End-of-life vehicle reuse/recycling/recovery rates in Germany for 2009 pursuant to Art. 7 (2) of the End-of-life vehicles Directive 2000/53/EC

Quality Report: Description of the data used in accordance with Article 1 of COM Decision 2005/293/EC on end-of-life vehicles

0 General

GENERAL INFORMATION

- ***Country: Germany***
- *Issue: "Description of the data submitted according to Commission Decision 2005/293/EC on the monitoring of the reuse/recovery and reuse/recycling targets on ELVs "*
- *Organisation submitting the data and the description:*

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- ***Reference period: Data for the year 2009***
- *Delivery date / version: 29 June 2011, version 1*
- *We agree to make our Quality Report available to the national experts via circa (Y/N): Y*

Contents

1 Tables pursuant to COM Decision 2005/293/EC for Germany 2009

Note: According to the guide "How to report on ELVs according to Commission Decision 2005/293/EC", pages 9-10 and 22-23, **all** metals are to be entered in Table 2 if the "metal content assumption" is applied. To avoid double counting, Table 1 and Table 3 must therefore contain non-metals only.

Note: The COM tables are repeated in the Appendix to this Report, in this instance with allocation of the respective metals to Tables 1, 2 and 3.

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

COM Table 1 (dismantling) for Germany, 2009 Non-metals only!! (see above)					
Materials from de-pollution and dismantling	**Reuse**	**Re-cycling**	**Energy recovery**	**Total recovery**	**Disposal**
	(A)	**(B1)**	**(C1)**	**(D1=B1+C1)**	**E1**
	[t]	[t]	[t]	[t]	[t]
Batteries [1)]	181	5,604	0	5,604	43
Liquids (excluding fuel)	281	5,251	1,693	6,944	1,892
Oil filters [1)]	1	0	65	65	3
Other materials arising from de-pollution (excluding fuel) [1)]	4	0	95	95	7
Catalysts [1)]	31	514	0	514	4
Metal components [1)]	0	0	0	0	0
Tyres	2,423	23,330	0	23,330	442
Large plastic parts	958	1,384	0	1,384	2
Glass	502	2,292	0	2,292	18
Other materials arising from dismantling [1)]	9,934	0	1546	1546	6
Total	**14,315**	**38,376**	**3,398**	**41,773**	**2416**

Source: from Federal Statistical Office data, Tables 1 and 15 of the Waste Management Survey 2009.

[1)] Non-metal portion only. For metals see COM Table 2

Materials from shredding (in tonnes per year) of end-of-life vehicles arising in the Member State and treated within the Member State

COM Table 2 (shredders) for Germany, 2009 Including all metals (see above)				
Materials from shredding	**Recycling**	**Energy recovery**	**Total recovery**	**Disposal**
	(B2)	**(C2)**	**(D2 =B2+C2)**	**(E2)**
	[t]	[t]	[t]	[t]
Ferrous scrap (steel)	1,059,066	0	1,059,066	0
Non-ferrous materials (Al, Cu, Zn, Pb etc.)	116,569	0	116,569	0
Shredder light fraction (SLF)	89,060	52,274	141,334	54,534
Other	0	0	0	0
Total	**1,264,695**	**52,274**	**1,316,969**	**54,534**

Source: from Federal Statistical Office data, Table 15 of the Waste Management Survey 2009.

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

COM Table 3 (Export) for Germany 2009 Non-metals only!! (see above)					
Components /materials exported for further treatment Total weight, broken down by countries	**Total weight of end-of-life vehicles exported, by country**	**Total recycling of (parts of) end-of-life vehicles exported**	**Total recovery of (parts of) end-of-life vehicles exported**	**Total disposal of (parts of) end-of-life vehicles exported**	**Remarks**
		(F1)	**(F2)**	**(F3)**	
	[t]	[t]	[t]	[t]	
1) End-of-life vehicles (Waste code 160104*)	0	0	0	0	No exports in 2009 according to the statistics on "Transboundary shipment of waste requiring authorisation" *)
Breakdown by countries -- not applicable --					
2) Body shells from dismantling facilities (Waste code 160106)	15,570	3,609	6,438	9,131	Basic figures: 56,592 t vehicles exported for recovery (assumption: 80%/85% thereof recovered), 2,435 t vehicles exported directly for disposal. 26.4 % non-metals (= 100%-73.6% metal portion)
Breakdown by countries: -- not known --					
3) Components from dismantling facilities	996	893	977	19	Batteries[1)], tyres, large plastic parts, glass etc.
Breakdown by countries, where known**) Waste — Destination countries for waste exports (total, not just from dismantling facilities), included in the waste export statistics: - 160103 End-of-life tyres — to Poland - 160113* Brake fluid — to Austria - 160114* Anti-freeze fluids — to Austria - 160601 Lead batteries — to Belgium, Slovenia, Czech Republic - 160801 Catalysts — to Belgium - 160807* Catalysts — to Belgium, UK, USA					
4) SLF from shredders	3,892	2,321	3,543	349	Total SLF exported: 191003*: 2,482 t, 191004: 7,268 t. Of which 40% from ELVs.
Breakdown by countries, where known**) Waste — Destination countries for waste exports (total, not just from ELVs), according to waste export statistics: - 191003* Shredder light fraction — not known - 191004 Shredder light fraction — to Austria					
Total	**20,457**	**6,823**	**10,958**	**9,500**	

Source: Federal Statistical Office Waste Management Survey 2009 and waste exports data

) http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/ZeitreiheExportAbfallarten.pdf (No. 8.11) and http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/UStatGExport2009.pdf (waste code 16 0104). The 490 t "end-of-life vehicles" exported to the Netherlands shown under 16 01 04* refers to No. 8.12 "Other scrapped motor vehicles", not No. 8.11 "Scrapped passenger cars".

**) Sources:
a) Waste exports from end-of-life vehicle dismantling facilities: "Erhebung über die Abfallentsorgung im Jahr 2009" (Waste Management Survey, 2009), Table 15, Federal Statistical Office
b) Total waste exports for Germany: "Abfallstatistik: Grenzüberschreitende Verbringung von zustimmungspflichtigen Abfällen“ (Waste statistics: Transboundary movements of waste requiring authorisation), Federal Environment Agency, June 2010: http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/UStatGExport2009.pdf
1) Non-metals only. For metals see COM Table 2

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

COM Table 4 (rates) for Germany 2009					
From ...	**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)**
	[t]	[t]	[t]	[t]	[t]
Table 1: Dismantling (A,B1,D1) (non-metals)	14,315	38,376	41,773	52,691	56,089
Table 2: Shredders (B2, D2) (incl. all metals)		1,264,695	1,316,969	1,264,695	1,316,969
Table 3: Exports (F1, F2) (non-metals)		6,823	10,958	6,823	10,958
Total	**14,315**	**1,309,894**	**1,369,700**	**1,324,209**	**1,384,016**

			Recycling and recovery rates 2009	
W (total number of end-of-life vehicles)	**1,778,593**	**vehicles**	**82.9%**	**86.7%**
W1 (total vehicle weight)	**1,596,831**	**tonnes**	**X1/W1**	**X2/W1**

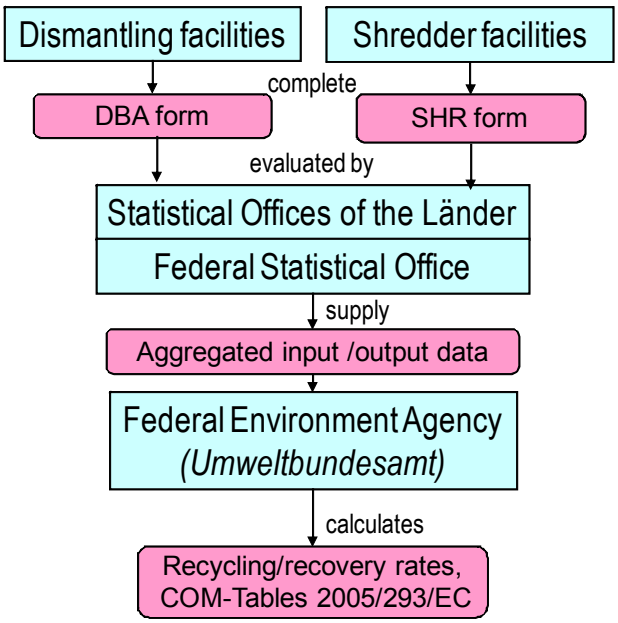
2 Quality Report: Description of the data submitted according to Commission Decision 2005/293/EC on the monitoring of the reuse/recovery and reuse/recycling targets on ELVs

2.1 Chapter A) Information according to Article 1(1) - Description of data used to determine ELV recycling/recovery rates for Germany 2009

2.1.1 Section 1: Sources of information

The data used as a basis for determining end-of-life vehicle recycling and recovery rates in accordance with the End-of-Life Vehicles Directive 200/53/EC consists of the waste statistics collected for the whole of Germany from ELV treatment facilities (dismantling facilities and shredder facilities) by the Statistical Offices of the Länder and the Federal Statistical Office under the Enviromental Statistics Act (*Umweltstatistikgesetz*)[1] (Section 3 (1) No. 1). Tables 1.1, 14 and 15 of the "Waste Management Survey 2009" were used.

After the end of each reporting year, the ELV treatment facilities (more than 1,000 dismantling facilities and several dozen shredding facilities) enter their operational input and output quantities for the waste management survey in the statistical survey sheets DBA (dismantling facilities) [2] and SHR (shredder facilities)[3]. These are then analysed, anonymised and summarised by the Statistical Offices of the Länder and subsequently by the Federal Statistical Office (see Figure 1). From the aggregated data, the Federal Environment Agency (*Umweltbundesamt*) determines the national recycling and recovery rates for end-of-life vehicles.



[1] http://www.gesetze-im-internet.de/bundesrecht/ustatg_2005/gesamt.pdf

[2] Example: Form AE/DBA for Bavaria for 2009
https://www.statistik.bayern.de/medien/statistik/erhebungen/abfallwirtschaft/dba.pdf

[3] Example: Form AE/SHR for Bavaria for 2009
https://www.statistik.bayern.de/medien/statistik/erhebungen/abfallwirtschaft/shr.pdf

Figure 1 Data streams for determining recycling/recovery rates under the ELV Directive

The statistical questionnaires differentiate the output of the facilities on the following basis:
- For recycling/recovery in Germany,
- For recycling/recovery abroad,
- For disposal in Germany,
- For disposal abroad,
- For transfer to treatment facilities, secondary materials recovered and products.

In the case of dismantling facilities, only waste types originating from the end-of-life vehicles (excluding fuel) are included in the rate calculation.

In the case of shredder facilities, the recovery of the shredder light fraction (waste code numbers 19 10 03* and 19 10 04) is integrated – beyond the metal recovery which is included in the "metal content assumption". Since shredder facilities also treat items other than end-of-life vehicles, the shredder light fraction is split: 25 % of the weight of the body shells (from within Germany) that are treated in the shredder is allocated to ELV treatment and therefore entered in COM Table 2. Statistical information is recorded as to whether the shredder light fraction sent for recovery is ultimately recovered as material, recovered as energy, or disposed of.

Special effects of the Environmental Premium

The year 2009 was influenced by the effects of the Environmental Premium (see Section 2.3.1), which led to a quadrupling in the incidence of end-of-life vehicles as a one-off effect.

In 2009, the end-of-life vehicles were pretreated at authorised treatment facilities. Part of the pretreated body shells were initially placed in interim storage, for capacity reasons – in 2009, many facilities were operating at over 100 % capacity for part of the time – and also due to the low proceeds attainable for waste metals in 2009 as a result of the economic crisis.[4] The body shells that had been placed in interim storage were eventually sent to the shredders in 2010.

2.1.2 Section 2: Quality of information sources

Coverage: The data was collected for the whole of Germany from all 1,245 dismantling facilities for end-of-life vehicles and 52 shredder facilities with body shell treatment. The level of completeness is correspondingly high.

Data quality

Since 2009 is the sixth reporting year, it may be assumed that the data collection process is now working well. The quality of the data is considered to be good.

[4] Press release by the Baden-Wuerttemberg Statistical Office, 20 July 2010: "240,000 end-of-life vehicles treated in dismantling facilities in Baden-Wuerttemberg". http://www.statistik.baden-wuerttemberg.de/Pressemitt/2010230.asp

The survey yields plausible figures for average vehicle weight (898 kg). The shares of the components and materials recovered from dismantling (e.g. recovery of waste tyres – 1.6 %, operating fluids – 0.5 %, batteries (non-metallic component) – 0.4 %, large plastic parts and other non-metallic components – 1.0 %) are consistently below the previous year's figures, on average approximately half of the previous year's level. This is due to a lower level of spare parts recovery and the interim storage of some end-of-life vehicles associated with the Environmental Premium. As such, these figures can be considered plausible for 2009.

There were occasional reports of difficulties with on-site data collection. Correct determination of end-of-life vehicle weights (empty weight as shown in vehicle registration document) sometimes causes problems; in some cases, it is made more difficult by lack of vehicle documents. Precise determination of the quantities of operating fluids is sometimes difficult because of global waste management agreements. Delimitation of output resulting from additional inputs into the facility (e.g. HGVs) is difficult in practice. Moreover, waste streams that are not disposed of annually give rise to non-representative annual balances; however, when viewed across all the over 1,000 dismantling facilities, the statistics should average themselves out.

The breakdown of the dismantled components and materials into recovery as materials and recovery as energy is based on material types and a knowledge of the recovery paths that are usual in Germany. Various waste types consist of both metals and non-metals. The metal components had to be deducted because of applying the "metal content assumption". Average figures were therefore determined or estimated for the metal content of the relevant waste types.

Imports: In the statistical questionnaires, the end-of-life vehicle treatment facilities state whether the vehicles accepted come from outside of Germany or within Germany. On this basis, of the 1,601,952 t end-of-life vehicles accepted, 5,121 t (0.3 %) came from outside Germany. The 1,596,831 t end-of-life vehicles accepted from within Germany were entered as W1 (total vehicle weight). In view of the extremely low import share of well below one percent, it was decided to dispense with a "correction factor" for the output, since this would make a difference of only 0.02 % to the rate calculated.

Metal content assumption: The determination of the metal content of the vehicles and the breakdown into ferrous and non-ferrous metals which was made for the first time in 2008 are based on extensive data from German and foreign vehicle manufacturers; see Section 2.2. The quality of this estimate can therefore be rated very good. The database has been expanded further compared with 2008. In an ELV recovery test in Germany in 2006, 98.3 % of the metal content was recovered. Thus the assumed figure of 97 % is on the safe side.

Shredder light fraction: While in recent years, end-of-life vehicles had only accounted for about 10 % of the input of ELV shredder facilities, in 2009 this figure rose to 20 % due to the effects of the Environmental Premium. The most important additional input materials are iron and steel (52 %), ferrous metals (12 %) and others (16 %). The fact that the shredder facilities handled other input materials in addition to the body shells was taken into account

when allocating the shredder light fraction. This was done by allocating to the treatment of body shells a share of the shredder light fraction amounting to 25 % of the weight of the treated body shells. Of almost 800,000 t of body shells in 2009, therefore, 200,000 t of shredder light fraction was produced. This equates to 40 % of the total of 500,000 t shredder light fraction incurred, cf. also page 28.

2.1.3 Section 3: Determination of the weight

In the statistical survey, the dismantling facilities state the total of the vehicle empty weights in accordance with Section 2 No. 23 of the ELV Ordinance (*AltfahrzeugV*). In practice, as already mentioned, correct determination of the empty weight can sometimes cause problems.

According to Section 2, paragraph (1), No. 23 of the German ELV Ordinance, the vehicle empty weight is defined as follows:

"Vehicle empty weight" means the relevant empty weight of a vehicle for the purpose of identifying the recycling targets, which is determined as follows:

- *for class M1 motor vehicles first registered up to and including 31 December 1996: empty weight according to registration document minus weight of fuel tank contents when 90-percent full*
- *for class M1 motor vehicles first registered on or after 01 January 1997: empty weight according to registration document minus weight of fuel tank contents when 90-percent full and minus weight of driver (75 kg)*
- *for class N1 motor vehicles: empty weight according to registration document minus weight of fuel tank contents when 90-percent full and minus weight of driver (75 kg)"*

2.1.4 Section 4: Recycling or recovery of exported ELVs or parts of ELVs

Recycling or recovery of exported end-of-life vehicles: No end-of-life vehicles were exported in 2009, refer to comments on COM Table 3 in Section 1.

In terms of quantity, exports of body shells and ELV parts from Germany play only a minor role: Exports of non-metals account for only 0.7 % of the recovery rate.

Recycling or recovery of exported body shells: The quantities of body shells recycled abroad and of body shells disposed of abroad can be seen from the statistics. No information is available about body shell components ultimately recycled abroad. As in Germany, a metal content assumption of 73.6 % is used for calculation, together with an overall recycling/ recovery rate of 80%/85%, in accordance with the targets in the ELV Directive.

Recycling or recovery of exported components/materials from dismantling facilities: For each type of dismantling facility output, the statistics show whether recovery/recycling or disposal took place in Germany or abroad. The breakdown into recycling and energy recovery is made in the same way as for recovery within Germany (see 2.1.5 c).

Recycling or recovery of exported shredder light fraction: The statistics show the quantity of shredder light fraction recycled/recovered outside Germany. They also differentiate the "recovered" shredder light fraction on the basis of "ultimate fate" into recycled, recovered as

energy, and disposed of. In calculating rates, this breakdown is applied to disposal both within Germany and abroad.

2.1.5 Section 5: Other comments

a) Explanations on export of shredder output in COM Table 2.

As a result of the metal content assumption, COM Table 2 – in line with the notes in the guidelines – contains all metals recovered, i.e. including those recovered abroad. In the case of the shredder light fraction, COM Table 2 contains only the shredder light fraction disposed of within Germany. The shredder light fraction disposed of abroad is included in COM Table 3.

b) Description of actions undertaken by the country to avoid double counting of ELVs and components.

In accordance with Section 4 of the German ELV Ordinance (*AltfahrzeugV*), end-of-life vehicles pass through a two to three-stage disposal process in the following order:
(→ optional: acceptance or collection facility,)
→ dismantling facility for pre-treatment,
→ shredder facility.

As a result of this predetermined treatment sequence, it may be assumed that the nationwide statistical surveys do not include any double counting of the end-of-life vehicles and components reported.

For the entries in COM Tables 1 to 4, care has been taken to ensure that no double counting takes place: All metals (in line with the metal content assumption) are entered in lines 1 and 2 of COM Table 2, and COM Tables 1 and 3 contain only non-metals, including in the reuse column (A). As far as non-metals are concerned, COM Tables 1 and 2 contain only output for Germany. All outputs of non-metals destined for other countries are covered by COM Table 3.

As an alternative, the data from COM Tables 1 and 3 has also been presented in such a way that it includes the metal components. The resultant representation of COM Tables 1 to 4 is contained in the Appendix to this Report. This alternative grouping leads to the same final outcome.

c) Description of estimations / calculations conducted (e.g. factors based on ELV treatment and recovery trial, data provided by manufacturers),

There are various points at which calculations were performed or assumptions made.

As mentioned above, the statistics do not provide any breakdown of the metallic fraction of the dismantled components and materials or the recovery path (recycling or energy recovery). It was therefore necessary to make certain assumptions. For many materials, the breakdown follows from the type of material (e.g. glass and metal not recoverable as

energy). For the remaining waste types, the breakdown is made on the basis of the recovery paths which are usual in Germany.

Table 1 Example of classification of dismantled materials

Waste type	Share recycled as material (as percentage of non-metal component)	Share recovered as energy (as percentage of non-metal component)
Waste oil	75 %	25 %
Oil filters	33 %	67 %
Components n.o.s., no differentiation possible (16012200)	0 %	100 %

Waste type	Metal share	Non-metal share
Lead batteries	60 %	40 %
Catalysts	80 %	20 %
Components n.o.s., no differentiation possible (16012200)	50 %	50 %

"n.o.s.": not otherwise specified

Regarding the realistic assumption that the shredder light fraction originating from end-of-life vehicles amounts to 25 % of the body shell input, see the remarks in Section 2.1.2.

For the "metal content assumption", see Section 2.2. In line with the guidelines, only non-metals are entered in COM Table 1 and COM Table 3. Accordingly, all metals are shown in COM Table 2 in accordance with the "metal content assumption".

d) Description of missing mandatory information; what measures are taken to provide all mandatory information in future?

One item is missing from the mandatory information in COM Tables 1 to 4: Information is incomplete regarding the destination countries in COM Table 3 (Exports).

Since no end-of-life vehicles (waste code number 16 01 04*) were exported in the years 2004 to 2009, the question of the destination countries is not relevant here. In the body shells category the percentage of body shells exported is very low, at 3.7 % of total vehicle weight W1. The same is true of exported components and materials from dismantling (0.4 %) and the shredder light fraction (0.2 %).

For some of the exported dismantled fractions and for the non-hazardous shredder light fraction (191004), we were able to specify destination countries for the first time. Although the statistics used [5] do not provide any ELV-specific export data, they do indicate the total quantities exported from Germany for selected waste fractions (generally considerably more

[5] See COM Table 3 in chapter 1 or directly at: :
http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/UStatGExport2009.pdf

than the quantities exported by the ELV treatment facilities) and the destination countries. The data basis has therefore been improved compared with previous years.

e) Description of validation process (How do you establish the validity of the data?)

The statistical questionnaires are checked for plausibility by the Statistical Offices of the Länder and the Federal Statistical Office. The statistical offices use their established statistical test routines for this purpose (e.g. input/output check, expected waste types, comparison with previous year). The Federal Environment Agency checks the information from a technical point of view, e.g. on the basis of the quantities to be expected as a result of vehicle composition. For example, see Section 2.1.2 above, remarks on plausibility.

f) Description of changes in methodology relative to the previous data delivered.

There are no changes in methodology compared with the previous year.

g) Description of the discrepancy between the number of ELVs with and without CoD and measures to be taken in order to improve the situation.

Under Section 4 of the German ELV Ordinance (*AltfahrzeugV*), end-of-life vehicles must be transferred to a dismantling facility (or alternatively an acceptance or collection facility, which passes the ELV on to the dismantling facility). Dismantling facilities issue certificates of destruction for the end-of-life vehicles accepted and are required to treat the end-of-life vehicles in accordance with the provisions of the Ordinance. Thus legally speaking, certificates of destruction must be issued for all end-of-life vehicles.

There are no indications that end-of-life vehicles are being disposed of in dismantling facilities without a certificate of destruction being issued.

2.1.6 Input-output balance

The recommended mass balance X2+E1+E2+F3 = W1 revealed the following for 2009:

X2 =	1,384,016 t	(Total reuse and recovery)
E1 =	2,533 t	(Disposal from dismantling)
E2 =	54,534 t	(Disposal shredder light fraction)
F3 =	11,301 t	(Disposal by export)
Total	1,452,383 t	

Comparison with W1 = 1,596,831 t: Difference = 144,448 t = 9.0 %.

In other words, the sum total of output flows is around 9 % lower than the ELV input W 1. This is plausible, since a number of vehicles were placed in interim storage in conjunction with the Environmental Premium, and these volume flows are not expected to show up in the facility outputs until 2010.

2.2 Chapter B) Information according to Article 1 (2) – Metal Content Assumption

According to COM Decision 2005/293/EC, the "metal content assumption" is based on data on

a) the percentage of metal content of the vehicles and

b) the percentage of reuse, recovery and recycling of this metal content.

a) What investigations / data have been used (sources / quality / coverage) to derive the metal content?

At this point we repeat the remarks from the reports on recycling/recovery rates for 2006 to 2008, as the same data basis is used.

The data basis is class M1 and N1 vehicles first registered in Germany in 1995 and their metal contents by manufacturer (anonymised), weighted with the individual volume of registrations, see Table 2. 1995 roughly corresponds to the average year of first registration of the end-of-life vehicles arising in the years 2006 to 2010, since the average age of the vehicles at the time of final scrapping is approximately 14 years (see Table 5 in Section 2.3.1)

Table 2 Average metal content of vehicles, class M1 and N1 first registered in Germany in 1995, anonymised, in ascending order.

Vehicle manufacturer	Metal content
Manufacturer 1	74.7%
Manufacturer 2	74.9%
Manufacturer 3	75.0%
Manufacturer 4	75.1%
Manufacturer 5	75.2%
Manufacturer 6	75.2%
Manufacturer 7	75.2%
Manufacturer 8	75.3%

Vehicle manufacturer	Metal content
Manufacturer 9	75.3%
Manufacturer 10	75.9%
Manufacturer 11	76.2%
Manufacturer 12	76.2%
Manufacturer 13	76.4%
Manufacturer 14	76.4%
Manufacturer 15	77.2%
Weighted average	**75.9 %**

The quality of the data is considered very good, since it was derived by the manufacturers from the metal content figures for 1995 models, which were for example determined by means of dismantling studies.

According to the vehicle manufacturers, the figures for all German and 8 international manufacturers cover 89 % of the vehicles registered in 1995 (3,095,305 out of 3,483,517 first registrations).

This yields an **average metal content of 75.9 %**.

a1) Breakdown into ferrous and non-ferrous metals

According to the EU Commission's guide to the Quality Report (page 6 and page 10), recycling/recovery of the metals in COM Table 2 is to be broken down into ferrous and non-ferrous metals, even in cases where the "metal content assumption" is used.

To determine these figures, 13 vehicle manufacturers (previous year: 9) broke down their figures on the average metal content of their vehicles first registered in 1995; see the anonymised manufacturer information in Table 3.

Table 3 Breakdown of metal content into ferrous and non-ferrous metals for various vehicle manufacturers and their new vehicles in Germany in 1995, anonymised, in ascending order of ferrous metal content.

Vehicle manufacturer	Ferrous metal content	Non-ferrous metal content
Manufacturer A	60.9%	15.0%
Manufacturer B	64.3%	10.8%
Manufacturer C	65.0%	9.7%
Manufacturer D	65.2%	9.7%
Manufacturer E	67.3%	7.9%
Manufacturer F	67.7%	7.6%
Manufacturer G	67.8%	7.5%
Manufacturer H	68.2%	6.9%
Manufacturer I	68.9%	7.3%
Manufacturer J	69.3%	7.1%
Manufacturer K	70.2%	6.0%
Manufacturer L	70.8%	5.6%
Manufacturer M	70.9%	6.3%
Weighted average	**68.3 %**	**7.6 %**

The quality of the data is also rated very good, since it was derived by the manufacturers from the metal content figures for 1995 models, which were for example determined by means of dismantling studies. The vehicle manufacturers have consented to this data being forwarded to the EU Commission in anonymised form only.

According to the vehicle manufacturers, the figures for the 13 manufacturers cover 83.5 % of the vehicles registered in 1995 (2,909,330 out of 3,483,517 first registrations). An improvement in the data situation has therefore been achieved compared with the previous year (2008: nine manufacturers covering 74.0 % of vehicle registrations).

Weighting yields an **average breakdown of the metal content** of the vehicles (total 75.9 %) into **68.3 % ferrous metals and 7.6 % non-ferrous metals**.

b) What investigations / data / calculations have been used to derive the assumed percentage of reused, recycled and recovered metals?

Reuse/recycling/recovery of the metal content was put at 97 %, as was also the case in the explanatory memorandum to the German ELV Ordinance (*AltfahrzeugV*) of 2002.

b1) "Metal content assumption"

Using the formula

"metal content assumption" = metal content of ELVs * recycling/recovery of metal content

the figure for metal content recycled/recovered in Germany comes to:

"Metal content assumption" in Germany = 75.9 % * 97 % = 73.6 %

Taking into account the recycling/recovery of the metal content of 97 %, the breakdown yields 66.3 % ferrous metals and 7.3 % non-ferrous metals recycled/recovered, in relation to the vehicle empty weight, see Table 4.

Table 4 "Metal content assumption", broken down into ferrous and non-ferrous metals

Metal content	**Total metals**	**Ferrous metals**	**Non-ferrous metals**	**Remarks**
Average metal content of vehicles	75.9 %	68.3 %	7.6 %	Figure for metal content valid for 88.9 % of German market 1995, figures for ferrous and non-ferrous metal content valid for 83.5 % of German market 1995
	Allowing for a yield of 97 %			
"Metal content assumption"	**73.6 %**	**66.3 %**	**7.3 %**	Metal content recycled/recovered

c) How does the Member State ensure that they meet the required coverage of 95%?

As already mentioned, the figures for the metal content assumption cover 89 % of vehicles first registered in 1995, while the figures for the breakdown into ferrous and non-ferrous metals now cover 84 %. Compared with the previous year, the coverage rate for ferrous and non-ferrous metals has increased by 10 percentage points. Overall, therefore, the statistical reliability of the data has improved further.

We would point out that it is the total metal content recycled/recovered which is relevant for the ELV recycling/recovery rates, and this is substantiated for 89 % of the market in Germany. By contrast, a shift in the ratio of ferrous to non-ferrous metal reycling/recovery is not relevant to the result. The coverage of 84 % for the breakdown into ferrous and non-ferrous metals is therefore considered sufficiently meaningful.

d) How have these data been broken down for COM Tables 1 to 3?

In line with the guide to the Quality Report (page 10 and pages 20-21), all recycled/recovered metals resulting from the calculation for the "metal content assumption" are entered in COM Table 2. COM Tables 1 and 3 contain information about non-metals only.

Notes on the Appendix: As an alternative, the data from COM Tables 1 and 3 has been presented in such a way that it incorporates the metal portions. The resultant alternative representation of COM Tables1 to 4 may be found in the Appendix to this Report. In this instance, COM Table 2 only contains metals from the shredder output, calculated as the difference between the "metal content assumption", less the metal contents in COM Tables 1 (dismantling, reuse and recycling/recovery) and 3 (metal exports).

2.3 Chapter C) Information according to Article 1(3) – Vehicle Market, Exports

2.3.1 Section 1: Information on the national vehicle market

Environmental Premium 2009

The year 2009 was characterized by the Environmental Premium granted by the German Government as part of an economic stimulus package[6]. The aim of the Environmental Premium was to replace older passenger cars (at least nine years old) with high levels of pollutant emissions with new, more efficient vehicles (new and nearly-new vehicles), and at the same time, boost demand for motor vehicles. Between January and September 2009, subsidies of 5 billion Euros (2,500 Euros per vehicle) were made available for the scrapping of old vehicles and simultaneous purchase of 2 million new vehicles. By the reference date of 31 July 2010, the Premium had been paid out to 1,932,929 applicants.[7]

As a result of this, new registrations of passenger cars rose in 2009 despite the economic crisis, and four times as many end-of-life vehicles were arising as the previous year: 1.78 million, compared with 417,000 the previous year. The number of used cars exported fell as a result of the Environmental Premium.

Table 5 Information on the national vehicle market

National vehicle market Germany	Unit	Reference year 2009
Motor vehicles newly registered in 2009, total [8] of which passenger cars	Number	4,240,885 3,807,175
Vehicles registered in Germany[9, 10], total of which passenger cars	Number	49,602,623 41,321,171
Average age of fleet (motor vehicles[11,10], total of which passenger cars	Years	9.3 8.2

[6] For general information on the Environmental Premium and the legal foundations ("Richtlinie zur Förderung des Absatzes von Personenkraftwagen" (Directive to encourage car sales) of 20 February 2009): http://www.bafa.de/bafa/de/wirtschaftsfoerderung/umweltpraemie/index.html, Abschlussbericht – Umweltprämie, Bundesamt für Wirtschaft und Ausfuhrkontrolle (Final Report – Environmental Premium, Federal Office of Economics and Export Control), November 2010): http://www.bafa.de/bafa/de/wirtschaftsfoerderung/umweltpraemie/publikationen/ump_abschlussbericht.pdf .

[7] See final report on the Environmental Premium (refer to previous footnote for link), page 13.

[8] Federal Motor Transport Authority: Neuzulassungen von Kraftfahrzeugen und Kraftfahrzeuganhängern in den Jahren 1950 bis 2010 nach Fahrzeugklassen. http://www.kba.de/cln_016/nn_277816/DE/Statistik/Fahrzeuge/Neuzulassungen/FahrzeugklassenAufbauarten/n_fzkl__zeitreihe.html

[9] Federal Motor Transport Authority: Bestand an Kraftfahrzeugen und Kraftfahrzeuganhängern in den Jahren 1955 bis 2011 nach Fahrzeugklassen. http://www.kba.de/cln_016/nn_191172/DE/Statistik/Fahrzeuge/Bestand/FahrzeugklassenAufbauarten/b__fzkl__zeitreihe.html

[10] Reference date 1.1.2009, only registered vehicles excluding temporary layups/off-road notifications.

[11] Federal Motor Transport Authority: Bestand an Kraftfahrzeugen und Kraftfahrzeuganhängern in den Jahren 2002 bis 2011 nach Fahrzeugklassen mit dem Durchschnittsalter der Fahrzeuge in Jahren. http://www.kba.de/cln_016/nn_191188/DE/Statistik/Fahrzeuge/Bestand/Fahrzeugalter/b__alter__kfz__z.html

Passenger cars, taken out of service[12] 2009, (deregistrations and temporary layups) Final de-registrations in 2009, passenger cars	Number	8,066,178 approx. 3,200,000 [13]
CoDs issued in Germany	Number	1,778,593
ELVs arising in the Member State	Number	1,778,593
Average age of ELVs	Years	14.1 years (ELVs covered by Environmental Premium)

The waste statistics do not provide any information about the average age of end-of-life vehicles. According to two ELV treatment and shredder trials performed in Germany in 2006, the average age of the scrapped vehicles was around or over 15 years. A comprehensive data source on the age of ELVs exists only for 2009. The Federal Office of Economics and Export Control (BAFA) has collated statistics on the ELVs for which Environmental Premiums were granted. Analysis of 1.66 million (out of a total of 2 million) end-of-life vehicles reveals an average age of 14.1 years. Some 70 % of the end-of-life vehicles for which Environmental Premiums were granted were up to 15 years old, 30 % more than 15 years old, and 5 % at least 20 years old. No age figures are available for other ELVs scrapped in 2009 without the Environmental Premium, although these were less significant in volume terms.

[12] Federal Motor Transport Authority: Außerbetriebsetzungen von Kraftfahrzeugen und Kraftfahrzeuganhängern in den Jahren 2007 bis 2010 nach Fahrzeugklassen.
http://www.kba.de/cln_016/nn_191240/DE/Statistik/Fahrzeuge/Ausserbetriebsetzungen/FahrzeugklassenAufbauarten/a__fzkl__zeitreihe.html

[13] Final deregistrations have not been included in the statistics since 2007, as there are now only "off-road notifications". Final deregistrations account for about 40 % of off-road notifications. Source: Federal Motor Transport Authority: Jahresbilanz der Außerbetriebsetzungen 2010.
http://www.kba.de/cln_016/nn_125264/DE/Statistik/Fahrzeuge/Ausserbetriebsetzungen/ausserbetriebsetzungen__node.html?__nnn=true

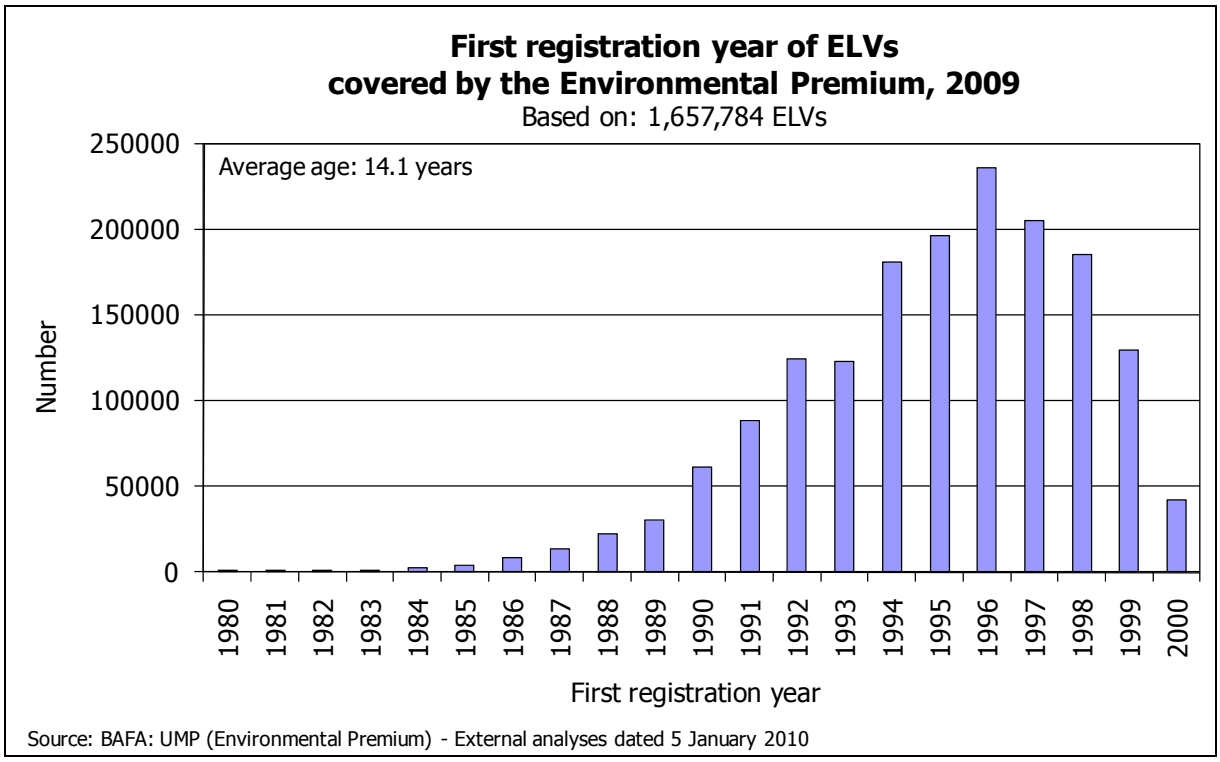


Figure 2 Analysis of the first registration years of 1.66 million ELVs for which an Environmental Premium was granted in 2009.

As described in Section 2.1.5 g), the dismantling facilities have to issue a certificate of destruction for every end-of-life vehicle in accordance with the German ELV Ordinance (AltfahrzeugV).

2.3.2 Section 2: National market information on export of used vehicles, ELVs and de-polluted body shells

Exports to EU states: The number of used cars exported from Germany to other EU Member States is determined from the number of vehicles formerly registered in Germany that have been re-registered in other Member States. These re-registrations are recorded by the Federal Motor Transport Authority through the international procedure for the exchange of information on the re-registration of vehicles previously registered in another EU Member State, on the basis of EU Directive 1999/37/EC on the registration documents for vehicles. On this basis, some 938,000 used cars were exported to other EU Member States in 2009, see Table 6, compared with 1.5 million used car exports in 2008. The decrease was due to the Environmental Premium, which led to higher levels of scrapping of older vehicles.

Exports to non-EU states: Exports to non-EU states were small compared with exports to EU countries. The foreign trade statistics showed a total of about 1/4 million used cars exported (passenger cars and motorhomes). Comparison of the figures for 2008 (243,000

exports) and 2009 (224,000 exports) suggests that the Environmental Premium had only a minimal impact on exports of used cars into non-EU states.

The major non-EU destinations for used cars are the states of the former Soviet Union and West Africa, each accounting for around one-third – see Table 7. In view of the fairly low notification thresholds, it can be assumed that the statistics cover a relatively large proportion of actual exports.

Table 6 Notifications to the Federal Motor Transport Authority (KBA) about vehicles formerly registered in Germany [14]

New EU Member States (accession from May 2004)	Number 2009		Old EU Member States	Number 2009
Poland	**425,686**		Finland	13,403
Czech Republic	**82,993**		Denmark	12,864
Slovakia	26,585		Sweden	4,721
Hungary	13,520		United Kingdom	1,326
Lithuania	36,473		Netherlands	**53,268**
Latvia	7,520		Belgium	28,212
Estonia	5,208		Luxembourg	9,325
Romania	**131,102**		Austria	2,456
Bulgaria	35,863		Spain	10,421
			Italy	22,988
Total EU			**approx. 938,000**	

Table 7 Exports of used cars to non-EU states according to foreign trade statistics, cars and motorhomes with petrol or diesel engine [15]

Year / Country	2009
Non-EU total	**224,498**
Of which CIS[16]	**70,399**
Of which Belarus	22,008
Of which Turkmenistan	19,214
Of which West Africa[17]	**72,312**
Of which Norway, Switzerland, Japan, USA	**24,509**

[14] Personal communication from the KBA (Federal Motor Transport Authority) dated 26 March 2010

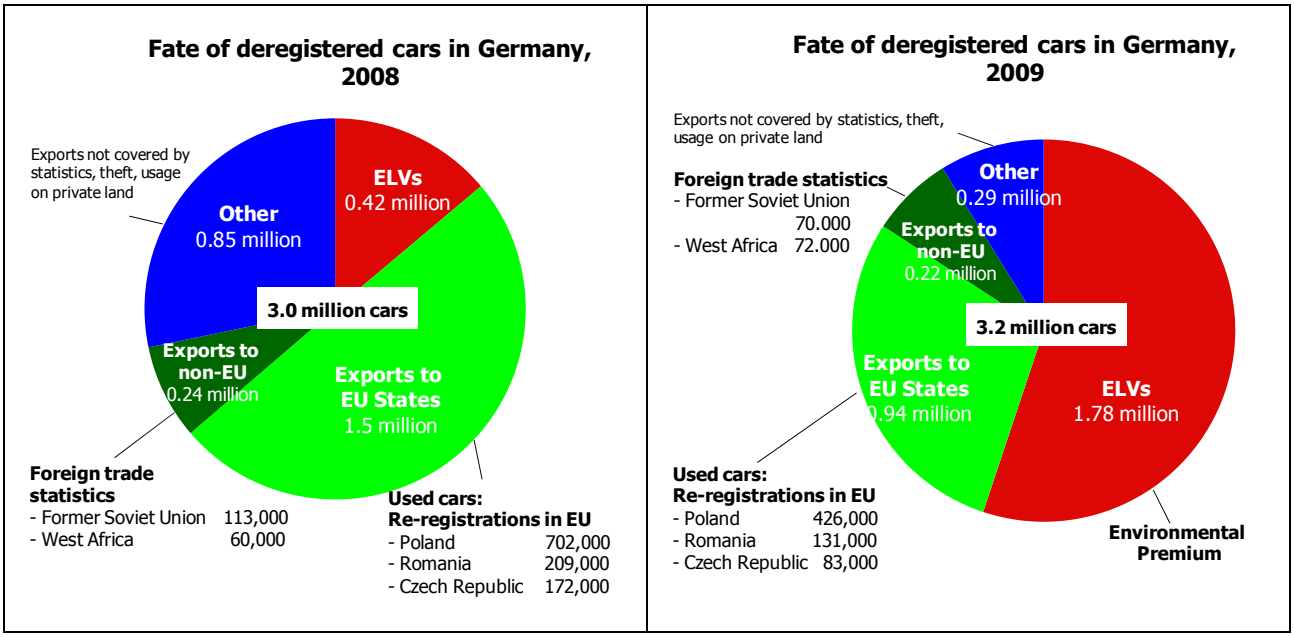
[15] Federal Statistical Office: Warenverzeichnis Außenhandelsstatistik 8-Steller, Länderverzeichnis, Daten für 2009. Wiesbaden 2010

[16] Commonwealth of Independent States, i.e. states of the former Soviet Union excluding Baltic states

[17] Collective term for 18 West African states: Angola, Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Liberia, Morocco, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo

Overall, this produces the following picture regarding the fate of cars deregistered in Germany – see Figure 3, with comparative figures for the previous year 2008.

Figure 3 Fate of cars finally deregistered in Germany, 2008 and 2009[18]



- In 2009, the dismantling facilities in Germany accepted 1,784,297 end-of-life vehicles, of which 1,778,593 came from within Germany (=W).
- According to the statistics on "Transboundary shipment of waste requiring authorisation"[19], no “scrapped passenger cars” (No. 8.11) were exported from Germany in 2009.

[18] Sources:

- Federal Motor Transport Authority: Wiederanmeldungen von Gebrauchtwagen im Ausland. Personal communications dated 24 April 2009 and 26 March 2010.
- Federal Motor Transport Authority: Fahrzeugklassen und Aufbauarten – Löschungen bzw. Außerbetriebsetzungen in den Jahren 1950 bis 2010 nach Fahrzeugklassen (http://www.kba.de/cln_005/nn_191240/DE/Statistik/Fahrzeuge/Ausserbetriebsetzungen/FahrzeugklassenAufbauarten/a__fzkl__zeitreihe.html) und Anteil der endgültigen Stilllegungen (ca. 40%) (http://www.kba.de/cln_016/nn_125264/DE/Statistik/Fahrzeuge/Ausserbetriebsetzungen/ausserbetriebsetzungen__node.html?__nnn=true),
- Federal Statistical Office: Außenhandelsstatistik 2008 und 2009, 8-Steller, Gebrauchtwagen, Länderverzeichnis,
- Federal Statistical Office: Table 14 of the 2008 and 2009 Waste Management Survey, Wiesbaden 2010

[19] See COM Table 3 and the waste export statistics: http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/ZeitreiheExportAbfallarten.pdf.

Table 8 Exports of used cars, end-of-life vehicles and pre-treated body shells from Germany

Reference year 2009	Unit	To other EU countries	To non-EU countries
Used vehicles exported (see Table 6 and Table 7)	Number	approx. 938,000	224,498
Average age of used vehicles exported	Years	Not known	Not known
ELVs exported (see COM Table 3)	Number	0	0
De-polluted (and dismantled) body shells exported (ASN 16 01 06)	Number	approx. 72,500 [20]	
	Tonnes	59,027	

2.3.3 Section 3: Elements related to methods and quality of Section 1 and 2

a) How do you assess the quality of the information on both the national vehicle market and the export market?

National vehicle market

The sources of data on the national vehicle market are stated in the footnotes to Table 5. The figures on new registrations, total registered fleet, average age and off-road notifications originate directly from the Federal Motor Transport Authority and are based on the official vehicle registrations. Their quality is therefore considered very good. Since the sum for vehicle classes M1 and N1 cannot be read off directly from these sources, the data is given for all motor vehicles and, in addition, for the subset "cars".

Since the changeover from final and temporary deregistrations to off-road notifications, the number of final registrations can no longer be determined directly from the statistics. The conversion is therefore based on the Federal Motor Transport Authority's estimate that about 60 % of off-road notifications are temporary. Since the calculated number of approximately 3.2 million cars is only slightly above the previous year's figure of approximately 3.0 million cars despite the Environmental Premium, we cannot exclude the possibility that the figure of 60 % rather underestimates the real data in the year of the Environmental Premium.

The number of end-of-life vehicles arising comes from the waste statistics of the Federal Statistical Office, which originate from a full-coverage survey of all dismantling facilities. This indicates good quality (see also the remarks on the data quality of the figures for end-of-life vehicles in Section 2.1.2).

Used car exports

[20] The waste statistics only show the weight of the body shells exported, not the number. The weight is converted to numbers by applying the conversion factor 815 kg/body shell (= 898 kg vehicle empty weight – 9.3 % dismantled materials = 898 kg * 90.7 %).

The data on exports of used cars to EU Member States originates from the exchange of information under Article 9 of Directive 1999/37/EC on the registration documents for vehicles. As this exchange has grown steadily in recent years, it can now be assumed that it provides a largely complete picture of re-registrations of used cars in the EU Member States. The figures cover 19 of the 26 possible EU Member States. The figure of 0.94 million must therefore be regarded as the lower limit of actual exports. Since the list of countries does not include Germany's neighbour France, nor Portugal or Greece, the actual volume of exports can be assumed to be somewhat higher.

The figures for exports of used cars to non-EU countries come from the foreign trade statistics. While these include all countries worldwide, they suffer from the familiar problem of notification thresholds. Since these are lower than for exports within the EU, it may be assumed that the figures cover a fairly high proportion of actual exports.

Cases of used car transits from Germany through another EU state to a non-EU state would not be covered by the extra-EU foreign trade statistics. Neither would such exports be covered by the exchange of information under Directive 1999/37/EC on the registration documents for vehicles if the car was not re-registered in the transit country. No information is available about any informal exports for purposes other than reuse.

It can be seen from Figure 3 that there is no statistical evidence of the fate of approx. 0.3 million out of approx. 3.2 million vehicles finally deregistered in 2009.

However, since there is no concrete indication of the size of the share missing from the statistics, it was decided not to extrapolate the actual exports from the figures in the statistics. The export figures must therefore be regarded as lower limits.

b) *Describe the source of information, the quality of sources, the completeness (coverage rate) and the validation process.*

c) *If Foreign Trade Statistics (FTS) are used as a source for the reporting of export of used cars, please explain how you estimate the amount which is not reported due to the (monetary) reporting thresholds for export.*

d) *How did you correct for unofficial imports and exports, e.g. where used cars are exported but not for reuse as a car.*

For information on items b) to d), see under a)

3 Supplement: Development of end-of-life vehicle disposal and recycling/recovery rates since 2004

Development of ELV quantities

Between 2004 and 2008, the number of end-of-life vehicles fell from 0.54 million to 0.42 million, rising to 1.78 million in 2009, as a one-off effect of the Environmental Premium (see Figure 4).

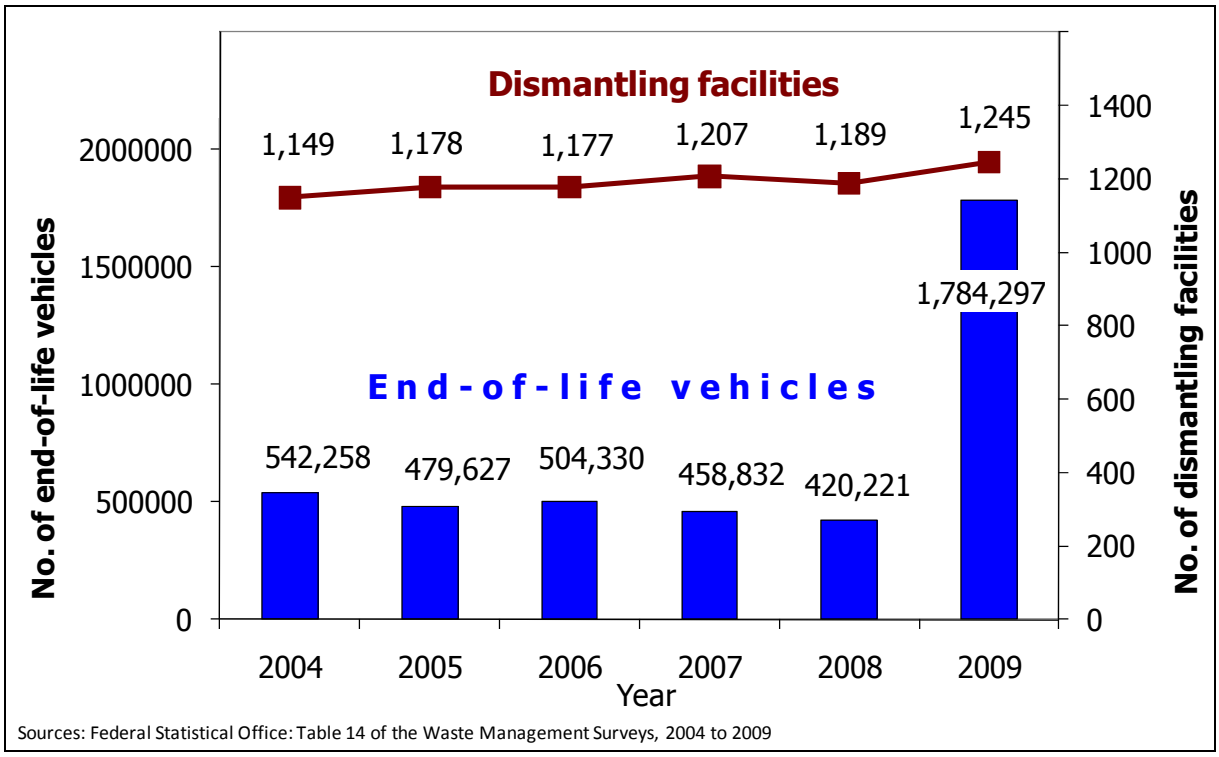


Figure 4 **Development of ELV quantities (total, delivered from within Germany and abroad) and the number of dismantling facilities in the waste statistics, Germany since 2004** [21]

Between 2004 and 2008, body shells as a share of input into shredder facilities that treat body shells fell by half (from 16 % to 8.7 %), but more than doubled again in the year of the Environmental Premium, see Figure 5.

[21] Note: Figure 4 shows the total number of end-of-life vehicles treated in the dismantling facilities. The figure W (total number of ELVs) which is relevant for calculating the rates is lower, as the ELVs received from abroad are deducted first. The number of dismantling facilities corresponds to the information in the waste statistics of the Federal Statistical Office. Slight discrepancies are possible compared with the number of dismantling facilities certified under the ELV Ordinance (*AltfahrzeugV*) as determined by GESA (*Gemeinsame Stelle Altfahrzeuge* / Joint Agency for End-of-Life Vehicles), for example because some certified facilities may not actually have accepted any end-of-life vehicles.

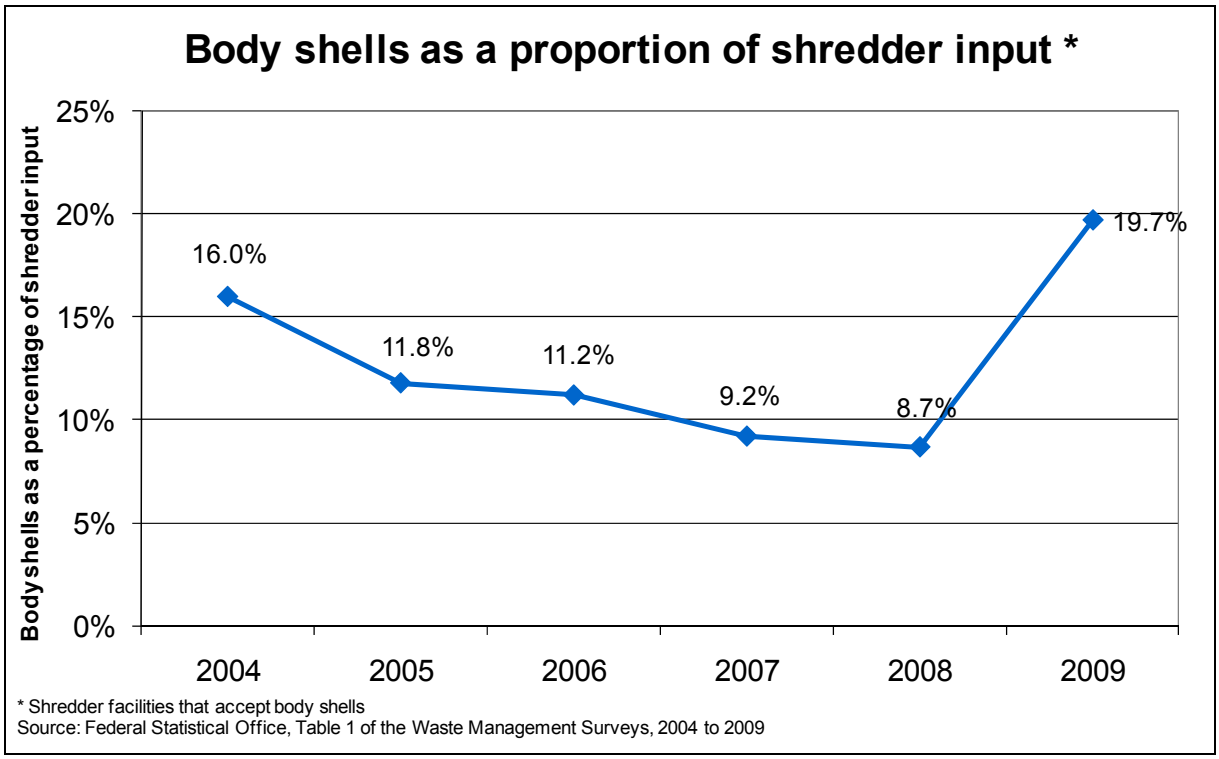


Figure 5 Development of body shells as a percentage of input into German shredder facilities, 2004 to 2009

Recycling/recovery of shredder light fraction

One important non-metallic waste stream from the treatment of end-of-life vehicles is the shredder light fraction. Whereas 90 % of the shredder light fraction was still being sent for disposal in Germany in 2004, the proportion that is recycled or recovered has increased continuously year on year, and by 2009 only 27 % was sent for disposal – see Figure 6. The diagram shows the total quantity of shredder light fraction treated in shredder facilities that accept body shells. A certain proportion of this is due to body shells (2009: 40 % or approx. 200,000 t out of 500,000 t).

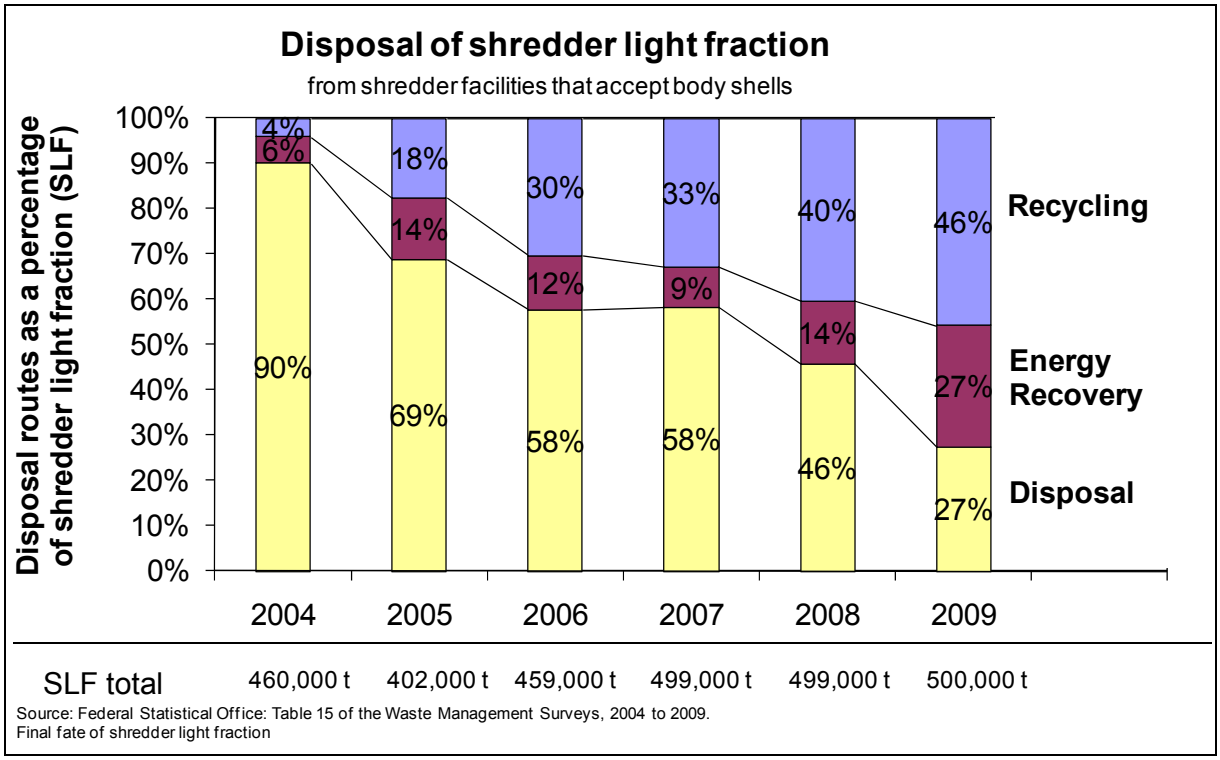
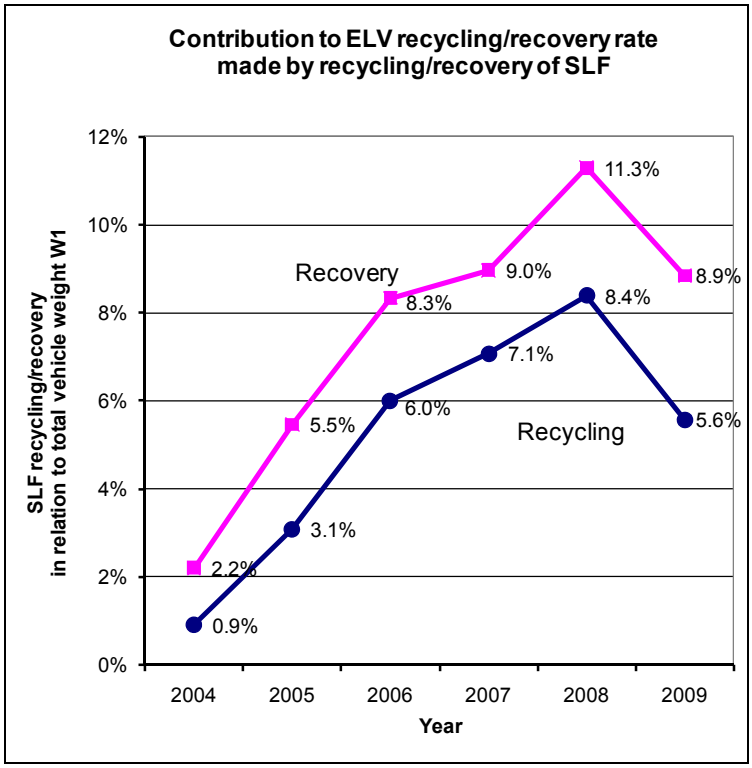


Figure 6 **Disposal of shredder light fraction from shredder facilities treating body shells in Germany during the period 2004 to 2009**



The contribution made by the shredder light fraction to the ELV recycling/recovery rate decreased in 2009, despite an increase in recycling/recovery rates. The explanation for this is that some of the ELVs covered by the Environmental Premium were not shredded until 2010, and recycling/recovery of these shredder residues will not be reflected in the figures until the rates for 2010 are calculated.

Figure 7 Contribution to end-of-life vehicle recycling/recovery rate made by recycling/recovery of shredder light fraction; figures as a percentage of total vehicle weight W1

Development of ELV reycling/recovery rates

On the basis of the statistical data in combination with other documented parameters, e.g. regarding the metal content assumption (73.6 %), even in 2009, the year of the Environmental Premium, Germany still managed to reach or exceed the EU-wide required rates of 80 % for reuse/recycling and 85 % for reuse/recovery, albeit to a lesser extent than in the preceding three years.

As expected, the metallic fraction made the largest contribution to the recycling/recovery rates in 2009, with a share of 73.6 %. The contribution by dismantling facilities as a result of reuse/recovery of non-metals (within Germany) came to 3.5 % (in relation to total vehicle weight), equating to just half of the previous year's level (Figure 8) as a result of interim storage and reduced recovery of spare parts, whereas recovery of the shredder light fraction contributed 8.9 % to the reuse/recovery rate (see also Figure 7). Recycling/recovery of ELV parts or fractions outside Germany continued to be of minor importance in 2009 (0.7 % of the rate).

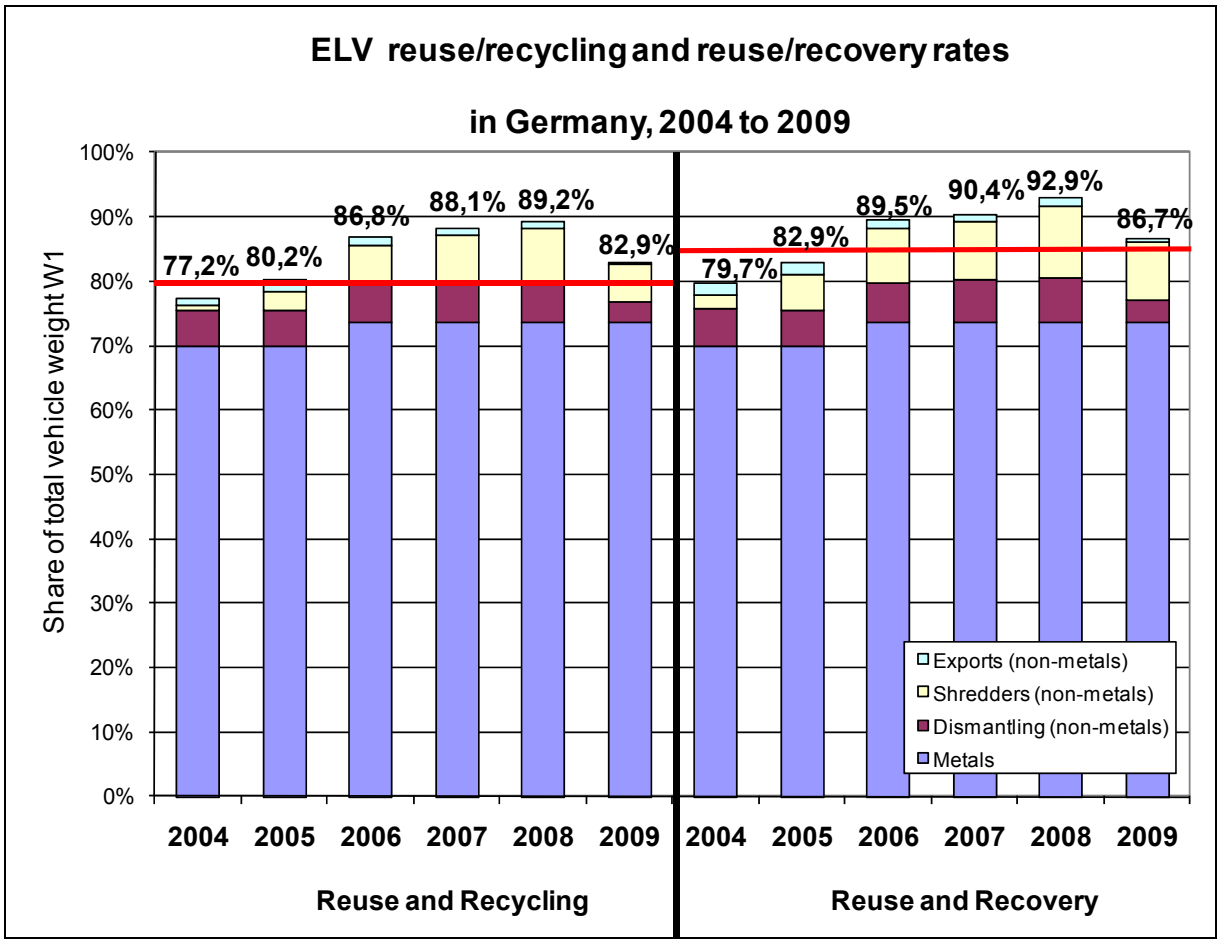


Figure 8 **Contribution of dismantling facilities, shredder facilities and recycling/recovery abroad to ELV reuse/recycling and reuse/recovery rates, 2004 to 2009**

Appendix to the Quality Report: COM Tables with allocation of metals also to Tables 1 and 3

According to the EU Commission's guide, all recovered/recycled metals are to be entered in COM Table 2 (Shredders) if the "metal content assumption" is applied. However, this representation is not suitable for certain interpretations, such as calculating the specific dismantled battery mass per vehicle. For this reason, an alternative representation of COM Tables 1 to 4 is included in this Appendix, showing the distribution of recovered/recycled metals among COM Tables 1 to 3.

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

COM Table 1 (dismantling) for Germany 2009 Total metals + non-metals					
Materials from de-pollution and dismantling	**Reuse**	**Re-cycling**	**Energy recovery**	**Total recovery**	**Disposal**
	(A)	**(B1)**	**(C1)**	**(D1=B1+C1)**	**E1**
	[t]	[t]	[t]	[t]	[t]
Batteries	454	14,011	0	14,011	106
Liquids (excluding fuel)	281	5,251	1,693	6,944	1,892
Oil filters	2	151	65	215	11
Other materials arising from de-pollution (excluding fuel)	7	32	95	126	7
Catalysts	157	2,570	0	2,570	18
Metal components	40,805	30,701	0	30,701	32
Tyres	2,423	23,330	0	23,330	442
Large plastic parts	958	1,384	0	1,384	2
Glass	502	2,292	0	2,292	18
Other materials arising from dismantling	11,038	301	1,546	1,846	6
Total	**56,627**	**80,022**	**3,398**	**83,419**	**2,533**

Source: from Federal Statistical Office data, Tables 1 and 15 of the Waste Management Survey 2009.

Materials from shredding (in tonnes per year) of end-of-life vehicles arising in the Member State and treated within the Member State

COM Table 2 (shredders) for Germany 2009 Proportionate metal shares only				
Materials from shredding	**Recycling**	**Energy recovery**	**Total recovery**	**Disposal**
	(B2)	**(C2)**	**(D2 =B2+C2)**	**(E2)**
	[t]	[t]	[t]	[t]
Ferrous scrap (steel)	941,782	0	941,782	0
Non-ferrous materials (Al, Cu, Zn, Pb etc.)	103,660	0	103,660	0
Shredder light fraction (SLF)	89,060	52,274	141,334	54,534
Other	0	0	0	0
Total	**1,134,502**	**52,274**	**1,186,776**	**54,534**

Source: from Federal Statistical Office data, Table 15 of the Waste Management Survey 2009.

Explanatory comment on the calculation of metal proportions for COM Table 2:

1. *Calculation of recovered/recycled metals (total) = 73.6 % (metal content assumption) * 1,596,831 t (total vehicle weight W1) = 1,175,635 t.*
2. *Deduction of metals already recorded in COM Table 1 (dismantling of metals: re-use and recycling/recovery) and COM Table 3 (metal exports).*
3. *Breakdown into ferrous/non-ferrous on a ratio of 66.3 % : 7.3 %*

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

COM Table 3 (export) for Germany 2009 Total metals + non-metals					
Components / materials exported for further treatment Total weight, broken down by countries	**Total weight of end-of-life vehicles exported, by country**	**Total recycling of (parts of) end-of-life vehicles exported**	**Total recovery of (parts of) end-of-life vehicles exported**	**Total disposal of (parts of) end-of-life vehicles exported**	**Remarks**
		(F1)	**(F2)**	**(F3)**	
	[t]	[t]	[t]	[t]	
1) End-of-life vehicles (Waste code 160104*)	0	0	0	0	No exports in 2009 according to the statistics on "Transboundary shipment of waste requiring authorisation" *)
Breakdown by countries: -- not applicable --					
2) Body shells from dismantling facilities (Waste code 160106)	59,027	45,274	48,103	10,924	Basic figures: 56,592 t vehicles exported for recovery (assumption: 80%/85% thereof recovered), 2,435 t vehicles exported directly for disposal.
Breakdown by countries: -- unknown --					
3) Components from dismantling facilities	5,575	5,464	5,547	27	Batteries, tyres, large plastic parts, glass etc.
Breakdown by countries, where known**) Waste / Destination countries for waste exports (total, not just from dismantling facilities), included in the waste export statistics: - 160103 End-of-life tyres: to Poland - 160113* Brake fluid: to Austria - 160114* Anti-freeze fluids: to Austria - 160601 Lead batteries: to Belgium, Slovenia, Czech Republic - 160801 Catalysts: to Belgium - 160807* Catalysts: to Belgium, UK, USA					
4) SLF from shredders	3,892	2,321	3,543	349	Total SLF exported: 191003*: 2,482 t, 191004: 7,268 t. Of which 40 % from ELVs.
Breakdown by countries, where known**) Waste / Destination countries for waste exports (total, not just from ELVs), according to waste export statistics: - 191003* Shredder light fraction: not known - 191004 Shredder light fraction: to Austria					
Total	**68,494**	**53,058**	**57,193**	**11,301**	

Source: Federal Statistical Office Waste Management Survey 2009 and waste exports data
*) http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/ZeitreiheExportAbfallarten.pdf (No. 8.11) and

http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/UStatGExport2009.pdf (Waste code 16 0104*). The 490 t "end-of-life vehicles" exported to the Netherlands shown under 16 01 04* refers to No. 8.12 "Other scrapped motor vehicles", not No. 8.11 "Scrapped passenger cars".
**) a) Waste exports from end-of-life vehicle dismantling facilities: "Erhebung über die Abfallentsorgung im Jahr 2009" (Waste Management Survey, 2009), Table 15, Federal Statistical Office
b) Total waste exports for Germany: "Abfallstatistik: Grenzüberschreitende Verbringung von zustimmungspflichtigen Abfällen“ (Waste statistics: Transboundary movements of waste requiring authorisation), Federal Environment Agency, June 2010: http://www.umweltbundesamt.de/abfallwirtschaft/abfallstatistik/dokumente/UStatGExport2009.pdf

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

COM Table 4 (rates) for Germany 2009					
From ...	**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)**
	[t]	[t]	[t]	[t]	[t]
Table 1: Dismantling (A,B1,D1) (metals + non-metals)	56,627	80,022	83,419	136,649	140,046
Table 2: Shredders (B2, D2) (metals + non-metals)		1,134,502	1,186,776	1,134,502	1,186,776
Table 3: Exports (F1, F2) (metals + non-metals)		53,058	57,193	53,058	57,193
Total	**56,627**	**1,267,582**	**1,327,389**	**1,324,209**	**1,384,016**

			Recycling and recovery rates 2009	
W (total number of end-of-life vehicles)	**1,778,593**	**vehicles**	**82.9%**	**86.7%**
W1 (total vehicle weight)	**1,596,831**	**tonnes**	**X1/W1**	**X2/W1**