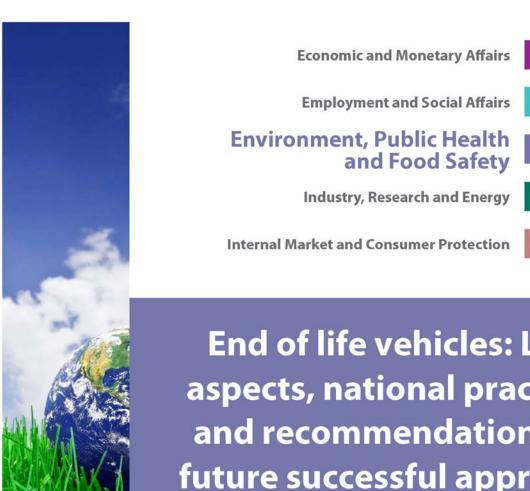


DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT ECONOMIC AND SCIENTIFIC POLICY



End of life vehicles: Legal aspects, national practices and recommendations for future successful approach

ENVI

EN 2010



DIRECTORATE GENERAL FOR INTERNAL POLICIES POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY

End of life vehicles: Legal aspects, national practices and recommendations for future successful approach

Study

Abstract

Available information on the implementation of the ELV Directive suggests that there is still room for improvement regarding management of end-of-life vehicles in Europe. The study evaluates and discusses fundamental aspects of ELV management such as arisings, legal and illegal shipment, de-pollution and recycling & recovery of end-of-life vehicles. Existing problems are described and recommendations for improvements of the practical implementation are given.

IP/A/ENVI/ST/2010-07

October 2010

PE 447.507 EN

This document was requested by the European Parliament's Committee on Environment, Public Health and Food Safety.

AUTHORS (all Umweltbundesamt GmbH)

Jürgen Schneider (Reviewer and Project Leader)
Brigitte Karigl (Task Manager)
Christian Neubauer
Maria Tesar
Judith Oliva
Brigitte Read (Proofreader)

RESPONSIBLE ADMINISTRATOR

Mr Lorenzo Vicario Policy Department A Economic and Scientific Policy European Parliament B-1047 Brussels

E-mail: Poldep-Economy-Science@europarl.europa.eu

LINGUISTIC VERSIONS

Original: [EN]

ABOUT THE EDITOR

To contact the Policy Department or to subscribe to its newsletter please write to: <u>Poldep-Economy-Science@europarl.europa.eu</u>

Manuscript completed in October 2010. Brussels, © European Parliament, 2010.

This document is available on the Internet at:

DISCLAIMER

The opinions expressed in this document are the sole responsibility of the author and do not necessarily represent the official position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorized, provided the source is acknowledged and the publisher is given prior notice and sent a copy.

Contents

LIS	ST OF ABBREVIATIONS	5
LIS	ST OF TABLES	6
LIS	ST OF FIGURES	7
Ex	ecutive summary	8
Ex	ecutive summary	8
Ge	neral information	15
1.	Arising of ELVs	17
	1.1. Legal background	17
	1.2. Results	17
	1.2.1. Automotive market	18
	1.2.2. Statistics on ELVs	19
	1.2.3. Statistics on used cars	20
	1.3. Steps taken by the Commission Services to overcome problems	22
	1.4. Conclusions & Recommendations	24
2.	Concept of vehicle de-registration	25
	2.1. Legal background	25
	2.2. Results	26
	2.2.1. Implementation of Article 5 (3) according to MS reporting	27
	2.2.2. Additional information on the implementation of Article 5(3)	28
	2.3. Steps taken by Commission Services to overcome problems	31
	2.4. Conclusions & Recommendations	32
3.	Legal and illegal shipment of ELVs	33
	3.1. Legal background	33
	3.2. Results	35
	3.2.1. Legal shipment of ELVs and parts thereof	35
	3.2.2. Shipment of second-hand cars	37
	3.2.3. Illegal shipment of end-of life vehicles	42
	3.3. Steps taken by Commission Services to overcome problems	43
	3.4. Conclusions & Recommendations	45
4.	De-pollution of ELVs	46
	4.1. Legal background	46
	4.2. Results	47

		4.2.1.	Materials removed from ELVs as reported by Member States	47
		4.2.2. substan	Removal of individual materials/components containing nces	hazardous 49
		4.2.3.	ELV-treatment facilities in Member States	52
		4.2.4.	Inspections of ELV treatment facilities	54
		4.2.5.	Contamination of shredder residues	54
	4.3.	Steps t	aken by Commission Services to overcome problems	55
	4.4.	Conclus	sions & Recommendations	55
5 .	Rec	ycling a	and recovery of ELVs	56
	5.1.	Legal b	packground	56
	5.2 .	Results	5	56
		5.2.1.	Recycling and recovery rates achieved by the Member States	56
		5.2.2.	Recycling of materials crucial for achievement of the targets	60
	5.3.	Steps t	aken by Commission Services to overcome problems	65
	5.4.	Conclus	sions & Recommendations	65
6.	Pro	ducer r	esponsibility	67
	6.1.	Legal b	packground	67
	6.2.	Results	\$	68
		6.2.1.	Limitation of the use of hazardous substances	68
		6.2.2.	Systems for the collection of ELVs	68
		6.2.3.	Coding standards and information on dismantling	69
		6.2.4.	Vehicle design and the environmental sound management	69
	6.3.	Steps t	aken by Commission Services to overcome problems	69
	6.4.	Conclus	sions & Recommendations	70
Re	ferei	nces		71
An	nex			74

LIST OF ABBREVIATIONS

ACEA	European Automobile Manufacturers Association			
ATF	Autorized treatment facility			
Category M1	Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat			
Category N1	Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes (according to Directive 70/156/EEC)			
CoD	Certificate of Destruction			
DIV	Dienst Inschrijving Voertuigen			
DVLA	Driver and Vehicle Licensing Agency			
EES	Electrical & Electronic System			
ELV	End-of-life vehicle			
EReg	European Vehicle and Driver Registration Authorities			
EUCARIS	European Car and Driving Licence Information System			
IDIS	International Dismantling Information System			
LGT	Liquified gas tank			
TFS	Transfrontier Shipment			
WSR	Waste Shipment Regulation			

LIST OF TABLES

Table 1	
Problems and recommendations for successful approaches in the future	13
Table 2 Production of passenger cars in Europe	19
Table 3 Comparison of the numbers of ELVs and de-registered cars	20
Table 4 Classifications of vehicles and parts thereof	34
Table 5 End-of-life vehicles and parts thereof exported for further treatment.	36
Table 6 Exports of used cars in units	38
Table 7 Exports of used vehicles out of the EU in 2008	40
Table 8 Destinations of exported used cars in Africa in 2008	41
Table 9 Average price of imported used cars (exports from the EU) in 2008	41
Table 10 Removal of fluids from ELV in Belgium in 2009 as reported by FEBELAUTO	50
Table 11 Authorized ELV-treatment facilities	53

LIST OF FIGURES

Figure 1: Development of the passenger car fleet and the ELV arisings 2007-2008 21
Figure 2: Export of used cars between and out of the EU-27 (in units)
Figure 3: Main destinations for used cars out of the EU-27 in 2008 (in units)
Figure 4: End of life vehicle or second-hand car?
Figure 5 : Removal of starter batteries from ELV 2008
Figure 6 : Removal of liquids (excluding fuels) from ELVs
Figure 7: Recycling and recovery rates reported by the Member States for the reference year 2006
Figure 8: Recycling and recovery rates reported by the Member States for the reference year 2007
Figure 9: Recycling and recovery rates reported by the Member States for the reference year 2008
Figure 10: Removal and Reuse & Recycling of large plastic parts in the course of ELV treatment in 2008
Figure 11: Removal and Reuse & Recycling of tyres in the course of ELV treatment in 2008
Figure 12: Removal and Reuse & Recycling of glass in the course of ELV treatment in 2008

EXECUTIVE SUMMARY

Directive 2000/53/EC on end-of life vehicles (ELV Directive), was published in the Official Journal L269 on 21st October 2000. The main objectives include a) to make vehicle dismantling and recycling more environmentally friendly, b) to set clear quantified targets for reuse, recycling and recovery of vehicles and their components and c) to encourage producers to manufacture new vehicles also with a view to their recyclability.

Up to now two implementation reports have been published, based on questionnaires completed by Member States pursuant to Commission Decision 2001/753/EC. The reports provide information on the transposition of Directive 2000/53/EC into national law and on the practical implementation. The first report covers the period 2002-2005 (COM/2007/0618 final), the second the period 2005-2008 (COM/2009/0635 final). In addition, annual data on the achievement of the targets for reuse/recycling and reuse/recovery, which had to be reported under Commission Decision 2005/293/EC were published by Eurostat (for the reference years 2006, 2007 and 2008 up to now).

There is evidence to suggest that some of the provisions of the Directive have not yet been transposed fully or correctly, which is also indicated by the number of infringement cases (in 2009, nine non-conformity cases and six cases for non-reporting were still pending). Moreover, several problems regarding the implementation of the provisions of the ELV Directive in practice, which are not always reflected in the official statistics, were identified. This study evaluates and discusses fundamental aspects of end-of-life vehicle management in Europe, describes existing problems and gives recommendations for improvements of the practical implementation of the ELV Directive in Europe.

End-of-life vehicles arisings

The European Environment Agency estimated the number of end-of-life vehicles arising in the EU-25 to be about 14 million in 2010, compared to 12.7 million in 2005². This is a number that differs significantly from the 6.2 million end-of-life vehicles in 2008 as published by Eurostat and based on data reported by 24 Member States³.

Furthermore, there are gaps between the numbers of de-registered passenger cars and end-of-life vehicles in many Member States. In most Member States the number of ELVs represents more than 50% of the amount of de-registered passenger cars (e.g. Belgium, Italy, Spain and the Netherlands). Thus, for those countries the gap between the number of de-registered cars and ELVs is lower than 50%. In other Member States (e.g. Austria, Denmark, Finland, Sweden) the gap is higher, and there is no detailed information available on the further use of more than 50% of the de-registered cars.

A certain number of de-registered passenger vehicles are commercially exported as second-hand cars. According to the COMEXT database, the official European Foreign Trade Statistics, about 893,000 used cars were exported out of the EU by Member States in 2008.

 1 European Commission (2009): Report on the Implementation of Directive 2000/53/EC on End-of-Life-Vehicles for the period 2005-2008

² ETC/RWM 2008: Projection of end-of-life vehicles (prepared for the European Environment Agency (EEA) under its 2007 work programme as a contribution to the EEA's work on waste outlooks)

³ Eurostat (available at : http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

The remaining gap can be accounted for by private exports of used cars (not registered in COMEXT), illegal shipment of end-of-life vehicles (see paragraph below), illegal disposal and by vehicles kept in garages in the country of de-registration.

To analyse the remaining gap and to find out if all end-of-life vehicles are accounted for, it is crucial to differentiate between ELVs and used cars. The question of when a used car ceases to be product and becomes waste according to the Waste Framework Directive (2008/98/EC) is answered in different ways across EU Member States. As a consequence, there are problems regarding the comparability of the reported data and in individual cases regarding the answer to the question if a transboundary shipment of a vehicle is subject to the provisions of the Waste Shipment Regulation No 1013/2006.

In order to analyse the gaps between reported figures on de-registered cars and the arising on end-of-life vehicles it is necessary to have available data on the national vehicle markets. However, this information is not yet available consistently for European Member States. First steps to gather these data have been taken: The guidance document on "How to report on end-of-life vehicles according to Commission Decision 2005/293/EC" (Draft version, 20th April 2010) aims to enhance the quality of data on the national vehicle market by Member States reportings (including the number of finally de-registered vehicles and the number of exports of used vehicles).

In general, data quality and data availability on the national vehicle markets (including data on de-registration of cars, import/export of used cars) should be improved, e.g. by involving the Association of European Vehicle and Driver Registration Authorities (EReg) and/or the European Car and Driving Licence Information System (EUCARIS).

Vehicle de-registration

There are different approaches to the de-registration of vehicles across European Member States. In some countries (e.g. in Austria) a vehicle is de-registered as a rule with the change of ownership of a car. In other countries (e.g. in the UK) vehicles are not de-registered when ownership changes. In these countries, de-registration generally takes place when the car owner wants to dispose of the vehicle. De-registered vehicles may be re-registered and put back on the road only under exceptional circumstances and if prior approval has been granted.

When a vehicle has become waste (end-of-life vehicle) additional requirements for deregistration have to be met. Article 5 (3) of the ELV Directive requires Member States to set up a system according to which the presentation of a certificate of destruction (CoD) is a condition for de-registration of the end-of life vehicle. In 2009, twenty-one Member States reported that they had implemented the condition to present a CoD for de-registering an ELV¹.

In some Member States (e.g. Austria, Finland) the number of issued CoDs is not equal to the arisings of end-of-life vehicles. This might be due to the fact that a vehicle can be deregistered before the car owner decides that his/her car becomes waste and thus an end-of-life vehicle. There is an information gap regarding the whereabouts of de-registered vehicles. To close this gap, information on the further use of a vehicle should be obtained its de-registration (e.g. in the form of a declaration that there is no intention to dispose of the vehicle, and stating whether the car owner intends to sell or export the vehicle or keep it in a garage).

To obtain more information on the whereabouts of vehicles on national markets the Eurostat guidance document on "How to report on end-of-life vehicles according to Commission Decision 2005/293/EC" suggests reporting the number of CoDs issued and the numbers of final de-registrations per year. Member States should report the data as suggested in the guidance document; this will allow better assessments as to whether full implementation of Article 5 (3) has been achieved in practice.

Shipment of end-of-life vehicles

Compared to the arisings of end-of-life vehicles, the numbers of end-of-life vehicles that are exported are low. According to data reported by 22 Member States in 2008, 260,000 tonnes of end-of-life vehicles and parts thereof were exported, which is an increase compared to the reference year 2006 when these exports amounted to 88,000 tonnes (data available for 19 Member States)⁴.

A considerable number of vehicles which are de-registered in the Member States are exported as used cars. According to data from the COMEXT database (the official European Foreign Trade Statistics⁵) the number of used cars shipped within the EU is slightly lower (746,000 in 2006; 794,000 in 2008) than the number exported out of the EU (900,000 in 2006; 893,000 in 2008)

Furthermore there is evidence suggesting that considerable numbers of ELVs are exported illegally from European Member States; predominantly to Africa and the Middle Eastern countries. This is supported by several press reports as well as by the results of joint activity inspections in the framework of an IMPEL-TFS project completed in 2008, where several cases of illegal shipment of end-of-life vehicles were reported – mostly to African countries⁶.

In countries with low average income in some European regions as well as outside the EU there is a market for very cheap cars, often in bad condition or serving as a source of spare parts. An important motive for illegal shipments of end-of-life vehicles is that the owner of an old vehicle can make some profit (usually a few hundred Euros) when selling it to a car dealer who ships it abroad, whereas there is usually no money to be made from disposing of an ELV in the country of de-registration.

Effective action against illegal shipments of end-of-life vehicles is hampered by the fact that there are differences in the interpretation of end-of-life vehicles and used cars, and the distinction between them, in different countries. To address this problem the Correspondents' Guidelines No 9 (draft status), which outlines how the Waste Shipment Regulation should be interpreted by all Member States, provides guidance on the distinction between an end-of-life vehicle and a used car.

To reduce illegal shipments of end-of-life vehicles, inspections of transports within and out of the EU should be intensified. Binding rules regarding the differentiation between end-of-life vehicles and used cars at a European level would facilitate effective action against illegal shipments of end-of-life vehicles.

_

⁴ Eurostat (available at : http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

⁵ http://www.fiw.ac.at/index.php?id=367

⁶ IMPEL-TFS End of Life Vehicles 2008: Vehicles for export Project; Final report September 2008

Furthermore, measures which make the disposal of an old vehicle in the country of deregistration more attractive - such as refunds obtained in a deposit-refund system - would help reduce illegal shipments of end-of-life vehicles.

De-pollution

Regarding de-pollution of end-of-life vehicles in Europe, two main aspects have to be considered.

First, there is evidence suggesting that end-of-life vehicles are treated illegally in some cases. However, the situation seems to be improving. This can also be seen from the fact that, compared to 2005, the numbers of authorised treatment facilities have increased significantly in some Member States (UK, BE, GR) in recent years.

Second, there is evidence suggesting that even in authorised treatment facilities depollution is not in full compliance with the relevant requirements of the ELV Directive.

Liquids seem to be removed to a certain extent. Certain types of fluids or components such as brake fluids, windscreen washer fluid, oil filters or shock absorbers, however, are not always removed or de-polluted.

Usually little effort is put into the removal of components containing heavy metals, such as Hg-containing display backlights or switches.

Lead-acid batteries are generally removed from end-of-life vehicles because lead may be used as a source of income and because of constraints for the shredder-process if not removed. Liquefied gas tanks and air bags are usually removed because of the well-known risks for shredder plants.

In order to improve de-pollution of end-of-life vehicles, measures should be taken against illegal waste car dismantlers and unauthorised treatment facilities (e.g. by stepping up inspections by competent authorities in the Member States). Inspections of ELV treatment plants should address the effectiveness of de-pollution adequately.

De-pollution of ELVs should lead to shredder residues with low contents of hazardous substances. According to some available information on the composition of shredder residues, it is in particular the content of hydrocarbons that indicates that the de-pollution of end-of-life vehicles is not always sufficient. Comprehensive assessments of the quality of ELV shredder residues at European level are recommended and would allow conclusions about the effectiveness of the de-pollution of end-of-life vehicles.

Recycling and recovery

According to data published by Eurostat in 2008, 20 Member States achieved the reuse/recycling target of 80% of the average ELV weight. Sixteen Member States met the 85% reuse/recovery target.

However, the reported recycling and recovery rates are not always comparable and might be overestimated. This is due to the following reasons:

- The classification of technically identical treatment operations such as recycling, recovery or disposal differs between Member States due to different national interpretations. Backfilling, landfill construction and landfill cover, use of plastics in blast furnaces are often considered differently in different Member States
- Member States gather data in different ways and at different time intervals (e. g. data on the quality & frequency of ELV treatment trials) and different methodologies are applied for the calculation of recycling and recovery rates (e.g. how much of the whole ELV treatment chain is considered)

The above factors can significantly influence the achievement of recycling and recovery targets.

Evidence suggests that there is still room for improvement regarding the recycling and recovery of ELV materials. Dismantling and subsequent material recycling of glass and plastics for instance takes place in minor quantities in several Member States. Recovery of glass after shredding, however, prevents glass recycling because of the bad quality of the glass. Recovery of plastics from shredder residues is still limited to only a few Member States. Whereas in some Member States post-shredder technology has been installed and landfilling of shredder residues prohibited or made very expensive, several Member States still deposit shredder residues on landfills.

To improve the comparability of recycling and recovery rates and to avoid market distortions within the waste treatment industry, there is a need for binding rules for the classification of particular treatment operations as "recycling", "recovery" or "disposal" across the EU. Furthermore, the harmonisation of data collections and the methodologies applied for the calculation of recycling and recovery rates - as already mentioned by an expert working group set up by the European Commission and Eurostat - is recommended.

In order to achieve an environmentally sound treatment of end-of-life vehicles it would be useful, in addition to the overall recycling and recovery targets, to establish specific treatment obligations for particular material streams, taking into account their overall environmental impact.

Producer responsibility

Producers and manufacturers have taken the necessary measures to ban certain hazardous substances (Cd, Hg, Pb, and CrVI) in new cars as required by Article 4 of the ELV Directive. There is no evidence suggesting that these requirements are not fulfilled. Nevertheless, and considering that no external monitoring is conducted, it seems to be important to assess the overall effect of the ban in practice at European level.

For providing information on the dismantling of cars as required under Article 8 of the ELV Directive, manufacturers generally use an international platform, the so-called IDIS system (International Dismantling Information System). However, the use of this information is not common practice in ELV treatment plants. The transfer of information about the dismantling of vehicles should be encouraged in order to promote the correct and environmentally sound treatment of end-of-life vehicles.

Problems identified in end-of-life vehicle management in Europe and need for action to achieve the aims of the ELV Directive

Table 1: Problems and recommendations for successful approaches in the future

Problem		Recommendation regarding need for action		Legislative Options	Other options
	Responsi- bility		Addressing		
Illegal Shipment of ELVs	Illegal activity	Intensify MS inspections of transports within and out of the EU	Member States / European Commission	Lay down minimum requirements regarding the frequency of spot checks on shipments of waste → Regulation 2006/1013/EC when revised (Article 50) Oblige MS to monitor shipments of ELVs → Directive 2000/53/EC when revised (compare proposal (2008) for the recast of the WEEE-Directive, Article 20, Annex I)	Promote joint enforcement projects, promote exchange of knowledge, best practices under IMPEL (Cluster 2)
		Support action against illegal shipments by establishing binding rules for the distinction between ELVs / used cars	European Commission	Make mandatory the relevant contents of the Draft Correspondent's guidelines No 9 according to Regulation 2006/1013/EC → Directive 2000/53/EC when revised	
		Introduce incentives for the disposal of cars in the country of de-registration (e.g. by depositrefund systems)	Member States / European Commission		To commission a study on the impact of incentives for disposal of ELVs in the country of deregistration → Commission Services
Different national interpretations of ELVs and used cars, differences in the distinction between them.	Member States	Establish binding rules at European level for the distinction between ELVs and used vehicles	European Commission	Make mandatory the relevant contents of the Draft Correspondent's guidelines No 9 according to Regulation 2006/1013/EC → Directive 2000/53/EC when revised	
Lack of comparable data on the deregistration of used cars for all Member States (e.g. on the further use of de-registered cars)		Request information on the fate of a vehicle when deregistering it Request data on national vehicle markets (including on further use of deregistered cars).	European Commission	Oblige MS to request information on the fate of vehicles when they are deregistered → Directive 2000/53/EC when revised (Article 5) Oblige MS to report on the fate of deregistered vehicles → Directive 2000/53/EC when revised (Article 7), Decision 2005/293/EC when revised (Article 1 (3))	

Problem		Recommendation regarding need for action		Legislative Options	Other options	
	Responsi- bility		Addressing			
Cases of illegal treatment of ELVs still exist	Illegal activity	Take measures against illegal car dismantlers and unauthorised treatment facilities (e.g. stepping up inspections)	Member States		Strengthen activities related to training and exchange of experiences, comparison, evaluation and development of good practices, etc. under IMPEL (Cluster 1)	
Indication that ELVs are not always de- polluted properly (although little information is available)	Illegal activity	Address the effectiveness of depollution adequately in the course of inspections at ELV treatment facilities.	Member States / European Commission	Establish more detailed minimum technical treatment requirements for ELVs → Directive 2000/53/EC when revised (Article 6, Annex I)	Strengthen activities related to training and exchange of experiences, comparison, evaluation and development of good practices, etc. under IMPEL (Cluster 1)	
		Comprehensive evaluation of the quality of ELV shredder residues	European Commission		To commission a study on the actual effects of depollution of ELVs on ELV shredder residues → Commission Services	
Considerable amounts of ELV materials are still disposed of (not all MS	Member States	Provision of sufficient capacity of environmentally sound recycling/recovery operations	Member States			
have achieved the recycling/recovery targets). Lack of comparability; evidence suggesting that the reported recycling/recovery rates are overestimated		Establish binding rules for the classification of treatment operations for "recycling"/"recover y"/"disposal", data gathering and calculation methodology	European Commission	Establish binding rules for the classification of particular treatment operations → Directive 2000/53/EC when revised (Article 7) Make mandatory the relevant contents of the Eurostat guidance document on "How to report on end-of-life vehicles according to Commission Decision 2005/293/EC" → Directive 2000/53/EC when revised (Article 7), Decision 2005/293/EC when revised		

GENERAL INFORMATION

EU legislation on End of Life Vehicles (ELVs) is still not fully implemented in some Member States. The European Commission has worked on the subject and an oral question relating to the issue of ELVs has been raised by MEP Davies in the ENVI Committee of the European Parliament. This question has been taken up by the Coordinators of the ENVI Committee, who requested a study on "End of life vehicles: legal aspects, national practices and recommendations for future successful approach". Umweltbundesamt GmbH has been contracted to prepare this study as part of the Framework Contract 'External expertise on emerging regulatory and policy issues within the responsibility of the ENVI Committee in the area of Environmental policy (IP/A/ENVI/FWC/2010-003)'.

Aim

The overall objective of this study is to give an overview on the status of its practical implementation in European Member States.

The key questions are as follows:

- Are all end-of-life vehicles accounted for?
- Is the concept of vehicle 'de-registration' applied consistently in the Member States?
- How many ELV vehicles are exported legally or illegally from the Member States?
- Are all ELVs properly de-polluted?
- Are all ELVs recycled and what are the success rates that are achieved?
- Do vehicle manufacturers meet their producer-responsibility obligations?

These questions are discussed in the individual chapters of this study.

Methodology

The following sources of information were used for preparing this study:

- Analysis of reports on ELV management and further information obtained by the European Commission and European Services⁷;
- Analysis of data reported by Member States on the monitoring of recycling and recovery rates pursuant to Commission Decision 2005/293/EC⁸ for the reference years 2006, 2007 and 2008 as published by Eurostat⁹;
- Questionnaire survey addressed to selected Member States¹⁰;
 - Member State representatives were contacted via email and telephone. The questionnaire is included in the Annex to this study;
- Telephone and email interviews with representatives of the waste treatment industry and waste consultants;
- Literature and internet survey.

⁷ Minutes of the meetings of the Working Group on Methodologies, Directive 2000/53/EC on End-of-Life Vehicles, questionnaires completed by several Member States pursuant to Commission Decision 2001/753/EC for the period 2005 – 2008 (provided by AT, CY, EE, DE, DR, IR, NL, PL, PT, SE, UK)

⁸ COMMISSION DECISION laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles (2005/293/EC)

⁹ http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs

¹⁰ AT, BE, EE, DE, FI, SE, UK (BG, HU, ES, FR, GR, IR, IT, NL, PT without response)

1. ARISING OF ELVs

Question

Are all ELVs being accounted for?

1.1. Legal background

The ELV-Directive (2000/53/EC) applies to vehicles and end-of-life vehicles, including their components and materials.

The following definitions are laid down in Article 2 of the ELV-Directive:

- 'vehicle' means any vehicle designated as category M1 or N1 defined in Annex IIA to Directive 70/156/EEC¹¹, and three wheel motor vehicles as defined in Directive 92/61/EEC¹², but excluding motor tricycles;
- 'end-of life vehicle' means a vehicle which is waste within the meaning of the Waste Framework Directive (2008/98/EC)¹³.

Whereby M1 and N1 vehicles are defined according to Directive 70/156/EEC as follows

- Category M1: Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.
- Category N1: Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes.

According to the Commission Decision 2005/31/EC laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets since 2006 the number of end-of-life vehicles has to be monitored. Accompanying tables set out in the Annex of the Decision shall be completed by the Member States on an annual basis, starting with data for 2006 and shall be sent to the Commission within 18 months of the end of the reference year.

1.2. Results

One crucial factor with regard to accounting of ELVs is the differentiation between ELVs and used cars. The question when a used car ceases to be product and becomes waste according to the Waste Framework Directive (2008/98/EC) is answered in a different way across the EU Member States. As a consequence, there are problems in terms of comparability of the reported data. It also has an impact on the decision whether transboundary shipment of all vehicle is subject to the provisions of the Waste Shipment Regulation No 1013/2006.

¹¹ COUNCIL DIRECTIVE 1970/186/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers

¹² COUNCIL DIRECTIVE 1992/61/EEC relating to the type-approval of two or three-wheel motor vehicles

¹³ DIRECTIVE 2008/98/EC of the European Parliament and the Council on waste and repealing certain Directives

Aspects which seem to be of major importance for used cars to become an ELV are:

- Does the vehicle represent 'waste' by the meaning that the holder discards or intends or is required to discard the vehicle (according to the Waste Framework Directive)?
- Is there a public interest in terms of harm to the environment that the vehicle should be considered as ELV?
- Does the vehicle fulfill the technical requirements according to the national licensing systems?

This opens a wide range of interpretations at which point a used car becomes an ELV. This fact is also reflected in the official statistics. To allow interpretations of the official national statistics following data seems to be of particular importance:

- Car fleet
- Deregistered cars
 - **ELV**
 - Used cars without waste status
- Commercial and private export of deregistered cars
 - Export of ELV
 - Export of used cars without waste status

Data on the car fleet and de-registered cars are published on an annual basis at varying levels of detail by national statistic agencies of the Member States, Eurostat and the European Automobile Manufacturers Association (ACEA)¹⁴. There are different approaches concerning de-registration of vehicles across European Member States. In some countries (e.g. in Austria, Germany, Italy) a vehicle is, as a rule, de-registered when the ownership of the car changes. In other countries (e.g. in the UK) vehicles are not de-registered when ownership changes. In the latter, de-registration generally takes place when the car owner wants to dispose of the vehicle. Then, vehicles may only be re-registered and put back on the road under exceptional circumstances and prior approval.

Data on arisings of ELVs in the Member States as well as on the export of ELVs and parts thereof are published by Eurostat (last reference year available: 2008)9.

Data on the commercial export of used cars is available from the Eurostat database COMEXT, the official European Foreign Trade Statistics 15.

Automotive market 1.2.1.

The economic crises caused a significant impact on the automotive industry in the last two Despite several national scrappage programs within selected MS the overall car production within EU 25 declined by more than 12 % in 2009 compared to 2008. Table 2 shows data on the overall automotive production of passenger cars in Europe. 16

¹⁴ http://www.acea.be

¹⁵ http://www.fiw.ac.at/index.php?id=367

¹⁶ http://www.vda.de

Table 2: Production of passenger cars in Europe

Region	2008	2009	Change in %
Europe	18.358.696	15.111.199	-17,7
EU-25	15.999.258	13.944.501	-12,8
thereof:			
Germany	5.532.030	4.964.523	-10,3
France	2.145.935	1.819.462	-15,2
Italy	659.221	661.100	0,3
Spain	2.013.861	1.832.999	-9,0
United Kingdom	1.446.619	999.460	-30,9

Source: http://www.vda.de

A big share of the overall production of new passenger car vehicles is exported from the EU. According to ACEA the overall car fleet 2008 in the European Union is more than 223 Mio passenger cars (20 countries, except Bulgaria, Cyprus, Hungary, Luxembourg, Malta, Romania and Slovenia). Passenger cars in use are on average 8.2 years old¹⁷.

1.2.2. Statistics on ELVs

The European Environment Agency estimated the number of end-of-life vehicles arising in the EU-25 to be about 14 million in 2010, compared to 12.7 million in 2005¹⁸. This is a number that differs significantly from the 6.2 million end-of-life vehicles in 2008 as published by Eurostat and based on data reported by 24 Member States¹⁹.

_

¹⁹ Eurostat (available at : http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

 $^{^{17}}$ ACEA (2008): European Motor Vehicle Parc

¹⁸ ETC/RWM 2008: Projection of end-of-life vehicles (prepared for the European Environment Agency (EEA) under its 2007 work programme as a contribution to the EEA's work on waste outlooks)

1.2.3. Statistics on used cars

Table 3 shows data on deregistered cars and ELV for selected Member States to illustrate that there is a gap of knowledge concerning the further use of a certain amount of deregistered cars.

Table 3: Comparison of the numbers of ELVs and de-registered cars

Country data	Year	Cars fleet (passenger cars) ¹⁷	De-registered passenger cars (without re-registered cars) ¹⁷	ELV arisings / treated within or outside the MS ²⁰	Commercial export of used cars ²¹	not reported	passenger cars d as ELVs & not d commercially
		Column 1:	Column 2:	Column 3:	Column 4:	Column 5: number (calculated ²²)	Column 6: % in relation to the overall de-registered passenger cars
	0.1	4 004 040	0/0.0/0	07.077	10.500		(calculated) ²³
Austria	06	4.204.969	260.368	87.277	43.530	129.561	50 %
Austria	07	4.245.583	257.568	62.042	39.019	156.507	61 %
Austria	80	4.284.919	254.361	63.975	37.629	152.757	60 %
Belgium	06	4.929.284	458.210	131.043	224.326	102.841	22 %
Belgium	07	5.006.294	447.784	127.949	244.606	75.229	17 %
Belgium	08	5.086.756	455.478	141.521	273.036	40.921	9 %
Czech Republic	06	4.108.610	70.794	56.582	4.395	9.817	14 %
Czech Republic	07	4.280.081	91.487	72.941	27.664	-9.118	-10 %
Czech Republic	08	4.423.370	168.837	147.259	3.543	18.035	11 %
Denmark	06	2.013.899	314.899	102.202	8.990	203.707	65 %
Denmark	07	2.058.873	308.391	99.391	25.535	183.465	59 %
Denmark	08	2.105.049	301.906	101.042	16.533	184.331	61 %
Finland	06	2.489.287	105.529	14.945	866	89.718	85 %
Finland	07	2.570.356	90.239	15.792	934	73.513	81 %
Finland	08	2.682.831	37.614	103.000	428	-65.814	-175 %
Greece	06	4.446.528	63.067	29.689	2.126	31.252	50 %
Greece	07	4.805.156	64.013	47.414	327	16.272	25 %
Greece	08	5.101.410	70.308	55.201	375	14.732	21 %
Italy	06	35.297.282	1.784.147	1.379.000	124.981	280.166	16 %
Italy	07	35.680.097	2.207.336	1.692.136	101.313	413.887	19 %
Italy	08	36.105.183	1.796.898	1.203.184	70.471	523.243	29 %
Latvia	06	822.011	17.620	6.288	1.980	9.352	53 %
Latvia	07	904.869	22.167	11.882	6.537	3.748	17 %
Latvia	08	932.828	26.033	10.968	1.802	13.263	51 %
Netherlands	06	7.413.034	225.760	192.224	49.584	-16.048	-7 %
Netherlands	07	7.597.000	200.836	166.004	53.018	-18.186	-9 %
Netherlands	08	7.757.000	209.427	152.175	69.424	-12.172	-6 %
Spain	06	21.052.559	910.727	954.715	83.044	-127.032	-14 %
Spain	07	21.760.174	887.395	881.164	88.232	-82.001	-9 %
Spain	08	22.145.364	734.638	748.071	234.626	-248.059	-34 %
Sweden ²⁴	06	4.202.463	830.123	283.450	10.836	535.837	65 %
Sweden	07	4.258.463	870.014	228.646	6.553	634.815	73 %
Sweden	08	4.278.995	950.496	150.197	6.579	793.720	84 %

Source: included in Table

 $[\]frac{^{20}}{^{21}} \frac{\text{http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs}}{\text{Eurostat's COMEXT Database (http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs}$

²² Column 5 = Column 2 – (Column 3 + Column 4)

²³ Column 6 = Column 5 / Column 2 * 100

²⁴ According to the Swedish EPA the numbers on de-registered cars published by ACEA are accumulated over the years and do not represent data for the years 2006, 2007 and 2008.

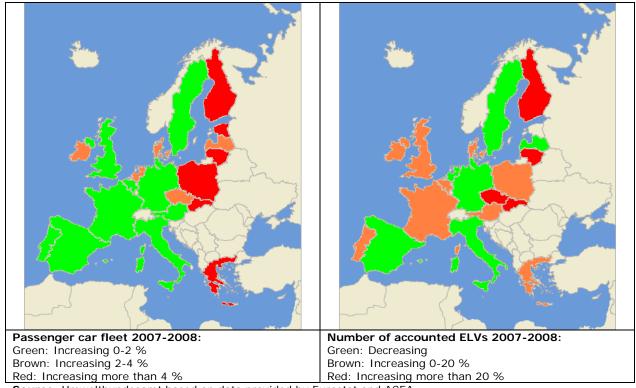
In most Member States the number of ELVs represents more than 50% of the amount of de-registered passenger cars (e.g. Belgium, Italy, Spain and the Netherlands). Thus, for those countries the gap between the number of de-registered cars and ELVs is lower than 50%. In other Member States (e.g. Austria, Denmark, Finland, Sweden) the gap is higher, and there is no detailed information available on the further use of more than 50% of the de-registered cars. Following key factors are important to explain the gap concerning the whereabouts of "De-registered passenger cars not reported as ELVs & not exported commercially":

- Private exports of used cars
- Illegal shipment of ELV and used cars
- Illegal disposal
- Garaging (long term)

To a smaller extent, different system boundaries of the provided statistics (data provided by ACEA cover passenger cars only; data provided by Eurostat cover vehicle classes M1, N1 and three wheeled motor vehicles; data provided by COMEXT cover motor cars and other motor vehicles principally designed for the transport of persons, including station wagons and racing cars) may cause differences.

Figure 1 based on data of Table 3 shows that there are differences between the Western and the Eastern part of the EU, strictly geographically. For the period 2007-2008 the passenger car fleet and the number of accounted ELVs are increasing to a higher extent in the East of Europe.

Figure 1: Development of the passenger car fleet and the ELV arisings 2007-2008



Source: Umweltbundesamt based on data provided by Eurostat and ACEA

1.3. Steps taken by the Commission Services to overcome problems

Waste shipment correspondents: Draft Correspondent's guidelines No 9 (Version 6 from 8th of June 2010) according to the Waste Shipment Regulation (2006/1013/EC):

These Correspondents' guidelines represent the common understanding of Member States on how Regulation (EC) No 1013/2006 on shipments of waste (Waste Shipment Regulation – WSR) should be interpreted.

The guidelines No 9 are currently (September 2010) available as draft. It gives guidance provided for the distinction between waste vehicles and used vehicles. Based on the definition of the Waste Framework Directive (2008/98/EC) a used vehicle should be classified as waste if at least one of the following criteria applies:

- a. The vehicle is destined for dismantling and reuse of spare parts or for shredding/scrapping;
- b. The vehicle is cut into pieces (e.g. two halves), welded up or closed by an insulating foam (only by breaking open the waste vehicle can be made roadworthy) and/or used as "container" for spare parts or wastes;
- c. The vehicle stems from a waste collection or waste treatment system;
- d. The vehicle is a write-off /is not suitable for minor repair /has badly damaged essential parts (as a result of an accident, for example) or has no "Vehicle is repairable" certification where a competent authority has requested it (see paragraph 11 and Appendix 3);
- e. The existence of a certificate of destruction.

The following indicators may also be relevant for classifying a used vehicle as waste:

- f. The vehicle has no registration or it has been de-registered;
- g. The vehicle has not had its required National technical roadworthiness test for more than two years from the date when this was last required;
- h. The vehicle has no identification number and the owner of the vehicle is unknown;
- i. The vehicle was handed over to an interim storage facility or an authorised treatment facility;
- j. The repair costs exceed the present value of the vehicle (exception: vintage cars or vehicles) and the possibility for repair cannot be assumed (repair costs in EU-Member State as basis for evaluation);
- k. Where the vehicle poses a safety risk or a risk to the environment e.g. by:
- i) Doors not being attached to the car,
- ii) Discharge of fuel or fuel vapour (risk of fire and explosion),
- iii) Leakage within the liquid gas system (risk of fire and explosion),
- iv) Discharge of operating liquids (risk of water pollution caused by fuel, brake fuel, anti-free liquid, battery acid, coolant liquid).
- Eurostat: Draft guidance document 'How to report on end-of-life vehicles according to Commission Decision 2005/293/EC' (Revision by Eurostat from the 20th of April 2010)

This guidance is not legally binding but focuses on aspects of data harmonisation and data quality, based on the experience with the reporting for the reference year 2006 and 2007 and the related data collection and evaluation conducted by the Member States.

The guidance document states that inter alia following data should be made available in the quality report as required by Commission Decision 2005/293/EC:

Information on the national vehicle market:

- Vehicles registered (Number)
- Average age of fleet (Years)
- Final de-registrations per year (Number)
- CoDs issued in the Member State (Number)
- ELVs arising in the Member State (Number)
- Average age of ELVs (Years)

National market information on export of used vehicles, ELVs and depolluted body shells to other EU countries and non EU-countries:

- Used vehicles exported (Number)
- Average age of used vehicles exported (Years)
- ELVs exported (Number)
- De-polluted (and dismantled) body shell exported (Number, tonnes)

1.4. Conclusions & Recommendations

The question of when a used car ceases to be product and becomes waste according to the Waste Framework Directive (2008/98/EC) is answered in different ways across EU Member States. As a consequence, there are problems regarding the comparability of the reported data and in individual cases regarding the answer to the question if a transboundary shipment of a vehicle is subject to the provisions of the Waste Shipment Regulation No 1013/2006. To address this problem the Correspondent's guidelines No 9 (draft status), representing the common understanding of all Member States on how the WSR should be interpreted, gives inter alia guidance for the distinction between ELVs and used vehicles.

→ Establish binding rules at European level for the distinction between ELVs and used vehicles (addressed to the European Commission).

It is evident that data on the national vehicle markets (especially on the number of deregistered vehicles and the imports/exports of used vehicles) is not yet consistently available for European Member States. To address this problem the Eurostat guidance document on "How to report on end-of-life vehicles according to Commission Decision 2005/293/EC" (Revision by Eurostat 20th April 2010) aims to enhance the quality of data on the national vehicle market including the number de-registered vehicles and the number of exports of used vehicles.

→ Request data on the national vehicle markets (addressed to the European Commission).

2. CONCEPT OF VEHICLE DE-REGISTRATION

Question

• Is the concept of vehicle 'de-registration' applied consistently in Member States?

2.1. Legal background

According to the ELV-Directive a certificate of destruction is a condition for de-registration of ELV (as laid down in the general provisions of the ELV-Directive):

- (16) A certificate of destruction, to be used as a condition for de-registration of end-of life vehicles, should be introduced. Member States without a de-registration system should set up a system according to which a certificate of destruction is notified to the relevant competent authority when the end-of life vehicle is transferred to a treatment facility.
- (17) This Directive does not prevent Member States from granting, where appropriate, temporary de-registrations of vehicles.
 - See also Article 5: Collection
 - (1) Member States shall take the necessary measures to ensure:
 - that economic operators set up systems for the collection of all end-of-life vehicles and, as far as technically feasible, of waste used parts removed when passenger cars are repaired,
 - the adequate availability of collection facilities within their territory.
 - (2) Member States shall also take the necessary measures to ensure that all end-of life vehicles are transferred to authorised treatment facilities.
 - (3) Member States shall set up a system according to which the presentation of a certificate of destruction is a condition for deregistration of the end-of life vehicle. This certificate shall be issued to the holder and/or owner when the end-of life vehicle is transferred to a treatment facility. Treatment facilities, which have obtained a permit in accordance with Article 6, shall be permitted to issue a certificate of destruction. Member States may permit producers, dealers and collectors on behalf of an authorised treatment facility to issue certificates of destruction provided that they guarantee that the end-of life vehicle is transferred to an authorised treatment facility and provided that they are registered with public authorities.

Issuing the certificate of destruction by treatment facilities or dealers or collectors on behalf of an authorised treatment facility does not entitle them to claim any financial reimbursement, except in cases where this has been explicitly arranged by Member States.

Member States which do not have a deregistration system at the date of entry into force of this Directive shall set up a system according to which a certificate of destruction is notified to the relevant competent authority when the end-of life vehicle is transferred to a treatment facility and shall otherwise comply with the terms of this paragraph.

Member States making use of this subparagraph shall inform the Commission of the reasons thereof.

(4) Member States shall take the necessary measures to ensure that the delivery of the vehicle to an authorised treatment facility in accordance with paragraph 3 occurs without any cost for the last holder and/or owner as a result of the vehicle's having no or a negative market value.

Member States shall take the necessary measures to ensure that producers meet all, or a significant part of, the costs of the implementation of this measure and/or take back end-of life vehicles under the same conditions as referred to in the first subparagraph.

Member States may provide that the delivery of end-of life vehicles is not fully free of charge if the end-of life vehicle does not contain the essential components of a vehicle, in particular the engine and the coachwork, or contains waste which has been added to the end-of life vehicle.

The Commission shall regularly monitor the implementation of the first subparagraph to ensure that it does not result in market distortions, and if necessary shall propose to the European Parliament and the Council an amendment thereto.

(5) Member States shall take the necessary measures to ensure that their competent authorities mutually recognize and accept the certificates of destruction issued in other Member States in accordance with paragraph 3.

To this end, minimum requirements for the certificate of destruction shall be established. That measure, designed to amend non-essential elements of this Directive by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 11(3).

(29) The adaptation to scientific and technical progress of the requirements for treatment facilities and for the use of hazardous substances and, as well as the adoption of minimum standards for the certificate of destruction, the formats for the database and the implementation measures necessary to control compliance with the quantified targets should be effected by the Commission under a Committee procedure.

2.2. Results

In general, vehicle registration systems are differing across European countries. In order to encourage Member States to be more flexible about the registration of cars coming from another Member State, the European Commission has issued an interpretative communication 25 on car registration issues. This communication sets out, in legal terms, the minimum conditions which car registration procedures must fulfill. Within that communication no requirements are defined to be met for de-registration of a used vehicle.

There are different approaches to the de-registration of vehicles across European Member States. In some countries (e.g. in Austria) a vehicle is de-registered as a rule with the change of ownership of a car. In other countries (e.g. in the UK) vehicles are not de-registered when ownership changes. In these countries, de-registration generally takes place when the car owner wants to dispose of the vehicle. De-registered vehicles may be re-registered and put back on the road only under exceptional circumstances and if prior approval has been granted.

_

²⁵ COMMISSIONS INTERPRETATIVE COMMUNICATION on procedures for the registration of motor vehicles originating in another Member State (2007/C68/04)

When a vehicle has become waste (=end-of-life vehicle) additional requirements for deregistration have to be met. Article 5 (3) of the ELV Directive requires Member States to set up a system according to which the presentation of a certificate of destruction (CoD) is a condition for de-registration of the end-of life vehicle. In 2009, twenty-one Member States reported that they had implemented the condition to present a CoD for de-registering an ELV¹.

In some Member States (e.g. Austria, Finland) the number of issued CoDs is not equal to the arisings of end-of-life vehicles. This might be due to the fact that a vehicle can be deregistered before the car owner decides that his/her car becomes waste and thus an end-of-life vehicle. There is an information gap regarding the whereabouts of de-registered vehicles. To close this gap, information on the further use of a vehicle should be obtained its de-registration (e.g. in the form of a declaration that there is no intention to dispose of the vehicle, and stating whether the car owner intends to sell or export the vehicle or keep it in a garage).

With the Commission Decision 2002/151/EC minimum requirements for certificates of destruction have been issued.

2.2.1. Implementation of Article 5 (3) according to MS reporting

According to the Commission's report on the implementation of the ELV-Directive for the period 2005-2008⁷⁴ all responding Member States (22) except Belgium reported having set up a system according to which the presentation of a CoD is a condition for deregistration of a vehicle. The Belgian case is followed by the Commission. Nine Member States used an option to allow producers, dealers or collectors to issue a CoD on behalf of an authorised treatment facility provided there is a guarantee that the ELVs are transferred to authorised treatment facilities:

Belgium⁷⁴:

The Commission closed the infringement procedure started in 2003 because Belgium had adopted and communicated its transposition measures. In 2005 a new enforcement action was set up as a result of a conformity inquiry by the Commission. The Commission sent a letter to Belgium on 16 March 2005 with questions which needed to be clarified by the authorities. The Flemish Region responded to these questions in July 2005 and promised to make and actually made some changes to its legislation. The information sources consulted indicated no further steps by the European Commission.

In order to increase the traceability of vehicles and improve the collection rate, the federal agency responsible for registration of vehicles (DIV or Dienst Inschrijving Voertuigen) started recently a study on the feasibility and opportunity to introduce a new registration system in Belgium. The federal government aims to introduce in 2009 a procedure by which seller and buyer of a vehicle need to identify themselves via their electronic identity card and need to confirm the transaction via an electronic signature. Thereby the chassis number will be registered too. At this moment only the number plates are linked with identity details of individuals. In order to encourage people to deregister their end-of life vehicle and to get a certificate of destruction, the policy makers are considering options to financially reward people for doing this. A possible way of doing this is to exempt these persons from paying their car tax. The regional waste authorities and FEBELAUTO have been zealous advocates of this new registration system.

According to the survey done within the project there is the information that this new registration system has not been introduced yet.

UK⁷⁴:

The number of CoDs gathered has been much lower than expected. The UK Liberal Democrats environment spokesman in the European Parliament, Chris Davies, explained this by arguing that Britain's 1,200 authorised treatment facilities would issue about 500,000 CoDs in 2006, while the remaining 1.5 million ELVs would be dismantled without the facility producing the only document that guarantees the sound treatment of the ELV. This is apparently due to a lack of implementation by the Driver and Vehicle Licensing Agency (DVLA) that apparently allows last owners to tick a box on their vehicle deregistration form to state that they have scrapped their car themselves, but without requiring the certificate. There is however evidence that the responsible Agencies are now working to prevent operation by all non licensed facilities and DVLA is considering whether the alternative means of notification should be withdrawn.

According to the questionnaire done within the project there is indication given that the existence of the registration document notification route has reduced the significance of the CoD in the UK. This problem is now being addressed via in the national registration document "scrappage tick-box" is being progressively removed over the course of the next year so that private scrappage will be disabled.

2.2.2. Additional information on the implementation of Article 5(3)

Additional information on the implementation of Article 5(3) was gathered by a questionnaire survey within the project and by evaluation of completed questionnaires reported by MS pursuant to Commission Decision 2001/753/EC for the period 2005-2008.

Austria:

According to Paragraph 5(3) of the Austrian Ordinance on ELV^{26} a certificate of destruction²⁷ has to be issued to the holder and/or owner when the end-of life vehicle is transferred to an authorised take-back point or treatment facility and this is a condition for de-registration of a ELVs. The provision is introduced in Paragraph 43(1a) of the Austrian Motor Vehicles Act.

Germany:

According to Paragraph 4(2) of the German Ordinance on ELV²⁸ a certificate of destruction has to be issued to the holder and/or owner when the end-of life vehicle is transferred to an authorised dismantling facility (or take-back points on the behalf of the dismantling facilities).²⁹ The provision is introduced in Paragraph 15 of the German Vehicle Registration Ordinance.

²⁶ http://www.umweltnet.at/article/articleview/26635/1/7999/ (German language)

http://wko.at/up/Alt-Pkw-Verwertungsnachweis.pdf (German language)

²⁸ http://bundesrecht.juris.de/bundesrecht/altautov/gesamt.pdf (German language)

²⁹ According to the implementation report on the ELV Directive (EC 2009) ARGE Altauto states that there are occasional enforcement problems of the ELV-Ordinance by the local authorities. For example the submission of a certificate of deconstruction in line with the ELV ordinance as a precondition of car deregistration is not always respected.

Cyprus³³:

Article 9(5) of L.157(I)/2003 provide for the obligation of the authorised treatment facilities to issue a 'Certificate of Destruction' for each ELV they receive, and deliver or post it to the competent authority and to the last person who was in possession of the vehicle. This certificate is used for de-registration of the vehicle, in accordance to the 'Motor Vehicles and Road Traffic Laws'. The latter was amended by Law numbered L.146 (I)/2003 to make the 'Certificate of Destruction' a necessary and sufficient document for de-registration of a waste vehicle.

Finland:

According to Section 7 of the Government Decree on End-of-Life Vehicles (581/2004)³⁰ a certificate of destruction can only be issued by a collector as referred to in section 18(1) of the Waste Act or by a treatment operator. The collector or treatment operator of an end-of-life vehicle shall give the holder of the end-of-life vehicle a certificate of destruction free of charge and shall also immediately enter or deliver notification of receipt of the vehicle to the vehicle register maintained by the Finnish Vehicle Administration for de-registration of the vehicle as laid down in the Decree on the Vehicle Registration (1598/1995).

Hungary³³:

Only authorised dismantlers may issue certificates of destruction (Article 7(3) of the Government Decree and Ministry of Economy and Transport Decree 29/2004 (III.12)). Producers or recipients may issue certificates of destruction on behalf of a dismantler. Vehicles may be definitively withdrawn from service only upon presentation of the certificate (Ministry of the Interior Decree 41/2005 (X. 7)).

Ireland:

According to point 19 to 26 of the Waste Management (End-of-Life Vehicles) Regulations 2006³¹ a certificate of destruction in a form specified by the Minister has to be issued to the registered owner of an end-of life vehicle when an ELV is transferred to an authorised treatment facility.³² A Transfer Order amended the relevant provisions of the regulations to require authorised treatment facilities to notify the Minister for Transport of the issue of certificates of destruction.

Italy³³:

Article 5, paragraph 6 of Legislative Decree 209/2003 stipulates that at the time of a handover to the collection centre of a vehicle intended for dismantling, the proprietor of the centre must issue to the keeper of the vehicle, the dealer, or the management of the branch of the vehicle's manufacturer or of the car dealer a suitable certificate of destruction accompanied by a description of the state of the vehicle delivered. Furthermore a commitment has to be provided to immediately proceed with de-registration with the PRA (Vehicle Registration Office) if this has not already been done and to treat the vehicle.

_

³⁰ http://www.autopurkamoliitto.fi/romuajoneuvoasetus.pdf

http://www.environ.ie/en/Environment/Waste/ProducerResponsibilityObligations/EndOfLifeVehicles/

³² According to the implementation report on the ELV-Directive (EC 2009) it is stated that stated that it has been equally difficult to identify the actual numbers of end-of life vehicles arising in Ireland. Up until the implementation of the ELV Directive there was no system for deregistration in Ireland. Therefore, the levels of ELV production have been estimated in a range of ways.

To this end, within three days of the handover of the vehicle, this dealer or management or proprietor needs to return the certificate of ownership, registration document and the registration plates of the end-of-life vehicle in line with the procedure laid down by Presidential Decree No. 358 of 19 September 2000. The issue of the declaration of taking charge of the vehicle or the certificate of destruction releases the keeper of the end-of-life vehicle from civil, criminal and administrative responsibilities associated with ownership and correct management of the vehicle.

<u>Latvia³³:</u>

In the Law on End-of-life vehicles and in the Cabinet of the Ministers regulations Nr. 241 on the 'Arrangement of filling and delivery of certificates of destruction of end-of life vehicles' there are rules governing the completion and issuing of certificates of destruction. The rules describe the implementation of the system of ELV de-registration based on the certificates of destruction, the requirements regarding the issuing of a certificate of destruction to the last owner of an ELV, and the cases where treatment facilities have the right to financial reimbursement. Once the treatment facility has received an end-of-life vehicle, it issues a certificate of destruction.

<u>Lithuania³³:</u>

Paragraph 12 and 13 of the Rules for the Management of End-of-life Vehicles (adopted by Order No 710 of the Minister of Environment of the Republic of Lithuania of 24 December 2003) defines rules concerning the issuing of certificates of destruction. In the case of deregistration of a class M1 or N1 vehicle, a certificate of destruction needs to be issued by the authorised treatment or collection undertaking; three copies: first copy to be given to the owner of the end-of-life vehicle, second copy to be retained by the issuing undertaking, and third copy to be presented to the Regional Environmental Department that has issued a permit.

Poland³³:

The de-registration system was laid down in Article 79(1) of the Act of 20 June 1997 - Road Traffic Law (Journal of Laws 2005, No 108, item 908, as amended) and in the Regulation of the Minister for Infrastructure of 25 March 2005 laying down the method of cancelling documents of end-of-life vehicles, models of certificates to be issued in respect of such vehicles, the method of storing certificates and keeping records thereof (Journal of Laws No 62, item 554).

Portugal³³:

_

Article 17 of Decree Law 196/2003 sets out that de-registration of an ELV is dependent on the presentation of a certificate of destruction³⁴ issued by an authorised dismantling operator; three deliverables: (1) Original to the original certificate of destruction to the owner or legal holder of the ELV, (2) a copy of the certificate of destruction to VALORCAR, and (3) a copy of the certificate of destruction to the Highways Department (DGV), accompanied by the vehicle documentation when applicable. As soon as it receives the documentation, the DGV de-registers the vehicle and informs the CRA.

 $^{^{33}}$ According to the MS questionnaire for the period 2005-2008 (Commission Decision 2001/753/EC)

³⁴ The template was approved by Instruction no. 9276/2004 of 16 April 2004 of the President of the Institute for Waste Management.

De-registration procedure starts when an ELV is delivered to an authorised collection centre or dismantling centre. At this point, its owner or other legitimate holder must hand over the vehicle's identification document (registration document) and the ownership title and request the relevant de-registration by filling in a DGV form 1402 (which will be provided by the collection centre or the dismantling operator). In general there are some exceptions to this procedure.

Spain³⁵:

An Order of the Ministry of the Interior (Order INT/249/2004) introduces a model certificate of destruction reflecting the content of Decision 2002/151/EC, which all the Autonomous Communities have adopted and which must be presented in order to deregister a vehicle at the end of its life with the Register of Vehicles at the Directorate-General of Traffic (Articles 4.2 and Article 5 of the Royal Decree).

UK:

Under the End-of-Life Vehicles Regulations 2003 (updated in 2005 and last amended 2010)³⁶, passenger-carrying vehicles, and light-goods vehicles, weighing up to 3,500 kg, and three-wheel motor vehicles (not motor trikes) can only be scrapped at ATFs. The ATF will issue a 'Certificate of Destruction' (CoD)³⁷. The regulations are enforced by the Environment Agency in England and Wales, SEPA in Scotland and the NIEA in Northern Ireland.

2.3. Steps taken by Commission Services to overcome problems

 Issuing minimum requirements for Certificates of Destruction (Decision 2002/151/EC)

With the Commission Decision on minimum requirements for the certificate of destruction issued in accordance with Article 5(3) of Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles following data have to be provided:

- 1. Name, address, signature and registration or identification number (1) of the establishment or undertaking issuing the certificate.
- 2. Name and address of competent authority responsible for the permit (in accordance with Article 6(2) of Directive 2000/53/EC) for the establishment or undertaking issuing the certificate of destruction.
- 3. Where the certificate is issued by a producer, dealer or collector on behalf of an authorised treatment facility, the name and address and registration or identification number (1) of the establishment or undertaking issuing the certificate.
- 4. Date of issue of the certificate of destruction.
- 5. Vehicle nationality mark and registration number (attach the registration document or a statement by the establishment or undertaking issuing the certificate that the registration document has been destroyed (2)).
- 6. Class of vehicle, brand and model.
- 7. Vehicle identification number (chassis).

_

³⁵ According to the Annex of the implementation report on the ELV Directive (EC 2007)

³⁶ http://www.netregs.gov.uk/netregs/legislation/current/107158.aspx

http://www.scrapcar.co.uk/downloads/INF156.pdf

- 8. Name, address, nationality and signature of the holder or owner of the vehicle delivered.
- An end-of-life Vehicle Topic Group was set up following the Annual Conference 2008 of the Association of European Vehicle and Driver Registration Authorities (EReg)

The Topic Group meeting on 14 and 15 October 2008 concentrated on the areas that seemed to be most problematic. The following issues were identified by the Topic Group as areas for improvements: public awareness, enforcement and incentives. It was widely accepted that the public awareness of the Certificate of Destruction (COD) process was the main problem experienced in Member States. The Member States at the meeting agreed that, at the moment, education was the best way forward. Another conclusion was that the vehicle owner would be more likely to follow the correct procedure if there was a financial incentive. Although not widely used throughout the Member States, financial incentives had proven successful in Finland and Sweden. In addition, the Topic Group formulated several recommendations on public awareness, enforcement and incentives that other Member States can benefit from. The Topic Group also formulated a recommendation on the potential use of EUCARIS as a notification tool to inform a registration authority that a vehicle had been dismantled in another country.

2.4. Conclusions & Recommendations

In general there are different approaches to the de-registration of vehicles across European Member States. Concerning de-registration of ELV, in 2009 twenty-one Member States reported that they had implemented the condition to present a CoD for de-registering an ELV. However, in some Member States the number of CoDs issued is not equal to the arising of ELVs. This is due to the fact, that a vehicle can be de-registered before the car owner decides that his/her car becomes waste and thus an end-of-life vehicle. There is an information gap regarding the whereabouts of de-registered vehicles.

- → Request information on the fate of a vehicle when de-registering it (e.g. by declaration of the car owner, that there is no intention to dispose of the vehicle, and whether the car owner intends to sell, export or garage the vehicle).
- → Request data on the national vehicle markets, including the number of de-registered cars and the further use of de-registered cars (addressed to the European Commission).

3. LEGAL AND ILLEGAL SHIPMENT OF ELVs

Question

How many ELVs are legally or illegally exported from Member States?

3.1. Legal background

For the shipment of ELVs the most relevant legislation is, depending on the type of ELV (hazardous or non hazardous) and the destination country (waste shipment between member states, between third countries, or non- OECD countries)

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal - adopted 1989
- OECD Decision C(2001)107 final (as amended by C(2004)20, unofficial consolidated text) - applies to shipments of wastes destined for recovery
- Waste Shipment Regulation (WSR) (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste
- Bilateral and multilateral agreements (as registered under the Basel Convention)

Some wastes require stricter controls and regulations than others. The Waste Shipment Regulation distinguishes between:

- Green list (Annex III): list of waste subject to the general information requirements laid down in Article 18 of the WSR: Generally, green listed wastes are non-hazardous wastes, which can easily be recycled, such as waste paper and plastics.
- Amber list (Annex IV): List of wastes subject to the procedure of prior written notification and consent of Article 4 of the WSR.
- Not listed waste

Table 4 gives an overview on the classification of vehicles and parts thereof relevant for shipment according to $IMPEL^{38}$.

33

³⁸ IMPEL-TFS End of Life Vehicles: Vehicles for export Project; Final report September 2008

Table 4: Classifications of vehicles and parts thereof

Description/Comment on export				
A vehicle that is roadworthy can be used directly for re-use with no repair needed.				
Not waste				
A vehicle that is certified as being capable of being repaired and used for its original purpose. The certificate should state what needs to be repaired before the vehicle is operational. If a part is to be replaced, the defect part should be removed prior to export e.g. broken windscreen, which shall need to be recovered or disposed off in a correct and authorised manner.				
Not waste				
End of Life Vehicles, containing neither liquids nor other hazardous components e.g. batteries or brake fluids.				
Green listed waste (Annex VII).				
End of Life vehicles not drained of their liquids or hazards removed e.g. crushed vehicles with fluids present, Hazardous waste				
Car bodies with all materials other than the metal removed.				
Green Listed waste (Annex VII): if no hazardous contaminants				
Waste arising from the shredding process is commonly referred to as ASR. The burden of proof should rest with the generators of the auto shredder residue to prove that the ASR does not contain dangerous substances or does not display properties of hazardous waste.				
The following classifications apply: - 19 10 03* Fluff – light fraction and dust containing dangerous substances (hazardous waste) 19 10 04 Fluff – Light fraction and dust other than those mentioned in 19 10 03 19 12 11* - other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances (hazardous waste) 19 12 12 - other waste (including mixtures of materials) from mechanical treatment of waste other than those mentioned in 19 12 11.				

Source: Umweltbundesamt based on information provided by IMPEL-TFS End of Life Vehicles/Vehicles for export Project; Final report September 2008

According to Article 2 (35) of the Waste Shipment Regulation illegal shipment means any shipment of waste:

- a. without notification to all competent authorities concerned pursuant to this Regulation; or
- b. without the consent of the competent authorities concerned pursuant to this Regulation; or
- c. with consent obtained from the competent authorities concerned through falsification, misrepresentation or fraud; or
- d. in a way which is not specified materially in the notification or movement documents; or
- e. in a way which results in recovery or disposal in contravention of Community or international rules; or
- f. contrary to Articles 34, 36, 39, 40, 41 and 43; or
- g. which, in relation to shipments of waste as referred to in Article 3(2) and (4), has resulted from:
 - i) the waste being discovered not to be listed in Annexes III, IIIA or IIIB, or
 - ii) non-compliance with Article 3(4),
 - iii) the shipment being effected in a way which is not specified materially in the document set out in Annex VII.

3.2. **Results**

3.2.1. Legal shipment of ELVs and parts thereof

Information on legal shipments of ELVs and parts thereof was taken from data reported by the Member States as requested by Commission Decision 2005/293/EC³⁹ and published by Eurostat⁴⁰. According to Eurostat⁴¹ the reported features indicate a lack of clarity.

Table 5 summarizes the amounts of ELVs and parts thereof exported by the individual Member States for the reference years 2006, 2007 and 2008. According to the reported figures the total amount of exported ELVs and parts thereof increased over the years.

 $^{^{39}}$ COMMISSION DECISION laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles

⁴¹ Draft guidance document 'How to report on end-of-life vehicles according to Commission Decision 2005/293/EC' (Revision by Eurostat from the 20th of April 2010)

Table 5: End-of-life vehicles and parts thereof exported for further treatment.

Member State	2006/ Weight of ELVs exported in tonnes	2007/ Weight of ELVs exported in tonnes	2008/ Weight of ELVs exported in tonnes
Austria	0	0	0
Belgium	0	0	30,819
Bulgaria	1,070	392	Not reported
Czech Republic	0	Not reported	Not reported
Cyprus	918	1,618	9,779
Germany	24,859	30,369	5,153
Denmark	103	12	7
Spain	Not reported	0	0
Estonia	1,628	2,947	Not reported
Greece	0	0	0
France	15,542	61,804	84,040
Finland	94	0	Not reported
Hungary	0	108	487
Italy	0	8,985	73,602
Ireland	Not reported	203	22,449
Luxembourg	4,561	2,671	2,355
Latvia	1,324	2,951	2,005
Lithuania	6,800	7,370	8,806
Malta	Not reported	Not reported	Not reported
Netherlands	26,655	27,979	15,700
Portugal	1,232	Not reported	397
Poland	2,625	2,933	4,087
Romania	0	1,285	304
Sweden	(824,375)*	Not reported	Not reported
Slovenia	Not reported	Not reported	Not reported
Slovakia	Not reported	105	26
United Kingdom	903	1,034	Not reported
Total	(912,689) 88,314	151,767	260,016

Source: Eurostat (available at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)
The reported data of Sweden for the year 2006 cannot be adequately explained. The export is significantly higher than the ELV reported in 2005.

Reasons for the export of ELVs and parts thereof are:

- Higher costs and taxes for the treatment of ELVs or parts thereof in the country of dispatch (e.g. France exports ELVs to Spain because of lower costs for the disposal of shredder residues).
- A lack of treatment capacity in the country of dispatch (e.g. small countries have not all required treatment facilities so that they export their waste to other countries).
- The installation of specialised treatment facilities is more expensive than exporting the ELVs.
- When the distances to treatment facilities in a neighbour country are closer than distances to treatment facilities within a country.

3.2.2. Shipment of second-hand cars

In order to draw conclusions on the shipment of used cars, information from the Eurostat database COMEXT (official European Foreign Trade Statistic) was analyzed. The database provides data on commercial exports of used cars (not classified as waste) classified by CN-codes and sub-classified by their cylinder capacity e.g.: CN 8703 21 90: Motor cars and other motor vehicles principally designed for the transport of persons, incl. station wagons and racing cars, with spark-ignition internal combustion reciprocating piston engine of a cylinder capacity <= 1.000 cm³, used (excl. vehicles for the transport of persons on snow and other specially designed vehicles of subheading 8703.10)

Once exported, there is an information gap concerning the whereabouts of these used cars. The cars can either be re-registered, shipped further to another country or classified as an ELV and are handed over to a treatment facility in the country of destination.

Table 6 shows the exports between the Member States (Intra*) and shipments to third countries (Extra*) from 2007 to 2009 for EU-27. It demonstrates that the total amount of exports from the Member States have continuously declined over the last few years. This may be attributed to the world-wide economic crisis and accompanying scrappage programmes carried out in several Member States.

Table 6: Exports of used cars in units

Member State	Exports 2007 in units	Exports 2007 in units	Exports 2007 in units	Exports 2008 in units	Exports 2008 in units	Exports 2008 in units	Exports 2009 in units	Exports 2009 in units	Exports 2009 in units
	EU27_EXTRA	EU27_INTRA	Total	EU27_EXTRA	EU27_INTRA	Total	EU27_EXTRA	EU27_INTRA	Total
Austria	9,125	29,894	39,019	7,111	30,518	37,629	4,485	27,294	31,779
Belgium	168,654	75,952	244,606	189,671	83,365	273,036	184,654	92,078	276,732
Bulgaria	756	183	939	1,078	98	1,176	1,663	194	1,857
Cyprus	32	3	35	40	4	44	28	10	38
Czech Republic	25,151	2,513	27,664	2,821	722	3,543	79	922	1,001
Denmark	8,892	16,643	25,535	1,754	14,779	16,533	2,273	11,064	13,337
Germany	255,853	240,264	496,117	243,091	214,324	457,415	224,386	164,694	389,080
Estonia	2,279	614	2,893	2,681	842	3,523	1,388	1,603	2,991
Ireland	551	52	603	81	18	99	343	10	353
Greece	146	181	327	134	241	375	110	134	244
Spain	6,349	81,883	88,232	5,792	228,834	234,626	7,439	110,199	117,638
Finland	839	95	934	336	92	428	202	81	283
France	15,787	96,044	111,831	25,552	86,526	112,078	14,099	82,499	96,598
Italy	30,055	71,258	101,313	20,576	49,895	70,471	16,524	52,029	68,553
Latvia	5,685	852	6,537	1,541	261	1,802	2,047	2,842	4,889
Lithuania	334,790	14,106	348,896	238,851	8,690	247,541	148,763	4,616	153,379
Luxembourg	71	20,064	20,135	1,044	19,423	20,467	106	21,068	21,174
Hungary	1,645	870	2,515	948	656	1,604	679	1,886	2,565
Malta	9	2	11	13	1	14	10	1	11
Netherlands	44,271	8,747	53,018	53,728	15,696	69,424	28,415	9,024	37,439
Poland	51,466	55	51,521	27,024	185	27,209	25,823	1,956	27,779
Portugal	3,648	349	3,997	3,514	26	3,540	3,600	222	3,822
Romania	72	38	110	50	182	232	251	967	1,218
Slovenia	70,688	1,091	71,779	37,993	2,374	40,367	39,476	2,263	41,739
Slovakia	306	4,532	4,838	134	497	631	68	706	774
Sweden	5,848	705	6,553	5,421	1,158	6,579	10,693	3,925	14,618
United Kingdom	112,646	9,747	122,393	22,001	34,798	56,799	75,899	17,135	93,034
Total	1,155,614	676,737	1,832,351	892,980	794,205	1,687,185	793,503	609,422	1,402,925

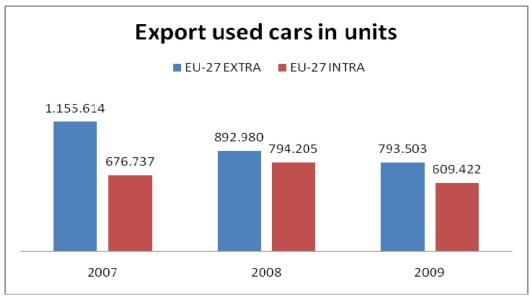
Source: database COMEXT

^{*}Extra-EU trade statistics cover the cross-border trading of goods between EU Member States and so-called third countries (countries outside the European Union). Data have been collected via the customs authorities.

^{*}Intra-EU trade statistics cover the cross-border trading of goods between EU Member States.

Figure 2 shows the exports of used cars between the EU-27 (red column) and out of the EU-27 Member States (blue column). The figure shows a decline of exports for used cars out of the EU from 2007 to 2009. Obviously, there are significantly more exports from the EU than between the Member States.

Figure 2: Export of used cars between and out of the EU-27 (in units)



Source: Umweltbundesamt based on data provided by COMEXT database

The main destination of used cars (> 30% of all shipments) was Africa. Nearly 12 percent of the used cars were exported to Belarus. Three Member States are directly bordering to Belarus (Poland, Lithuania, Latvia). Approximately 10 percent went to Russia. 8.5 percent of the used cars were exported to Kazakhstan 2008 (see Figure 3).

One of the driving forces for illegal shipment of ELVs is that predominantly in countries with low average income, both in some European regions and outside the EU, there exists a market for very cheap cars, which are mostly in a bad technical condition or will even just serve as a source of spare parts. The car holder of an old vehicle can earn some profit (usually a few hundred Euros) when selling it to a trader who will ship it abroad, whereas disposing of the ELV in the country of de-registration usually does not bring any income.

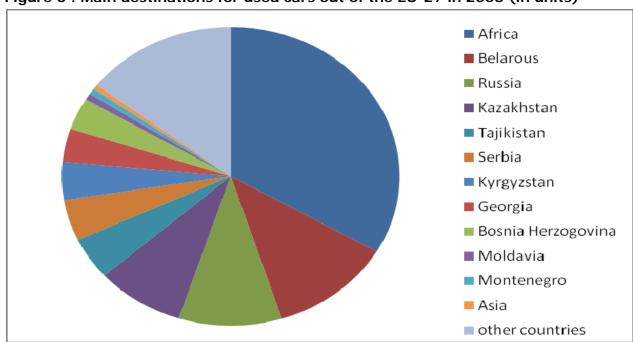
A topic group on end-of-life vehicles under EReg stated that a vehicle owner would be more likely to follow the correct procedure if there was a financial incentive. Although not widely used throughout the Member States, financial incentives had proven successful in Finland and Sweden.

Table 7: Exports of used vehicles out of the EU in 2008

Destination	Exports in units	Share of total exports in percent
Africa	298,234	33.4
Belarus	104,624	11.7
Russia	88,122	9.9
Kazakhstan	75,467	8.5
Tajikistan	40,716	4.6
Serbia	39,721	4.4
Kyrgyzstan	36,762	4.1
Georgia	32,049	3.6
Bosnia Herzegovina	30,844	3.5
Moldavia	6,411	0.7
Montenegro	5,659	0.6
Asia	4,463	0.5
other countries	129,908	14.5
Total	892,980	100.0

Source: COMEXT database

Figure 3: Main destinations for used cars out of the EU-27 in 2008 (in units)



Source: Umweltbundesamt based on data provided by COMEXT database

In 2008 approximately 298.200 cars were exported to Africa. Table 8 shows in detail to which African regions used cars were shipped. The leading countries regarding their imports of European used cars are Benin (81.000 units), Angola (39.800 units), Nigeria (25.387), Cameron (16.600) and Togo (16.100).

Table 8: Destinations of exported used cars in Africa in 2008

Destination	Exports in units
Eastern Africa	11,203
Middle Africa	86,561
Northern Africa	12,694
Southern Africa	816
Western Africa	186,960
Total	298,234

Source: COMEXT database

Table 9 shows the average price of used cars exported from the EU-27. The prices for used cars exported to different African countries are varying between 800 and 2.900 EUR. Tajikistan with 750 EUR and Kyrgyzstan with 920 EUR are the countries with the lowest prices for imported used cars. The examples given for European Member States (Austria: 14.800 EUR, Italy: 17.170 EUR) illustrate the differences in the prices for used cars in the European Union and third countries.

Table 9: Average price of imported used cars (exports from the EU) in 2008

Destination	Average price of imported used cars (EUR)
Africa	1,940
Belarus	3,630
Russia	9,580
Kazakhstan	1,097
Tajikistan	750
Kyrgyzstan	920
Georgia	2,110
Bosnia Herzegovina	3,990
Moldavia	7,780
Montenegro	6,680
Austria	14,800
Italy	17,170

Source: COMEXT database

3.2.3. Illegal shipment of end-of life vehicles

Some information that illegal shipment of ELVs takes place can be derived from press reports. Following there are some examples regarding shipments to Africa:

- According to the "Hamburger Abendblatt" from March 26 2009:
 (http://www.abendblatt.de/politik/deutschland/article165432/Erste-Betrugsfaelle-mit-Altautos.html)

 seven vehicles were discovered in the course of inspections at the habour Hamburg
 - for which a scrappage bonus has had been paid before. It is furthermore reported that 170,000 vehicles are shipped by Unikai in Hamburg, whereby half of this amount is destined for Africa.
- According to a report in the German "Spiegel online" from April 17 2009: (http://www.spiegel.de/auto/aktuell/0,1518,619494,00.html)
 Representatives of the German "Bund Deutscher Kriminalbeamter" approximately 500 end-of-life vehicles for which a premium in the course of scrappage program has been received were illegally exported to Africa in the beginning of 2009.
- Presse" the Austrian "Die According to from July 2010: (http://diepresse.com/home/wirtschaft/international/492556/print.do) 400,000 vehicles per year are shipped to Africa (a certain percentage thereof illegally) by the shipping company Grimaldi (Hamburg). Shipments go the nearly each of the countries on the West Coast of Africa. The vehicles transported have a value of far below 2,000 Euros. The transport fee varies from 300 to 500 Euros. Cotonou in Benin is reported to be the largest reloading point for cars in Africa. In Benin the import of second-hand cars accounts for 14% of the national GDP. The price for second-hand cars that is paid in Africa varies from several hundred to several thousand Euros, for trucks it varies from 5,000 to 10,000 Euros.

This gives evidence that considerable quantities of ELVs are exported illegally from European Member States; predominantly to Africa. This is supported by the outcome of joint activity inspections in the frame of an IMPEL-TFS project finished in 2008, where several cases of illegal shipment of end-of-life vehicles were reported – mostly to African countries⁴².

To find out if all end-of-life vehicles are accounted for and if in individually cases ELVs are illegally exported as used car, a crucial factor is the differentiation between ELVs and used cars (see also Figure 4). The question when a used car ceases to be product and becomes waste according to the Waste Framework Directive (2008/98/EC) is answered in a different way across EU Member States. As a consequence, the question if a transboundary shipment of a vehicle is subject to the provisions of the Waste Shipment Regulation No 1013/2006 is answered differently in individual cases.

-

 $^{^{42}}$ IMPEL-TSF End of Life Vehicles : Vehicles for export Project ; Final report September 2008

Figure 4: End of life vehicle or second-hand car?



Source: Judith Oliva

To address this problem the Correspondents' Guidelines No 9 (draft status), which outlines how the Waste Shipment Regulation should be interpreted by all Member States, provides guidance on the distinction between an end-of-life vehicle and a used car.

Cases of illegal shipments of wastes are reported to the EU Commission regularly. There are different reasons for illegal shipments, including:

- Incorrect classification of the transported waste (registered as green list waste, but in reality should be included in the amber list)
- Not classified as a transboundary shipment
- Waste is classified as a product (e.g. ELV are declared as used car)
- Falsifying notification for hazardous waste shipment
- Missing shipment documents
- Export of waste, which is not allowed to be exported

3.3. Steps taken by Commission Services to overcome problems

• IMPEL (the European Union Network for the Implementation and Enforcement of Environmental Law):

IMPEL is an international association of environmental authorities in Europe. The network is committed to contribute to a more effective application of European Community Environmental legislation by capacity building, awareness raising, sharing good practices, providing guidance and tools, enforcement cooperation and giving feed back to lawmakers and regulators on the practicability and enforceability of environmental legislation. IMPEL-TFS stands for Trans-Frontier Shipment of waste and deals with matters on the Waste Shipment Regulations. The content of the published documents concerns the results of domestic inspections which have taken place as well as information on implementation and enforcement methods and efforts related to the WSR. Literature surveys and discussions between IMPEL Member States, for example at meetings and conferences held in connection with the project drafting also have an influence on IMPEL-TFS results. ⁴³

-

⁴³ http://impel.eu/

IMPEL TFS Enforcement Action II – Interim Report 2009:

The Enforcement Actions II project promotes coordinated activities for the period 2008-2010. In total 26 countries14 participate in the project to develop their expertise in inspections through learning-by-doing and intense cooperation and information exchange.

Through October 2008 to June 2009 10,481 transport inspections were reported as joint activity inspection from 22 countries. The inspections were executed as at random as well as target-oriented inspections on roads and seaports. Violations were detected at 19% of the inspected waste shipments. In 37% of these cases the shipments were illegal due to export bans or missing notifications for mainly electronic waste and end of life vehicles to Africa and (contaminated) plastics and paper waste to Asia. In 46% of the cases administrative violations were detected like deficits in transport documents. In 17% of the cases other violations related to waste shipments were discovered, like transports by non-authorised waste transporters. Besides these planned transport inspections several countries reported also the results of concrete enquiries of customs and police, with over 100 additional detected illegal shipments. During company inspections for verification purposes irregularities have been detected in more than 50% of the cases. More than 80% of all activities performed where joint actions of the different competent authorities. In total 10 cases of violations according the shipment of ELV (related to Article 2.35 'illegal export' and 'contamination' and to Article 4 'no notification') occurred.

3.4. Conclusions & Recommendations

There is evidence suggesting that considerable numbers of ELVs are exported illegally from European Member States; predominantly to Africa and the Middle Eastern countries. This is supported by several press reports as well as by the results of joint activity inspections in the framework of an IMPEL-TFS project completed in 2008, where several cases of illegal shipment of end-of-life vehicles were reported – mostly to African countries ⁴⁴.

→ Intensify Member State inspections of transports within and out of the EU (addressed to Member States)

Effective action against illegal shipments of end-of-life vehicles is hampered by the fact that there are differences in the interpretation of end-of-life vehicles and used cars, and the distinction between them, in different countries. To address this problem the Correspondents' Guidelines No 9 (draft status), which outlines how the Waste Shipment Regulation should be interpreted by all Member States, provides guidance on the distinction between an end-of-life vehicle and a used car.

- → Establish binding rules at European level for the distinction between ELVs and used vehicles (addressed to the European Commission).
- → Ensure wide application of the guidance document by the waste inspectors (addressed to the Member States).

In countries with low average income in some European regions as well as outside the EU there is a market for very cheap cars, often in bad condition or serving as a source of spare parts. An important motive for illegal shipments of end-of-life vehicles is that the owner of an old vehicle can make some profit (usually a few hundred Euros) when selling it to a car dealer who ships it abroad, whereas there is usually no money to be made from disposing of an ELV in the country of de-registration.

 \rightarrow Enhance the economic attractiveness of disposing of an old vehicle in the country of deregistration, such as refunds obtained in a deposit-refund system (addressed to the Member States).

-

⁴⁴ IMPEL-TFS End of Life Vehicles 2008: Vehicles for export Project; Final report September 2008

4. DE-POLLUTION OF ELVs

Question

• Are all ELVs properly de-polluted?

4.1. Legal background

According to Article 6(3) of the ELV-Directive Member States shall take the necessary measures to ensure that any establishment or undertaking carrying out treatment operations fulfils at least the following obligations in accordance with Annex I:

- (a) end-of life vehicles shall be stripped before further treatment or other equivalent arrangements are made in order to reduce any adverse impact on the environment. Components or materials labelled or otherwise made identifiable in accordance with Article 4(2) shall be stripped before further treatment;
- (b) hazardous materials and components shall be removed and segregated in a selective way so as not to contaminate subsequent shredder waste from end-of life vehicles;
- (c) stripping operations and storage shall be carried out in such a way as to ensure the suitability of vehicle components for reuse and recovery, and in particular for recycling. Treatment operations for de-pollution of end-of life vehicles as referred to in Annex I(3) shall be carried out as soon as possible.

The following treatment operations for de-pollution of ELV are stipulated in Annex I (3):

- removal of batteries and liquefied gas tanks,
- removal or neutralisation of potential explosive components, (e.g. air bags),
- removal and separate collection and storage of fuel, motor oil, transmission oil, gearbox oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, air-conditioning system fluids and any other fluid contained in the end-of-life vehicle, unless they are necessary for the re-use of the parts concerned,
- removal, as far as feasible, of all components identified as containing mercury.

Components and materials containing Pb, Cd, Hg or CrVI, which have to be labelled according to Annex II to the ELV-Directive, comprise:

- Batteries
- Vibration dampers
- Solder in electronic circuit boards and other electrical applications except on glass
- Solder in electrical applications on glass
- Electrical components which contain lead in a glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs
- Absorption refrigerators in motor-caravans
- Discharge lamps for headlight application
- Fluorescent tubes used in instrument panel displays

4.2. Results

The Commission's report on the implementation of the ELV-Directive for the period 2005-2008⁴⁵ does not refer to de-pollution of end-of life vehicles.

4.2.1. Materials removed from ELVs as reported by Member States

Decision 2005/293/EC⁴⁶ lays down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in the ELV-Directive. According to Table 1 of the Annex to the Decision materials arising in the course of de-pollution and dismantling of ELVs have to be reported. However, individual reporting per material or component is not requested. For 2008 the quantities of 'batteries', 'liquids (excluding fuels)', 'oil filters' as well as 'other materials arising from de-pollution' were reported by approximately half of the Member States.

In the following sections the reported quantities on batteries and fluids (excluding fuels) removed from end-of-life vehicles in 2008 as published by Eurostat⁴⁷ compared to the arising of end-of-life vehicles in the respective Member State is presented. Although concerns on the quality of reported figures have been raised (c.f. European Commission, 2009)⁴⁶ indicative conclusions can be drawn.

Batteries:

Figure 5 illustrates the quantities of batteries removed during de-pollution (kg/ELV) in 2008. The average weight of the starter battery can be estimated to be about 14.5 kg/ELV^{48,49}. Approximately half of the reporting Member States removed starter batteries in the order of magnitude of the expected amounts in ELV. Comparably lower removal of less than 50% of the expected value was reported by Latvia, Slovenia, Slovakia, Germany and the UK. However, this does not necessarily indicate that batteries are not removed properly. Consulted waste experts indicated, that - in particular in Southern and Eastern European countries, removal of batteries often takes place before vehicles are handed over to authorised treatment facilities due to the economic value of lead.

_

 $^{^{45}}$ European Commission (2009): Report on the Implementation of Directive 2000/53/EC on End-of-Life-Vehicles for the period 2005-2008

⁴⁶ COMMISSION DECISION laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles (2005/293/EC)

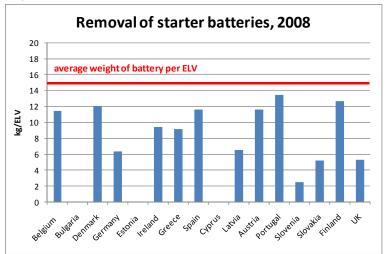
http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs

⁴⁸ Ökopol (2002): Rules on compliance with Article 7.2 of Directive 2000/53/EC. Report compiled for the Directorate General Environment, Nuclear Safety and Civil Protection of the Commission of the European Communities, Contract No B4-3040/2002/335823/MAR/A2.

Communities, Contract No B4-3040/2002/335823/MAR/A2.

⁴⁹ GHK & BioIS (2006): A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive; Final Report to DG Environment.

Figure 5: Removal of starter batteries from ELV 2008

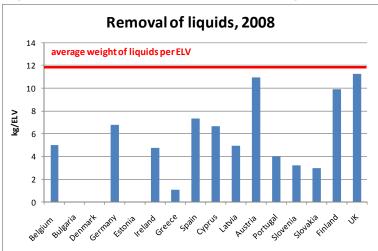


Source: Umweltbundesamt based on data provided by Eurostat (http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs, extracted at October 6th 2010)

<u>Liquids (excluding fuels):</u>

Figure 6 illustrates the quantities of liquids (excluding fuels) removed during de-pollution (kg/ELV) in 2008. The average weight of liquids contained in end-of-life vehicles is reported to be approximately 12 kg/ELV^{48,49}. Assuming that data reflect the current situation, removal is rather incomplete in some Member States.

Figure 6: Removal of liquids (excluding fuels) from ELVs



Source: Umweltbundesamt based on data published by Eurostat (http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs, extracted at October 15th 2010)

4.2.2. Removal of individual materials/components containing hazardous substances

The following sections provide information on individual types of components containing hazardous substances removed from end-of-life vehicles more detailed than the statistics provided by Eurostat.

Apart from a report commissioned by the European Commission some years ago (GHK & BioIS, 2006⁵⁰), for some Member States (BE, NL) information on the removed quantities of individual materials/components is available from ELV treatment monitoring systems.

Further information on the current practice was obtained from Member States representatives and waste treatment experts consulted during this study.

Batteries:

According to GHK & BioIS (2006) removal of whole lead-acid batteries (including the electrolyte) and selling them to dedicated treatment facilities is the predominant practice carried out by authorised ELV-treatment facilities. In illegal facilities batteries are typically left in the car body which is sent to the shredder, or batteries are mashed open and leadbearing components are sold while the electrolyte spills into the soil and the remaining waste is dumped in the environment. GHK & BioIS pointed out that leaving the battery in the car body also occurred in authorised treatment facilities. The recycling of batteries is actually determined largely by the potential earnings of scrap collectors and traders. In case of low lead prices (e.g. over the 1990-1993 and 1996-2000 periods), scrap dealers have no financial motivation to take batteries out. According to waste treatment and recycling experts contacted during this study this phenomenon might be of no or very limited relevance anymore. On the one hand depressed lead prices are not expected in the near future. On the other hand batteries can easily be stockpiled and sold in times of higher lead prices. It was furthermore stated, that shredder plant operators are very much interested in the removal of batteries from the shredder input for economic reasons (lower revenues from steel scrap due to lead-contamination, increased abrasion in the shredder).

Fluids:

According to GHK & BioIS 2006³⁶ fuels are generally separated from other fluids (even by illegal operators) as they have an economical value and can be easily reused on-site. For treatment facilities operating in line with the ELV-Directive, different practices of handling liquids were reported. Differences existed in the number of fluids collected separately and their destination.

 Removal and separate storage of 5-6 fractions which are sent to different reprocessing or regeneration facilities: e.g. in the Netherlands, the Dutch auto recycling service provider ARN Auto Recycling Nederland organises the collection of fuel (when not clean enough to be re-used), waste oils, brake fluid, coolant, screen washing fluid and since 2004 air conditioning fluid. In Germany and the UK, the trend seems also to be the separation of several fractions.

_

⁵⁰ GHK & BioIS (2006): A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive; Final Report to DG Environment.

Removal and separate storage of two fractions: waste oils + brake fluid, coolant + screen wash. In France, waste oil + brake fluid are burnt for energy recovery (e.g. in cement kilns; usually the dismantler has to pay for treatment of waste oils).
 Coolant + screen wash can be sent for regeneration.

- Removal and separate storage of one fraction: in Hungary, waste oils + brake fluid are stored and sent for energy recovery or recycling. Coolant + screen wash are left in the car body and remain in shredder residues.
- No specific practice regarding the number of fractions stored separately, as in Poland.

Further informal practices are described. For instance, waste oils sent to regeneration are sometimes polluted by water-based fluids. When collectors collect free of charge without strong constraints and control, dismantlers are not encouraged to separate different types of fluids.

In uncontrolled dismantling places, waste oils and water-based fluids are partly spilt into the environment and partly left in the car body and thus transferred to the shredder process.

However, it was reported that also in non authorised facilities part of the fluids are removed in order to keep the working environment clean. The existence of a free collection system in a country would support such behaviour.

Further details on fluids stripped from ELVs are available from monitoring systems for ELV treatment of individual Member States.

Table 10 shows quantities of fluids removed in the course of ELV treatment as derived from the EMS-system of Febelauto⁵¹, which is responsible for 100% of ELV treatment in Belgium.

Table 10: Removal of fluids from ELV in Belgium in 2009 as reported by FEBELAUTO

Fluid	Quantity removed (kg/ELV)
Hydraulic oil	0.1
Air-conditioning fluids	0.01
Brake fluids	0.2
Cooling liquids	1.6
Screen washing fluid	0.7
Engine oil / gearbox oil	4.2
Oil/water	0.8
Total fluids (excl. fuels)	7.6
Petrol	3.3
Diesel	2.7
Total fluids (inkl. fuels)	13.6

Source: FEBELAUTO (2009): Rapport national 2009, available at http://www.febelauto.be/files/rapportannuel2009.pdf

[•] FEBELAUTO (2009): Rapport national 2009: http://www.febelauto.be/files/rapportannuel2009.pdf

According to information on current practices obtained by ELV-treatment experts liquids are in general removed to a large degree (fuel, motor oil, coolant). However, brake fluids (according to ARN 2007⁵² amounting for approx. 0.3 kg/ELV), windscreen washer fluid (according to ARN 2007 accounting for approx. 1.1 kg/ELV) and hydraulic oil are usually not or only partly removed even in authorised treatment facilities.

According to information provided by the UK in the course of this survey their Environment Agency has had difficulty persuading authorised treatment facilities to de-pollute shock absorbers and oil filters, but compliance has grown significantly in the past few years, with growing sales of specific drainage equipment.

Air bags:

According to GHK & Bio1S 2006⁵⁰ air bags did not seem to cause a major problem in 2006 as the proportion of end-of-life vehicles containing intact air bags was still low then (approx. 10%). On the one hand air bags are found only in some of the most recent vehicles put on the market within the last 8 years. On the other hand a certain proportion of air bags has been damaged or detonated before the ELV arrives at the dismantling facility (e.g. during a car accident).

Several practices co-existed in the countries analysed by GHK & BioIS in 2006: 1) removal of working air bags and re-use, 2) removal and deploying in a separate chamber, 3) exploding inside the ELV placed in a controlled environment and 4) leaving the air bag in the car body.

Removal and re-use of intact air bags was still the predominant practice then. Leaving the air bag in the car body was in general - considering the overall low amounts in ELVs- not claimed to cause problems for shredder plants. The two other practices were reported to be new (for instance they begin to develop in France in certified treatment facilities and in the UK).

Further details on air bags removed from ELVs are available from monitoring systems for ELV treatment of individual Member States. According to data reported to the EMS-system of Febelauto⁵³, in Belgium 0.02 kg/ELV of explosive components were removed in 2009.

Liquefied gas tanks:

Liquefied gas tanks (LGT) are found in a relatively small proportion of ELV. They are most common in the Benelux countries. In the Netherlands the proportion of ELVs with LGTs accounts for approximately 8% (GHK & BioIS, 2006). In the Netherlands, dismantlers having contracted with the auto recycling service provider ARN are obliged to remove the tanks and send them to certified de-gazing companies where propane is either sold or burnt.

FEBELAUTO (2009): Rapport national 2009: http://www.febelauto.be/files/rapportannuel2009.pdf

 $^{^{52}}$ ARN (2007): Monitoring and reporting on ELVs in the Netherlands. Available at:

They then have the possibility to take back empty tanks to either sell them as second hand parts or deliver them to steel recycling facilities. ARN started this practice in 1996 under the pressure of shredders when the proportion of LGTs reached a level which began to create a significant risk of explosion during the shredding process. In the other MSs, several practices co-exist at the dismantling facilities: LGTs are either removed and sent back to the producer or removed for flaring propane on-site, after which the tank is put back into the car body or they are left in the car body to explode during the shredder process.

Further details on LGTs removed from ELVs is available the EMS-system of Febelauto⁵³. In Belgium in 2009 0.01 kg LGTs per ELV treated were removed.

Further components containing hazardous substances Pb, Hg, Cd or CrVI:

Stakeholder interviews carried out in the course of this study indicated that components containing Hg, such as discharge lamps for headlight application or fluorescent tubes used in instrument panel displays are usually not removed.

The same is indicated for electrical components containing Pb such as printed circuit boards. Even if removal of wheel balancing weights is the common practice they seem to be removed to a lower degree in times of low lead prices.

To facilitate de-pollution and dismantling of ELVs the IDIS-system (International Dismantling Information System) has been established by automotive manufacturers (see also Chapter 6.2.3). However, according to ELV treatment experts and Member States representatives it is not the current practice among dismantlers to use this information.

4.2.3. ELV-treatment facilities in Member States

According to GHK & BioIS (2006) the number of illegal dismantling facilities was still relatively high in some Member States in 2006. The overall number of authorised dismantlers in the EU-25 was approximately 8,000, the number of shredders 232. Regarding illegal facilities considerable differences were reported between Member States. In Member States, where a funded system (such as NL, DK, SE) has been established for quite a long time illegal dismantlers were progressively replaced by authorised treatment facilities, mainly in order to be able to beneficiate from financial support. The number of illegal facilities was believed to be lower than 10% or even close to 0%. However, GHK & BioIS also presented estimations of the proportions of illegal facilities in some countries: 40% in France (800-900 illegal vs. 1,200-1,300 authorised), 80% in Hungary (several hundreds of illegal facilities vs. 80 authorised) and 50% in Belgium.

Indication of illegal treatment of end-of-life vehicles in 2005 is also given by very low numbers of authorised treatment facilities compared to the numbers of end-of-life vehicles treated. According to data published by the European Commission very low numbers were reported for several Member States (PT, GR, UK, Ireland)⁵⁴ (see Table 11).

-

⁵⁴ European Commission (2007): Commission Staff Working Document accompanying the report from the report on the targets contained in Article 7(2)(b) of Directive 2000/53/EC on End-of-life vehicles, Impact Assessment and MS-information gathered within this project.

In order to draw conclusions on developments in the ELV treatment sector,

Table 11 furthermore presents data on numbers of authorised treatment facilities in 2008 or 2010. Data was obtained by asking selected Member States representatives and from questionnaires pursuant to Commission Decision 2001/753/EC for the period 2005 – 2008 provided by some Member States. It is obvious, that in several Member States (UK, BE, GR, PT, FI, IR) the number of authorised ELV treatment facilities has increased significantly over the past years.

According to information obtained during this study 370 illegal sites had been identified in England and Wales. Thus in April 2008 the UK Environment Agency launched a coordinated national campaign to tackle illegal ELV and scrap metal sites, with hard penalties. In the first 12 months they closed or brought into regulation almost half of these sites.

Table 11: Authorised ELV-treatment facilities

Member State	No. of ATFs (2005) ¹	No treated ELV per ATF (2005) ¹	No. of ATFs (incl. shredders) in 2008 or 2010 ²
Austria	200	620	216 (6 shredders) (2008)
Belgium	48	1,917	120 (12 shredders) (2010)
Cyprus	1	ND	2
Czech Republic	80-100	ND	ND
Germany	1,178	1,019	1,261 (36 shredders) (2008)
Denmark	210	381	ND
Spain	540	1,852	ND
Estonia	70	214	32 (1 shredder) (2010)
Greece	4	5,000	56 (2008)
France	1,000	1,300	ND
Finland	60	1,483	235 (2010)
Hungary	150	ND	ND
Italy	1,800	508	ND
Ireland	35	3,714	85 (2008)
Luxembourg	4	4,500	ND
Latvia	261	311	ND
Lithuania	43	465	ND
Malta	ND	ND	ND
Netherlands	500	544	418 (2008)
Portugal	8	6,500	45 (2008)
Poland	670	119	557 dismantlers (2007)
Sweden	370	641	365 (2008)
Slovenia	20	ND	ND
Slovakia	30	ND	ND
UK	732	2,883	1,607 (2008) 1,750 (2010)

Sources:

1... European Commission (2007): Commission Staff Working Document accompanying the report from the report on the targets contained in Article 7(2)(b) of Directive 2000/53/EC on End-of-life vehicles, Stakeholder Report (2005)

2... Member States questionnaires pursuant to Commission Decision 2001/753/EC for the period 2005 – 2008 and/or own survey among Member States representatives

ATF...Authorised Treatment Facility

ND...no data available

4.2.4. Inspections of ELV treatment facilities

According to the information gained from selected Member States, inspection of authorised treatment facilities regarding compliance with the de-pollution provisions given by the ELV-Directive is carried out either by local authorities, independent inspection experts or Environment Agencies.

Some information on the frequency of inspections of de-pollution at dismantling facilities was obtained in the course of the survey conducted. In <u>Austria</u> 30-40 inspections per year are performed (~200 facilities). <u>Estonia</u> stated that in 2008 36 inspections of dismantlers were performed and 51 inspections in 2009 (31 dismantling facilities). According to information from the <u>UK</u> most authorised treatment facilities are inspected at least twice a year. In <u>Sweden</u> not every facility is checked within a year.

The following difficulties regarding checks of de-pollution were stated by inspection experts consulted during this survey. Firstly de-pollution may be carried out at different stages of the ELV treatment chain, thus impeding plausibility checks regarding quantities removed. Secondly, if dismantling of end-of-life vehicles is not the only activity carried out by a facility it might not be possible to assign individual waste outlets to de-pollution of end-of-life vehicles.

4.2.5. Contamination of shredder residues

Besides the prevention of direct spillage of fluids, de-pollution of end-of-life vehicles aims at reducing contents of hazardous substances being transferred to shredder processes, where they can cause emissions and contamination of shredder residues. There seems to be no comprehensive investigation of the effects of the de-pollution provisions defined in the ELV -Directive on reducing the contamination of shredder residues.

It is well known that the presence of hydrocarbons in fluff is usually caused by improperly de-polluted ELV. Contents of hydrocarbons in fluff as reported recently range from 6-10 g/kg^{55} to 10-30 g/kg^{56} . A comprehensive analysis of shredder light fraction carried out by LANUV determined a hydrocarbon content of 15 g/kg (median of samples analysed between 1985 and 2003)⁵⁷.

_

⁵⁵ SPUZIAK-SALZENBERG (2009): Stoffstromspezifische Behandlung von SLF-Fraktionen.

⁵⁶ Results of waste analyses: not published.

⁵⁷ LANUV (2004): Landesamt für Natur-, Umwelt und Verbraucherschutz, Nordrhein-Westfahlen: Shredderabfälle, Abfalldatenblätter energetisch verwertbare Stoffgruppen. See also: http://www.lanuv.nrw.de/abfall/bewertung/energetisch.htm

It is not possible to draw direct conclusions regarding de-pollution of ELV from this data. One reason is that ELV are only a part of the total shredder input; which in many countries accounts for approximately 10-40%. However, it can be interpreted as an indicator for incomplete ELV-de-pollution.

4.3. Steps taken by Commission Services to overcome problems

De-pollution of ELVs unless relevant regarding the achievement of recycling/recovery targets was not a topic on the agenda of the European discussion recently.

4.4. Conclusions & Recommendations

First, there is evidence suggesting that end-of-life vehicles are treated illegally in some cases. However, the situation seems to be improving.

→ Measures against illegal waste car dismantlers and unauthorised treatment facilities, respectively, should be taken (e.g. by reinforcing inspections by Member States competent authorities) (addressed to the Member States)

Furthermore, there is some evidence suggesting that even in authorised treatment facilities de-pollution is not in full compliance with the relevant requirements of the ELV Directive. Liquids seem to be removed to a certain extent. Certain types of fluids or components such as brake fluids, windscreen washer fluid, oil filters or shock absorbers, however, are not always removed or de-polluted. Usually little effort is put into the removal of components containing heavy metals, such as Hg-containing display backlights or switches. Lead-acid batteries are generally removed from end-of-life vehicles because lead may be used as a source of income and because of constraints for the shredder-process if not removed. Liquefied gas tanks and air bags are usually removed because of the well-known risks for shredder plants.

→ Inspections of ELV treatment plants should address the effectiveness of de-pollution adequately (addressed to the Member States)

De-pollution of ELVs should lead to shredder-residues with low contents of hazardous substances. According to some available information on the composition of shredder residues, it is in particular the content of hydrocarbons that indicates that the de-pollution of end-of-life vehicles is not always sufficient.

→ Assessing comprehensively the quality of ELV shredder residues would allow conclusions about the effectiveness of the de-pollution of end-of-life vehicles (addressed to the European Commission)

5. RECYCLING AND RECOVERY OF ELVS

Question

Are all ELVs being recycled and what success rates are being achieved?

Legal background 5.1.

According to Article 7(2) of the ELV-Directive Member States shall take the necessary measures to ensure that the following targets are attained by economic operators:

a) no later than 1 January 2006, for all end-of-life vehicles, the reuse and recovery shall be increased to 85% by an average weight per vehicle and year. Within the same time limit the reuse and recycling shall be increased to minimum of 80% by an average weight per vehicle and year.

b) no later than 1 January 2015, for all end-of-life vehicles, the reuse and recovery shall be increased to a minimum of 95% by an average weight per vehicle and year. Within the same time limit the reuse and recycling shall be increased to a minimum of 85% by an average weight per vehicle and year."

According to Annex I to the Directive removal of glass and catalysts is a mandatory treatment operation to promote recycling. Removal of metal components containing copper, aluminum and magnesium is mandatory if they are not segregated in the shredding process. Removal of tyres and large plastic parts (bumpers, dashboard, fluid containers, etc) is mandatory if these materials are not segregated in the shredding process in such a way that they can be effectively recycled as materials

Detailed rules on the calculation and monitoring of the reuse/recovery and reuse/recovery targets set by the ELV Directive are defined by Commission Decision 2005/293/EC⁵⁸.

5.2. Results

5.2.1. Recycling and recovery rates achieved by the Member States

According to the ECs report on the Implementation of Directive 2000/293/EC for the period 2005-2008⁵⁹ most of the Member States transposed the targets set by the ELV-Directive literally. The Netherlands adjusted their initially very ambitious date by which the 2015targets of 95% reuse/recovery and 85% reuse/recycling to be met from 2007 back to 2015. In Bulgaria, a reuse/recovery target of 87% and a reuse/recycling target of 81% shall be attained by 31 December 2008; a gradual increase to 95% for recovery and 85% for recycling is set for 2015.

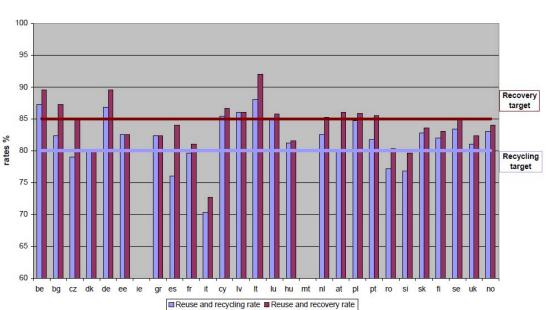
 $^{^{58}}$ COMMISSION DECISION 2005/293/EC laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC of the European Parliament and of the Council on end-of-

⁵⁹ EC (2009): Report on the Implementation of Directive 2000/53/EC on End-of-Life-Vehicles for the period 2005-2008

The European Commission59 reports 19 Member States meeting the current reuse/recycling target in 2006 and 13 Member States meeting the reuse/recovery target (see Figure 7). According to data published by Eurostat⁶⁰ in 2007 23 Member States met the reuse/recycling target; 15 Member States met the reuse/recovery target (see Figure 8). In 2008 20 Member States met the reuse/recycling target; 16 Member States met the reuse/recovery target, respectively (see Figure 9).

For some Member States (Malta, Ireland, Bulgaria, Estonia) the recycling and recovery rates achieved are not available for every year.

Figure 7: Recycling and recovery rates reported by the Member States for the reference year 2006



Recycling and recovery rates for end-of-life vehicles, in 2006

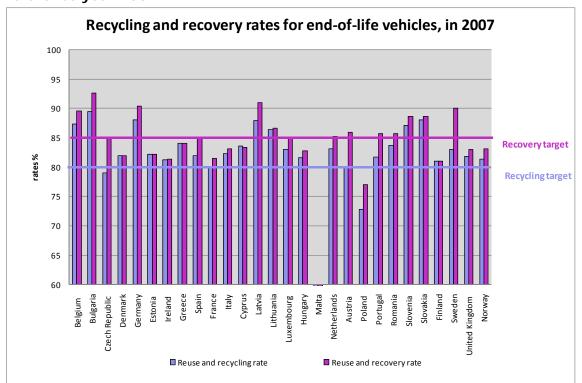
Source: Eurostat (available at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

_

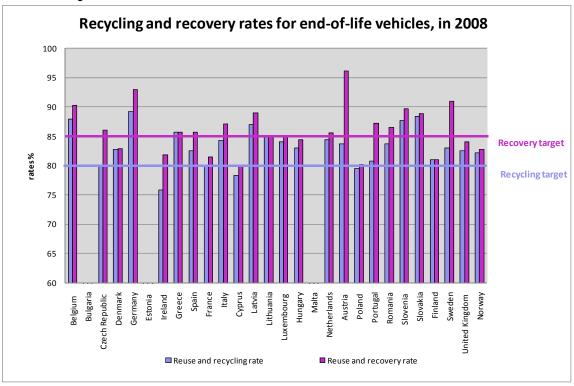
 $^{^{60} \} Eurostat \ (available \ at: \ http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)$

Figure 8 : Recycling and recovery rates reported by the Member States for the reference year 2007



Source: Umweltbundesamt based on data provided by Eurostat, available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

Figure 9: Recycling and recovery rates reported by the Member States for the reference year 2008



Source: Umweltbundesamt based on data provided by Eurostat, available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

According to Eurostat⁶¹ initial analysis of the reported recycling/recovery rates revealed that data quality and comparability of reported figures was insufficient. Furthermore, considerable differences regarding the data collection and evaluation by the Member States were observed.

Due to the following reasons the reported recycling and recovery rates are not always comparable and might be overestimated in several cases:

- The classification of technically identical treatment operations as "recycling", "recovery" or "disposal" differs between Member States due to different national interpretations:
 - Use of plastic streams obtained by post-shredder treatment in blast furnace
 Some Member States account the total amount of the used quantities for recycling (reducing agent), others account only a proportion of the amount introduced into a blast furnace as recycling whereas the remaining proportion is accounted as thermal recovery.
 - <u>Co-incineration of fibre-rich waste streams obtained by post-shredder treatment with sewage sludge.</u>

 Member States either account it as thermal recovery or as recycling (substitution of dewatering agents for the sewage sludge before incineration).
 - Use of tyres or shredder residues for landfill-construction, landfill cover or terrain corrections
 Is either classified as recovery or as disposal.

Backfilling

Regarding backfilling there are discrepancies in the definitions of recycling and recovery between the ELV-Directive and the new Waste Framework Directive (2008/98/EC). The new Waste Framework Directive in addition to recycling and thermal recovery also defines "recovery", which is neither "recycling" nor "thermal recovery" (e.g. backfilling). The targets of the ELV-Directive and Commission Decision 2005/293/EC, however, refer to recycling and thermal recovery only.

Taking into account the weight of shredder residues (~20% of ELV weight), tyres (~3.5% of ELV weight) and glass (3% of ELV weight), it becomes obvious, that these national differences in accounting are a crucial factor whether the recycling and recovery targets are achieved or not.

Differences in data gathering

_

For the calculation of the recycling and recovery rates achieved by Member States inter alia data on the performance of ELV shredders is necessary. According to the survey conducted within this study the frequency and representativeness of such campaigns vary between Member States.

⁶¹ Eurostat (2010): Draft guidance document 'How to report on end-of-life vehicles according to Commission Decision 2005/293/EC' (Draft, 20th of April 2010)

In some Member States there is a legal obligation to carry out shredder campaigns at fixed time intervals. In <u>Germany</u> several shredder campaigns (and ELV treatment trials) were run in 2006, organized by car producers and/or shredder-plants (no legal obligation). In the \underline{UK}^{62} a shredder trial was carried out on a representative sample of 400 ELVs. Sweden carried out a shredder trial a few years ago. <u>Belgium</u> investigated all Belgian shredder plants and facilities processing their output streams in 2008. In Austria shredder and post-shredder facilities are obliged to carry out such campaigns every 3 years. For the remaining countries no data was available. In <u>Estonia</u> from 2010 onwards it is legally obligatory to organise shredder campaigns every 3 years and when dismantling technology changes significantly. Several small tests were conducted during the past 5 years. In <u>Finland</u> up to now 2 shredder campaigns have been conducted (2007 and 2010)

Differences in the methodology of calculation of recycling and recovery rates

The extent to which the whole ELV treatment process is considered for the calculation of recycling and recovery rates varies between Member States. According to the Batteries Directive $(2006/66/EC)^{63}$ recycling processes for lead-acid batteries and accumulators shall achieve a minimum recycling efficiency of 65%. Thus a recycling efficiency of 100% as reported by some Member States is rather implausible. Further ELV components where the complete recycling process is not considered might be any material-compounds, such as printed circuit boards.

5.2.2. Recycling of materials crucial for achievement of the targets

The recycling of the (main) metals – with some losses – is mainly driven by their economic value. However, to reach the current recycling (80%) and recovery (85%) targets as set by the ELV-Directive and in particular those to be achieved by 2015 (85%/95%) recycling and recovery of further materials is necessary even if economically less viable. Materials/components most relevant in terms of their contribution to the recycling/recovery rates are⁶⁴:

- Plastics (approx. 10 % of ELV weight)⁶⁴
- Tyres (approx. 30 kg/ELV)⁶⁵
- Glass (approx. 25 kg/ELV)⁶⁵

Furthermore: rubber $(\sim 2\%)$, fluids $(\sim 1.7\%)$ and textiles $(\sim 1\%)$.

Plastics

According to Annex I to the ELV Directive removal of large plastic parts (bumpers, dashboard, fluid containers, etc) is mandatory if these materials are not segregated in the shredding process in such a way that they can be effectively recycled as materials.

Figure 10 illustrates the quantities of large plastic parts derived from dismantling (kg/ELV) in 2008 according to figures reported by the Member States and published by Eurostat.

 62 Information obtained in the course of the survey conducted

⁶³ DIRECTIVE 2006/66/EC of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators

batteries and accumulators ⁶⁴ GHK & BioIS (2006): A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive. Final Report to DG Environment.

ARN 2007: Monitoring and reporting on ELVs in the Netherlands. Available at: http://nfp-bg.eionet.eu.int/bul/NSMOS/Wastes/ELV_Netherland_05_2007/ARN%20Monitoring%20of%20ELV.pdf

Considering an overall plastics content of ELV of approximately 10% (lower contents in older ELVs as treated in higher proportions in new Member States) the diagram reveals that - assuming that reported figures reflect the actual situation - dismantling of plastic parts plays a minor role among the reporting Member States. Even where comparable higher amounts are removed (LV, SI), this does not lead to material recycling. The remaining plastics are found in the shredder residues. As plastics-recycling from shredder residues is not the common practice up to now - there is a facility in France recovering plastics from shredder residues for material recycling, further are planned e.g. in the UK or in Germany - it can be concluded that overall ELV plastics recycling takes place to a rather low degree.

average weight of plastics contained in ELV

average weight of plastics contained in ELV

average weight of plastics contained in ELV

be average weight of plastics contained in ELV

average weight of

Figure 10 : Removal and Reuse & Recycling of large plastic parts in the course of ELV treatment in 2008

Source: Umweltbundesamt based on data provided by Eurostat (available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

Tyres

According to Annex I to the ELV-Directive removal of tyres is mandatory if these materials are not segregated in the shredding process in such a way that they can be effectively recycled as materials.

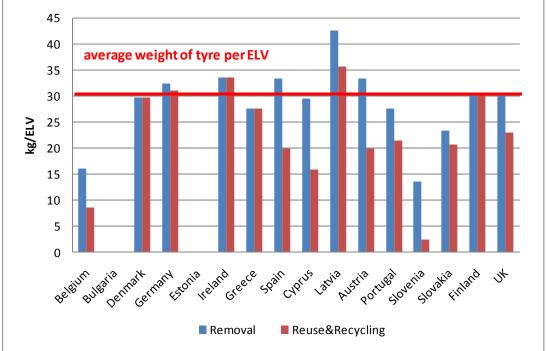
Figure 11 illustrates the quantities of tyres removed during dismantling (kg/ELV) in 2008 according to figures published by Eurostat. Considering an average of 30 kg tyres per ELV the diagram reveals that removal of tyres is practised to a large degree in many of the Member States in 2007. However, some countries (i.e. Greece, Ireland, Bulgaria and Belgium) obviously - assuming that reported figures reflect the actual situation – did not so.

Tyres derived from ELVs represent a minor proportion (approximately 6%) of the overall tyre arising in Europe 66 .

-

⁶⁶ EUWID Nr. 47 v. 17.11.2009, p 26

Figure 11: Removal and Reuse & Recycling of tyres in the course of ELV treatment in 2008 45 40 average weight of tyre per ELV



Source: Umweltbundesamt based on data provided by Eurostat (available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

Glass

According to Annex I to the ELV Directive removal of glass is mandatory. However, national implementation is differing. Some Member States have a legal obligation to remove (at least part of the) screens before shredding (e.g. AT, SE). Other Member States (DE, UK, BE) also allow the separation of glass in the course of post-shredder treatment.

Removal of glass after shredding, however, implies that it will be down-cycled (e.g. production of cement, use as aggregate) and is not available for glass recycling any more.

In Austria⁶⁷ glass is partly separated before shredding.

In Belgium⁶⁷ the national obligation to separate glass before shredding was cancelled 2 years ago. As far as shredder residues are sent to post-shredder facilities, glass is going into fractions that are used as construction material or in the cement production.

According to information obtained from Estonia⁶⁷ quite a big amount of glass is removed before shredding and is reused. Glass which cannot be reused (for example broken glass) is mainly sent to landfills. It was furthermore stated that in 2008 and 2009 glass was not handed over but stockpiled by a lot of dismantlers for future handing over to companies being able to recycle or recover it.

 $^{^{\}rm 67}$ Information obtained in the course of the survey conducted

In <u>Finland</u>⁶⁷ glass is not separated before shredding and it is thus included in the screening residue from shredding. Screening residue is used in landfill constructions.

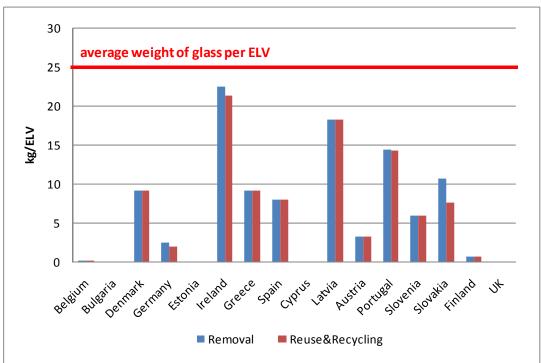
In <u>Germany</u>⁶⁷ only a part of glass is separated during dismantling. Regional authorities can give exemptions regarding the obligation to remove it before shredding.

According to information gathered from <u>Sweden</u>⁶⁷ glass is partly separated before shredding. Some of the glass is exported to Norway.

In the $\underline{\mathsf{UK}}^{67}$ no glass is separated before shredding. Separated glass is mainly used for aggregate materials.

Figure 12 illustrates the quantities of glass derived from dismantling (kg/ELV) in 2008 according to figures published by Eurostat. Considering an overall glass content of 25 kg/ELV the diagram shows - assuming that reported figures reflect the actual situation - that only some Member States remove large proportions of glass from ELV.

Figure 12: Removal and Reuse & Recycling of glass in the course of ELV treatment in 2008



Source: Umweltbundesamt based on data provided by Eurostat (available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

Treatment of shredder residues

Treatment of shredder residues for recovery of metals and other materials takes place either at integrated treatment plants (shredder and post-shredder technology) or at centralised post-shredder plants.

Post-Shredder installations for treatment of shredder residues not restricted to the recovery of metals are operated in only few Member States: e.g. AT, DE, BE, FR.

According to data published by Eurostat⁶⁸ in 2008, eight Member States (CZ, DK, ES, LV, HU, NL, RO, FI) reported that shredder light fraction obtained from shredding of ELVs was exclusively disposed of. These Member States together were responsible for 20 % of the European ELV arising. For 6 further Member States (BG, CY, LU, MT, SI, SE) no data is available.

In Austria usually integrated post-shredder treatment is applied for recovery of non-ferrous metals. Shredder light fraction is processed by a centralised post-shredder-plant. This treatment leads to several low-size metal fractions, a plastic fraction used in blast furnace, a fibrous fraction, which may be used for dewatering sewage sludge before incineration and a residual fraction, which is landfilled. There is no backfilling.

Belgium⁶⁹ stated that shredder residues are treated in centralised post-shredder facilities and integrated post-shredder-technology is also applied. Direct landfilling also takes place to some degree, whereby a rather high fee has to be paid. There is no backfilling and no direct incineration of shredder residues. Some fractions, however, as a result of postshredding-technology might be sent to incineration.

In Estonia 69 shredder-residues are predominantly landfilled, a small proportion is incinerated in a cement kiln.

In Finland⁶⁹ fluff is used in incineration (classified as energy recovery) and construction material at landfills. Screening residue from shredding is also used in landfill construction.

In Germany⁶⁹ in 2008 shredder-residues were either landfilled (46%), subjected to predominantly backfilling and landfill construction (40%) or subjected to energy recovery (waste incineration / used as refuse derived fuel) (14%)⁷⁰.

According to information published by Eurostat⁷¹ most of the output from <u>Irish</u> shredders were exported in 2008. However, shredder residue from one of the Irish shredders was accepted as landfill cover at two Irish landfill sites.

In Sweden⁶⁹ shredder residues are either incinerated (classified as energy recovery) or landfilled for which a specific permission is needed.

According to information obtained by the UK⁶⁹ in the course of this study for the treatment of shredder residues post-shredder technologies in use. The residues are then landfilled. No incineration and backfilling takes place.

Finland and Estonia reported that operators are investigating options for improvement of treatment of shredder-residues and fluff, respectively (for example, to process it more suitable for energy recovery by incineration).

http://www.umweltbundesamt-daten-zur-umwelt.de/umweltdaten/public/theme.do; jsessionid=0816630066776854A54A5A1A02385285?nodeIdent=2304

 $^{^{68} \} Eurostat \ (available \ at: \ http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)$

 $^{^{69}}$ Information obtained in the course of the survey conducted

Eurostat (available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/data/wastestreams/elvs)

5.3. Steps taken by Commission Services to overcome problems

- According to the EC´s report on the Implementation of Directive 2000/293/EC for the period 2005-2008⁷² the Commission addressed a letter to Member States failing to meet their reuse/recycling/recovery targets seeking explanation for the reasons of failure.
- Establishment of an expert working group regarding the monitoring of recycling/recovery targets.

Lack of data quality regarding recycling and recovery of ELVs was the reason for the establishment of an expert working group co-chaired by the European Commission (Directorate E: Sectoral and regional statistics, Unit E-3: Environmental statistics and accounts) and Eurostat. Further participants are national experts producing the national statistics and representatives of the related industry. The process (four meetings were conducted up to now) aimed at the establishment of a guidance document assisting the Member States to produce high-quality and harmonised data on ELV. The finalization of the document « How to report on end-of-life vehicles » is planned for spring 2011. A draft version is available dating at April 2010. Key issues of the guidance document are:

- Guidance on how to draft the quality report according to Articles 1(1) and 1(2) of Decision 2005/293/EC
- Guidance for completion of the tables 1-4 of the Annex to Decision 2005/293/EC
- Explanations to the notes of Commission Decision 2005/293/EC
- Guidance for the conduction of "Shredding Campaigns"
- Guidance for the application of the "metal content assumption method".

5.4. Conclusions & Recommendations

According to data published by Eurostat in 2008, 20 Member States met the reuse/recycling target of 80% of the average ELV weight. Sixteen Member States met the reuse/recovery target of $85\%^{73}$.

However, the reported recycling and recovery rates are not always comparable and might be overestimated. This is due to the following reasons:

- The classification of technically identical treatment operations as recycling, recovery
 or disposal differs between Member States due to different national interpretations.
 Backfilling, landfill construction and landfill cover, use in blast furnace are examples
 for different classifications by Member States
- Member States gather data in different ways and time intervals (e.g. quality & frequency of ELV-treatment trials) and different methodologies are applied for the calculation of recycling and recovery rates (e.g. to which extent the whole ELV treatment chain is considered).

⁷² EC (2009): Report on the Implementation of Directive 2000/53/EC on End-of-Life-Vehicles for the period 2005-2008

⁷³ EC (2009): Report on the implementation of Directive 2000/53/EC on ELV for the period 2005-2008

This can significantly influence the achievement of recycling and recovery targets.

Evidence suggests that there is still room for improvement regarding the recycling and recovery of ELV materials. Dismantling and subsequent material recycling of glass and plastics for instance takes place in minor quantities in several Member States. Recovery of glass after shredding, however, prevents glass recycling because of the bad quality of the glass. Recovery of plastics from shredder residues is still limited to only a few Member States. Whereas in some Member States post-shredder technology has been installed and landfilling of shredder residues prohibited or made very expensive, several Member States still deposit shredder residues on landfills.

- → To improve the comparability of recycling and recovery rates and to avoid market distortions within the waste treatment industry, there is a need for binding rules for the classification of particular treatment operations as "recycling", "recovery" or "disposal" across the EU. Furthermore, the harmonisation of data collections and the methodologies applied for the calculation of recycling and recovery rates as already mentioned by an expert working group set up by the European Commission and Eurostat is recommended. (addressed to the European Commission)
- → In order to achieve an environmentally sound treatment of end-of-life vehicles it would be useful, in addition to the overall recycling and recovery targets, to establish specific treatment obligations for particular material streams, taking into account their overall environmental impact. (addressed to the European Commission)

6. PRODUCER RESPONSIBILITY

Question

 Are the vehicle manufacturers meeting their obligations under the producerresponsibility requirements?

6.1. Legal background

Manufacturers ('producers' or 'economic operators' as laid down in the ELV Directive) have to meet specific requirements under the ELV Directive:

- According to Article 4 to limit the use of hazardous substances (Cd, Hg, CrVI, Pb) in vehicles and to integrate an increasing quantity of recycled material in vehicles and other products. Exemptions regarding the ban of heavy metals are listed in Annex II to the Directive.
- According to Article 5 to set up systems for the collection of all end-of-life vehicles
- According to Article 8 to use component and material coding standards, to provide dismantling information for each type of new vehicle put on the market and to make available appropriate information concerning dismantling, storage and testing of components which can be reused;
- According to Article 9 to make information accessible to the prospective buyers of vehicles, including information on the design of the vehicles/components, environmentally sound treatment of vehicles or the progress achieved with regard to recovery and recycling.

Relevant definitions:

- 3. 'producer' means the vehicle manufacturer or the professional importer of a vehicle into a Member State;
- 10. 'economic operators' means producers, distributors, collectors, motor vehicle insurance companies, dismantlers, shredders, recoverers, recyclers and other treatment operators of end-of life vehicles, including their components and materials;
- 13. 'dismantling information' means all information required for the correct and environmentally sound treatment of end-of life vehicles. It shall be made available to authorised treatment facilities by vehicle manufacturers and component producers in the form of manuals or by means of electronic media (e.g. CD-ROM, on-line services).

6.2. Results

According to the Implementation Report on the ELV Directive⁷⁴ only two Member States (Lithuania and the United Kingdom) exempted vehicles produced in small series and their producers from the requirements concerning reusability, recyclability and recoverability, coding standards and dismantling information as well as reporting obligations.

6.2.1. Limitation of the use of hazardous substances

According to the Commission's report on the implementation of the ELV Directive⁷⁴ all respondents (22 Member States) reported to have adopted measures encouraging vehicle manufacturers, in liaison with material and equipment manufacturers, to limit the use of hazardous substances in vehicles. Member States indicated that their national legislation restricts the use of lead, mercury, cadmium or hexavalent chromium for materials and components of vehicles put on the market after 1 July 2003

The limitation of the use of substances (referring to Annex II to the ELV Directive) is reflected in the quality assurance schemes of the automotive manufacturers. Exemptions listed in Annex II to the ELV Directive are evaluated in an ongoing technical and scientific progress. Specific systems (e.g. IMDS⁷⁵) are established to collect, maintain, analyze and archive data on used materials in the automotive sector. These systems are also used to guarantee data exchange between producers, suppliers and other actors.

The IMDS (International Material Data System) is the automobile industry's material data system. Initially, it was a joint development of Audi, BMW, Daimler, EDS (after acquisition in 2008 now part of HP), Ford, Opel, Porsche, VW and Volvo. Further manufacturers have meanwhile joined the community and IMDS has become a global standard used by almost all of the global OEMs. Talks are being held with further manufacturers regarding their participation in IMDS.

In the IMDS, all materials used for automobile manufacturing are collected, maintained, analyzed and archived. Using the IMDS, is it possible to meet the obligations placed on automobile manufacturers, and thus on their suppliers, by national and international standards, laws and regulations.

According to contacted Member States representatives no inspections on new vehicles regarding the limitation of heavy metals have been carried out by national authorities yet. One Member State stated that some vehicle producers are announcing infringements if a supplier does not fulfill the related obligations.

6.2.2. Systems for the collection of ELVs

According to the Implementation Report on the ELV Directive⁷⁴ all respondents (22 MS) took the necessary measures to ensure that economic operators – in most cases the producers and/or importers of vehicles – set up systems for the collection of end-of-life vehicles and (as far as technically feasible) of used parts removed when passenger cars are repaired, and to ensure the adequate availability of collection facilities within their territory.

All respondents indicated having adopted measures to ensure that end-of-life vehicles can be delivered to authorised treatment facilities without any cost for the last holder or owner.

75 https://www.mdsystem.com

-

⁷⁴ EC (2009): Report on the implementation of Directive 2000/53/EC on ELV for the period 2005-2008

In most Member States the delivery of an end-of-life vehicle is not free of charge if it does not contain the essential components or if it contains waste that had been added to it – an option in line with the Directive.

6.2.3. Coding standards and information on dismantling

According to the Implementation Report on the ELV Directive⁷⁴ all respondents (22 Member States) reported to have taken measures to ensure that producers, in concert with material and equipment manufacturers, use component and material coding standards and oblige manufacturers of components to make information on dismantling, storage and testing of components available to authorised treatment facilities. Most Member States indicated the use of the IDIS system (International Dismantling Information System)⁷⁶ which is regularly updated:

The system was developed by the automotive industry to meet the legal obligations of the EU End of Life Vehicle (ELV) Directive. The system development and improvement is supervised and controlled by the IDIS2 Consortium formed by automotive manufacturers from Europe, Japan, Malaysia, Korea and the USA. The access to and the use of the system is free of charge for any commercial enterprise that handles end of life vehicles.

The IDIS information office contacted within the project states that there is no public information available about the usage and the frequency of application. According to our survey, however, utilising the information is not the common practice among ELV treatment plants.

6.2.4. Vehicle design and the environmental sound management

According to the Implementation Report on the ELV Directive⁷⁴ nineteen Member States reported having obliged the economic operators – mostly producers – to publish information concerning vehicle design, environmentally sound treatment, waste prevention and the progress achieved with regard to recovery and recycling. In three member States this obligation is directed to vehicle producers as the relevant economic operators, not manufacturers of vehicle components. Sweden and Estonia are working on the modification of their respective legislation.

6.3. Steps taken by Commission Services to overcome problems

• Sustainable Electrical & Electronic System for the Automotive Sector (Project SEES)

The main objective of this project is to develop sustainable, clean, cost- and ecoeffective Electrical & Electronic System (EES) prototypes and dismantling/recycling processes to increase the vehicle recovery/reuse rate. The scientific breakthrough of the project consists of improving the actual end-of-life vehicle recycling scenario to support the achievement of the targets fixed by the End-of-Life Vehicles Directive. The project will support the objectives of the Sustainable Surface Transport Priority providing strategies and processes to clean dismantling and recycling of vehicles.

⁷⁶ http://www.idis2.com

As a result of the project it has been shown that design changes can contribute to improving the production and use phase, but have no significant influence on improving disassembly. It also has been shown that disassembly of the studied parts prior to shredding is not reasonable for material recycling. However, innovative end-of-life processes are capable of recovering additional materials from EES where markets are available. Furthermore, concepts for an optimised EES which consider the whole EES life cycle are currently developed for which also technical and economical feasibility is analysed.

In particular improved EES designs and concepts and – to a significant lesser extent – the optimised end-of-life processes help to realise a more sustainable automotive EES scenario for the future.

Technical and scientific progress of Annex II to the ELV Directive
 Up to now the Commission Services have run the fourth adaptation to technical and scientific progress of Annex II to Directive 2000/53/EC. In this context an evaluation concerning the impact of the exemptions listed in Annex II was carried.

6.4. Conclusions & Recommendations

There is no evidence suggesting that requirements of Article 4 of the ELV Directive (ban of certain hazardous substances (Cd, Hg, Pb, and CrVI) in new cars) are not fulfilled. The internal quality assurance systems of the manufacturers allow compliance monitoring of these provisions. However, no external monitoring of the provisions is conducted.

 \rightarrow The overall effect of the ban in practice should be assessed at European level (addressed to the European Commission).

The survey conducted during this project revealed, the use of this information is not common practice in ELV treatment plants.

→ The transfer of information about the dismantling of vehicles should be encouraged in order to promote the correct and environmentally sound treatment of end-of-life vehicles. (addressed to the European Commission).

REFERENCES

European Legislation:

- COMMISSION DECISION concerning a questionnaire for Member States reports on the implementation of Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles (2001/753/EC)
- COMMISSION DECISION laying down detailed rules on the monitoring of the reuse/recovery and reuse/recycling targets set out in Directive 2000/53/EC of the European Parliament and of the Council on end-of-life vehicles (2005/293/EC)
- COMMISSION INTERPRETATIVE COMMUNICATION on procedures for the registration of motor vehicles originating in another Member State (2007/C68/04)
- Commission Regulation (EC) No 308/2009 of 15 April 2009 amending, for the purposes of adaptation to scientific and technical progress, Annexes IIIA and VI to Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste.
- COUNCIL DIRECTIVE 1970/186/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers
- COUNCIL DIRECTIVE 1992/61/EEC relating to the type-approval of two or three-wheel motor vehicles
- DIRECTIVE 2000/53/EC of the European Parliament and the Council on end-of life vehicles
- REGULATION 2006/1013/EC on shipments of waste
- DIRECTIVE 2006/66/EC of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC
- DIRECTIVE 2008/98/EC of the European Parliament and the Council on waste and repealing certain Directives

Web:

- http://www.acea.be European Automobile Manufacturers Association (ACEA)
- http://www.fiw.ac.at European Foreign Trade Statistics (COMEXT)
- http://epp.eurostat.ec.europa.eu Eurostat
- http://www.vda.de German Association of the Automotive Industry (VDA)
- Selected websites of the National Environmental Ministries and Agencies of the MS
- Selected websites of the National Statistical Agencies of the MS

Studies & Reports:

- ACEA 2008: European Motor Vehicle Parc.
- ARN (2007): Monitoring and reporting on ELVs in the Netherlands. Available at: http://nfp-bg.eionet.eu.int/bul/NSMOS/Wastes/ELV Netherland 05 2007/ARN%20Monitoring%20 of%20ELV.pdf
- ARN (2009): ARN Sustainability report 2009. Available at: http://www.arn.nl/noezp/sustainabilityreport/e02.htm
- European Commission (2007): Commission Staff Working Document accompanying the report from the report on the targets contained in Article 7(2)(b) of Directive 2000/53/EC on End-of-life vehicles.
- European Commission (2009): Report from the Commission to the Council and the European Parliament on the implementation of Directive 2000/53/EC on End-of-Life Vehicles for the period 2005-2008.
- ESWI (2009) Enforcement Action II Interim Report (IMPEL-TFS 2009)
- ETC/RWM (2008): Projection of end-of-life vehicles.
- EUORPEAN COMMISSION (2009): Report on the Implementation of Directive 2000/53/EC on End-of-Life-Vehicles for the period 2005-2008
- EUWID Nr. 47 v. 17.11.2009, p 26
- FEBELAUTO (2009): Rapport national 2009. Available at: http://www.febelauto.be/files/rapportannuel2009.pdf
- GHK & BioIS 2006: A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive; Final Report to DG Environment.
- IMPEL-TFS (2008): End of Life Vehicles/Vehicles for export Project; Final report September 2008
- LANUV (2004): Landesamt für Natur-, Umwelt und Verbraucherschutz, Nordrhein-Westfahlen: Shredderabfälle, Abfalldatenblätter energetisch verwertbare Stoffgruppen.
- ÖKOPOL (2002): Rules on compliance with Article 7.2 of Directive 2000/53/EC; Report compiled for the Directorate General Environment; Nuclear Safety and Civil Protection of the Commission of the European Communities; Contract No B4-3040/2002/335823/MAR/A2.
- SPUZIAK-SALZENBERG (2009): Stoffstromspezifische Behandlung von SLF-Fraktionen. Presentation at VDI-Forum: "Stoffliche und energetische Verwertung von Shredderrückständen"

<u>Completed Member States questionnaires pursuant to Commission Decision 2005/293/EC for the period 2005-2008:</u>

• AT, CY, EE, DE, GR, IR, NL, PL, PT, SE, UK

From the following Member States information was obtained in the course of the questionnaire survey

- AT: Christian Keri, Georg Fürnsinn
- BE: Marc Leeman, Helen Versluys
- EE: Malle Piirsoo
- DE: Regina Kohlmeyer
- FI: Riitta Levinen, Susanna Ollila, Jarmo Muurman
- SE: Helen Lindqvist
- UK: Steve Norgrove

<u>Further experts and institutions consulted:</u>

- Beate Kummer, Kummer Umweltkommunikation GmbH, DE
- David Wilson, ILA International Lead Association, UK
- Gregor Hattinger, FHA Gesellschaft für chemisch-technische Analytik GmbH, AT
- Hannes Rabitsch, Magna Steyr Fahrzeugtechnik, AT
- IDIS information desk, DE
- Markus Spitzbart, KERP Center of Excellence Electronics and Environment, AT
- Roger Morton, Axion Polymers, UK
- Walter Kletzmayr, ARGE Schredder, AT

ANNEX

<u>Questionnaire addressed to Member States:</u>

1) De	registration of ELV				
1a	How is the concept/process (responsibilities, information needed) of ELV deregistration implemented? What issues/problems, if any, have arisen?				
1b	Does the car holder who deregisters the car need to provide information on the further use of the vehicle?				
1c	Is a contract of sale obligatory for the de-registration of used cars?				
1d	Is a Certificate of Destruction obligatory for the de-registration of ELVs?				
1e	Are there any problems concerning the deregistration system?				
	there a national definition of ELVs? Are there national guidelines for the differentiation een ELVs and second-hand cars?				
3) Ar	isings of ELV and numbers of deregistered cars in 2007, 2008 and 2009?				
4) Is	there a deposit-refund system for ELVs in your country?				
5) Sh	ipment of ELV / second-hand cars				
5a	Are there any significant numbers of exported second-hand cars (if so, please give the numbers for 2008)?				
5b	Are there any checks on illegal waste shipments at the national border? If so, how many checks per year and how many illegal shipments of ELVs are registered?				
	umber of treatment facilities / shredders authorised/registered in accordance with e 6 of the ELV Directive? (ELV-treatment facilities)				
7) Nu	mber of take back points?				
	spections/Checks of ELV-treatment facilities? (responsibilities, number of inspections). nere any comprehensive analyses on the actual level of de-pollution				
	ho has been given the responsibility for the calculation of reuse/recycling/recovery ts? Are there any systems in place to check data quality?				
10) D	o you use the "metal content assumption" for reporting of recycling/recovery quotas?				
	How many shredder campaigns have been carried out in your country to obtain data alculation of the recycling/recovery quotas?				
12) T	reatment of materials other than metals				
12a	What are the predominant treatment routes for shredder residue in your country (post-shredder-installations/flotation units, incineration, backfilling, landfilling, etc.)?				
12b	What are the predominant treatment routes for tyres in your country (cement kilns, power plants, rubber recycling installations, etc.)				
12c	What happens to glass from ELVs (separation before or after shredding, glass recycling)				



DIRECTORATE-GENERAL FOR INTERNAL POLICIES

POLICY DEPARTMENT A ECONOMIC AND SCIENTIFIC POLICY

Role

Policy departments are research units that provide specialised advice to committees, inter-parliamentary delegations and other parliamentary bodies.

Policy Areas

- Economic and Monetary Affairs
- Employment and Social Affairs
- Environment, Public Health and Food Safety
- Industry, Research and Energy
- Internal Market and Consumer Protection

Documents

Visit the European Parliament website: http://www.europarl.europa.eu/studies

PHOTO CREDIT: Stock International Inc.