COMMISSION OF THE EUROPEAN COMMUNITIES

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Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the type-approval of motor vehicles with regard to their re-usability, recyclability and recoverability and amending Council Directive 70/156/EEC

(presented by the Commission)

EXPLANATORY MEMORANDUM

1. OBJECTIVE OF THE PROPOSAL

This proposal for a Directive lays down the necessary provisions to ensure that new passenger cars and light-duty trucks up to 3 500 kg[1] are designed to comply with required minimum rates with respect to their 're-usability', 'recyclability' and 'recoverability'.

These provisions will be included in the Community type-approval system. In respect of passenger cars, they will be part of the whole vehicle type-approval procedure, which is compulsory for all new passenger cars, since Council Directive 70/156/EEC[2] was amended by Council Directive 92/53/EC of 18 June 1992[3].

Directive 70/156/EEC is currently being recast with a view *inter alia* to extending the Community type-approval system to vehicles other than passenger cars. In the meantime, Member States will be requested to apply the provisions of this Directive to light-duty trucks through their national type-approval procedures.

1.1. Required minimum rates

The relevant minimum thresholds have been set out in Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles[4]. In application of Article 7(4) of that Directive, new vehicles put on the market three years after the adoption of an amendment to Council Directive 70/156/EEC shall be designed and constructed as to be :

– re-usable and/or recyclable up to 85 % by mass[5];

– re-usable and/or recoverable up to 95 % by mass.

These provisions will apply to new types of vehicles to be approved and to new vehicles already covered by an approval, put on the market three years after the entry into force of this Directive.

1.2. Amendments to Directive 70/156/CEE

As second feature, the proposal creates the necessary binding links with Directive 70/156/EEC, in particular to include in Annex I of this Directive all relevant technical information necessary for type-approval applications.

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1 Throughout this explanatory note, the terms 'passenger cars' will be used instead of 'M_1 vehicles' and 'light-duty trucks' instead of 'N_1 vehicles' (Category M_1 includes passenger cars, sport utility vehicles, monospaces and minibuses - Category N_1 includes light-duty trucks up to 3 500 kg).

2 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 trailers (OJ L 42, 23.2.1970, p. 1).

3 OJ L 225, 10.8.1992, p 1.

4 OJ L 269, 21.10.2000, p. 34.

5 The term 'mass' is used in this proposal instead of weight. Masses are expressed in kilograms.

1.3. Marking of component parts

At the dismantling stage, it is important to identify the materials constituting the component parts that are made of polymers or elastomers in order to avoid the mixing of incompatible products. The component parts, which are concerned in this Directive, are those listed in the dismantling list the manufacturer has to present to the approval authority.

Appropriate markings shall be made in accordance with Commission Decision 2003/138/EC of 27 February 2003[6].

1.4. Re-use of component parts

Lastly, the proposal includes, in accordance with Article 7(5) to Directive 2000/53/EC, a list of component parts that shall not be re-used in the construction of vehicles, because they could give rise to safety or environmental hazards.

These provisions shall apply 12 months after the entry into force of the Directive.

2. LEGAL BASIS

The proposed measures are based on the assumption that the more re-usable, recyclable and recoverable new vehicles are, the easier it will be to achieve the targets set in Article 7(2) of Directive 2000/53/EC, when those vehicles reach the end of their life. Article 7(4) of the same directive provides for the minimum thresholds concerning re-usability, recyclability and recoverability relating to new vehicles.

Article 7(4) of Directive 2000/53/EC requires that the measures to be adopted have to be incorporated within the whole vehicle type-approval procedure.

Since the beginning, the Community type-approval system has been firmly anchored on the principle that only total harmonisation of the legislations of the Member States can guarantee the free circulation of goods. Therefore, the proposed measures, which will affect significantly the construction of vehicles, can only be implemented through a single binding set of Community rules.

Therefore, Article 95 of the Treaty establishing the European Community has to be the legal basis with regard to this proposal for a new Directive.

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[6] Commission Decision 2003/138/EC of 27 February 2003 establishing component and material coding standards for vehicles pursuant to Directive 2000/53/EC of the European Parliament and of the Council on end-of life vehicles (OJ L 53, 28.2.2003, p 58).

3. BACKGROUND

3.1. Recycling targets

Article 7(2) of Directive 2000/53/EC obliges Member States to adopt appropriate measures at national level, to ensure that specified targets are achieved with respect to re-use, recycling and recovery of end-of-life vehicles. As a first step, stated targets must be met no later than 1 January 2006. The second step will start in January 2015 and will require compliance with more stringent targets.

With a view to achieving these objectives, manufacturers shall develop and shall put on the market new vehicles, which comply with requirements that are sufficiently stringent as to ensure that targets will effectively be met when these vehicles will reach the end of their life[7]. This is the purpose of Article 7(4) to Directive 2000/53/EC, which provides for the appropriate minimum thresholds in respect of construction of new vehicles.

3.1.1. Safety or environmental hazards

One of the main objectives of Directive 2000/53/EC is to avoid the final disposal of waste by promoting the re-use, recycling and recovery of vehicle component parts. Article 7(1) of that Directive requires, however, that the re-use process must not be prejudicial to requirements regarding the safety of vehicles and to requirements regarding the protection of the environment.

Article 7(5) of Directive 2000/53/EC prescribes the Commission "*to take into account as appropriate the need to ensure that the re-use of components does not give rise to safety or environmental hazards when proposing the amendment to Directive 70/156/EEC."*

Insofar as Directive 70/156/EEC relates to type-approval of new vehicles only, the Commission has taken the view that certain component parts of vehicles shall not be re-used in the construction of vehicles.

4. SUBSIDIARITY

The principles of 'subsidiarity' and 'proportionality' enshrined in Article 5 of the Treaty have been taken into account.

The main objective of this proposal, in connection with Directive 2000/53/EC, is to protect the environment and human health by reducing, to the largest extent as possible, the final disposal of waste from end-of-life vehicles. Measures concerning the construction of vehicles in order that the targets assigned to the Member States will be met, must be taken in the frame of the achievement of the internal market, which implies the avoidance of barriers to trade within the Community. It has been experienced that such objectives cannot properly be attained by the Member States on account of the scale and impact of the action and may therefore be attained more effectively at Community level.

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[7] The average age of treated end-of life vehicles was estimated in Belgium at 13.3 years for the year 2002 – Source : Febelauto in Annual Report 2002.

This Directive does not go beyond what is necessary to reach these objectives.

5. INVOLVEMENT OF INTERESTED PARTIES

5.1. Position of the Member States

The representatives of the Member States have been informed of the content of this proposal on a number of occasions via the Commission's Consultative Group, the Motor Vehicle Working Group, which is made up of representatives of the Member States, the industry and non-governmental organisations.

The majority of the Member States supports the proposal but one Member State could only support the enforcement of the Directive to new vehicle types and not to vehicles already in production.

Another Member State has stated that it favoured a global approach with respect to design aspects of new vehicles in this area. It suggested to include, in this proposal for a Directive, type-approval requirements implementing some provisions already provided for in Directive 2000/53/EC, such as the ban on heavy metals, the permitted exemptions to the ban and the marking of polymers.

5.2. Position of the industry

The manufacturers associations expressed reservation about the fact that provisions concerning design features in relation to end-of-life vehicles could be included in the Community type-approval process. They would have preferred that it would be required only a single assessment of the manufacturers capability to gather data received from suppliers and to manage these ones in such a way as to ensure compliance with the requirements at the stage of the development of a new vehicle.

They advocated that a type-approval procedure would require a huge amount of data to be compiled and submitted to the approval authorities.

They oppose that the Directive should apply to vehicle types already in production. They argue that the design of those vehicles would require significant changes aiming to facilitate the dismantling of component parts and to include new materials. Should the institutions adopt the Directive as proposed by the Commission, a longer lead-time period would be necessary for suppliers and manufacturers to take such technical changes into account before to integrate them in their production schedules.

The suppliers association is supporting the proposal. However, it regrets that Article 7(5) of Directive 2000/53/EC has not been extensively taken into account. The association suggested that the Commission would include appropriate provisions in order that dismantled component parts be submitted to quality control checks before they can be re-used on vehicles in service. These quality checks should be incorporated into the Community legislation, taking into account that there exists no international standard covering that area.

6. CONTENT OF THE PROPOSAL

6.1. The whole vehicle type-approval

Since 1998, Directive 70/156/EEC has successfully imposed the Community whole vehicle type-approval as the unique procedure capable of ensuring that vehicles comply with the harmonised technical rules of the European Union, thus enabling the creation of the single market in the automobile sector.

All passenger cars are now concerned by such harmonised procedures.

On the occasion of the recasting of Directive 70/156/EEC, the principle of a unique, Community type-approval system will be extended to commercial vehicles and to light-duty trucks in particular. This is scheduled to be operational in 2006.

The Community whole vehicle type-approval includes the following features :

– harmonised implementation within the Member States;

– effective controls performed by governmental authorities on prototypes of vehicles ;

– granting of type-approvals when requirements are fulfilled, withdrawing of type-approval when the requirements are no longer fulfilled ;

– checks performed during the production process.

The system is credible only if the manufacturer can demonstrate to the authorities that he is manufacturing each vehicle in conformity with the approved type. Regular checks organised in the manufacturing premises are the determining factor guaranteeing confidence in the type-approval system.

For such purposes, the Community type-approval procedure entails an ‘initial assessment’ of the conformity of production arrangements put in place by the manufacturer to ensure effective control of the conformity of vehicles to the approved type during the production process.

Community whole vehicle type-approval is granted to a vehicle type after the approval authority has ascertained that it complied with the requirements of all applicable separate Directives listed in Annex IV or Annex XI to Directive 70/156/EEC.

As soon as it has been adopted, this Directive will complete the list of the required separate Directives and will bear the reference number ‘59’. Consequently, no Community whole vehicle approval will be granted to a vehicle type if this last does not comply with this proposed Directive.

6.2. Specific requirements for type-approval in accordance with the proposed Directive

6.2.1. Preliminary assessment of the manufacturer

The proposal provides for a preliminary assessment to be carried out by the competent authority appointed by a Member State before granting any type-approval.

The purpose of this assessment is to ensure that the manufacturer effectively has control over the relevant inputs received from its suppliers with respect to materials and is able to monitor the information. As part of the preliminary assessment procedure, the manufacturer must demonstrate that he manages properly the collection of relevant data received from his suppliers with a view to calculating the recyclability and recoverability rates for any version within a vehicle type to be produced.

In the framework of the preliminary assessment, the manufacturer will advise the authority of the strategy he recommends in the field of re-use, recycling and recovery. The relevance of the process that he is recommending has however not to be assessed by the competent authority.

After the competent authority has completed all the necessary checks, it will issue a certificate to ascertain that the manufacturer satisfies to his obligations under this Directive. This certificate is designated '*Certificate of Compliance with Annex IV*'.

The competent authority must have skilled experience in the field of the certification of quality management systems. This authority can be the type-approval authority itself but could also be a specialised body. These measures are in conformity with Council Decision 93/465/EEC, which lays down the modules for conformity assessment.

6.2.2. Procedure to be applied with respect to type-approval

Compliance with the requirements of this Directive shall be verified in accordance with the general rules governing the type-approval of a vehicle.

The manufacturer shall demonstrate to the satisfaction of the approval authority that the vehicle type has been designed and constructed to meet the recyclability and recoverability thresholds laid down in the proposed Directive.

With respect to the calculation of the recyclability and recoverability rates, calculation sheets, conforming to the standard ISO 22628 : 2002, shall be submitted to the type-approval authority or to its appointed technical service before the vehicle could be granted a type-approval. Insofar as the calculation of the rates is deeply influenced by the breakdown of the materials in the various categories provided for in the calculation sheet, the materials breakdown shall be part of the information to be submitted.

The approval authority in turn has to validate the calculation in the light of the strategy recommended by the manufacturer in the field of the prevention of waste from end-of-life vehicles, which is properly documented in the enclosures to the Certificate of Compliance.

For the sake of simplification, and for the purposes of type-approval only, detailed calculations will be restricted to one or several vehicles – the so-called reference vehicles. They shall be chosen amongst the versions within a type that will constitute the greatest challenge in the area of 're-usability', 'recyclability' and 'recoverability'.

Lastly, physical controls shall be conducted by the authority or the appointed technical service on vehicle prototypes to verify the information submitted by the manufacturer and its suppliers, in terms of markings, nature of the materials, masses of component parts, e.g. bumpers, seats foam, volume of the tank, volume of reservoirs etc. including mass of the vehicle.

6.2.3. The concept of the 'reference vehicle'

A vehicle type belonging to the category M_1 generally includes a number of technical variants – up to 100, even more in the case of category N_1 vehicles -, each variant being in turn sub-divided into versions.

To date, the trim level (i.e. the interior arrangement and the options proposed to compete on the market) has never been formally taken into account for the purposes of type-approval; in particular the trim is not included in the criteria defining versions. However, in the case of calculation of recyclability and recoverability rates, it will without doubt play an important role.

After investigation, it has been concluded that incorporating the 'commercial' execution of a vehicle explicitly within the criteria for defining versions would generate an appalling administrative burden for both manufacturers and type-approval authorities.

Therefore, detailed calculations will be restricted to those vehicles – the reference vehicles - that will constitute the greatest challenge in the area of 're-usability', 'recyclability' and 'recoverability'.

These vehicles will be chosen by the approval authority amongst the different versions within a type in agreement with the manufacturer. The following criteria shall be taken into account :

– the kind of bodywork[8];

– the available trim levels

– the available optional equipment which can be fitted under the manufacturer's responsibility.

[8] As defined in Annex II Section C of Directive 70/156/EEC as amended by Directive 2001/116/EC.

6.3. Re-use of component parts

6.3.1. General

In order to ensure that road safety and the protection of the environment are not impaired by the re-use of component parts, a list has been drawn up of component parts, which are not allowed to be re-used in the construction of new vehicles[9]. They are listed in Annex V.

These parts play a major role in the protection of vehicle occupants and in the safe use of vehicles. Their re-used in another vehicle after they have been dismantled from end-of-life vehicles entails serious risks for the following reasons :

– they have been designed for a specific type of vehicle and their use in another type could give rise to problems of compatibility or,

– they might be removed from vehicles involved in accidents in which, for example, their pyrotechnic actuators may have been activated or,

– their intensive use during the lifetime of the vehicle could render them unfit for safe re-use.

Up to now, there exists no particular harmonised legislation to ensure that re-used component parts continue to offer the same level of performance that is required to obtain type-approval. Consequently, the relevant separate Directives apply for such purposes. In this respect, it must be underlined that most of the component parts which are listed in Annex V cannot be tested on new vehicle types because the test procedures require destructive or durability tests to be performed on several samples.

6.3.2. Environment related issues

Component parts such as catalytic converters and exhaust silencers, dismantled from end-of-life vehicles, cannot be guaranteed to offer the required level of environmental protection. It is indeed extremely difficult to check whether dismantled parts from end-of-life vehicles will meet the durability requirements as provided for in the relevant separate Directives.

Catalytic converters as any emission control device are covered by conformity of production requirements contained in Directive 98/69/EC of the European Parliament and of the Council of 13 October 1998[10] amending Council Directive 70/220/EEC[11] of 20 March 1970 relating to emissions. Section 7 of that Directive provides for durability requirements for a period of 80 000 km or 100 000 km, depending whether Euro III or Euro IV requirements apply.

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9 It should be kept in mind that the Community type-approval applies to the construction of new vehicles only.

10 Directive 98/69/EC of the European Parliament and of the Council of 13 October 1998 relating to measures to be taken against air pollution by emissions from motor vehicles and amending Council Directive 70/220/EEC OJ L 350 , 28.12.1998, p. 1.

11 Council Directive 70/220/EEC of 20 March 1970 on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from positive-ignition engines of motor vehicles OJ L076 , 6.4.1970, p. 1.

Exhaust silencers are tested on vehicles during pass-by tests in accordance with Council Directive 70/157/EEC of 6 February 1970[12] as last amended by Commission Directive 1999/101/EC of 15 December 1999[13]. Noise tests are first performed on vehicles fitted with brand new silencers and after they have been conditioned during a lifetime cycle of 10 000 km. Such tests cannot by nature be performed with re-used silencers.

6.3.3. Safety related issues

Appropriate separate Directives provide for test procedures to ensure that component parts such as safety-belts and air-bags will operate safely in the case of accidents. The test procedures entail resistance tests to traction as well as durability tests on retractors which can only be performed on prototype parts representative of production parts. Such tests performed on re-usable component parts would render them unfit for use.

Seat-belts assemblies are covered by Council Directive 77/541/EEC of 28 June 1977[14] as amended by Commission Directive 2000/3/EC[15] of 22 February 2000.

In most of the recent passenger cars, seat-belts are bolted to anchorage points fitted to the front seats. The inboard anchorage is generally provided with a 'pre-tensioner system' which is actuated by a pyrotechnic actuator in the case of impact. Such a restraint system needs to be tested when attached to the seat under simulated impact conditions. In such cases, the traction forces are undergone both by the seat-belts, their anchorages and the seat rails.

Council Directive 74/408/EEC of 22 July 1974[16] as amended by Commission Directive 96/37/EC[17] prescribes the necessary tests to be performed. As said in the previous paragraphs, such tests performed on re-usable safety-belts fitted to seats and the seats themselves would render them useless.

With respect to air-bags, the system consists of air bag modules located in the steering wheel and in the dash-board for the passenger module, deceleration sensors and a diagnostic unit. Recent evolutions have led to the development of side-air-bags which deploy in the space between the upper torso and the door trim in case of side impacts. The front side-air-bags (and those at the rear if fitted) are integrated into the seat backs.

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12 Council Directive 70/157/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles OJ L 42, 23.2.1970, p. 16.

13 Commission Directive 1999/101/EC of 15 December 1999 adapting to technical progress Council Directive 70/157/EEC relating to the permissible sound level and the exhaust system of motor vehicles OJ L 334, 28.12.1999, p. 41.

14 Council Directive 77/541/EEC of 28 June 1977 on the approximation of the laws of the Member States relating to safety belts and restraint systems of motor vehicles OJ L 220 , 29.8.1977, p. 95.

15 Commission Directive 2000/3/EC of 22 February 2000 adapting to technical progress Council Directive 77/541/EEC relating to safety belts and restraint systems of motor vehicles OJ L 53, 25.2.2000, p. 53.

16 Council Directive 74/408/EEC of 22 July 1974 on the approximation of the laws of the Member States relating to the interior fittings of motor vehicles (strength of seats and of their anchorages) OJ L 221, 12.8.1974, p. 1.

17 Commission Directive 96/37/EC of 17 June 1996 adapting to technical progress Council Directive 74/408/EEC relating to the interior fittings of motor vehicles (strength of seats and of their anchorages) OJ L 186, 25.7.1996, p. 28.

Air-bag systems are tested during impact tests performed on whole vehicles. Directive 96/79/EC of the European Parliament and of the Council of 16 December 1996[18] on frontal impact and Directive 96/27/EC of the European Parliament and of the Council of 20 May 1996[19] on side impact provide for test procedures. As already stated for seat-belt assemblies and seats, tests performed on vehicles would render re-usable air-bags unfit for use.

Steering lock assemblies including immobilisers are subject to type-approval in accordance with Council Directive 74/61/EEC of 17 December 1973[20] as amended by Commission Directive 95/56/EC of 8 November 1995[21]. The steering lock assembly fitted to the steering column of the vehicle has to undergone durability tests during 2 500 locking cycles in each direction before the approval can be granted. Here also the re-use of these parts cannot be subject to type-approval.

6.4. Implementation

Measures regarding 'recyclability' and 'recoverability' shall apply to all new vehicles put on the market 36 months after the entry into force of this Directive.

Under Article 7(4) of Directive 2000/53/EC, these measures only apply to vehicles covered by Community type-approval procedures. They will apply to passenger cars through the Community whole vehicle type-approval system, since Community type-approval is compulsory only for this category of vehicles. However, light-duty trucks will be included in the Community type-approval procedures as soon as the recasting of Directive 70/156/EEC has been adopted. It is therefore proposed that the directive be compulsory even in the case these vehicles are covered by a national type-approval.

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18 Directive 96/79/EC of the European Parliament and of the Council of 16 December 1996 on the protection of occupants of motor vehicles in the event of a frontal impact and amending Directive 70/156/EEC, OJ L 18 , 21.1.1997, p. 7.

19 Directive 96/27/EC of the European Parliament and of the Council of 20 May 1996 on the protection of occupants of motor vehicles in the event of a side impact and amending Directive 70/156/EEC, OJ L 169, 8.7.1996, p. 1.

20 Council Directive 74/61/EEC of 17 December 1973 on the approximation of the laws of the Member States relating to devices to prevent the unauthorised use of motor vehicles, OJ L 38 , 11.2.1974, p. 22.

21 Commission Directive 95/56/EC of 8 November 1995 adapting to technical progress Council Directive 74/61/EEC relating to devices to prevent the unauthorised use of motor vehicles, OJ L 286 , 29.11.1995, p. 1.

The proposed timetable for the different categories of vehicles is as follows:

Type of vehicle	Categories concerned	New types	Existing types
Passenger cars Complete light-duty trucks built in one stage	M_1 N_1	Compulsory 36 months after the date of entry into force of the directive	Compulsory 36 months after the date of entry into force of the directive
Special purpose vehicles	M_1, N_1	Exempted	Exempted
Light-duty trucks built in two or more stages	N_1	Exempted (Except base vehicle)	Exempted (Except base vehicle)

The provisions concerning re-used parts shall apply as soon as the Directive has been transposed by the Member States.

6.5. Content of the proposal

6.5.1. General

The proposal contains 13 articles and six annexes.

6.5.2. Articles 1 to 7

These articles contain the general requirements, which are further detailed in the Annexes.

6.5.3. Exemptions (Article 3)

6.5.3.1. Special purpose vehicles

Special purpose vehicles are specifically excluded from Article 7 of Directive 2000/53/EC by virtue of Article 3 of the same Directive.

These vehicles are defined in Annex II to Directive 70/156/EEC, as amended by Directive 2001/116/EC. They includes, as a general rule, vehicles designed for performing a specific function such as ‘motor caravans, ‘armoured vehicles’, ‘ambulances’, ‘hearses’ etc.

A large number of special purpose vehicles belonging to the light-duty trucks family are multi-stages built vehicles; that means that they receive special bodywork arrangements at the final stage of their construction, outside the manufacturer's premises. Because the manufacturer of the base vehicle does not know at the time of its development which kind of bodywork will be fitted to the vehicle, it is rational to exempt them from this Directive.

6.5.3.2. 'Completed' light-duty trucks

Many light-duty trucks are unit-body vehicles but manufacturers also produce chassis-cab vehicles consisting of a complete cabin, with engine, axles, suspension fitted and provided with frame-members. Those so-called base vehicles are completed during a multi-stage construction process, by adding component parts and bodywork.

The proportion of chassis-cab vehicles varies from manufacturer to manufacturer. However, a proportion of 40 %, as a mean value within a single type of vehicle is commonly observed in the production of light-duty trucks.

For the same reasons as invoked in the third indent of paragraph 6.5.3.1. above, they have to be exempted from the scope of this directive.

However, the chassis-cab vehicles are not exempted from the provisions of this directive and must comply with all the requirements including the required minimum rates.

6.5.3.3. Vehicles produced in 'small series'

'Small series vehicles' must be understood as a family of vehicle type put into service at a maximum quantity of 500 vehicles a year, in each Member State.

By virtue of Article 8(2)(a) of Directive 70/156/EEC, Member States may exempt vehicles produced in small series from one or more of the provisions of a separate directive. This is also confirmed by Article 3(3) to Directive 2000/53/EC which states that Members States may exempt vehicles produced in small series from the provisions of Article 7(4).

While passenger cars built in small series falls under the Community whole vehicle type-approval system, light-duty trucks built in small series are type-approved at national level.

Consequently, until harmonised provisions in respect of small series production are adopted, it is proposed to exclude *de jure* these vehicles from the provisions of this Directive.

However, for safety and environmental reasons, they shall not be fitted with the re-used parts listed in Annex V.

6.5.4. Preliminary assessment of the manufacturer (Article 6)

Article 6 contains the general provisions concerning the preliminary assessment of the manufacturer.

The preliminary assessment of the manufacturer is the most appropriate method to ensure that calculations are properly made in accordance with ISO 22628 : 2002. In so far as a vehicle is constituted from 10 000 to 20 000 component parts, calculations cannot be checked deep into details at the time of the type-approval of a vehicle ; for this reason, it is highly preferable to proceed by an assessment of the system put in place by the manufacturer to ensure that the whole calculation process works properly and can be used for the purposes of approval of any type of vehicle.

Annex IV, to which Article 6 refers, explains in details which practical arrangements the manufacturer has to put in place to fulfil his obligations. These arrangements have to be assessed by the competent authority appointed by the Member State according to specific criteria. Once the competent authority has carried out the preliminary assessment, it will grant a certificate of compliance to the Annex IV to this Directive.

Article 6 also lays down provisions concerning the content of this certificate, its validity and the procedure to be followed to obtain its renewal or extension when it expires. Appendix 1 to Annex IV shows the model to be used by the competent authority.

6.5.5. Re-use of component parts (Article 7)

This Article concerns the ban on the re-use of some component parts. The component parts listed in Annex V cannot be re-used in the construction of new vehicles.

6.5.6. Amendment to Directive 70/156/EEC (Article 8)

This Article refers to Annex VI which includes all the administrative adaptations that are necessary to establish a binding link with the type-approval procedures described in Directive 70/156/EEC and the proposed Directive.

6.5.7. Articles 9 to 13

Those Articles relate to the implementation measures, and to the procedure to be followed to adapt this Directive to scientific and technical progress.

6.5.8. Annex I

Annex I contains the technical provisions that have to be fulfilled in order to obtain type-approval.

6.5.9. Annex II and Annex III

Annex II sets out the documents needed for the submission of applications, while Annex III sets out the model of the approval certificate, which has to be used for the granting of an approval.

6.5.10. Annex IV

Annex IV describes in detail the necessary arrangements the manufacturer has to put in place in a view of obtaining a certificate of compliance and be further allowed to introduce applications for type-approvals.

6.5.11. Annex V

This Annex lists the component parts, which must not be re-used. The coverage of this annex is restricted to re-use in the construction of vehicles, since the scope of this Directive is limited to the approval of vehicles.

6.5.12. Annex VI

In accordance with Directive 70/156/EEC, a manufacturer may apply for a Community vehicle type-approval without being obliged to apply for the whole set of separate Directives listed in Annex IV to that Directive. Therefore, it is necessary to include also the particulars listed in Annex II of this Directive in the information document to be used for whole vehicle type-approval.

7. ECONOMIC ASPECTS

7.1. Impact on Automotive Industry

The impact on the automotive industry is substantial. In the year 2002, about 15.7 million new passenger cars and new light-duty trucks have been put on the European market[22].

Quantitative long-term forecasts show no sign whatsoever of stagnation. In terms of vehicle fleet, it is to be expected that the number of passenger cars and light-duty trucks in circulation will increase by 18 % between 2000 and 2014, i.e. from 174 million passenger cars in 2000 to 206 million passenger cars in 2014[23].

Every year, between 9 and 10 million of vehicles reach the stage of end-of-life vehicles. That means that end-of-life vehicles will generate in the Community between 8 and 9 million tonnes of waste every year.

In France, where agreements between the competent authorities and the economic sectors concerned to promote reuse, recycling and recovery exist since more than 20 years 1.2 million end-of-life vehicles produced, before the implementation of Directive 2000/53/EC, 400 000 tonnes of waste[24], each year.

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22 14 007 798 passenger cars and 1 741 397 light-duty vehicles (Source Association Auxiliaire de l'Automobile in ACEA, http://www.acea.be/ACEA/auto_data.html).

23 In 2004, JD Power-LMC forecasts 14 397 000 passenger cars and 1 512 000 light trucks to be produced in Western Europe

24 Source : Environnement & Automobile – Rapport 2001 PSA Peugeot Citroën

7.2. Trends in the construction with regard to end-of-life treatment

The environmental and economic impact of end-of-life treatment is influenced by the material regime prevailing in production as well as by design and assembly methods that affect the share and the amount of recoverable materials.

Most of the vehicles now reaching the end-of-life stage were designed in the late 1980s and early 1990s at a time when ongoing policy developments on recycling may not have greatly influenced their design. They may incorporate a high share of materials with low recycling potential.

Significant changes have occurred in materials regime in recent years, based on the shift towards materials that are lighter and easily recyclable. The following table shows a comparison between the average material composition in percentage by mass of passenger cars produced in the first half of the 1990s and modern passenger cars produced in early 2001.

Materials group	1990 / 1994 (+)	2001(++)	
Metals including aluminium	70.5 - 75.5 %	68.7 %	71.9 %
Polymers (Excluding elastomers)	9.1 - 10 %	11.6 %	14.3 %
Elastomers	5.5 - 6 %	4.7 %	2.9 %
Glass	(not specified)	2.8 %	2.8 %
Others	9.5 - 14 %	12.2 %	8.1 %

Source :
(+) : Montedison for 1990 data, APME for 1994 data in Regulation and Innovation in the Area of ELV's – Draft final report March 2000 (IDSE-CNR, Milan).
(++) : The BMW Group and OPEL.

It was probably in the early 1990s that the need to incorporate end-of-life measures in the design of new vehicles was first realised. At that time, bilateral agreements were concluded between Manufacturers and Governments, first in France and in the Netherlands, later in other Members States with a view to setting realistic recycling and recovery targets.

The concept '*design to be recycled*' was very soon brought into the design features of European vehicles. It is a fact that since several years, European manufacturers have been developing research work and a significant experience has already been built up in the area of recycling processing.

With respect to 'recyclability', key factors are the choice of the materials, the appropriate marking of components and the assembling techniques. These ones can only ensure that component parts will be properly separated and recovered.

Instead of focusing on the metals used in manufacturing, manufacturers generally prefer to increase the proportion of plastics and of organic natural materials to reduce vehicle mass and consequently fuel consumption. With their increasing use, the recyclability issue of these materials has become more important than ever before. As of now, almost 15% of plastic component parts are made of 'recyclates' and this proportion should rise as market conditions and technical feasibility develop.

Natural fibres and other renewable raw materials are also being increasingly used, mainly for soundproofing. The potential for further development of these materials is very promising for they are light-weight, have a favourable environmental balance and are cheaper than other materials.

It should be underlined that a certain number of vehicle manufacturers have announced that they already meet the targets, which will be introduced by this directive.

7.3. Costs assessment

7.3.1. General

Economic impact on the development of new vehicles in order to meet the targets set out in this proposal has to consider several steps :

– development of new vehicles;

– assembly of such vehicles;

– treatment of the end-of-life vehicles;

– type-approval.

7.3.2. Impact on the development of vehicles

The measures envisaged require a full check of materials composition, which includes a continuous input from a materials database at each stage of the development of the prototype. Materials must be selected also on the basis of recycling properties as well as that of a pure technical analysis, which could increase the costs.

New materials will need appropriate validation procedures, which are very costly.

However, the availability of high quality recyclates will certainly lead to a fall in the price of certain component parts.

7.3.3. Impact on assembly

Design for dismantling will lead to higher costs due to re-arrangements on the production line. Economic recycling imperatives will in fact mean redesigning assemblies in a more 'monolithic' way in order to facilitate dismantling.

For example, dash-boards will have to be assembled preferably in one piece to be secured by bolts on the vehicle.

7.3.4. Impact on the treatment

New technologies will have to be introduced to reduce after-treatment costs. Technologies proved to be efficient already exist. However, heavy investments will be necessary to work at a large scale to reduce costs and promote the use of 'recyclates'.

7.3.5. Impact on type-approval

Costs relating to type-approval will increase significantly because representative vehicles will have to be built for checks by the authority. Vehicles conforming to the production specifications do not exist usually at the prototype development stage but are available only at the pre-series stage, just before the launch of a new vehicle type.

The situation is similar with respect to suppliers; for this reason, component parts, such as complete dashboard, seats etc., will have to be prepared specially to be presented to authorities for control of materials and masses.

Calculation checks and preliminary assessment of the capacity of the manufacturer to monitor all data will require specific examination at the manufacturer's premises. Even if test witnessing at the manufacturer's premises is not exceptional in the world of type-approval, this proposal for a new Directive will enshrine it as a rule. Specific arrangements, including workshops and means of investigation will be required.

7.4. Cost-benefit analysis

7.4.1. Costs for the manufacturer

Because the inputs necessary to a detailed cost-benefit analysis are not available in the technical literature, it is extremely difficult to predict what investments manufacturers will have to make to fulfil the requirements of this Directive.

The European Automobile Manufacturers Association has presented to the Commission a provisional assessment, which can be summed up as follows, with respect to a medium-size vehicle in the European car segment C[25].

– production and development costs : increased by between € 11 to € 55 per vehicle;

– cost savings due to 'ELV' treatment : ranging from € 5 to € 25 per vehicle.

This association estimates the balance ranging from € 14 benefit to € 50 additional costs per vehicle.

Assuming a mean cost value of € 30 per vehicle, a production plant producing 280 000 passenger cars a year will generate a yearly cost increase of € 8 400 000.

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[25] Lower Medium Class of vehicles.

An additional input is given by the type-approval procedure that has to be implemented. Type-approval costs are mainly calculated on the basis of fees due to technical services, including the administration costs. It is to be expected that the preliminary assessment procedure and the checks to be performed on vehicles will take up to 5 days in investigating manufacturers' data. Based on an hourly rate of € 135, the costs of the type-approval tests could equate to some € 7 500 per vehicle type.

In addition, the type-approval procedure will generate internal costs such as investments in new computer tools and in organisational systems. One-off compliance costs and engineering expenditures will also have to be included in the total costs covering the type-approval activities.

All these costs depend on the structure of the enterprise and can not be easily described in qualitative terms. For example, one major European manufacturer has calculated that type-approving one vehicle type will cost on average € 11 650[26].

As example, a single type of a popular passenger car was produced at 2 777 962 units during a period of 10 years ; the cost per vehicle resulting from type-approval is therefore insignificant. With respect to light duty-trucks, models in great demand are produced at a rate of 75 000 vehicles a year. Assuming that four kinds of bodywork will require close examination for granting type-approval, then cost per vehicle could be less than € 1, which is insignificant, if the type remains unchanged for more than 10 years.

7.4.2. Benefits

Benefits should be seen from the environmental policy point of view and should be assessed in the global framework of the 'end-of-life vehicles' Directive, which is not the subject-matter of this directive.

8. CONCLUSION

The Commission takes the view that the measures it is proposing will guarantee that manufacturers develop and put on the market new vehicles which will permit the main objective of Directive 2000/53/EC to be met : the prevention of waste from vehicles by promoting the reuse, recycling and recovery of component parts and materials.

It is also confident that the ban on the re-use of certain parts in the construction of vehicles will benefit road safety and protection of the environment.

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[26] The development costs of the prototype vehicles needed for inspections are not included.

2004/0053 (COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the type-approval of motor vehicles with regard to their re-usability, recyclability and recoverability and amending Council Directive 70/156/EEC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission[27],

Having regard to the opinion of the European Economic and Social Committee[28],

Acting in accordance with the procedure referred to in Article 251 of the Treaty[29],

Whereas:

(1) Pursuant to Article 7(4) of Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles[30], appropriate provisions should be laid down to ensure that type-approved vehicles belonging to category M_1, and those belonging to category N_1, may be put on the market only if they are re-usable and/or recyclable to a minimum of 85 % by mass and are re-usable and/or recoverable to a minimum of 95 % by mass.

(2) This Directive constitutes one of the separate directives within the framework of the Community whole vehicle type-approval established by 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 trailers[31].

(3) That whole vehicle type-approval is currently compulsory for vehicles belonging to category M_1 and will be extended, in the near future, to all categories of vehicle. It is therefore necessary to include in the whole vehicle type-approval these measures concerning the re-usability, recyclability and recoverability of vehicles.

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27 OJ C …, …, p. …

28 OJ C …, …, p. …

29 OJ C …, …, p. …

30 OJ L 269, 21.10.2000, p. 34. Directive as amended by Commission Decision 2002/525/EC (OJ L 170, 29.6.2002, p. 81).

31 OJ L 42, 23.2.1970, p. 1. Directive as last amended by Council Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003. p. 36).

(4) Accordingly, it is necessary to lay down provisions to take into account the fact that N_1 vehicles are not yet covered by the whole vehicle type-approval system.

(5) The manufacturer should make available to the approval authority all relevant technical information as regards constituent materials and their respective masses in order to permit verification of the manufacturer's calculations in accordance with the standard ISO 22628 : 2002.

(6) The manufacturer's calculations can be properly validated at the time of the vehicle type-approval only if the manufacturer has put in place satisfactory arrangements and procedures to manage all information he receives from his suppliers. Before any type-approval can be granted, the competent authority should carry out a preliminary assessment of those arrangements and procedures and should issue a certificate indicating that they are satisfactory.

(7) The relevance of the different inputs in the calculations of the recyclability and recoverability rates has to be assessed in accordance with the processes for treatment of end-of-life vehicles. The manufacturer should therefore recommend a strategy for the treatment of end-of-life vehicles and should provide with details thereof to the competent authority. This strategy should be based on proven technologies, which are available or in development at the time of applying for the vehicle approval.

(8) Special-purpose vehicles are designed to perform a specific function and require special bodywork arrangements which are not entirely under the control of the manufacturer. Consequently, the recyclability and recoverability rates cannot properly be calculated. Those vehicles should therefore be excluded from the requirements concerning calculation.

(9) Incomplete vehicles constitute a significant proportion of N_1 vehicles. The manufacturer of the base vehicle is not in a position to calculate the recyclability and recoverability rates for completed vehicles because the data concerning the later stages of construction are not available at the design stage of the base vehicles. It is therefore appropriate to require only the base vehicle to comply with this Directive.

(10) The market shares of vehicles produced in small series are very limited, so that there will be little benefit to the environment if they have to comply with this Directive. It is therefore appropriate to exclude them from certain provisions of this Directive.

(11) In accordance with Article 7(5) of Directive 2000/53/EC, appropriate measures should be taken, in the interests of road safety and protection of the environment, to prevent the re-use of certain component parts which have been removed from end-of-life vehicles. Such measures should be restricted to the re-use of parts in the construction of new vehicles.

(12) The provisions set out in this Directive will impose on manufacturers the supply of new data relating to type-approval and therefore these particulars should be reflected in Directive 70/156/EEC, which establishes the exhaustive list of data to be submitted for type-approval. It is therefore necessary to amend that Directive accordingly.

(13) The measures necessary for the adaptation to scientific and technical progress of this Directive should be adopted in accordance with Article 13 of Directive 70/156/EEC.

(14) Since the objectives of the proposed action, namely to minimise the impact of end-of-life vehicles on the environment by requiring that vehicles be designed from the conception phase with a view to facilitating re-use, recycling and recovery, cannot be sufficiently achieved by the Member States acting alone and can, therefore, by reason of the scale of the action, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary for that purpose,

HAVE ADOPTED THIS DIRECTIVE:

Article 1
Subject-matter

This Directive lays down the administrative and technical provisions for the type-approval of vehicles covered by Article 2, with a view to ensuring that their component parts and materials can be re-used, recycled and recovered in the minimum percentages set out in Annex I.

It lays down specific provisions to ensure that the re-use of component parts does not give rise to safety or environmental hazards.

Article 2
Scope

This Directive shall apply to vehicles belonging to category M_1 and N_1, as defined in Part A of Annex II to Directive 70/156/EEC, and to new or re-used component parts of such vehicles.

Article 3
Exemptions

Without prejudice to the application of the provisions of Article 7, this Directive shall not apply to :

(a) special purpose vehicles as defined in section A, paragraph 5, of Annex II to Directive 70/156/EEC ;

(b) multi-stage built vehicles belonging to category N_1, provided that the base vehicle complies with this Directive ;

(c) vehicles produced in small series, referred to in Article 8(2)(a) of Directive 70/156/EEC.

Article 4
Definitions

For the purposes of this Directive, the following definitions shall apply :

(1) '*vehicle'* means a motor vehicle ;

(2) '*component part*' means any part or any assembly of parts which is included in a vehicle at the time of its production. It covers also components and separate technical units as defined in Article 2 of Directive 70/156/EEC ;

(3) '*vehicle type'* means the type of a vehicle as defined in section B, paragraphs 1 and 3, of Annex II to Directive 70/156/EEC ;

(4) *'end-of-life vehicle'* means a vehicle as defined in point (2) of Article 2 of Directive 2000/53/EC ;

(5) '*reference vehicle*' means the version within a type of vehicle, which is identified by the approval authority as being the most problematic in terms of re-usability, recyclability and recoverability ;

(6) '*multi-stage built vehicle*' means a vehicle resulting from a multi-stage construction process ;

(7) '*base vehicle*' means a vehicle as defined in Article 2, 4th indent to Directive 70/156/CEE, which is used at the starting stage of a multi-stage construction ;

(8) '*multi-stage construction*' means the process by which a vehicle is produced in several stages by adding component parts to a base vehicle or by modifying those component parts ;

(9) '*re-use*' means re-use as defined in point (6) of Article 2 of Directive 2000/53/EC ;

(10) *'recycling'* means recycling as defined in the first sentence of point (7) of Article 2 of Directive 2000/53/EC ;

(11) *'energy recovery*" means energy recovery as defined in the second sentence of point (7) of Article 2 of Directive 2000/53/EC ;

(12) '*recovery*' means recovery as defined in point (8) of Article 2 of Directive 2000/53/EC ;

(13) '*re-usability'* means the potential for re-use of component parts diverted from an end-of-life vehicle ;

(14) '*recyclability*' means the potential for recycling of component parts or materials diverted from an end-of-life vehicle ;

(15) *'recoverability'* means the potential for recovery of component parts or materials diverted from an end-of-life vehicle ;

(16) *'recyclability rate of a vehicle (R_{cyc})*' means the percentage by mass of a new vehicle, potentially able to be re-used and recycled ;

(17) *'recoverability rate of a vehicle (R_{cov})'* means the percentage by mass of a new vehicle, potentially able to be re-used and recovered ;

(18) *'strategy'* means a large-scale plan consisting of co-ordinated actions and technical measures to be taken as regards dismantling, shredding or similar processes, recycling and recovery of materials to ensure that the targeted recyclability and recoverability rates are attainable at the time a vehicle is in its development phase ;

(19) *'mass'* means the mass of the vehicle in running order as defined in point 2.6 of Annex I to Directive 70/156/EEC, but excluding the driver, whose mass is assessed to 75 kg.

Article 5
Type-approval provisions

1. Member States shall grant, as appropriate, EC type-approval or national type-approval, with regard to re-usability, recyclability and recoverability, only to such vehicle types that satisfy the requirements of Annex I to this Directive.

2. For the application of paragraph 1, the manufacturer shall make available to the approval authority the detailed technical information necessary for the purposes of the calculations and checks referred to in Annex I to this Directive, relating to the nature of the materials used in the construction of the vehicle and its component parts. In cases where such information is shown to be covered by intellectual property rights or to constitute specific know-how of the manufacturer or of his suppliers, the manufacturer or his suppliers shall supply sufficient information to enable those calculations to be properly made.

3. The approval authority shall check that the component parts made of polymers or elastomers included in the dismantling list referred to in Annex I paragraph 2 to this Directive are marked in accordance with Commission Decision 2003/138/EC of 27 February 2003[32] establishing component and material coding standards for vehicles pursuant to Directive 2000/53/EC.

4. In so far as concerns re-usability, recyclability and recoverability, the Member States shall ensure that, the manufacturer uses the model of the information document set out in Annex II to this Directive, when submitting an application for EC type-approval, pursuant to Article 3(1) of Directive 70/156/EEC.

5. When granting an EC type-approval pursuant to Article 4(3) of Directive 70/156/EEC, the type-approval authority shall use the model of the EC type-approval certificate set out in Annex III to this Directive.

[32] OJ L 53, 28.2.2003, p 58.

Article 6

Preliminary assessment

1. Member States shall not grant any type approval without first ensuring that the manufacturer has put in place satisfactory arrangements and procedures, in accordance with paragraph 3 of Annex IV to this Directive, to manage properly the re-usability, recyclability and recoverability aspects covered by this Directive. When this preliminary assessment has been carried out, a certificate named 'Certificate of Compliance with Annex IV' (hereinafter "the certificate of compliance") shall be granted to the manufacturer.

2. For the purpose of paragraph 1 the manufacturer shall recommend a strategy to ensure dismantling, re-use of component parts, recycling and recovery of materials. The strategy shall take into account the proven technologies available or in development at the time of the application for a vehicle type-approval.

3. Member States shall appoint a competent authority, in accordance with paragraph 2 of Annex IV to this Directive, to carry out the preliminary assessment and to issue the certificate of compliance.

4. The certificate of compliance shall include the appropriate documentation and describe the strategy recommended by the manufacturer. The competent authority shall use the model set out in Appendix 1 to Annex IV to this Directive.

5. The certificate of compliance shall remain valid for no less than two years from the date of deliverance of the certificate before new checks shall be conducted.

6. The manufacturer shall inform the competent authority of any significant change that could affect the relevance of the certificate of compliance. After consultation with the manufacturer, the competent authority shall decide whether new checks are necessary.

7. At the end of the period of validity of the certificate of compliance, the competent authority shall issue, as appropriate, a new certificate of compliance or shall extend its validity for a further period of two years. The competent authority shall issue a new certificate in cases where significant changes have been brought to the attention of the competent authority.

Article 7

Re-use of component parts

The component parts listed in Annex V to this Directive shall:

a) be deemed to be non-re-usable for the purposes of calculating the recyclability and recoverability rates ;

b) not be re-used in the construction of vehicles covered by Directive 70/156/EEC.

Article 8

Amendments to Directive 70/156/EEC

Directive 70/156/EEC is amended in accordance with Annex VI to this Directive.

Article 9

Adaptation to scientific and technical progress

Amendments to this Directive which are necessary to adapt it to scientific and technical progress shall be adopted by the Commission in accordance with the procedure referred to in Article 13 of Directive 70/156/EEC.

Article 10

Implementation dates for type-approval

1. With effect from [……*12 months plus one day after the entry into force of this Directive*], Member States shall not, in respect of a type of vehicle which complies with the requirements of this Directive :

   (a) refuse to grant EC or national type-approval,

   (b) prohibit the registration, sale or entry into service of new vehicles.

2. With effect from [……*36 months after the entry into force of this Directive*], Member States shall, in respect of a type of vehicle which does not comply with the requirements of this Directive :

   (a) refuse to grant EC type-approval ;

   (b) refuse to grant national type-approval.

3. With effect from [……*36 months after the entry into force of this Directive*] Member States shall, if the requirements of this Directive are not met :

   (a) consider certificates of conformity which accompany new vehicles as no longer valid for the purposes of Article 7(1) of Directive 70/156/EEC;

   (b) refuse the registration, sale or entry into service of new vehicles, save where Article 8(2)(b) of Directive 70/156/EEC applies.

4. Article 7 shall apply with effect from [……*12 months plus one day after the entry into force of this Directive*].

Article 11
Transposition

1. Member States shall adopt and publish, by [……*12 months after the entry into force of this Directive*] at the latest, the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

   They shall apply those provisions from [……*12 months plus one day after the entry into force of this Directive*].

   When Member States adopt these provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law, which they adopt in the field covered by this Directive.

Article 12
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 Union*.

Article 13
Addressees

This Directive is addressed to the Member States.

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President*

ANNEX

LIST OF ANNEXES

ANNEX I

REQUIREMENTS

1. Vehicles belonging to category M_1 and those belonging to category N_1 shall be so constructed as to be :

   – re-usable and/or recyclable to a minimum of 85 % by mass and,

   – re-usable and/or recoverable to a minimum of 95 % by mass,

   as determined by the procedures laid down in this Annex.

2. For the purposes of type-approval, the manufacturer shall submit a data presentation form duly completed, established in accordance with Annex A to the standard ISO 22628 : 2002. It shall include the materials breakdown.

   It shall be accompanied by a listing of the dismantled component parts, declared by the manufacturer with respect to the dismantling stage, and the process he recommends for their treatment.

3. For the application of paragraph 1 and paragraph 2, the manufacturer shall demonstrate to the satisfaction of the approval authority that the reference vehicles meet the requirements. The calculation method prescribed in Annex B to the ISO standard 22628 : 2002 shall apply.

   However, the manufacturer must be in a position to demonstrate that any version within the vehicle type complies with the requirements of this Directive.

4. With respect to a vehicle type, one reference vehicle shall be selected within:

   a) each 'type of bodywork', as defined in section C paragraph 1 of Annex II to Directive 70/156/EEC in the case of M_1 vehicles ;

   b) each 'type of bodywork', i.e. van, chassis-cab, pick-up etc., in the case of N_1 vehicles.

5. For the purposes of the selection of the reference vehicles, account shall be taken of the availability of different trim levels and availability of optional equipment[33].

   By optional equipment, it must be understood the additional component parts likely to be fitted to the vehicle under the responsibility of the manufacturer before the vehicle being registered or being put into service.

6. For the purposes of calculations, tyres shall be considered as recyclable.

7. Masses shall be expressed in kg with one decimal place. The rates shall be calculated in percent with one decimal place, then rounded as follows:

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[33] I.e. leather upholstery, in-car radio equipment, air-conditioning, alloy wheels etc.

a) if the figure following the decimal point is between 0 and 4, the total is rounded down ;

b) if the figure following the decimal point is between 5 and 9, the total is rounded up.

8. For the purposes of checking the calculations referred to in this Annex, the approval authority shall ensure that the data presentation form referred to in paragraph 2 of this Annex is coherent with the recommended strategy annexed to the certificate of compliance referred to in Article 6(1).

9. For the purposes of checks of the materials and masses of component parts, the manufacturer shall make available representative vehicles for each type of bodywork and component parts intended for these vehicles as deemed necessary by the type-approval authority.

ANNEX II

INFORMATION DOCUMENT FOR EC VEHICLE TYPE-APPROVAL

in accordance with Annex I to Council Directive 70/156/EEC([34]) relating to EC type-approval of a vehicle with regard to its re-usability, recyclability and recoverability

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, must show sufficient detail.

0. GENERAL

0.1. Make (trade name of manufacturer) : .....

0.2. Type : .....

0.2.0.1. Chassis : .....

0.2.1. Commercial name(s)(if available) : .....

0.3. Means of identification of type, if marked on the vehicle ([b]) : .....

0.3.1. Location of that marking : .....

0.4. Category of vehicle ([c]) : .....

0.5. Name and address of manufacturer : .....

0.8. Address(es) of assembly plant(s) : .....

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE

1.1. Photographs and/or drawings of a representative vehicle : .....

1.2. Dimensional drawing of the whole vehicle : .....

1.3. Number of axles and wheels : .....

1.3.1. Number and position of axles with double wheels : .....

1.3.3. Powered axles (number, position, interconnection) : .....

1.7. Driving cab (forward control or bonneted)([z]) : .....

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[34] The item numbers and footnotes used in this information document correspond to those set out in Annex I to Directive 70/156/EEC. Items not relevant for the purpose of this Directive are omitted.

3. POWER PLANT ([q]) (In the case of a vehicle that can run either on petrol, diesel, etc., or also in combination with another fuel, items shall be repeated ([+]))

3.1. Manufacturer : .....

3.2. Internal combustion engine

3.2.1. Specific engine information

3.2.1.1. Working principle: positive ignition/compression ignition, four-stroke/two stroke ([1])

3.2.1.2. Number and arrangement of cylinders : .....

3.2.1.3. Engine capacity ([s]): ..... cm³

3.2.2. Fuel : diesel oil/petrol/LPG/NG/ethanol : ([1]) .....

4. TRANSMISSION ([v])

4.2. Type (mechanical, hydraulic, electric, etc.) :.....

4.5. Gearbox

4.5.1. Type (manual/automatic/CVT (continuously variable transmission)) ([1])

4.9. Differential lock: yes/no/optional ([1])

9. BODYWORK

9.1. Type of bodywork : .....

9.3.1. Door configuration and number of doors : .....

9.10.3. Seats

9.10.3.1. Number : .....

15. RE-USABILITY, RECYCLABILITY and RECOVERABILITY

15.1. Version to which the reference vehicle belongs :.....

15.2. Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel, if fitted) without driver :.....

15.3. Masses of materials of the reference vehicle

15.3.1. Mass of material taken into account at the pre-treatment step ([##]) :.....

15.3.2. Mass of material taken into account at the dismantling step ([##]) :.....

15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable (##) :.....

15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable (##) :.....

15.3.5. Materials breakdown (##) :.....

15.3.6. Total mass of materials, which are re-usable and/or recyclable :.....

15.3.7. Total mass of materials, which are re-usable and/or recoverable :.....

15.4. Rates

15.4.1. Recyclability rate 'R_{cyc}(%)' :.....

15.4.2. Recoverability rate 'R_{cov}(%)' : .....

ANNEX III

MODEL OF EC TYPE-APPROVAL CERTIFICATE

Maximum format: A4 (210 x 297 mm)

EC TYPE-APPROVAL CERTIFICATE

Stamp of EC type-approval authority

Communication concerning:

- EC type-approval ([35]) Of a type of vehicle
- extension of EC type-approval ([2])
- refusal of EC type-approval ([2])

with regard to Directive […./…/EC*, This Directive*]

EC type-approval number :

Reason for extension :

SECTION I

0.1. Make (trade name of manufacturer): .....

0.2. Type: .....

0.2.1. Commercial name(s) [(36)]: .....

0.3. Means of identification of type, if marked on the vehicle: .....

0.3.1. Location of that marking: .....

0.4. Category of vehicle [(37)]: .....

0.5. Name and address of manufacturer: .....

0.8. Name(s) and address(es) of assembly plant(s): .....

[…]

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35 Delete where not applicable.

36 If not available at the time of granting the type-approval, this item shall be completed at the latest when the vehicle is introduced on the market.

37 As defined in Annex II.A.

Section II

1. Additional information :

   Recyclability rate(s) of the reference vehicle(s) :.....

   Recoverability rate(s) of the reference vehicle(s) :.....

2. Technical service responsible for carrying out the tests :.....

3. Date of test report : .....

4. Reference of test report : .....

5. Remarks (if any) : .....

6. Attachments : the index and information package

7. The vehicle meets/does not meet ([2]) the technical requirements of this Directive :

……

(Place) (Signature) (Date)

Attachments: Information package.

ANNEX IV

Preliminary Assessment

1. Purpose of this Annex

This Annex describes the preliminary assessment that must be carried out by the competent authority to ensure that the manufacturer has put in place the necessary arrangements and procedures.

2. Competent authority

The competent authority shall comply with standard EN 45012: 1989 or ISO/IEC Guide 62 :1996 on the general criteria for certification bodies operating quality system certification as regards the management systems implemented by the manufacturer.

3. Checks to be performed by the competent authority

3.1. The competent authority shall ensure that the manufacturer has taken the necessary measures to:

(a) collect appropriate data through the full chain of supply, in particular the nature and the mass of all materials used in the construction of the vehicles in order to perform the calculations required under this Directive ;

(b) keep at his disposal all the other appropriate vehicle data required by the calculation process such as the volume of the fluids, etc. ;

(c) check adequately the information received from suppliers ;

(d) manage the breakdown of the materials ;

(e) be able to perform the calculation of the recyclability and recoverability rates in accordance with the standard ISO 22628 : 2002 ;

(f) control the markings on component parts referred to in Article 5(3) ;

(g) verify that no component part listed in Annex V to this Directive is re-used in the construction of new vehicle types.

3.2. The manufacturer shall provide the competent authority with all relevant information, in documentary form. In particular, recycling and recovery of materials shall be properly documented.

Appendix 1 to Annex IV

MODEL OF CERTIFICATE OF COMPLIANCE

CERTIFICATE OF COMPLIANCE WITH ANNEX IV TO DIRECTIVE *[….This Directive]*

No […….*Reference number*]

[……. *the type-approval authority*]

Certifies that

(Manufacturer) :.....

(Address of the manufacturer) :.....

comply with the provisions of Annex IV to Directive ……/…/EC[*This Directive*].

Checks have been performed on :

by (name and address of the competent body :

Number of report :

The certificate is valid until […..*date*]

Done at[……*Place*]

On […….*Date*]

[…….*Signature*]

Attachments : Description of the strategy recommended by the manufacturer in the area of *reuse*, recycling and energy recovery

ANNEX V

COMPONENT PARTS DEEMED TO BE NON RE-USABLE

1. Introduction

This Annex addresses the component parts of vehicles belonging to categories M_1 and those belonging to category N_1 which must not be re-used in the construction of new vehicles.

2. List of component parts

– All airbags[38], including cushions, pyrotechnic actuators, electronic control units and sensors;

– Automatic or non-automatic seat belts assemblies, including webbing, buckles, retractors, pyrotechnic actuators;

– Seats (only in cases where safety belts anchorages and/or airbags are incorporated to the seat);

– Steering lock assemblies acting on the steering column;

– Immobilisers including transponders and electronic control units;

– Catalytic converters;

– Exhaust silencers.

[38] When the airbag is inserted inside the steering wheel, the steering wheel itself.

ANNEX VI

AMENDMENTS TO DIRECTIVE 70/156/EEC

Directive 70/156/EEC is amended as follows:

(1) In Annex I the following points are inserted:

'15. RE-USABILITY, RECYCLABILITY and RECOVERABILITY

15.1. Version to which the reference vehicle belongs :

15.2. Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and/or coupling device if the manufacturer does not fit the bodywork and/or coupling device (including liquids, tools, spare wheel, if fitted) without driver :

15.3. Masses of materials of the reference vehicle

15.3.1. Mass of material taken into account at the pre-treatment step ($^{##}$) :

15.3.2. Mass of material taken into account at the dismantling step ($^{##}$) :

15.3.3. Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable ($^{##}$) :

15.3.4. Mass of material taken into account at the non-metallic residue treatment step, considered as energy recoverable ($^{##}$) :

15.3.5. Materials breakdown ($^{##}$) :

15.3.6. Total mass of materials, which are re-usable and/or recyclable :

15.3.7. Total mass of materials, which are re-usable and/or recoverable :

15.4. Rates

15.4.1. Recyclability rate 'R_{cyc}(%)' :

15.4.2. Recoverability rate 'R_{cov}(%)' :

($^{##}$) These terms are defined in ISO standard 22628 : 2002.'

(2) In part I of Annex IV, the following item is added:

'

Subject	Directive number	Official journal reference	Applicability									
			M_1	M_2	M_3	N_1	N_2	N_3	O_1	O_2	O_3	O_4
59.'Recyclability'	[…./…/EC]	L .., …, p. ..	X	-	-	X	-	-				

'

(3) Annex XI is amended as follows:

(a) In Appendix 1, the following item is added:

‘

Item	Subject	Directive number	$M_1 \leq 2\,500$ ([1]) kg	$M_1 > 2\,500$ ([1]) kg	M_2	M_3
59	‘Recyclability’	[…./…/EC]	N/A	N/A	-	-

’

(b) In Appendix 2, the following item is added:

‘

Item	Subject	Directive number	M_1	M_2	M_3	N_1	N_2	N_3	O_1	O_2	O_3	O_4
59	‘Recyclability’	[…./…/EC]	N/A	-	-	N/A	-	-	-	-	-	-

‘

(c) In Appendix 3, the following item is added:

‘

Item	Subject	Directive number	M_2	M_3	N_1	N_2	N_3	O_1	O_2	O_3	O_4
59	‘Recyclability’	[…../…/EC]	-	-	N/A	-	-	-	-	-	-

’

IMPACT ASSESSMENT FORM

THE IMPACT OF THE PROPOSAL ON BUSINESS WITH SPECIAL REFERENCE TO SMALL AND MEDIUM-SIZED ENTERPRISES(SMEs)

TITLE OF PROPOSAL

'Proposal for a Directive of the European Parliament and of the Council on the type-approval of motor vehicles with regard to their re-usability, recyclability and recoverability and amending Council Directive 70/156/EEC'

DOCUMENT REFERENCE NUMBER

[ENTR F/5 - 503/02 Rev 5]

1. THE PROPOSAL

The principle of subsidiarity enshrined in Article 5 of the Treaty has been taken into account; however, the Commission believes that, in this area, Community legislation is necessary.

The objective of the measures is to ensure that new vehicles belonging to category M_1[39] and those belonging to category N_1 [1] comply, at the time of their construction, with design criteria in respect of their '*re-usability*', '*recyclability*' and '*recoverability*' features.

The provisions will be included in the Community vehicle type-approval process, which provides for an efficient means to verify systematically that each type of vehicle and each vehicle in the production line meets the requirements.

Since Directive 70/156/EEC, as last amended by Directive 2001/116/EC, has made compulsory the Community vehicle type-approval, the only form of action is legislation based on a Directive or a Regulation related to type-approval. The proposal adopts the legal requirements necessary in this sector.

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[39] Throughout the impact assessment form, the term 'passenger cars' will be used instead of the term M_1 vehicles (Category M_1 includes actually passenger cars, sport utility vehicles, monospaces and minibuses); the term 'light duty truck' will be used instead of N_1 vehicles, for reason of commodity. (Category N_1 includes light duty trucks up to 3 500 kg).

2. THE IMPACT ON BUSINESS

2.1. The entire automotive sector will be affected by the proposal. In particular, suppliers of component parts will have to provide information related to materials and masses enabling manufacturers to calculate with the appropriate accuracy the recyclability and recoverabilty rates in respect of vehicles chosen in agreement with the type-approval authorities. Technical services appointed by the type-approval authorities will be involved in the necessary approval checks and conformity of production control operations.

Manufacturers will have to study and recommend appropriate strategies for the after-treatment of end-of-life vehicles, which will require specific contributions from dismantling companies, recycling operators, shredders, etc.

Manufacturers of passenger cars and light-duty vehicles are generally global players. The other sectors mentioned above can be classified as small and medium-sized enterprises.

There are no particular geographical areas of the Community where such businesses are concentrated.

2.2. Manufacturers of passenger cars and light-duty vehicles are already investing in the development of the necessary modifications for new vehicle types to comply with the new requirements laid down in Directive 2000/53/EC, being introduced from 1 January 2006 with a further stage from 1 January 2015.

Further research for better recycling technologies will require operators to invest in the development of more efficient processes.

2.3. The economic effects the proposal is likely to have are as follows :

2.3.1. On employment

The proposal will require additional investment by the manufacturers and all relevant suppliers to provide for the development, production and type-approval of future products to comply with this proposal.

2.3.2. On investment and the creation of new businesses

There will be little effect on the creation of new businesses as all the major players already exist in this market sector.

2.3.3. On the competitiveness of businesses

The proposal poses no risk to the companies in this sector.

2.4. The proposal includes measures taking account of the specific situation of manufacturers producing vehicles in small series. These ones will be exempted from compliance with the provisions of the Directive.

Multi-stages built vehicles will also be exempted from the Directive. So vehicle body-builders, most of which are small and medium-sized companies, will not be required to present calculations, each vehicle being treated as an individual case.

3. CONSULTATION

The manufacturers associations and the suppliers association have been consulted on this proposal.

The Commission has listened to the views and experience of these organisations in drawing-up this proposal, especially with regard to the experience gained by those manufacturers in developing after-treatment as research work.

These organisations are broadly supportive of the measures the Commission is proposing, even if they have expressed concerns about their implementation.

A workshop on reuse of automotive parts has been organised in which representative organisations of the materials recycling and parts 'rebuilding' sectors participated.