

END-OF-LIFE VEHICLES AND TRANSPORT EXPLOITATION MATERIALS DEVELOPMENT PERSPECTIVES IN LITHUANIA

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1. INTRODUCTION

When Lithuania expressed its wish to join the European Union, the necessity of harmonization Lithuanian and EU environmental protection priorities and standards appeared. On 27 June 2001, Lithuania and EU concluded a bargain on the Environmental section. It was one of the most complicated spheres in the negotiations on the membership, first of all, because of its large scale, an abundance of problematic issues and high implementation expenses. It was agreed on the principles that should be implemented at present.

The requirements according to the EU norms are set forth in the relevant Directives. In the present paper, a brief review of the perspectives of Lithuania in exploitation of end-of-life vehicles in conformity with EU Directives that are urgent for the transport sector is provided. The condition of the end-of-life vehicles in Lithuania today and in the nearest future is compared. The principal scheme for control and systematisation of the whole process of treatment of end-of-life vehicles is proposed.

2. THE ANALYSIS OF EUROPEAN UNION DIRECTIVES RELATED TO THE TRANSPORT SECTOR

Waste Framework Directive (75/442/EEC) requires States Members to take appropriate measures “to ensure waste utilization or disposal, causing no risk to human health and using no process and methods that may cause a harm to the environment...”.

States Members must prohibit an uncontrolled waste disposal; develop waste treatment plans as well as an integrated and appropriate network of waste disposal equipment. The Directive provides definitions of terms, requirements related to waste accounting, issue of licenses and so on.

Hazardous Waste Directive (91/698/EEC) provides additional and stricter regulations that require taking into account a particular nature of hazardous waste. Hazardous waste should be traced “from the cradle to the grave”, i.e. from the moment of its formation to the moment of final disposal.

Waste is considered hazardous, if it conforms to the categories provided in the Hazardous Waste List. It is prohibited to mix together hazardous waste with non-hazardous waste or hazardous wastes of various categories, except of some specific circumstances. It is necessary to develop hazardous waste disposal plans that would be accessible to the community.

Waste Oils Disposal (75/739/EEC) requires States Members to ensure safe collection, use and disposal of used lubricating oils. The top priority is provided to waste regeneration, then follows waste burning upon the conditions set forth in the Directive and, finally, controlled storage and protection of them.

The Directive prohibits to pour out used oils to water or drainage systems, to store them in the soil and release the harmful oils into it, to practice an uncontrolled disposal of remains of processed oils, to carry out processing of used oils, if it may cause air pollution exceeding the preset limits. Enterprises engaged in disposal of used oils should be provided licenses and enterprises engaged in collection of used oils should be registered and duly supervised.

The Directive on Batteries and Accumulators (91/157/EEC) prohibits sales with any alkaline manganese batteries, where mercury content exceeds 0.025% of weight, except of alkaline manganese batteries for long-term use on emergency (when temperature is below 0°C and over 50°C). In such batteries, mercury content up to 0.05% of weight is permissible. The prohibition is not applicable to “button” type alkaline manganese elements and their batteries.

The Directive also provides certain requirements to sales and disposal of batteries and accumulators, where mercury content of over 25 mg, cadmium content of 0.025% of weight and lead (plumbum – Pb) content over 0.4% of weight in each element take place. Such batteries and accumulators should be marked with a specific chemical symbol specifying content of heavy metals.

States Member should take measures to ensure a separate collection of used batteries and accumulators and easy removal of used batteries from the devices.

The Directive on End-of-Life Vehicles (2000/53/EC) requires limiting usage of hazardous materials in production, collecting, using and processing of end-of-life vehicles and their parts. States Member is obliged to organize used vehicles collection systems and to ensure a transfer of all old vehicles to the enterprise provided with the licenses for their treatment. Old vehicles should be crossed out from the register only upon a presentation of the certificate on disposal issued by the processing enterprise having accepted the vehicle. Manufacturers (importers are attributed to the same category as well) should cover total expenses of processing of old vehicles or a considerable part of them. No charge should be imposed on the proprietor of the vehicle for a provision of the used vehicle for processing.

Table 1. The tasks on treatment of waste of taxed products in 2003-2006

No.	Description of product	Method of treatment	Task (in mass per cent)
1.	Tires with the weight over 3 kg	Processing or other use	80
2.	Accumulators	Processing	80
3.	Mercury lamps	Processing	80
4.	Galvanic elements	Processing	In 2003 – 30 In 2004 – 55 In 2005 – 70 In 2006 – 80
5.	Fuel or oil filters of internal combustion engines	Processing or other use	80
6.	Air filters of internal combustion engines	Processing or other use	80
7.	Hydraulic damper	Processing or other use	80

Not later than by 1 January 2003, 85% of old vehicles weight should be used, and 80% of this share should be processed. From 1 January 2015, these tasks increase to 95 and 85%, respectively.

3. THE CONDITION OF VEHICLES IN TODAY LITHUANIA

At present, the average age of a vehicle in Lithuania is 13 years. However, more detailed analysis of the vehicle sector shows this indicator to be 14-15 years. In 2003, over 800000 vehicles in Lithuania were 15-20 years old. If this number is multiplied by the average weight of a vehicle (1.5 ton), the resulted amount of waste is tremendous. Taking into account the post-Soviet heritage of buses, cargo-carrying vehicles and agricultural machinery, we are forced to agree that the amount of vehicles unfit for exploitation is really large at present. In 2003, over 20000 imported vehicles were over 10 years old. This number presents over 50 per cent of the total number of imported vehicles. Taking into account that vehicle exploitation usually is calculated for 6-8 years, the problem of utilization of unfit for exploitation vehicles will become very urgent in the nearest future.

4. FACTORS PREDETERMINING A FORMATION OF LESS AMOUNT OF WASTE

At present, it is particularly purposeful to develop an economically reasonable system that would induce collection, use and processing of secondary raw materials, including waste of packages. One of ways of such inducement may be a transformation of the system of taxes for pollutants and waste in the common ecosystem, i.e. it should be necessary to strengthen its inducing (not only income generating) character; to add applicable product taxes to the pollution taxes; to add energy taxes to the pollution taxes. And to reduce, for example, the Profit Tax on the account of the mentioned new taxes for enterprises that treat their waste. Today rates of pollution taxes are too low to induce investments

into environmental protection. So, the effect of these taxes for economical subject is not considerable. We hope that the principal causes of such low level of the rates, namely, a lack of information on marginal environmental protection costs as well as political and social arguments, will lose their importance and it will become possible to take actions that will allow to use possibilities provided by a flexibility of the response to the set environmental protection requirements ensured to economical subjects by economical environmental protection measures.

5. PREVENTIVE MEASURES AGAINST A FORMATION OF TRANSPORT WASTE

Manufacturers of vehicles should assess a usability of raw materials obtained from vehicle dumps for manufacturing of specific details, as a production of details of metal, plastics or glass, in their strategic plans. However, a part of vehicle details is not fit for recycling or their processing is not economically reasonable. It includes, for example, cooling liquid, brake shoes, spark plugs or other complex details that require a complicated manufacturing process. In such case, problems of waste of such vehicles should be settled by the state that accumulates unfit for use "transport scrap". This problem is particularly urgent in Lithuania, where the percentage of old vehicles is very high. Those who had caused it that is by the manufacturers should settle this problem. The way of the settlement – taxes for a vehicle: for utilization and the vehicle itself.

In our opinion, functioning of universal vehicle disassembling sites may be effective. Effective functioning of the said vehicle disassembling sites would be ensured by its complete integration into the whole waste treatment system and well-settled problem of financing. They are "universal", because sites of such type would include the whole process of utilization of end-of-life vehicles and their exploitation materials as well as control of transport waste treatment taxes.

6. CONCLUSIONS

1. The statistical data attest that the problem of treatment of waste of end-of-life vehicles will become particularly urgent in the nearest future, so it is necessary to prepare us for its settlement today, in accordance with the standards set forth in EU Directives.
2. It is necessary to induce manufacturers and users to initiate processing and utilization of waste of end-of-life vehicles.
3. It is necessary to develop preventive measures to ensure a formation of less transport waste.
4. Vehicle disassembling sites may become a mechanism of transport waste treatment costs reduction and control.

References

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