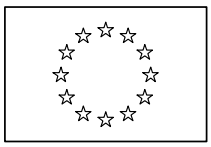

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Document accompanying the

REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

ON THE TARGETS CONTAINED IN ARTICLE 7(2)(b) OF DIRECTIVE 2000/53/EC ON END-OF-LIFE VEHICLE

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

{COM(2007)5 final}
{SEC(2007)14}

Introduction

At the turn of the century about 75% of end-of-life vehicles were recycled and the residue was mainly landfilled.

Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles[1] (ELV Directive) aims, *inter alia*, at increasing the recycling and recovery of this residue. The first targets of 85% recovery and 80% recycling are set for 2006, but the information as to their attainment is limited and will only be confirmed by the Member States implementation reports due by June 2008. Article 7 of the ELV Directive also contains a set of recycling and recovery targets to be reached by 2015, i.e. 95% of recovery and 85% of recycling ("2015 targets").

The Directive provides that the Commission should assess the need to modify the 2015 targets in light of the development of the material composition of vehicles and any other relevant environmental aspects related to vehicles, and present its conclusions in a report addressed to the European Parliament and the Council. This document summarises the Impact Assessment of different targets for treatment from 2015. It has been drafted in accordance with the Commission's Guidelines (SEC 791/2).

Current situation and practices

The Directive provides that, after collection, end-of-life vehicles are decontaminated and partly dismantled for recycling purposes. They are then shredded together with waste electrical goods (WEEE). 75% of the shredders' output is a metallic fraction that is recycled, whereas 25% is a shredder residue that today is mainly landfilled, with limited use of incineration. Recently, due to the development of waste treatment techniques, an increasing amount of residue is recovered.

The targets set by the ELV Directive for 2015 imply a 5% increase in recycling and a 10% increase in recovery of end-of-life vehicles from the 2006 levels, which also reduces landfill of residue (mainly plastics) by more than half.

As the average life span of a vehicle is 12-15 years, vehicles becoming waste around 2015 have been on the roads since 2002. Hence, their characteristics such as weight and material composition are known. This is one reason why the ELV Directive targets for 2015 will not influence the design of cars. These vehicles will account for above 14 million tonnes of waste annually as of 2015 (10 million tonnes today), the majority of which will be valuable secondary materials[2].

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1 Directive 2000/53/EC, OJ L 269, 21.10.2000, p. 34.

2 The average weight of vehicles covered by the ELV Directive is increasing, and the data as to the actual ELV weight differ. An average weight of a 2015 ELV used in this Report is 1,025 kg. However, weighted averages for all car manufacturers show higher weight of ELVs of approximately 1,280 kg by 2019. If this higher weight was used, the direction of impacts would be the same, but the magnitude of impacts would be greater. A difference resulting from weight assumption is described in detail in the Impact Assessment and its Annexes.

In 2015, the amount of shredder residue from ELVs will increase to over 3.5 million tonnes per year. If current practice continued, this would mostly go to landfill, create significant environmental problems and represent a loss to the EU economy of over 2.5 million tonnes of recoverable waste per year which could replace imports of energy and raw materials. Recycling and recovery of this fraction would therefore contribute to reducing the environmental impacts of resource use.

Approach of the Impact Assessment

This impact assessment looks at the impacts of the following sets of targets as if they were set now for 2015:

Policy Option	Illustration	
	Recycling	Recovery
No Policy Change **(baseline)**	85%	95%
Reduced Recycling Target	80%	95%
Reduced Recovery Target	85%	90%*
Combination of reductions in Recycling and Recovery Targets	80%*	85%*

* example of a possible target

This assessment takes into account that practices, markets and technology in use will have changed by 2015 and that the choice of options will influence these changes. The practices and conditions in 2006 are the starting points for predictions while setting targets for 2015 requires consideration of the state of the world in 2015 rather than today.

As technology development depends on the targets set today, the key impact of the policy is its influence on technological progress in waste treatment by 2015 and beyond. It is this level of technology that will be one of the prime determinants of benefits and costs of achieving targets. Predicting the future is thus necessary but involves uncertainty. The IA report describes that uncertainty by considering both high and low innovation responses to policy targets.

The major change to the current method of treatment of ELVs should result from the development of new post-shredder technologies that separate material fractions from shredder residue which can then be further treated. This would lead to diversion of certain materials from landfills to recovery and recycling.

Recently, advanced post-shredder separation technologies have been developed that sort materials contained in shredder residue. The key problem in ELV management is that these technologies are currently not being commercially developed and spreading in the market, with certain barriers slowing that diffusion.

Main conclusions from Impact Assessment

Technological development

Today, several market failures, not helped by continuing uncertainty about the future ELV targets, hinder the development and diffusion of advanced post-shredder

technologies in the EU. Maintaining the current 2015 targets can relieve these market failures by creating markets for these technologies and thus help in spreading the existing and developing techniques. This would increase resource efficiency by facilitating the recycling of more plastics from ELV and WEEE waste, production of better quality secondary materials, and providing those at lower prices than the materials they substitute. Even with low technological development, the best technologies currently available offer economic advantages over current practices. In the future, it is likely that these advantages will substantially increase as the costs of new technologies follow a typical decreasing pattern.

The pace of technological development will depend on the levels of targets. Seven years for commercialisation and further R&D and two years for commercial installation of the technologies are available to meet the targets by 2015.

Stimulation of R&D in the area of shredder residue treatment can make the EU the world leader in a technology market with great potential and strengthen its position as **technology exporter**.

Environmental impacts of the 2015 targets

The differences in environmental impacts of ELV treatment depend on how automotive plastics are treated since the environmental impacts of recycling and recovery vary. Therefore, consideration of different treatment routes is necessary to determine impacts of targets. Recycling of plastics is environmentally beneficial only where the post-shredding sorting and recycling process creates less environmental impacts than are created by making plastic using raw material. The relative environmental impacts of plastics recovery depend on the recovery method used, the type of plastic, and the substituted resources. The environmental performance of all plastic fractions contained in ELVs differs from one resin to another. Polypropylene (an example of a PP/EPDM bumper) has been used to estimate the impacts since it is likely to be most recycled and has environmental impacts broadly representative of other polymers.

The key environmental benefits will come from the recycling of a separated plastic fraction representing between 2% to 7% of ELV by weight. The amount of plastics recycled depends on the targets chosen: the higher the targets, the more likely it is that more plastics are recycled, and the higher the environmental gain. For the EU, this would account for an estimated saving up to 980,000 tonnes of CO_2 equivalent a year. Increased plastics recycling would also lead to reductions in photochemical oxidation, air acidification, water eutrophication and waste generated. At the same time, increased recovery could reduce CO_2 emissions by over 200,000 tonnes of CO_2 equivalent per year mainly by substituting other fuels by plastics. The 85% recycling level also improves recycling of all metals with clear environmental and economic benefits.

The 80% recycling target can be met without the use of new technologies, with some efforts to increase dismantling of large plastics, glass, or tyres, as showed by experience in the Member States. Lower recycling target allows for more recovery and incineration instead of recycling, which affects the environmental benefits. Moreover, decrease of the target from 85% would significantly hinder development of new eco-efficient technologies, removing incentives for technological development and increasing the risks to companies planning any R&D investments.

Setting a recovery target at a lowered level (e.g. 90%) with the 85% recycling target kept would increase plastics landfilling and reduce greenhouse gas savings. Similarly, replacing the targets by a landfill ban would significantly reduce economic and environmental benefits gained by increased recycling. **The maintenance of the 85% recycling target and the 95% recovery target brings about greater net environmental benefits than any other option.**

Economic impacts of the 2015 targets

The costs and benefits of different targets depend on the state of technological development in 2015. Therefore, the estimated economic impacts of different options must be described as ranges. Under a high innovation scenario, the net added value from the treatment of an ELV can be between €120 and €90. Therefore, the total maximum value of the ELV treatment process for the estimated number of ELVs arising in 2015 would approximate €1.6 billion annually. Without technological development, this would be €55 to €80 per ELV.

For a recycling target of 80%, depending on technological development scenario, the ELV treatment chain would see a loss in net value of up to €1.1 bn a year.

Recovery target below the current 95% would affect economic costs only if landfill prices are low. With high landfill prices, which reflect current trends, a reduction in the recovery target would not make any economic difference. **Overall, the ELV treatment under the 85% recycling and 95% recovery targets has very large net economic benefits.**

Other impacts

Under each set of targets, the **administrative burden** of requirements to provide information is likely to remain unchanged since the information requirements relating to the targets at 2006 levels would be very similar to those for different 2015 targets.

Changes in targets are not likely to produce any significant **social impacts**.

Impacts of alternative options suggested by stakeholders

The stakeholders proposed considering replacing the targets by a landfill ban, or at least a removal of the sub-target for recycling.

However, any set of targets lower than those currently set for 2015 would decrease potential environmental and economic benefits. A landfill ban and landfill reduction targets have a similar effect as recovery targets in redirecting waste streams from landfills. However, they need to be seen in relation to which waste management option could possibly be used subsequently to achieve the greatest environmental benefit.

Stakeholders affected

The stakeholders directly affected by difference in the options are the EU waste management industry, suppliers of waste technology and, potentially, consumers. Impacts on the automotive industry appear less significant, not least as vehicle design

remains unaffected. Higher targets will have greater impact on Member States where most of ELV waste is generated.

Conclusions

With the current 2015 targets, the objectives of the ELV Directive would be met, including reduced disposal of ELV waste, improved environmental performance of ELV treatment, and increased innovation in waste management technologies. The potential lowering of either target would increase both economic and environmental costs.

Whilst all estimations of future impacts over a period of 9 years contain uncertainty and require assumptions, the Commission concludes that the 85% reuse/recycling and 95% reuse/recovery targets are currently optimal both in terms of environmental and economic performance and should remain stable in order to guarantee investment security into more cost-efficient and environmentally effective waste treatment technologies.