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**Proposal for a
COUNCIL DIRECTIVE**

on end of life vehicles

(presented by the Commission)

EXPLANATORY MEMORANDUM

I. Introduction

1. The Council, in its Resolution of 7 May 1990¹ on Waste Management Policy, invited the Commission to establish action programmes for particular types of waste. Member States identified, *inter alia*, end of life vehicles as a waste stream to be addressed in this respect. In the context of the "Priority Waste Streams Programme" the Commission in 1991 set up a project group on this issue. Representatives of all relevant economic operators, non-governmental organizations (NGOs), several national administrations and services of the Commission participated. The Group proposed a "strategy" to the Commission in 1994. This strategy suggested that actions be taken at the appropriate level: the Community, Member States, economic operators. The strategy suggested a range of regulatory measures, *inter alia* at Community level, and a range of complementary actions. The project group agreed that a legislative proposal should be formulated.
2. The European Parliament, in its Resolution of 14 November 1996 (A4-0364/96) asked the Commission to present Proposals on a number of waste streams, including end of life vehicles, and to base such Proposals on the principle of producer responsibility.
3. This Proposal is inspired by the above mentioned "strategy", particularly by the aspects related to the management of end of life vehicles which were recognized to need Community legislation. The Project Group has identified the need to take action at the level of prevention (design of new vehicles), collection, treatment, re-use, recovery and monitoring. Most of these actions must necessarily be regulated at Community level, and therefore must form part of a regulatory Proposal from the Commission.
4. This Proposal contains also elements which have not been addressed by the strategy of the project group. The justification of these elements is included in this explanatory memorandum.
5. Several waste streams have already been regulated at Community level (e.g. waste oils, batteries and accumulators, packaging waste, PCBs and PCTs, sewage sludges). This Proposal is consistent with the sectorial approach to waste streams followed so far by the Community.
6. Community legislation on end of life vehicles should take the form of a Directive for many reasons. There is a need to ensure legal and long-term investment certainty to economic operators. Only a Directive can ensure that all actors of the automotive chain (such as vehicle manufacturers, material producers, dismantlers, shredders, recyclers, etc.) take the necessary responsibility to achieve the below-described environmental objectives, and that all such actors are duly represented in the bodies taking part in the decision making process. The large number of actors makes it impracticable use voluntary agreements as a general tool in the implementation of this Proposal. Furthermore, only a legally binding common European framework

¹ OJ No C 122, 18.5.1990.

will avoid the arising of varying initiatives at national level which may result in higher overall costs for the economy and in trade and competition distortions. Moreover, several harmonization measures have been adopted in the vehicle sector at Community level in order to facilitate the well functioning of the internal market and it is not desirable to exempt the end of life vehicles phase from a consistent harmonization process. Finally, several Provisions of this Proposal create rights and obligations for individuals which must necessarily be of a legally binding and enforceable nature.

7. Initiatives in the form of environmental agreements, covenants or self-committments at national level have been set up by economic operators in certain Member States. These initiatives will be able to continue to exist. However, as they do not comply with the provisions of this Proposal, they will have to be brought in line with the contents of this Proposal and will have to be complemented by the necessary laws, regulations and administrative provisions which Member States will have to take in order to transpose this Proposal into national legislation. Negotiated agreements as such will not be sufficient to fully comply with the contents of this Proposal.
8. National initiatives such as negotiated agreements may therefore co-exist with legislative measures. In addition economic operators will be fully capable to resort to negotiated agreements or voluntary committments in order to facilitate the achievement of the environmental objectives of this Proposal, to promote objectives which go further than those contained by this Proposal or to achieve the objectives of the Proposal within shorter periods of time than those foreseen in this Proposal.

II. The problems addressed in this Proposal

9. Vehicles which reach their end of life phase and, consequently, are discarded, represent an important source of waste generation, which has a direct polluting effect. Between 8 and 9 million vehicles are discarded yearly in the European Union, that is about 8 to 9 million tonnes of waste created per year. This figure is bound to increase in the future due to the increased number of vehicles put on the market every year. Some 25% of the vehicles weight (the so called "shredding residues") is hazardous waste which today is landfilled, often contaminating the soil and groundwater. This fraction, which amounts to about 1.9 million tonnes of waste per year, represents up to 10% of the total amount of hazardous waste generated yearly in the EU. This Proposal focuses mainly on this fraction waste from of end of life vehicles.
10. Furthermore, although precise figures are not available, it has been estimated that the percentage of end of life vehicles abandoned in the environment reaches, in certain Member States, 7% of end of life vehicles. Abandoned car wrecks represent a degradation of the environment and a net financial loss for society.
11. Dismantling operations often cause a significant environmental hazard. Collected end of life vehicles are brought to dismantling facilities which remove the parts that can be sold on the second hand market. The remaining wrecks are then put into shearing and shredding facilities. The metallic fractions are separated from the non-metallic fractions. The metallic fractions, both ferrous and non-ferrous, which amount to about 70-75% of the total weight of the vehicle, are generally sold on the scrap metal market and recycled. The shredding activity is a source of pollution (in particular shredding facilities cause emissions into the atmosphere of PCBs and

heavy metals, discharge into water of organic substances and heavy metals - lead, cadmium, copper, zinc and nickel, discharges into the soil of the same hazardous substances as well as fire hazard). The present methods of removing and handling hazardous elements and fluids are mainly designed to meet safety standards prior to shredding but are not sufficient to avoid the diffusion of hazardous substances into the environment.

12. The residues from shredding (25-30% of the vehicle weight), which consist of a heterogeneous mix of materials such as plastics, rubber, glass, textile, paint, oils and lubricants, paper and cardboard are usually landfilled. These residues contain significant quantities of hazardous substances, such as polychlorinated biphenyls (PCBs) and heavy metals as well as various fluids (petrol, motor and gear oils, hydraulic fluids, brake fluids, anti-freeze), which are particularly hazardous for the environment. A number of vehicles carry air conditioning systems with chlorofluorocarbon (CFCs) and airbags with explosive components which may also present a hazard for the environment and for the treatment facilities where they are dismantled and shredded. Consequently, shredder waste, as well as oil waste from vehicles is considered to be hazardous waste by international, Community and national waste legislation.
13. In total, automotive shredder waste from end of life vehicles amounts to approximately 2 million tonnes per year and represents approximately 60% of the overall weight of the shredder residues (the other sources are mainly white goods, brown goods, other electrical and electronic goods).
14. End of life vehicles are, like all wastes, goods in the sense of Article 30 of the Treaty. With a view to creating an internal market which is not endangered when products become waste, waste management operations and requirements should be harmonized. Furthermore, vehicle dismantling and recycling is also an important economic activity, which involves a large number of small and medium sized companies. In order for this activity to be carried out in the absence of competition distortions, the requirements for this activity have to undergo a certain level of harmonization at Community level.
15. Today the economic situation in relation to the management of end of life vehicles is not satisfactory. In the past the existence of markets for second-hand components and scrap metal made it profitable to treat end of life vehicles and to achieve high rates of recovery of the metal fraction. However, in recent years, the situation has changed, mainly due to the greater use of non-metallic parts in the manufacturing of vehicles, the rise of disposal costs for non recyclable materials (particularly for hazardous wastes) and the dropping of steel prices. As a result, the profitability of recycling end of life vehicles is uncertain. Vehicles are often exported to be scrapped to countries where disposal prices are lower. Considerable quantities of end of life vehicles are sold as "second hand" cars in particular to Central and Eastern European countries as well as developing countries. As an example, it is estimated that in 1995 70% of end of life vehicles arising in Germany were exported, mainly to the Netherlands, France and Poland. Export of end of life vehicles from Germany to the Netherlands is creating serious problems to the viability of the system set up by the industry for the recycling of Dutch end of life vehicles and is also undermining the business of vehicle dismantling and recycling in Germany.

16. Whereas export of second-hand products and of recoverable waste is not in principle contrary to Community legislation, it is important to look at the ratio of recoverable/non recoverable waste. In particular since end of life vehicles are complex objects, which contain both parts which are recovered and parts which are disposed of, it is not always possible to state whether the fraction of recoverable waste in and end of life vehicle is higher than the non-recoverable fraction. Waste must be disposed of within the Community, and Member States should move towards self-sufficiency for disposal individually, as is provided for by existing Community legislation on waste. At least until the recovery of end of life vehicles significantly increases, it is opportune that trade of end of life vehicles be as much as possible limited. These principles are also internationally recognized: the Basel Convention encourages the minimization of shipment of hazardous waste in general and the Parties to the Convention have decided to prohibit exports of hazardous waste, both for recovery and for disposal, from OECD to non-OECD Countries because the latter do not have appropriate treatment facilities and control mechanisms. Several types of waste contained in end of life vehicles are considered hazardous waste by the Basel Convention (e.g. light fraction from shredding, heavy metals, waste oils, PCBs and PCTs) and their export to non-OECD Countries will therefore be prohibited.
17. In several Member States end of life vehicle treatment operations are often carried out without any control by public authorities. Only a small share of treatment operators are duly authorized. The market for spare parts is often organized outside normal commercial, administrative and fiscal rules. There is an urgent need for regulatory measures in this respect, and in order to preserve the unity of the internal market these regulatory measures should be taken at Community level.
18. The treatment of end of life vehicles could represent a powerful source of economic profits if appropriate measures are taken, particularly at Community level, to encourage the development of infrastructure for the collection and recycling of the non-metallic fractions. The cost connected with the recycling of plastic components, which is one of the causes of reduced profits for the industry of end of life vehicle recovery, would be reduced as this infrastructure is set up and markets for the use of recycled materials are developed.

III. The Fifth Action Programme

19. The Community programme of policy and action in relation to the environment and sustainable development ("Fifth Action Programme") states that the achievement of sustainable development calls for significant changes in current patterns of development, production, consumption and behaviour. Furthermore, it advocates, in order *inter alia*, to reduce wasteful consumption of natural resources and to prevent pollution, the elaboration of concept of life-cycle management of products and processes, particularly in relation to waste management. Changes in the production of vehicles (in order to have vehicles which are easy to dismantle and recycle), in the behaviour of vehicle owners (in order to ensure that vehicles are handed over to authorized facilities) and of vehicle dismantlers/recyclers (in order to ensure that treatment operations are done by respecting the environment) are among the main objectives of this Proposal.

20. As regards waste management aspects, this Proposal aims at drastically reducing the final quantity of waste arising from vehicles, putting in practice the principle of prevention of the generation of waste.
21. More specifically, the "Fifth Action Programme" contains an entire chapter dedicated to waste management issues (section 5.7), in which end of life vehicles are mentioned as one of the normative target areas, in view of the application of the principles of prevention, recovery and safe disposal of waste.

IV. Environmental objectives

22. The environmental objectives of this Proposal are to protect soil, water and air from end of life vehicles treatment operations, to avoid of the generation of waste and to reduce the harmfulness of waste from vehicles for the environment. These broad environmental objectives are to be achieved by means of a wide range of measures, including measures on the design and production of less wasteful vehicles, on the collection of end of life vehicles, on treatment of end of life vehicles in view of their re-use and recovery. A further objective is to reduce the risks of non-recoverable wastes being shipped from Member States with high environmental requirements to countries with lower requirements.
23. Most of the environmental problems generated by end of life vehicles derive from the fact that vehicles are not designed and produced with a view to their dismantling, recycling and recovery. Therefore there is a need in this Proposal for provisions which have a direct influence on the way new vehicles will be designed and produced in the future.

V. Internal market and economic objectives

24. The main objective to be achieved in this respect is to establish a coherent approach to end of life vehicle management between Member States. The current situation creates several problems. Firstly, although different conditions for waste recovery and disposal are not *per se* to be considered necessarily distortions of the internal market, the cost of treatment of end of life vehicles varies to such an extent, due to different technical requirements in the Member States, that competition between economic operators in the internal market is distorted. Secondly, technical barriers to trade may arise from different management systems. The conditions for discarding of end of life vehicles in one Member State may not be possible to be complied with by vehicles imported from another Member State. It is desirable to set up a Community regulatory framework, since in the absence of Community legislation, technical regulations which hinder the internal market are forbidden, except when they are justified by mandatory requirements (such as environmental protection), do not discriminate towards imported products and are proportionate to the objectives to be achieved. Thirdly, the presence of different policies of Member States concerning waste management and in particular the recovery of end of life vehicles, implying different costs, could, in certain conditions, hamper the effectiveness of national recycling policies, as end of life vehicle trading induced through cost differentials could occur (this is already happening today in certain Member States).

25. From the economic point of view, the non recovery of an important fraction of end of life vehicles is also a net loss, and valuable resources are wasted. It has been estimated that several thousands of new jobs could be created by setting up the infrastructure necessary to comply with the objectives of this Directive. More detailed information on this point is provided in the business impact statement.

VI. Economic assessment

26. There are several environmental benefits related to the establishment of a system which will ensure a safe treatment and recovery of end of life vehicles.
27. First, shredding residues from vehicles amount to approximately 2 million tonnes/year of waste. This is equivalent to 10% of the total hazardous waste produced yearly in the EU. Shredding residues are classified as hazardous by the waste shipment Regulation (259/93) and many of the elements contained in it are classified as hazardous by the Basel Convention. Shredding residue is also now being considered for inclusion on the EU hazardous waste list (Council Decision 94/904/EC). The disposal of shredding residues is a major source of contamination of soil, water and air. End of life vehicles contribute to 60.3% of the total shredding residues. Reducing the quantity and the hazardousness of shredding residues coming from end of life vehicles therefore will have a considerable positive impact on the total generation of shredding residues and therefore on the environment. Secondly, the proposal will help avoid the contamination caused by vehicles being dumped in nature and soil and water contamination by dismantling and shredding operations. In particular, shredding activities release toxic substances into the environment (PCBs, heavy metals). Thirdly, reducing the amount of waste will also result in saving landfill capacity. According to the new Proposal for a Directive on the landfill of waste, co-disposal of hazardous with non-hazardous waste will be prohibited, therefore landfill capacities for hazardous waste will decrease. Fourthly, better energy savings will follow from this Directive. The advantages of recycling over disposal and incineration with energy recovery have been clearly shown by a several studies. In particular, a study by Delft University comparing recycling and energy recovery of the plastic fraction of end of life vehicles showed that ten times more energy is saved by recycling than by performing energy recovery. This is mainly because, by incinerating plastics only a small part of its intrinsic energy can be used to produce electricity, whereas a large quantity of energy is necessary to manufacture a new component. This energy is saved when components are recycled instead of incinerated.
28. The achievement of higher recycling targets will create new jobs, mainly in the dismantling industry. Dismantling is a labour intensive industry, made up of small and medium-sized enterprises. According to Dutch sources (Auto Recycling Nederland BV), the Directive will immediately create between 10 000 to 15 000 additional jobs. Transport and recycling activities related to ELV management are also likely to create further new jobs. German sources (ADA - Association of vehicle recyclers) estimated that 100 000 additional jobs could be created in the EU.

29. The costs associated with the Proposal relate primarily to the establishment of the necessary infrastructure and industrial schemes to ensure the compliance with the objectives of the Directive. The present experience shows, however, that the proposed targets for re-use, recovery and recycling of end of life vehicles are technically and economically feasible.
30. It will naturally take time before the recycling industry for end of life vehicles is fully developed. At this initial stage therefore the degree of economic viability will depend on case-specific conditions. However projects, undertaken by several producers show that the targets proposed for the year 2005 are already economically viable today. Targets for 2015 will become viable in the future along with to the development of innovative environmentally friendly materials and design of vehicles and in pace with the development of markets for recyclates. In this respect, several producers have already started to use recyclates for the manufacturing of new vehicles.

VII. Situation in the Member States

31. Following the work of the Project Group in the context of the "Priority Waste Streams Programme", or in parallel with this work, economic operators in some Member States have committed themselves, or reached agreements with national authorities, in order to improve the environmental situation in relation to the management of end of life vehicles. Some of these agreements were formalized before the Project Group delivered its recommendation to the Commission. Broadly speaking, three different groups of Member States can be identified: those where end of life vehicles are not addressed by specific action; those where economic operators took the initiative on their own to improve the situation; and those where economic operators concluded with government agreements which are backed by (existing or *in fieri*) legislation.
32. The systems set up in the different Member States to reduce the disposal of waste from end of life vehicles vary considerably as regards their content, the year of achievement of the targets, the period of time covered and the nature of the commitments. Therefore they have to be brought in line with a European Framework, so that overall waste management costs can be reduced, the internal market for vehicles is not disrupted and trade and competition distortions will not arise.
33. The German initiative aims at a reduction of end of life vehicle disposal to 15% by 2002 and 5% by 2015. The Italian initiative aims at recovering 85% of vehicles weight by 2002 and 95% by 2010. Industry in France and Spain aims at ensuring that, by 2002, new models may be reprocessed to generate final waste not exceeding 10% of the total vehicle weight, but this depends on the state of reprocessing techniques and their cost-effectiveness when new models are marketed and is based on the assumption that sufficient progress will have been made in these techniques by that time. The Austrian industry aims at 80% recycling and 95% recovery, but it is not specified by which year these targets should be attained. The Dutch industry agreed to re-use/recycle 86% by 2000. Industry in the United Kingdom aims at reducing the automobile shredder residues by 40% by 2002 and 80% by 2015.

34. The German agreement will come into effect only after complementary legislation is adopted. The Austrian agreement came into effect in January 1996 and covers an unlimited period of time. In France and Spain the agreements cover a period up to the year 2000. No date of this kind is included in the British agreement. In the Netherlands, legislation on the fee to be paid when a new vehicle is purchased is valid until January 1998.
35. Except in a few cases, take-back schemes are either not included at all in the national agreements or do not have any significant content. The Netherlands and Sweden set up systems which are based on fees paid when the new vehicle is purchased and premiums paid to recyclers and which provide for a free of charge take back scheme. These are the only two cases of take-back schemes backed by national legislation. In Italy FIAT has set up a system which allows for free of charge take-back of end of life vehicles. German industry agreed to take back free of charge only end of life vehicles which are more than 12 years old, provided a number of other conditions (such as that the vehicle must have been intended for the German market or have been admitted in Germany at least six months before being discarded and that the vehicle complies with certain technical requirements set out by the industry itself) are met. In Austria vehicle owners are entitled to free take-back only if a new vehicle is purchased at the same time. In France, the United Kingdom and Spain this issue is not addressed.
36. In the Netherlands and in Germany the systems are meant to function only if accompanied by complementary legislative measures. In Italy the need for an intervention of public authorities is directly advocated by the industry, which recognizes that, in order to extend the work carried out as pilot projects at national scale, the support of public authorities is indispensable. Swedish authorities are preparing legislation introducing producer responsibility for end of life vehicles. Belgian authorities are also working on a legislative Proposal in line with the existing Dutch model.
37. Finally, considerable differences exist also as regards the control mechanisms set up to monitor the results of the national initiatives and it is in general unclear which party is in charge of monitoring progress towards reaching the various commitments.
38. These activities certainly represent an improvement with respect to the past. Their results should therefore be preserved and further encouraged. However, the results achieved to date with the above-described initiatives in the end of life vehicle sector are not sufficient to confront the environmental and the internal market dimension of the problems. This is also a consequence of the fact that, none of the voluntary agreements include measures which, by nature, require the intervention of legislators (for example the certificate of destruction for deregistrating vehicles and the permit requirements for treatment facilities). None of the agreements are able to ensure that the envisaged quantified targets will be met, and the other commitments complied with. Also the problem of "free-riders" cannot be solved by the agreements. Finally, voluntary actions have been started only in a number of Member States (in particular those where vehicles are produced), and there is no evidence that similar actions will be started in the other Member States in a reasonable period of time.

VIII. Developments at international level

39. End of life vehicles are also considered by the OECD as one of the priority areas for action in order to minimize waste. A working group on this waste stream was set up and its report discussed at an international Seminar held in Washington in March 1995. Most of the measures advocated by the Project Group set up by the Commission are also present in the OECD report: reduction of hazardous components in new vehicles, reduction of non-recyclable components, re-use, recycling and other forms of recovery (in particular by decreasing the number of polymers in plastics and by marking components as to facilitate the dismantling of end of life vehicles). Among the possible political orientations, the OECD report lists the maximum re-use of re-usable components, the maximum recycling of metals and plastics and the reduction of pollution generated by treatment operations. Among the options to be taken into account to achieve these objectives, the report mentions recycling standards, market incentives, levies and taxes. The report has also recognized the need to take into account the risk of generating market distortions in developing national strategies on end of life vehicles.
40. Most of the elements contained in this Proposal intended to encourage the widespread development of recycling are also advocated by the US Environmental Protection Agency. In particular, the EPA has identified the following strategies to promote the recycling of the plastic fractions of end of life vehicles: promote "design-for-dismantling" and "design for recycling", develop collection infrastructure; promote economical dismantling methods, particularly improving the systems for the identification of recyclable materials; encourage "fair" competition between raw materials and recycled materials. It is doubtful however how these strategies could achieve any results if not implemented via legislative measures.
41. The issue of recycling of end of life vehicles has also been considered a priority in Japan, where in 1990 a law for the promotion of use of recycled resources, applying in particular to automobile and household appliances industries, was passed. In addition, in October 1996 the Ministry for international trade and industry (MITI) drew up a set of quantified targets for the recycling of end of life vehicles (85% by 2002 and 95% by 2015). MITI also called for a drastic reduction of the use of lead in new vehicles.

IX. Subsidiarity and proportionality

What are the objectives of the action envisaged in relation to the obligations of the Community?

42. The Proposal seeks to deal with the problems of end of life vehicles. Thus, measures aimed at prevention should lead to improvement of the design of vehicles with a view to their recycling and recovery. Member States will introduce a certificate of destruction which can only be handed over to the last holder and/or owner by an authorized treatment operator. Hence, it should allow authorities to control the destiny of end of life vehicles. This certificate and the establishment of take back schemes should also encourage the last owner/holder to hand over the end of life vehicle to an authorized facility. The Proposal introduces authorization schemes and requirements for both treatment facilities and treatment operations in order to ensure that end of life vehicles are treated in an environmentally sound way. Targets for re-use/recycling and recovery and provisions on coding, standardization and

information aim to encourage all economic operators involved to avoid disposal of waste from end of life vehicles which might be suitable for more appropriate waste management alternatives, such as re-use and recycling.

43. By focusing on a vehicle once it has finished its useful life, the Proposal provides a balance with a view to measures which until now focused in particular on emission control. Indeed, actions taken to combat air pollution tend to encourage the use of lighter material, in particular plastic components instead of metal, in order to reduce weight and thereby consumption. This shift of materials has a direct impact on the management of end of life vehicles.
44. The above objectives are fully in line with the obligations of the Community to provide its citizens with a high level of environmental protection within the framework of the internal market.
45. The different situations in the Member States related to end of life vehicles have a considerable impact on the internal market. High requirements concerning the treatment of end of life vehicles result in competition distortions in the recycling sector and in export of vehicles to Member States where no or lower requirements exist. Shipments between Member States and exports to third countries, in particular Central and Eastern European countries, jeopardize considerable investments in treatment facilities which operate on a higher level of environmental protection. No targets or different targets on re-use, recycling and recovery of end of life vehicles as well as no or different take-back schemes exacerbate this situation.

Does the measure fall within the exclusive competence of the Community or is competence shared with the Member States?

46. Measures adopted in the field of environmental protection fall under competence of both the Community and the Member States. Measures aimed at harmonizing legislation in view of the functioning of the internal market are of exclusive competence of the Community, although measures taken at national level may have strong effects on the internal market as well. Therefore this Proposal touches a field of shared competence between the Community and Member States. In the case of end of life vehicles, in consideration of the strong integration between market-related aspects and environment-related aspects, no measure taken at national level could reach the same objectives and be as effective as a measure taken at Community level.

Subsidiarity test

47. The objectives of this Proposal cannot be adequately achieved by the Member States on their own. There is no evidence that all Member States will take the appropriate measures to deal with end of life vehicle problems. Voluntary initiatives from vehicle producers are being introduced mainly in Member States where these producers are located and these initiatives are far from being sufficient to confront the above-described problems. Even if all Member States decided to take action, it would still be necessary to ensure coherence of the national approaches. This Proposal should provide the necessary framework to ensure such coherence in terms of the design and production of vehicles with a view to recovery, the conditions for discarding of end of life vehicles, the conditions for treatment facilities and the treatment operations, the re-use, recycling and recovery targets. The experience

gained so far by national initiatives (both regulatory and voluntary) and the present situation in relation to the management of end of life vehicles in the Member States indicate that it is essential to introduce such a framework.

48. As highlighted in chapter II, end of life vehicles are a problem of Community-wide dimension. Different requirements concerning collection, treatment and recovery create incentives for export of end of life vehicles to Member States with less stringent environmental requirements. Therefore EU-wide action needs to be taken in order to avoid any distortion of the market and to make environmental protection more effective.

Proportionality test

49. The Proposal focuses exclusively on the key elements for actions to be taken with regard to end of life vehicles, such as prevention, collection, treatment and recovery, coding standards, dismantling manuals and information. It also sets up only basic obligations concerning the relevant issues. These obligations are fully proportionate to the objectives of the Proposal. It is proposed to enshrine these obligations in a Directive.
50. The Directive is an appropriate legal instrument when objectives/targets are to be set at European level, while the means to achieve them are left to Member States. A binding instrument is necessary, in particular to provide economic operators with a clear picture of the obligations which they will have to comply with and to stimulate long-term investments in the field. On the other hand, there must be some flexibility in the choice of the means to achieve the objectives, which can only be found in a Directive.
51. A European-wide agreement is not considered to be a viable option in consideration of the fact that the Community has no direct competence for this kind of agreement. In addition, the effective implementation of a Community-harmonized strategy requires to be monitored in the Member States by national authorities, which must therefore be involved in the legislative process before any obligation is introduced.

X. Legislative and administrative simplification

52. The legislative and administrative burden arising from this Proposal is limited to the strict necessity to achieving its objectives. As with any other Directive, Member States will have to take the necessary measures to ensure that its objectives are complied with. The administrative consequences of the Directive relate mainly to the permit requirement for operators of treatment facilities, to the issuing of the certificates of destruction and to the monitoring process. However, the requirement relating to permit already exists in Community waste legislation (Directive 75/442/EEC) as well as in the national legislative and administrative measures adopted in order to comply with Community legislation. The Proposal only excludes the possibility to be exempted from the existing permit requirement. Therefore the Proposal on end of life vehicle does not add new administrative burdens for treatment facilities. However, Member States will have to take measures to comply with the requirements relating to the certificate of destruction and to monitoring. In addition, certain additional obligations will need to be fulfilled by economic operators (e.g. on recycling and recovery of vehicles, collection of end of life vehicles, dismantling manuals, publication of information).

XI. Imports from third countries

53. The provisions of this Proposal apply to all end of life vehicles on the EU market, independently from where the vehicles have been manufactured. The definition of "producer" (which includes professional importers), allows Member States to transfer to importers the responsibilities arising under the Proposal for manufacturers of vehicles, in the case of vehicles imported from other Member States as well as from third countries.

XII. Consistency with other Community policies

54. The objectives of the Proposal are fully in line with the Treaty requirements for environmental protection and the rights of consumers. They are also in line with the requirements of the internal market, such as the elimination of obstacles to the free movement of goods and services as well as the elimination and prevention of distortions of competition. This Proposal also takes account of industrial policy and the common transport policy.

XIII. Consultation of stake holders

55. This Proposal results from extensive consultation with the authorities of the Member States, all the concerned economic operators (vehicle producers, material suppliers and converters, end of life vehicle dismantlers, recyclers and other waste management operators, small and medium-sized businesses organizations) as well as environmental and consumer organizations.

XIV. Legal basis

56. In consideration of the fundamental objective of the Proposal, which is to ensure a high level of environmental protection in the Community, the Proposal is based on Article 130 S paragraph 1 of the Treaty.

XV. Data/scientific basis

57. The Proposal is based on data which has been collected in an "Information Document" by the French *Agence de l'Environnement et de la Maitrise de l'Energie*. This document was produced in 1994 for the end of life vehicles project group in the context of the "Priority Waste Streams Programme" and was updated in June 1996 by the *Institute for European Environmental Policy*. A number of other studies and reports have been used in order to prepare this Proposal, in particular a study by *SOFRES* on recovery of plastic wastes from end of life vehicles, and a study on recycling of vehicles done by the *Institute for Prospective Technological Studies*, in the context of the Task Force "Car of Tomorrow".

Contents of the Proposal

Article 1: Objectives

The Directive aims firstly at ensuring a high level of environmental protection in the whole EU territory and secondly at preserving the functioning of the internal market as regards end of life vehicles. It seeks to prevent the creation of waste from vehicles and to promote re-use, recycling and recovery of vehicles and their components in order to reduce the quantity of end of life vehicles waste which is landfilled or incinerated without energy recovery. An improvement of the environmental performance of treatment operators is also envisaged.

In order to prevent the generation of waste, waste management concerns have to be fully taken into account from the vehicle design or conception phase onwards. To be effective, this implies that action is necessary at all stages of the vehicle life-cycle, from production through use to collection, re-use, recycling and final disposal. Economic operators will be responsible for contributions to the protection, preservation and improvement of the quality of the environment. In this respect the vehicle manufacturer plays a predominant role, since he takes key decisions concerning the waste management potential of his product, such as design, conception, use of specific materials, composition of the product and finally its marketing.

Article 2: Definitions

Most of the definitions in this Proposal copy, or are inspired by definitions which already exist in Community legislation, in particular Directive 75/442/EEC on waste as amended by Directive 91/156/EEC and Directive 94/62/EC on packaging and packaging waste.

The definition of vehicle has been taken from Directive 70/156/EEC, as amended, on type-approval of motor vehicles and their trailers. For the purpose of this Proposal, however, only vehicles designated as category M1 (vehicles used for the carriage of passengers and comprising no more than eight seats in addition to the driver seat), N1 (vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes), as well as two and three wheel motor vehicles have been considered.

A vehicle which falls under the Community definition of waste as defined in Article 1(a) of Directive 75/442/EEC on waste is to be considered an "end of life vehicle".

Article 3: Scope

All vehicles and end of life vehicles designated as category M1 or N1 defined in Annex II(A) to Directive 70/156/EEC as amended by Directive 96/27/EC and two or three wheel motor vehicles as well as their components are covered by this Proposal, which applies without prejudice to existing Community legislation (and its corresponding transposition measures into national legislation), in particular as regards safety standards, air emission and noise controls. However, two and three wheel motor vehicles as well as special purpose vehicles are excluded from the provisions of Articles 4 and 7 of this Directive.

Article 4: Prevention

In order to achieve the general waste reduction objective laid down in Article 1, preventive measures are essential. Thus producers, as well as material and equipment manufacturers shall control the use of hazardous substances if possible as from the conception stage of the new vehicles. Controlling the use of hazardous substances shall prevent their release into the environment, facilitate dismantling and recycling, and avoid disposing of hazardous waste.

The concept of "design-for-dismantling" and "design-for recycling" shall be taken into account fully by producers during the design and production phases of new vehicles. Furthermore, the use of recycled materials in vehicles and in other products shall be encouraged, so as to promote the development of markets for recycled materials and ensure that recycling is profitable. Because of their widely-recognized toxicity, lead (except lead used as solder in electronic circuit boards), mercury hexavalent chromium and cadmium contained in vehicles put on the market after a transitional period will have to be prevented from being shredded in shredder vehicles and from being disposed of to landfill or installations incinerating wastes, including cement kilns and any other installation co-incinerating wastes.

The Commission will consider the scientific evidence concerning PVC and, if necessary, will make appropriate proposals to take such evidence into account. This because the disposal of PVC through incineration (both with and without energy recovery) poses major problems. In comparison to other polymers, PVC has a lower heat value (15.4 MJ/Kg against 36.7 of polyethylene) and a higher content of chloride (which amounts to 47% of PVC and it is almost absent in other polymers). This makes incineration of PVC less attractive in terms of energy gain and very costly, since chloride generates hydrochloric acid and may generate dioxins (depending on the combustion temperature) and therefore requires more sophisticated and expensive systems for the treatment of flue gases. The incineration of one Kg of PVC generates between two and five Kg of hazardous wastes (residues of flue gas treatment). The incineration cost of mixed plastics (including 11% PVC) has been estimated at being in a range of ECU 20 to 49/t. but skyrockets to ECU 240 to 400/t. for PVC alone. The substitution of PVC with other materials is technically possible but at a higher cost, which varies between ECU 25 and 100. In addition high concentrations of dioxins and hydrochloric acids are generated when PVC is subject to accidental fires.

Article 5: Collection

Collection is important to avoid the contamination of the environment. It is estimated that today 5 to 7% of vehicles are abandoned in the environment or escape the control of public authorities.

Furthermore, the profitability of end of life vehicle recovery operations depends largely on the availability of collection infrastructure for the end of life vehicles and for the materials contained in the end of life vehicles.

A first step to ensure that the objectives of this Proposal can be achieved is to set up an adequate collection system for vehicles which reach their end of life phase. The responsibility to set up such a system will not fall on public authorities, but on the economic operators of the automotive chain. Such a system shall be completed by a

"certificate of destruction", which is a condition for deregistration of the vehicles from national registers and relief from corresponding obligations (e.g. taxes).

This certificate may be released only by treatment facilities with a permit which ensures that they fulfil the necessary environmental protection requirements when vehicles are treated. The certificate of destruction, coupled with the permit requirement for treatment operators, is intended to ensure that the management of end of life vehicles occurs according to certain commercial, administrative, fiscal and environmental standards. The certificate of destruction will only be issued when the vehicle is discarded and consequently becomes waste. It does not affect the normal sale of vehicles.

In order to encourage the proper discarding of end of life vehicles and to apply the polluter-pays principle, last owners and/or holders shall, after a transitional period, be able to claim from producers (through the vehicle dealers - meaning any dealer of the same vehicle make) reimbursement of any cost incurred in transferring his vehicle to an authorized treatment facility, unless the dealer decides to take-back the end of life vehicle at no cost for the last user and/or owner. This will give an incentive to producers to increase the recyclability and recoverability of their vehicles, so that the risk of end of life vehicles ending up with a negative market value can be reduced. The Commission will regularly monitor the implementation of this provision in order to ensure that it does not result in market distortions and will, if necessary, propose appropriate measures to the Council.

In order to facilitate the circulation of vehicles in the internal market, it is necessary for Member States to mutually recognize and accept the certificate of destruction issued in other Member States. The Commission will draw up, in accordance with the appropriate Committee procedure, the minimum requirements for the certificate of destruction.

Article 6: Treatment

This provision lays down the requirements which have to be respected in order to ensure that the storage and/or treatment of end of life vehicles is done without endangering the environment and the functioning of the internal market.

In order to allow public authorities to carry out the necessary control on end of life vehicle storage and treatment operations, such operations will be excluded from the possibility to be exempted from obtaining a permit. This possibility exists presently under Directive 75/442/EEC which covers all establishments and undertakings dealing with waste.

In addition authorized treatment facilities must carry out a number of operations related to the correct de-pollution and removal of parts in order both to prevent environmental pollution and to promote the re-use and recycling of end of life vehicles and their components. This applies in particular to components such as batteries, tyres, oils and other fluids which enter particular waste streams. More detailed technical requirements are laid down in the Annex and relate both to sites for storage, including temporary storage, and to sites for treatment.

Article 7: Re-use and recovery

The re-use and recovery targets reflect the recommendations proposed by the project group in the context of the "Priority Waste Streams Programme". However, they are expressed as minimum re-use/recovery targets rather than maximum disposal targets. This is a consequence of the importance given to recycling, in comparison to the other forms of recovery, as it was also chosen as regards the recently adopted Directive 94/62/EC on packaging and packaging waste. Moreover, all environmental gains can be obtained by recycling the material contained in end of life vehicles than by recovering energy through incineration. From an energy perspective, net savings connected with material recycling of automotive plastics are ten times higher than the net gains obtained by incineration with energy recovery. From a joint environmental and economic perspective, the recycling of combustible components such as bumpers, seat-fillers, dashboard and tyres has been shown to be preferable to the incineration with energy recovery of such components.

This provision also aims at applying the hierarchy between relevant types of treatment of waste as reflected in the 1996 review of the Community Strategy for Waste Management, which states that recycling should be preferred to other forms of recovery when environmentally viable. Although the recommendation of the Project Group is less explicit in this respect, it recognizes that recycling of materials is a priority in relation to energy recovery. Quantified targets for the re-use/recovery of end of life vehicles are 85% by weight per vehicle by 2005 and 95% by 2015; for the re-use/recycling of end of life vehicles they are 80% by weight per vehicle by 2005 and 85% by 2015. Targets for beyond 2015 will have to be set at a later stage. These targets will ensure that concrete results are achieved and properly monitored. The responsibility to achieve these targets lies with the economic operators of the automotive chain.

Since at present 75% of end of life vehicles are already recycled (the metallic fractions), this provision requires another 10% of the vehicle (plastics, glass, ceramics, textiles and other fibres, paint etc. - at present either landfilled or incinerated) to be re-used/recovered by 2005 and another 20% by 2015.

The recycling rate of vehicles present today on the market can be rapidly increased, up to 80%, by means of recycling of glass and of the large plastic components (e.g. bumpers, seat foams). Further increases of the recycling rate will depend mainly on how the design of new vehicles will take recycling aspects into account and on market outlets for the recycled materials. In this respect, the use of shredding residues in civil engineering works would be a possibility. Also the development of integrated treatment centres (i.e. centres where depollution, dismantling, shredding and treatment of shredding residues takes place on the same site) will allow substantial increases of the re-use, recycling and recovery rate of end of life vehicles.

There are examples in the EU which show the feasibility of the proposed quantified targets. In one case a recycling rate of 85% has already been achieved, and recyclates made out of the non-metal fractions are reintroduced in the market under the form of, *inter alia*, components for new vehicles, bottles and carpet underlay. The profitability of recycling of plastic components largely depends on the time necessary to dis-assembly the vehicle. In this context, coding standards and dismantling manuals play a fundamental role.

In order to facilitate the achievement of the quantified targets, new vehicles produced after the transitional period will be re-usable and recoverable to a minimum of 95% by weight per vehicle and re-usable and recyclable to a minimum of 85% by weight per vehicle. This is to be achieved by amending Directive 70/156/EEC on the type-approval of vehicles, so that it can be ensured that the compliance with this provision will not lead to the introduction of national requirements which could endanger the harmonization reached in the car sector via the type-approval Directive.

Components re-usable as second-hand components (within the respect of the corresponding rules on safety) will as far as possible be re-used. Where this is not possible, they will be recovered and preferably recycled, when environmentally viable.

This provision seeks to give a reasonable incentive to increase the re-use of spare parts and to develop recycling techniques in preference to other forms of recovery such as incineration in cement kilns or in steel plants. It takes into account that for some fractions of the end of life vehicle (in particular light plastic shredding residues), energy recovery may be, under certain conditions, an effective solution both on environmental and economic grounds.

Article 8: Coding standards and dismantling manuals

One of the most promising techniques for facilitating the recycling of end of life vehicle fractions lies in the development of marking methods, since this will facilitate the identification materials and components during dismantling operations. Most vehicle producers are already developing these methods. To further facilitate this process, the Commission will promote, if required, the preparation of European standards relating to the identification and codification of end of life vehicle materials and components.

Since vehicle treaters, in particular dismantlers, should know where hazardous substances are located in the vehicle and how to dismantle the vehicle in order to ensure a maximum potential for re-use, recycling and recovery, the Proposal imposes the obligation on producers to provide dismantling manuals to treatment facilities.

Article 9: Information

In order to monitor the implementation of this Proposal, data on end of life vehicles will be collected and forwarded to the Commission. This Article establishes that apposite data-base formats should be adopted according to the procedure referred to in Article 13. To ensure that consumers contribute actively to the achievement of the objectives of this Proposal, producers will provide vehicle users and other interested parties with information on the re-use, recycling and recovery rate achieved for their vehicles and components in the previous year. This information will have to be verified by Member States.

Article 10: Reporting obligation

This Article provides a three-yearly reporting obligation for Member States, in line with similar reporting requirements adopted in other Community legislation in the field of waste.

Article 11: Implementation

The laws, regulations and administrative procedures necessary to comply with the Directive shall enter into force before [18 months after the entry into force of the Directive].

Article 12: Committee procedure

In order to adapt the contents of the Annex to technical progress as well as to adopt the formats which lay down minimum requirements for the certificate of destruction under Article 5(3) and the formats relating to the database system under Article 9, the Commission will be assisted by the Committee established by Article 18 of Directive 75/442/EEC on waste.

Annex

The Annex contains the technical requirements for storing and treating end of life vehicles. They seek to ensure that contamination of the environment is avoided, in particular by providing apposite impermeable surfaces and storage areas for the different components of end of life vehicles.

**Proposal for a
COUNCIL DIRECTIVE**

on end of life vehicles

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130s(1) thereof,

Having regard to the proposal from the Commission²,

Having regard to the opinion of the Economic and Social Committee³,

Acting in accordance with the procedure laid down in Article 189c of the Treaty in cooperation with the European Parliament,

Whereas the different national measures concerning end of life vehicles should be harmonized in order, firstly, to prevent any impact of end of life vehicles on the environment, thus contributing to the protection, preservation and improvement of the quality of the environment and energy conservation, and, secondly, to ensure the functioning of the internal market and avoid restrictions of competition in the Community;

Whereas in accordance with the principle of subsidiarity, a Community wide framework is necessary in order to ensure coherence between national approaches in attaining the objectives stated above, particularly with a view to the design of vehicles for recycling and recovery, to the harmonized requirements for collection and treatment facilities, and to the attainment of the targets for re-use, recycling and recovery;

Whereas in order to implement the precautionary and preventive principles and in line with the Community strategy for waste management, the generation of waste must be avoided as much as possible;

Whereas it is a further fundamental principle that waste should be re-used and recovered, and that preference be given to recycling;

Whereas, in accordance with the polluter-pays principle and in order to implement the principle of producer responsibility, collection and recovery of end of life vehicles should no longer be a responsibility of public authorities and should be shifted to economic operators;

Whereas this Directive should cover vehicles and end of life vehicles, including their components and materials, without prejudice to safety standards, air emissions and noise control;

² OJ No C

³ OJ No C

Whereas this Directive should be understood as having borrowed, where appropriate, the terminology used by several existing directives, namely Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances⁴, as last amended by European Parliament and Council Directive 96/56/EC⁵, Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers⁶, as last amended by European Parliament and Council Directive 97/27/EC⁷ and Council Directive 75/442/EEC of 15 July 1975 on waste⁸, as last amended by Commission Decision 96/350/EC⁹;

Whereas it is important that preventive measures be applied from the conception phase of the vehicle onwards and take the form, in particular, of reduction and control of hazardous substances in vehicles, in order to prevent their release into the environment, to facilitate recycling and to avoid the disposal of hazardous waste;

Whereas the requirements for dismantling, re-use and recycling of end of life vehicles should be integrated in the design and production of new vehicles;

Whereas the development of markets for recycled materials should be encouraged;

Whereas certain heavy metals should not enter shredding residue nor be incinerated nor landfilled;

Whereas PVC is a material commonly present in end of life vehicles; whereas the Commission will consider the evidence regarding the environmental aspects relating to the presence of PVC in waste streams; whereas, on the basis of this evidence, the Commission will review its policy regarding the presence of PVC in waste streams and will come forward with proposals to address problems which may arise in this regard; whereas this is justified on environmental or health grounds;

Whereas, in order to ensure that end of life vehicles are discarded without endangering the environment, appropriate collection systems should be set up;

Whereas a certificate of destruction, to be used as a prerequisite for the de-registration of vehicles, should be set up;

Whereas collection and treatment operators should be allowed to operate only when they have received a permit;

⁴ OJ No 196, 16.8.1967, p. 1.

⁵ OJ No L 236, 18.9.1996, p. 36.

⁶ OJ No L 42, 23.2.1970, p. 1.

⁷ OJ No L 233, 25.8.1997, p. 1.

⁸ OJ No L 194, 25.7.1975, p. 39.

⁹ OJ No L 135, 6.6.1996, p. 32.

Whereas last owners and/or holders should not bear the costs arising from end-of-life vehicles having negative market values; whereas producers should be given incentives to increase the recyclability and recoverability of vehicles so that end of life vehicles do not have negative market values; whereas the normal functioning of market forces should not be hindered;

Whereas it is important to set out requirements for treatment operations, in order to prevent any negative impact on the environment and to avoid the emergence of distortions in trade and competition;

Whereas, in order to achieve results in the short term and to give operators, consumers and public authorities the necessary perspective for the longer term, quantified targets for re-use, recycling and recovery to be achieved by economic operators should be set out;

Whereas producers should ensure that vehicles are designed and manufactured in such a way as to allow the quantified targets for re-use, recycling and recovery to be achieved; whereas to this end the Commission will come forward with appropriate proposals in the context of the whole set of European vehicle type-approval Directives and will promote the preparation of European standards;

Whereas Member States should ensure that in implementing the provisions of this Directive competition is preserved, in particular as regards the access of small and medium-sized enterprises to the collection, dismantling, treatment and recycling market;

Whereas in order to facilitate the dismantling and recycling of end of life vehicles, vehicle manufacturers should provide treatment facilities with dismantling manuals; vehicle manufacturers and material producers should use common component and material coding standards; whereas, to this end, the preparation of European standards, where appropriate, should be promoted;

Whereas Community-wide data on end of life vehicles is needed in order to monitor the implementation of the objectives of this Directive;

Whereas consumers have to be adequately informed in order to adjust their behaviour and attitudes;

Whereas the provisions of this Directive should be implemented in a non-discriminatory manner, in conformity with international trade rules;

Whereas the adaptation to scientific and technical progress of the requirements set out for treatment facilities, as well as the adoption of harmonized standards for the certificate of destruction and of the formats for the database should be effected by the Commission under a Committee procedure,

HAS ADOPTED THIS DIRECTIVE:

Article 1 Objectives

This Directive lays down measures which aim, as a first priority, at the prevention of waste from vehicles and, in addition, at the re-use, recycling and other forms of recovery of vehicles and their components so as to reduce the disposal of waste, as well as at the improvement in the environmental performance of the treatment operators.

Article 2 Definitions

For the purposes of this Directive:

1. "Vehicle" shall mean any vehicle designated as category M1 or N1 defined in Annex II (A) to Directive 70/156/EEC and two or three wheel motor vehicles;
2. "End of life vehicle" is a vehicle which is a waste within the meaning of Article 1(a) of Directive 75/442/EEC;
3. "Producer" shall mean the vehicle manufacturer or the professional importer of a vehicle into a Member State;
4. "Prevention" shall mean measures aiming at the reduction of the quantity and the harmfulness for the environment of end of life vehicles, their materials and substances;
5. "Treatment" shall mean any activity after the end of life vehicle has been handed over to a facility for depollution, dismantling, shearing, shredding, recovery or disposal of the shredding wastes, and any other operation carried out for the recovery and/or the disposal of the end of life vehicle and its components;
6. "Re-use" shall mean any operation by which components of end of life vehicles are used for the same purpose for which they were conceived;
7. "Recycling" shall mean the reprocessing in a production process of the waste materials for the original purpose or for other purposes excluding the processing for use as fuel or as other means of generating energy;
8. "Recovery" shall mean any of the applicable operations provided for in Annex II.B to Directive 75/442/EEC;
9. "Disposal" shall mean any of the applicable operations provided for in Annex II.A to Directive 75/442/EEC;
10. "Economic operators" shall mean producers of materials and of vehicles, distributors, dismantlers, shredders, recoverers and recyclers;
11. "Hazardous substance" shall mean any substance which is considered to be dangerous under Directive 67/548/EEC;

12. "Shredder" shall mean any device used for tearing into pieces or fragmenting end of life vehicles.

Article 3

Scope

1. This Directive shall cover vehicles and end of life vehicles, including their components and materials.
2. This Directive shall apply without prejudice to existing Community legislation and relevant national legislation, in particular as regards safety standards, air emissions and noise controls.
3. Two- and three-wheeled motor vehicles as well as special-purpose vehicles as defined in the second indent of Article 4(1)(a) of Directive 70/156/EEC shall be excluded from the provisions of Articles 4 and 7 of this Directive.

Article 4

Prevention

1. Member States shall ensure that measures aiming at prevention are implemented. They shall, in particular:
 - (a) encourage vehicle manufacturers, in liaison with material and equipment manufacturers, to control the use of hazardous substances in vehicles and to reduce them as far as possible from the conception of the vehicle onwards, so as in particular to prevent their release into the environment, make recycling easier, and avoid the disposal of hazardous waste.
 - (b) promote the design and production of new vehicles which take into full account and facilitate the dismantling, re-use and recovery, in particular the recycling, of end of life vehicles, their components and materials.
 - (c) encourage vehicle manufacturers, in liaison with material and equipment manufacturers, to integrate an increasing quantity of recycled material in vehicles and other products, in order to develop the markets for recycled materials.
2. Member States shall ensure that lead, mercury, cadmium and hexavalent chromium contained in vehicles put on the market after 1 January 2003 is prevented from being shredded in vehicle shredders and from being disposed of as landfill or in any installation incinerating or co-incinerating waste, with or without energy recovery.

Lead used as solder in electronic circuit boards shall be exempted from the first subparagraph.

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. Member States shall ensure the availability and balanced allocation of collection facilities within their territory.
2. Member States shall take the necessary measures to ensure that as from 1 January 2000 all end of life vehicles are transferred to authorized treatment facilities.
3. Member States shall set up a system according to which a certificate of destruction is a condition for deregistration of the vehicle. This certificate shall be issued to the holder and/or owner when the end of life vehicle is transferred to a treatment facility. Only treatment facilities which have obtained a permit in accordance with Article 6 shall be permitted to issue a certificate of destruction.

Temporary deregistration without delivery of this certificate shall be permitted.

4. Member States shall ensure that any costs incurred by the last holder and/or owner at delivery of the vehicle to an authorized treatment facility in accordance with paragraph 3, as a result of the vehicle's having a negative market value, shall be reimbursable by the vehicle dealer acting on behalf of the producer, unless the dealer decides to take back the end of life vehicle at no cost to the last holder and/or owner.

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 Council an amendment hereto.

5. Member States shall take the necessary measures to ensure that competent authorities mutually recognize and accept the certificates of destruction issued in other Member States according to paragraph 3. To this end, the Commission shall draw up, not later than 30 June 1999 the minimum requirements for the certificate of destruction.

Article 6 Treatment

1. Member States shall take the necessary measures to ensure that all end of life vehicles are stored (even temporarily) and treated according to the general requirements laid down in Article 4 of Directive 75/442/EEC, and in compliance with the technical requirements set out in the Annex to this Directive, without prejudice to national regulations on health and environment.

2. Member States shall take the necessary measures to ensure that any establishment or undertaking carrying out treatment operations shall obtain a permit from the competent authorities, in compliance with Articles 9 and 10 of Directive 75/442/EEC. The derogation from the permit requirement referred to in Article 11(1) of that Directive shall not apply to operations concerning end of life vehicles covered by this Directive.
3. Member States shall take the necessary measures to ensure that any establishment or undertaking carrying out treatment operations fulfils at least the following obligations:
 - (a) End of life vehicles shall be stripped (by the removal of all fluids, tyres, batteries, air conditioning systems, air bags, catalysts and other hazardous components and materials) before further treatment or other equivalent arrangements shall be made in order to reduce any adverse impact on the environment. Components containing lead, mercury, cadmium and hexavalent chromium in vehicles put on the market after 1 January 2003 shall also be stripped before further treatment.
 - (b) Materials and components shall be removed and/or treated in a selective way so that shredder waste is not classified as hazardous waste.
 - (c) Stripping operations and storage shall be carried out in such a way as to ensure the suitability of vehicle components for re-use and recovery, and in particular for recycling.
4. Member States shall take the necessary measures to ensure that the permit referred to in paragraph 2 includes all conditions necessary for compliance with the requirements of paragraphs 1, 2 and 3.

Article 7 **Re-use and recovery**

1. Member States shall take the necessary measures to ensure that components suitable for re-use are re-used, that components which cannot be re-used are recovered and that preference is given to recycling when environmentally viable, without prejudice to safety requirements.
2. Member States shall take the necessary measures to ensure that the following targets are attained by economic operators:
 - (a) No later than 1 January 2005, for all end of life vehicles, the re-use and recovery shall be increased to a minimum of 85% by weight per vehicle. Within the same time limit the re-use and recycling shall be increased to a minimum of 80% by weight per vehicle.
 - (b) No later than 1 January 2015, for all end of life vehicles, the re-use and recovery shall be increased to a minimum of 95% by weight per vehicle. Within the same time limit the re-use and recycling shall be increased to a minimum of 85% by weight per vehicle.

3. On the basis of a proposal from the Commission, the Council shall establish targets for re-use and recovery and for re-use and recycling for the years beyond 2015.
4. In view of the responsibility of producers to ensure that vehicles are designed and manufactured in such a way as to allow the rates of re-use, recycling and recovery as set out in this Directive to be achieved by the economic operators concerned, the Council, on the basis of a proposal from the Commission, shall amend Directive 70/156/EEC so that vehicles type-approved in accordance with that Directive and put on the market after 1 January 2005 are re-usable and/or recyclable to a minimum of 85% by weight per vehicle and are reusable and/or recoverable to a minimum of 95% by weight per vehicle. To that end, the Commission shall promote, as appropriate, the preparation of European standards relating to the dismantlability, recoverability, and recyclability of vehicles.

Article 8

Coding standards/dismantling manuals

1. Member States shall take the necessary measures to ensure that producers, in concert with material and equipment manufacturers, use common component and material coding standards by 31 December 1999, in particular to facilitate the identification of those components and materials which are suitable for re-use and recovery.
2. The Commission shall promote, as appropriate, the preparation of European standards relating to the identification and codification of the components and materials referred to in paragraph 1.
3. Member States shall take the necessary measures to ensure that producers provide dismantling manuals by 31 December 1999 which identify, as far as it is needed by treatment facilities in order to comply with the provisions of this Directive, the different vehicle components and materials, and the location of all hazardous substances in the vehicles.

Article 9

Information

1. Member States shall take the necessary measures to ensure that data-bases on end of life vehicles and their treatment are established in order to enable Member States and the Commission to monitor the implementation of the objectives set out in this Directive. Data shall be provided on the basis of formats to be adopted by 30 June 1999. The data shall be made available with the national reports referred to in Article 10 and shall be updated in subsequent reports.
2. Member States shall require producers to publish information on the rates of re-use, recycling and recovery which have been achieved in the previous year for their vehicles and components. Such information shall be verified by Member States and made available to potential purchasers of vehicles.

Article 10 **Reporting obligation**

Member States shall report to the Commission on the application of this Directive in accordance with Article 5 of Council Directive 91/692/EEC¹⁰.

The first report shall cover the period [1999 to 2001].

Article 11 **Implementation**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 March 1999. They shall immediately inform the Commission thereof.

When Member States adopt these provisions, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by Member States.

2. Member States shall communicate to the Commission all existing laws, regulations and administrative provisions adopted within the scope of this Directive.

Article 12 **Committee procedure**

The Commission, assisted by the committee established by Article 18 of Directive 75/442/EEC, and according to the procedure laid down therein, shall:

- (a) adopt the amendment necessary for adapting the Annex to this Directive to scientific and technical progress;
- (b) adopt the minimum requirements, as referred to in Article 5(5), for the certificate of destruction;
- (c) adopt the formats relating to the database system referred to in Article 9.

Article 13 **Entry into force**

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Communities*.

Article 5(4) shall apply from 1 January 2003.

¹⁰ OJ No L 377, 31.12.1991, p. 48.

**Article 14
Addressees**

This Directive is addressed to the Member States.

Done at Brussels,

**For the Council
The President**

Technical requirements in accordance with Article 6(1)

1. Sites for storage (including temporary storage) of end of life vehicles prior to their treatment:

- Impermeable surfaces for appropriate areas with the provision of spillage collection facilities, decanters and cleanser-degreases
- Equipment for the treatment of water, including rainwater, in compliance with health and environmental regulations.

2. Sites for treatment:

- Impermeable surfaces for appropriate areas with the provision of spillage collection facilities, decanters and cleanser-degreases
- Appropriate storage for dismantled spare parts, including impermeable storage for oil-contaminated spare parts
- Appropriate containers for storage of batteries (with electrolyte neutralisation on site or elsewhere), oil filters and PCB/PCT containing condensers
- Appropriate storage tanks for end of life vehicle fluids: fuel, motor oil, gear box oil, transmission oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, battery acids, air conditioning system fluids and any other fluid contained in the end of life vehicle
- Appropriate storage for used tyres, including the prevention of fire hazards and excessive stockpiling
- Equipment for the treatment of water, including rainwater, in compliance with health and environmental regulations.

IMPACT ASSESSMENT FORM
THE IMPACT OF THE PROPOSAL ON BUSINESS

with special reference to small and medium sized enterprises (SMEs)

The Proposal

I. *Taking account of the principle of subsidiarity, why is Community legislation necessary in this area and what are its main aims?*

1. In order to counter the environmental impact caused by end of life vehicles, systems for the collection, dismantling and treatment of end of life vehicles are gradually appearing in the Member States. Some of these systems are based on voluntary initiatives from industry. In some Member States these initiatives are supplemented with legislation. The different situations in the Member States have a considerable impact on the functioning of the internal market and on the possibility to ensure a high level of environmental protection on the whole territory of the Union. These national initiatives, particularly those of a non-regulatory nature, are not sufficient to ensure among other things:

- coherence between the national approaches
- full participation of the actors (avoiding free riders)
- adequate sanctions in case of non-respect of commitments
- avoidance of technical barriers to trade and of distortions to competition
- legal certainty (including possibility to defend rights before national Courts).

2. There is no guarantee that, in the absence of a Community legislative framework, initiatives will be taken at national level in all Member States. The justification for a binding Community instrument follows from the nature of the system that this Proposal aims at setting up. The system comprises elements, such as the certificate of destruction, the authorization for treatment facilities and the enforcement of quantitative targets which by their nature require a legislative framework. Leaving the full initiative to the private sector, in order for it to set up a voluntary initiative throughout the EU, would not suffice to establish the above elements and would not allow for the necessary involvement of national public authorities. National authorities will be fully involved in the legislative procedure for the adoption of a binding Community instrument.

3. Also, it is clear that if national measures are not similar, trade and competition distortions are likely to occur, since dismantlers and recyclers in countries where requirements are less stringent will have a competitive advantage over those located in other countries and end of life vehicles will flow to "countries of convenience" where their discarding is easier and/or cheaper.

4. The Proposal seeks to lay down the basic objectives for an environmentally sound system for the management of end of life vehicles, whereas the means to achieve this objective is left to the responsibility of the Member States in accordance with the subsidiarity principle.

The impact on business

II. *Who will be affected by the Proposal?*

II.a *Which sectors of business*

5. Vehicles are composed of many different materials (e.g. steel, aluminium, plastics, glass, textiles, fluids, rubber, wood, paper and carton, paint) and components. Therefore, all sectors and branches which produce vehicles as well as materials and components will be affected. In addition to the sectors involved in the production of vehicles, sectors related to vehicle collection, dismantling, recovery and disposal will also be affected.

II.b *Which sizes of business (concentration of SMEs)*

6. Producers of vehicles are large enterprises with a high level of geographical concentration. However, a number of small and medium sized manufacturers, mostly involved in the construction of "kit cars", also exists.
7. Dismantlers are in general small enterprises based locally, whereas shredders and recyclers are medium to large enterprises with a regional concentration. Disposal of waste from vehicles is organized differently across the Member States, depending on national and even regional or local legislation.

II.c *Are there particular geographical areas of the Community where these businesses are found?*

8. Vehicle manufacturers are mainly located in Germany, France, Italy, the United Kingdom and Sweden. Significant assembly plants exist in Belgium, Spain and Portugal. Smaller operators exist in the Netherlands, Austria and Greece. Vehicle dismantlers are located in all Member States.

III. *What will business have to do to comply with the Proposal?*

9. The measure is addressed to the Member States. Business will have to comply with the national legislation which will implement this measure.
10. Business involved in vehicle manufacturing, including material producers, will have to include waste management considerations into the design and production of new vehicles, in order to reach the re-use/recovery and re-use/recycling targets laid down in Article 7 of the Proposal. These waste management considerations include the use of easily re-usable/recoverable materials, the control of hazardous substances, the use, where feasible, of recycled materials and of common component and material coding standards. New vehicles will also have to be easy to dismantle. This effort is the necessary cornerstone of a global strategy aimed at closing the cycle between vehicle production and waste generation.

11. Establishments and operators carrying out treatment operations shall also be required, in order to operate, to request an authorization from public authorities.

Enterprises involved in dismantling and treatment of end of life vehicles will have to fulfil a number of technical requirements laid down in Article 6 of the Proposal and the Annex. These requirements aim at ensuring firstly a high level of environmental protection and secondly fair conditions of competition in the internal market. Although it is difficult to predict precisely where investments will have to be concentrated across the sectors since there are vast differences in the structures and in the geographical location of the businesses, in some cases it is estimated that the investments to be made in order to comply with these requirements may be considerable. It has been estimated that where a process-certification has been initiated on a voluntary basis, the average initial investments of the dismantler amounts to 100,000 ECU. The real extent of these investments will also depend on whether national or regional legislation is already in place. Where such legislation exists, industry will more easily be able to comply with the requirements of the Proposal. It is important to note that the need for supplementary investments in the dismantling sector is fully recognized by dismantlers and accepted as a logical condition to bring this sector in line with the basic requirements of environmental protection and the internal market, and thus avoid the presence of "black spots" acting at the expense of society and of operators who comply with the requirements of the Proposal.

IV. *What economic effects is the Proposal likely to have? (in particular on employment, investment and the creation of new businesses)*

12. The existing economic situation in relation to the management of end of life vehicles is unsatisfactory. In Germany, for example, despite the existence of sufficient treatment facilities to treat all end of life vehicles originating on the German market, only a third of them remains in the country (800 000 out of 2 700 000). The export, in particular to Poland and the Netherlands, concerns mostly valuable vehicles, generally less than 12 years old. Therefore, only low value cars remain for local businesses. The German metal industry has in this way lost 1.5 million tons of potential raw material in 1995 and at the same time 0.5 million tons of waste has been exported to East European countries, where it is often dealt with without adequate standards of environmental protection. In addition, export of waste for disposal is not in line with the principles of Community waste legislation.
13. Recycling the fractions of end of life vehicles which today are simply disposed of will have a considerable impact in terms of job creation. Most of the additional jobs would be needed for the dismantling operations, which is a labour-intensive activity, but employment will also increase in the transport and recycling of materials. According to German estimations, in the next ten years 30 000 additional low-qualified jobs in the car recycling industry could be created in Germany as a consequence of the increase of the recycling quota from the present 75% to 95%.
14. In the Netherlands, dismantling currently takes place in small and medium sized enterprises only and it is thought that this will remain manual work in the future as well. Possibilities for automation and efficiency improvement by larger companies are very limited. Most jobs are for relatively unskilled labour for whom it is difficult to find employment opportunities.

The number of additional jobs generated as a result of this Proposal has been estimated as follows: additional dismantling of approximately 125 kg per end of life vehicle in order to achieve the target of 85% re-use and recycling requires approximately 1.5 to 2 hours of manual work; for 10 million end of life vehicles in the EU this would account for approximately 10 000 to 15 000 additional jobs (at 1 500 effective hours per job per year).

15. Another consequence of this Proposal is the creation of additional recycling activities. Today, non-metallic materials are mostly landfilled. Recycling of materials from end of life vehicles is a labour-intensive activity. Examples of new activities linked to the recycling of end of life vehicles, created after the setting up of the Dutch system for the management of end of life vehicles, include handling and storage before recycling, internal transport, visual quality inspection, chemical analyses, pre-processing (removal of metal parts from foam and bumpers, removal of paint), processing (shredding, granulation, grinding, distillation) storage, handling and shipping of semi-manufactured products.
16. In the Netherlands, for the selection of tyres for the various reprocessing possibilities around 250 jobs are required based on 50 millions tyres/year and a selection capacity of 200 000 tyres/employee/year. For the recycling of all materials from end of life vehicles a sound estimate is that several thousands of jobs should be created in the recycling industry. There is no reason to believe that such developments should not occur in other Member States as well, once this Proposal will be implemented. Another positive economic effect in view of emerging technology is that there may be opportunities for new businesses in the recycling industry.
17. The increased requirements concerning dismantling, separation, further treatment and the quantified re-use, recycling and recovery targets could lead to increased costs in the processing of end of life vehicles. However, selecting waste in order to separate hazardous from non hazardous wastes reduces the costs of collection and treatment. Therefore, the net cost of the operations will not necessarily be significant. It is difficult to estimate how administrative burdens on the end of life vehicle treatment industry will change as a consequence of this Proposal, in particular as a result of Article 5(3) making permit a compulsory requirement for treatment facilities. However, also in consideration of the fact that permit requirements are not new but are already in place in most Member States for other waste treatment installations, it is reasonable to believe that such burdens should not significantly affect the net operational costs.
18. Additional investments in the dismantling facilities will be necessary in order to meet the required standards. In the Netherlands the additional investments for 1995/1996 are estimated to be at least ECU 24 million. For the Community this would mean at least ECU 1.2 billion which would create approximately 4 000 jobs in the manufacture of equipment and tools.

19. According to an evaluation of the Swedish Ecocycle Commission, the dismantling obligation will involve extra work and increased costs. However, this will depend on the extent to which dismantlers have already geared their operations to sound environmental principles and on the content of hazardous substances in the end of life vehicles. It is therefore envisaged to establish a producer responsibility for design in order to provide an incentive to manufacturers to actively include waste management considerations in the design of new vehicles, and eventually keep dismantling costs low.
- V. *Does the Proposal contain measures to take account of the specific situation of small and medium sized firms (reduced or different requirements)?*
20. From the consultation carried out with European associations of SMEs involved in the management of end of life vehicles, it appears that the most important variable to take into consideration is the time span necessary to make the investments and develop the necessary environment-related skills. This time span is estimated to be approximately six months for dismantling operators. The Proposal provides for a sufficient transitional period, since the Directive will have to be transposed by Member States 18 months after its coming into force. In order to meet the concerns of SMEs, two and three wheelers as well as special purpose vehicles are excluded from Articles 4 and 7.

Consultation

VI. *Organizations consulted and their main views*

VI.a *List of business organizations consulted*

21. Several business organizations have been consulted in 1995, 1996 and 1997 before finalizing this Proposal, including:
- EGARA (European Group of Automotive Recycling Associations)
 - ACEA (Association of European Automobile Manufacturers)
 - ACEM (Association of European Motorcycle Manufacturers)
 - GEPVP (Groupement Européen des Producteurs de Verre Plat)
 - EUROBAT (Association des Fabricants Européens d'Accumulateurs)
 - EISA (European Independent Steelworks Association)
 - APME (Association of Plastics Manufacturers in Europe)
 - EUPC (European Plastics Converters)
 - BLIC (Bureau de liaison des Industries du Caoutchouc)
 - UEIL (Union Européenne des Indépendants en lubrifiants)
 - COMITEXIL (Coordination Committee for the Textile Industry in the EC)
 - GPRMC (Groupement Européen des Plastiques Renforcés/Matériaux Composites)
 - EUROFER (Sidérurgie)
 - EUROMETAUX (Metaux non ferreux)
 - BIR/EFR/EUROMETREC (Recovery and Recycling Associations)
 - EAA (European Aluminium Association)
 - BIR (Bureau International de la Recuperation)
 - CECRA/CLEDIPA (Comité Européen du Commerce et de la Réparation Automobile)
 - FEAD (Fédération Européenne des Activités du Déchet)
 - UNICE (Union of Industrial and Employers Confederations)
 - UEAPME (Union Européenne de l'Artisanat et des Petites et Moyennes Entreprises)
 - CECOP (Comité Européen des Coopératives de Production et de Travail Associé)

VI.b *Main views of the organizations consulted*

22. Businesses involved in vehicle dismantling and treatment endorse the principles of this Proposal, in particular concerning maximum re-use of components, maximum recycling, minimum waste disposal. They also agree in establishing minimum Community standards for the treatment of end of life vehicles, a widely distributed network of authorized discarding/dismantling points, completed by a more centralized infrastructure for further treatment, and in setting up a system of adequate controls. Their preference goes to a Community instrument, which leaves sufficient flexibility to the Member States for the establishment of measures related to the practical handling of end of life vehicles and at the same time introduces uniform conditions in the internal market in order to limit competition distortions and export of end of life vehicles to countries with lower environmental standards.
23. Businesses in the steel recycling sector recognizes that this Proposal will improve recycling opportunities and therefore see the Proposal with favour.
24. Encouraging reactions have been received from the businesses involved in motor trade and repair activities, which consider that the Proposal may have positive effects on employment, investments and competition. According to the European Committee for Motor Trade and Repairs, SMEs will not necessarily suffer, since the investments needed are such that they can also be afforded by most small enterprises.
25. The Association of European Automobile Manufacturers and some organizations linked to material production do not consider Community legislation necessary in the area of end of life vehicles, mainly on the ground that the threat of end of life vehicles to the environment does not need regulatory intervention and that problems may be more effectively faced by leaving the initiatives to the private sector. They question the setting out of mandatory targets and the differentiation of such targets into re-use, recovery and recycling. The reasons why such an approach cannot be retained by the Commission are included in the explanatory memorandum. In addition, certain individual vehicle producers have recognized the benefits related to this Proposal.
26. Motorcycle producers, as well as the federation of European Motorcyclists oppose the inclusion of two and three wheeled vehicles in the scope of this Proposal, on ground, *inter alia*, of the fact that they were not included in the Priority Waste Streams project group, of the limited volumes and weight of waste generated by such vehicles (two-thirds of such vehicles are under 50 cc) and of the significant differences with four-wheeled vehicles industry in terms of size of producers, economics of the product and organization of product distribution. However, these have been exempted from Articles 4 and 7.
27. Certain national associations of small and medium-sized recycling enterprises have expressed full support for a European system for the management of end of life vehicles set up in line with the system existing in the Netherlands, therefore in line with this Proposal as well. The European Association of craft, small and medium-sized enterprises raised the general question of potential financial and administrative burden which may be a consequence of certain provisions of this Proposal. The reasons why such burdens should not exceed the benefits from this Proposal have been explained above.

28. Support to the Proposal has finally been expressed by the co-operative sector, which sees the activities linked to recycling and recovery of end of life vehicles as opportunities for creating new jobs and integrating disadvantaged workers into stable jobs.

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