel remain stable and dominant. The group shows less dispersion and greater relative balance.

During 2024, 130 ELV of distinct brands were dismantled in Portugal. However, some brands are no longer sold in the country, such as TALBOT or EBRO (the so-called orphan ELV). The

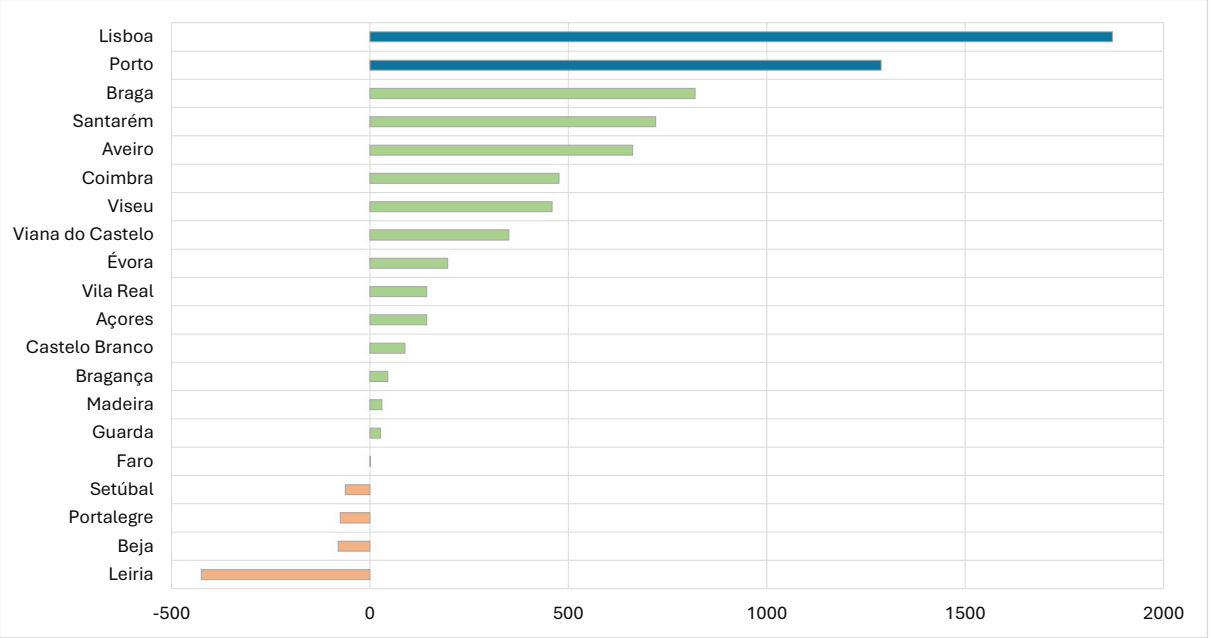
distribution of the number of ELV by brand, had the same pattern as in 2022 and 2023, with RENAULT, OPEL and FIAT occupying the top three positions. The top 20 models are represented in the Graphic 6 bellow.



Graphic 6 – Breakdown by model of ELV surrendered to the VALORCAR network in 2024 (Top 20)

In recent years we have witnessed the Opel Corsa as the model with the most units delivered for national scrapping, reaching in 2024 approximately 7.6% of the total volume of ELVs. As in previous years, the category B ELVs dominated the TOP20 models, i.e. predominantly small ELVs, which explains the low average weight of the ELVs received.

Regarding the geographical origin of ELV, the VALORCAR network received ELV from the 18 districts of Mainland Portugal and the Autonomous Regions of Madeira and the Azores, among which the more populated districts, Porto and Lisbon, stand out as having received the greatest numbers of ELV (Graphic 7).



Graphic 7 – Variation in ELVs delivered to the Valorcar network by district of origin between 2023 and 2024

Methodology

Information supplied by the dismantling operators provided the basis for the data on ELV management at national level in 2024 used in completing the tables from the Commission Decision in question.

For the purpose of determining the amount of metal from recovered ELV, the metal content assumption was adopted: the total weight of metals sent for recycling (excluding batteries, filters and catalysts, which have to be removed by law) corresponds to **74,97 %** of the total weight of ELV received, as provided for in the metal content assumption method established in the shredding campaign (see 'Shredder campaign').

To determining the amounts of materials and components from ELV undergoing reuse, recycling and energy recovery the following assumptions were taken into consideration:

- The total weight of ELV received corresponds to the total tare weight of all the Category M1 and N1 ELV for which a certificate of destruction was issued, obtained as follows:
    - Vehicle tare shown in its registration documents, not including the weight of the driver, which is set at 75 kg and the weight of the fuel, which is set at 40 kg (ELV with registration documents).
    - Vehicle tare obtained from a database of the Traffic Authority (IMT) containing

the average tare of all models of vehicles sold in the last 25 years, not including the weight of the driver, which is set at 75 kg and the weight of the fuel, which is set at 40 kg (ELV with no registration documents, e.g. abandoned vehicles).

- When operators that do not belong to the VALORCAR network did not respond to the APA's request to provide data on ELV management, the value taken was the number of copies of certificates of destruction issued and received by the management body (to which all operators are obliged to forward the copies). For the remaining cases whose copies of the certificates were not sent to the management body, the number of ELV adopted were those recorded in the Integrated Map of Waste Registration (MIRR). The results for the de-pollution and dismantling of ELV of all the operators outside the VALORCAR network that did not respond to the APA's request were extrapolated from the results of those operators that do not belong to the network but did provide that information.

- The total weight of materials sent for recycling and energy recovery corresponds to the total weight of all the materials dispatched by the dismantlers to recycling or energy recovery facilities (information contained in the weighing notes and waybills).

- For dismantlers outside the VALORCAR network, information on the destination of materials was obtained directly from the dismantlers themselves or from the Integrated Map of Waste Registration (MIRR) of each dismantler.

- For dismantlers that reported the quantities of used oil by volume a conversion factor of 0,89 was applied.

- In the case of used oil/brake fluid sent to the integrated used oil management system run by Sogilub – Sociedade de Gestão Integrada de Óleos Lubrificantes Usados, Lda., the global results (%) achieved within that system during the current year were applied to the quantities dispatched (89,2% regeneration/recycling and 10,8% disposal);

- Given that the dismantlers send waste tyres to the integrated system of tyre management run by Valorpneu – Sociedade de Gestão de Pneus, Lda., the global results as a percentage) achieved within this system were applied to the quantities dispatched (2,9% reuse, 85,7% recycling and11,4% energy recovery). The reuse column registered the quantities retreaded and prepared for reuse. The reuse column also included tyres sold for reuse for their original purpose.

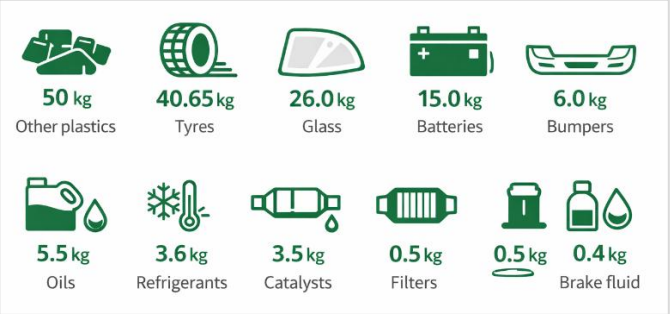
- Regarding refrigerants only the fraction reused is taken into account and consignments

dispatched to oil treatment facilities are considered to have been disposed of.

- Internal consumption of filters in the dismantlers of VALORCAR network correspond to their processing (dismantling of filters, gravity draining, pressing and processing as scrap) by operators legally recognised to this end.

- Where the total quantity of dispatched consignments of a particular material exceeds the maximum limit to be attributed to ELV (Figure 2**Erro! A origem da referência não foi encontrada.**) the surplus is not counted.

Figure 2 - Maximum amount (Kg) to be attributed to each material per ELV



The total weight of components sent for reuse corresponds to the sum of the weight of the non-metallic fraction of the 21 most commonly reused components (Table 1).

Table 1– Maximum non-metallic content to be attributed to the 21 most reused components.

Component	kg/unit
Seats	6,1
Bonnets	1,5
Boot lids	2,0
Odometers	0,7
Front/rear lights	2,5
Fog lights	0,7
Grilles	1,1
Engines	12,0
Other glass	6,4
Sun blinds	0,2
Bumpers	5,0
Turn indicators	0,1
Doors	10,2
Radiators	2,0
Rear-view mirrors	1,2
Tablier	5,0
Hub caps	0,5
Fuel tanks	9,0
Floor mats	1,0
Triangles	2,0
Windscreens	12,3

- From 2012, the batteries resold for reuse are considered separately.

- The most relevant licensed shredding facilities are part of the VALORCAR network; the results obtained in the shredding campaign carried out by the management body were therefore adopted for the operators that do and do not belong to the network.

- Comparing to previous years, from 2013 there is a difference in the amount of shredding waste dispatched for the production of Refuse Derived Fuel (RDF) and subsequent co-incineration. Instead of taking into the account only the shredding waste of the ELV received and dismantled in the shredding facilities, it was taken into account the shredding waste of all the ELV. Given that the shredding facilities receive other types of waste and that there is a quantity limit on ELV, it was considered that the amount of shredding waste dispatched to co-incineration cannot exceed the remaining amount of ELV material, which can be recovered, after removal of the materials in the dismantling and shredding process.

  Also, in the remaining amount of ELV material sent to co-incineration were considered fractions of filters, oils, brake fluid, non-metallic components including plastics and glass that even after depollution and dismantling remain in the ELV and that can be accounted as energy recovery since they integrate the shredding waste.

Shredder campaign

In 2019 VALORCAR conducted a new shredding campaign that focused on the activity of 3 shredding facilities and a total number of ELV of 310. The campaign was based on the following:

- Trials were made in all the shredders to evaluate its efficiency.
- The sample of ELV involved several makes and models.
- The dismantling process was carried out by a representative number of authorised treatment facilities with different dimensions and locations as well as treatment procedures that result in different reuse rates.
- The sample of ELV, facilities, ELV carcasses and shredding waste was random.
- In the depollution and dismantling process all the mandatory materials and components were removed.

Therefore, the results of the new campaign are a metal content assumption, based on 3 shredders trials, of 74,97% of the total weight of the ELV. The determined metal content excludes catalysts, batteries and oil filters, which were removed mandatorily before shredding.

Comparing to the 2012 campaign, there was an increase of 0,93%, which is consistent with the

evolution observed in the adoption of post-fragmentation technologies, present in all shredder operators within the VALORCAR network, leading to a raise in metal recovery efficiency, as well as in the separation of other materials, such as plastics.

Export of (parts of) ELV

APA, the national competent authority for the application of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, published Decree-Law No 102-D/2020 of 10 December, which aims to implement and monitor compliance with the Regulation in question.

The cross-border movements of waste subject to prior notification and to request information were thus identified (Table 2 and Table 3). Since these data include waste that does not arise exclusively from the de-pollution and dismantling of ELV it shall not be used in this report.

Table 2 - Cross-border movements of waste subject to prior notification from ELV and vehicle maintenance in 2024

Material	European Waste List Code	Country of destination	Operation [1]	Amounts (t)
Spent catalysts containing hazardous transition metals or hazardous transition metal compounds	160802*	France	R4	1368,44

[1] **R4** - Recycling/reclamation of metals and metal compounds

Table 3 - Cross-border movements of waste subject to request information from ELV and vehicle maintenance in 2024

Material	European Waste List Code	Country of destination	Operation [1]	Amounts (t)
components not otherwise specified	160122	Spain	R4	0,636
end-of-life tyres	160103	Germany	R3	7,700
		Spain	R11	1,000
			R5	1,000
		Netherlands	R11	32,520
			R3	13,800
end-of-life vehicles, containing neither liquids nor other hazardous components	160106	Spain	R1	85,800
			R4	4505,171
			R5	984,280
			R4	28759,086
ferrous metal	160117	Germany	R4	735,641
		Spain	R4	1206,750
			R3	11,800
non-ferrous metal	160118	Germany	R4	35,980
		Spain	R11	24,740
			R3	61,061
			R4	1006,467
plastic	*160119*	*Spain*	R11	2,240
			R5	0,920
			R3	51,720
spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)	160801	Germany	R4	17,502
			R3	0,729
			R8	2,650
		Belgium	R8	12,512
		Bulgary	R4	5,003
		Spain	R1	0,065
			R11	42,420
			R4	255,506
			R8	102,495
			R3	0,036
		Italy	R4	1,297
			R8	25,360
		Lithuania	R4	0,077
		United Kingdom	R4	5,589
			R8	3,128
			R11	22,600
		Netherlands	R4	1,680
		Sweden	R8	30,297

[1] **R1** - Use principally as a fuel or other means to generate energy; **R3** - Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes); **R4** - Recycling/reclamation of metals and metal compounds; **R5** - Recycling/reclamation of other inorganic materials; **R7** - Recovery of components used for pollution abatement; **R8** - Recovery of components from catalysts; **R11** - Use of wastes obtained from any of the operations numbered R1 to R10; **R12** - Exchange of wastes for submission to any of the operations numbered R1 to R11

The most updated recycling and recovery rates on ELV[1] of the destination countries were applied to the depolluted exported end-of-life vehicles values, to consider the relevant parcel.

The shredding amounts, related to the metal parcel considering the Portuguese metal content assumption, were deducted to the amount of ELV exported, containing neither liquids nor other hazardous components, present on Table 3 above.

[1] This information was obtained from the Eurostat website, at: End-of-life vehicle statistics - Statistics Explained (europa.eu)

Annex

Table 1

Materials from de-pollution and dismantling (in tonnes) of end-of-life vehicles arising in the Member State and treated within the Member State.

Materials from de-pollution and dismantling	LoW	Reuse (A)	Recycling (B1)	Energy recovery (C1)	Total recovery (D1 = B1 + C1)	Disposal (E1)
Batteries	16 06	122,835	0,000	0,000	0,000	0,000
Brake fluid	16 01 13	0,000	33,543	0,000	33,543	0,000
Air conditioning fluids	14 06	0,178	0,000	0,000	0,000	0,173
Oils	13 01 until 13 05	0,000	531,761	0,000	531,761	303,565
Antifreeze fluids containing hazardous substances	16 01 14	15,457	0,000	0,000	0,000	126,468
Antifreeze fluids other than those mentioned in 16 01 14	16 01 15	0,000	0,000	0,000	0,000	7,783
hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14	16 01 21	0,000	0,000	0,000	0,000	109,886
components not otherwise specified	16 01 22	0,000	0,000	0,000	0,000	0,090
Oil filters	16 01 07	0,000	53,994	0,000	53,994	0,000
Other materials arising from de-pollution (excluding fuel)	16 01 08 until 16 01 11 + 16 01 21	0,000	0,000	0,000	0,000	0,000
Catalysts	16 08	28,935	230,769	0,000	230,769	0,000
Tyres	16 01 03	456,667	3471,174	461,871	3933,045	0,000
Large plastic parts	16 01 19	112,675	877,563	0,000	877,563	4,301
Glass	16 01 20	294,886	2512,802	0,000	2512,802	0,000
Other materials arising from dismantling	16 01 12 + 16 01 22 + 16 01 99	5576,955	0,000	0,000	0,000	3,624
Total		**6608,588**	**7711,606**	**461,871**	**8173,477**	**555,890**

Table 2

Materials arising from shredding (tonnes) of ELV originating and treated in the Member State

Materials arising from shredding	LoW	Recycling (B2)	Energy recovery (C2)	Total recovery (D2 = B2 + C2)	Disposal (E2)
Ferrous scrap (steel) from shredding	19 10 01	77455,900	0,000	77455,900	0,000
Non-ferrous materials (aluminium, copper, zinc, lead, etc) from shredding	19 10 02	5285,909	0,000	5285,909	0,000
Shredder Light Fraction	19 10 03 + 19 10 04	1685,551	3035,075	4720,626	0,000
Other materials arising from shredding	19 01 05 + 19 10 06	0,000	0,000	0,000	0,000
Total		**84427,36**	**3035,075**	**87462,435**	**0,000**

Table 3

Monitoring of (parts of) end-of-life vehicles originating in the Member State and exported for further treatment (in tonnes per year)

Country exported to	Material arising from ELV treatment	LoW	Total weight exported (t)	Total recycling (F1) (t)	Total recovery (F2) (t)	Total disposal (t)
Spain	lead batteries	160601(*)	1619,82	1619,82	1619,82	0
Belgium	mineral-based chlorinated engine, gear and lubricating oils	130204(*)	46,3	46,3	46,3	0
	hydraulic oils, containing PCBs	130101(*)	4,25	4,25	4,25	0

Table 4

Total reuse, recovery and recycling (in tonnes per year) of end-of-life vehicles arising in the Member State and treated within or outside the Member State

Reuse (A)	Total recycling (B1 + B2 + F1)	Total recovery (D1 + D2 + F2)	Total reuse and recycling (X1 = A + B1 + B2 + F1)	Total reuse and recovery (X2 = A + D1 + D2 + F2)
6608,588	93758,786	97255,732	100367,374	103864,320
W (total number of ELV) = 107988			**90,94%**	**94,11%**
W1 (total vehicle weight) = 110363,736			X1/W1 = 0,9094	X2/W1 = 0,9411

Verification of total balance

X2 + E1 + E2 + F3 = 104470,760
W1 = 110363,736

The equation X2 + E1 + E2 + F3 = W1 is not verified in the data collected. There is a difference of 5892,976 tonnes whose destination is not accounted for in the tables in this Annex. This difference arises mainly because of the following:

- the conditions in which the ELV are surrendered. The basic assumption that the total weight of received ELV corresponds to the total tare weight of all the vehicles shown in the corresponding documents or the vehicle tare obtained from a database of the former DGV is not borne out in practice since the ELV received by dismantlers do not contain all the constituent materials of the vehicles.
- In some cases, the dismantlers do not remove certain materials at the dismantling stage. Consequently, such materials end up being dispatched with the ELV carcasses for shredding.