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IMPACT ASSESSMENT OF IMPLEMENTATION OF DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) IN LITHUANIA

SUMMARY

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SUMMARY

This Regulatory Impact Assessment (RIA) aims at assessing alternative implementation options as well as consequences related with the transposition of requirements of the Directive 2002/96/EC of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE) into Lithuanian law.

The main objectives of this Regulatory Impact Assessment is to evaluate general level of consumption of EEE and to analyse state-of-the art of generation and treatment of WEEE in Lithuania, to estimate WEEE potential in the future, to evaluate different options for implementation of requirements of separate articles, to establish an over-all analysis of the effects of implementation of the requirements of the WEEE directive in Lithuania by 1 May 2004, and on this basis deliver argumented recommendations for handling of the implementation of the directive. In this connection the possible need for transitional arrangements was evaluated, and pending the conclusions of the analyse, such needs were thoroughly substantiated.

This RIA study was conducted for the European Committee under the Government of the Republic of Lithuania implementing the National Programme on the Negotiation with the EU and Coordination of Lithuanian participation in the activities of the EU institutions as well as Programme on the Analysis of Social and Economical Changes in the Context of Lithuania's Accession into the EU. This study was co-ofinanced by the Local pre-accession assistance programe established by the Danish Ministry of Foreign Affairs.

The main objectives and provisions of Directive 2002/96/EC

The main purpose of this directive is the prevention of WEEE and reuse, recycling and the other forms of recovery of such wastes so as to reduce the disposal of waste. It also seeks to improve the environmental performance of all operators involved in the life cycle of EEE. Directive 2002/96/EC sets requirements for product design, separate collection, treatment and recovery of WEEE, financing of WEEE, information and reporting as well as inspection and monitoring. Under this Lithuania essentially have the following tasks – it must ensure:

- That the final holder and distributor can return WEEE free of charge as from 13 August 2005 at latest,
- That by 31 December 2006 at the latest, at least 4 kg of WEEE are separately collected from private households per inhabitant per year,
- That the producers make sure that the WEEE is treated according to the best available technology and that recycling recovery capacities are enough to fulfil the recovery and recycling targets by 31 December 2006,
- That as from 13 August 2005 at the latest, the producers finance the management of the WEEE,
- That when placing a product on the market, each producer provides a guarantee to the effect that the management of all WEEE will be financed,
- That the register of producers is drawn up and information collected on quantities and categories of equipment, from when it is placed on the market to its waste management.

Transposition of the requirements of the Directive 2002/96/EB into Lithuanian law must be concluded by 13 August 2004.

Scope of regulated activities under Directive 2002/96/EC in Lithuania

The scope of activities that are covered by the provisions of the Directive 2002/96/EC covers production, import and export of EEE, distribution, use and refurbishment of EEE, collection, recovery, recycling of WEEE, re-use of EEE and export of WEEE for recycling.

There are about 250 enterprises producing EEE, covered by the categories under Directive 2002/96/EC, 2/3 of them are SME's. Those companies produce about 1,5 M units of EEE annually. The sector exports about 30 % of the production, mainly to EU countries (40%) and CIS countries (25%). Lithuania produces large amount of EEE that belongs to category of large household (20%) and small household (16%) appliances, consumer equipment (28%), category of monitoring and control instruments (32%), less– IT and telecommunication equipment (2%) and category of lighting equipment (2%) according to units produced.

800 companies imports EEE into Lithuania, 2/3 of them are SME's. The export of EEE reaches 1,5 billion Lt or 11324 thousand units per year. More than half of EEE is imported from EU countries (about 55% according to value). According to analysis of the data, about 30 - 50% of EEE products that belongs to categories of large household appliances and IT and telecommunication equipment are second-hand.

The export of EEE accounts for 450 M Lt annually. Lithuanian companies exports EEE products that belong to categories of large household equipment (46% according to value), consumer equipment (24%) and IT and telecommunication equipment (14%).

Exact data on distributors of EEE, covered by the Directive 2002/96/EB is absent. According to various sources 2000 companies are distributing EEE.

There are about 20 companies in Lithuania that deals with collection, recycling, recovery and export of WEEE. Annual turnover is about 20 M Lt; the sector employs about 300 persons.

The scope of the directive is important for everyone involved in the life cycle of EEE, but particularly important for manufacturers and importers ("producers") who will be required to meet the financial obligations associated with producer responsibility, municipalities, WEEE treatment companies, state and consumers. These are potentially the most affected actors in the chain.

Situation before transposition of Directive 2002/96/EC

The actual WEEE collection rate from the households in Lithuania is only 0,16 kg per inhabitant per year (2000-2002). 44 % of this amount is collected at 7 municipal civic amenity sites, 56 % at the collection points established by WEEE recycling and metal shredding/ recycling companies. Collection of WEEE from private households in 2002 increased 5,2 times compare with figures for 2001. Only three categories of EEE waste are collected in Lithuania: lighting equipment, IT and telecommunication equipment and consumer equipment.

Estimated potential annual generation of WEEE from private households is 17 000 – 27 000 tons, about 4,9 – 7,7 kg per inhabitant per year (6,3 kg per inhabitant in average). The amount of WEEE is estimated to grow 6-7 percent annually.

In total, 2 223 tons of WEEE from all sources were treated in Lithuania in 2002. The biggest share of this amount belongs to "historical" waste from sources other than private households (mainly IT and telecommunication and consumer equipment). Only mercury lamps are exported to Latvia and Ukraine for recycling.

In meantime, only three categories of EEE are collected and treated in Lithuania: mercury lamps (present recycling and export capacity- 400 000 units/year, planed capacity – 1,1 M units/ year (including export possibility), IT and telecommunication and consumer equipment (present metal recycling/ recovery/ shredding capacity - 6 000 tons/year, planned – 600 000 tons/year). The most problematic waste is CRT's, monitors, mercury, and secondary plastics, mixed shredding waste.

Legal compliance

At present, only collection from private households is regulated - municipalities are responsible for collection of household appliances from private households free of charge; collection points should be established in each municipality.

The transposition of 2002/96/EC Directive will be related with the number of legal acts: National Strategic Waste Management Plan, The Law on the Amendment of the Law on Waste Management, The Law on the Pollution Tax of the Republic of Lithuania, Rules on Waste Treatment, etc. One of the most important is The Law on the Pollution Tax of the Republic of Lithuania, which introducers the charge on pollution by products and packaging. The charge on pollution by products and packaging waste shall be paid by producers and importers of used tires, batteries and accumulators, packaging, fuel oil filters, air filters (for internal combustion engines),hydraulic (oil) shock absorbers, end-of-life vehicles (project) and packaging. Producers and importers of chargeable products can be exempted from the charge on pollution by products and packaging for the whole amount of products and packaging, if they meet the targets established by the Government and present the documents confirming the amount of such product or packaging waste re-used, recycled or recovered.

According to Article 17 (1) of the Directive 2002/96/EC, Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this directive by 13 August 2004. In the meantime, all necessary legal acts, which need to be prepared, revised or amended in order to transpose Directive 2002/96/EC into national law are identified and will be subject to rule wide economic and public interest. Consultations with the stakeholders and corrections of the National Strategic Waste Management Plan (adopted by the Government of Lithuania), amendments of two laws and other implementing legal acts will requires more time for Lithuania than indicated in Article 17 (1) of the Directive. Additionally, it is a plan to initiate the pilot project, in order to substantiate the knowledge on the collection, transportation, recovery and recycling costs needed to introduce reasonable tax rate. According to estimations, transitional period of one year is needed additionally to implement Article 17 (1) of the Directive thereof.

The main amendments of the national legal acts will be related with the introduction of new documents related with the establishment of PRO, their licensing as well as introduction of WEEE recycling standards.

Administrative compliance

The main institutional and administrative means needed to ensure enforcement of requirements of Directive 2002/96/EC as well monitoring and control are: strengthening capacity of Regional Environmental Protection Departments and State Tax Inspectorate under the Ministry of Finance, establishment and administration of register of EEE producers including control of "free-riders", strengthening capacities of the Ministry of Environment to be ready to report to the European Commission on the implementation status.

Options for implementation

In order to implement the main provisions of Directive 2002/96/EC, two main decisions have to be taken by the Lithuanian authorities:

1. Decision on the allocation of responsibility for WEEE collection from private households. Local municipalities can be actively involved in the collection of WEEE, but their roles and responsibilities as well as relations with PRO should be precisely defined. Who will invest into collection infrastructure will mainly depend on the allocation of responsibility. Municipalities in Lithuania have much more experience in collection of specific waste streams, 14 mln Lt are already foreseen for establishment of 57 public amenity sites in the whole country, therefore municipalities could remain as a main collection alternative. Nevertheless, in order to ensure that 4 kg collection target is met, all other collection systems as well as take-back via retailers should be legalised.

2. Decision on the financial model for WEEE management. Two options were considered: (1) to introduce economic instrument – charge on pollution by EEE products and leave the possibility to producers and importers to be exempted from the charge for the whole amount of EEE products, if they meet the recycling/ recovery targets established by the Government and present the documents confirming the amount of such EEE products reused, recycled or recovered (I alternative), (2) to create new Extended Producer Responsibility Programme for WEEE management, where the whole responsibility will be taken over by Producer Responsibility Organisation (-s) (II alternative). The costs associated with the implementation of those two alternatives do not vary a lot. The main difference between the systems that in the first case the administrative cost of the whole system will be covered by the state, while in the second option they move to EEE producers and importers.

Benefits

From a financial point of view, there are three main types of benefits associated with implementation of Directive 2002/96/EC:

- EEE production costs for the virgin material that will be replaced by secondary raw material can be saved, because secondary raw materials are in competition with virgin materials, so the price difference will determine which source EEE producers will use.

- Disposal costs can be saved through higher level of collection, re-use/ recycling and recovery of WEEE. Further financial costs reductions may be achieved due to the reduced amount of hazardous components going into shredders.
- Also, the costs for re-use and recycling will be lowered in the future through better design of new equipment due to feedback mechanism of producer responsibility and through additional instruments such as design standards and general obligations for Member States to encourage eco-design.

Assessment was made by WEEE treatment companies, that about 290 new jobs will be created in the sector due to transposition of Directive 2002/96/EC, because recycling of WEEE is a labour- intensive. Various projects have shown that dismantling of WEEE is particularly suitable for the integration of the long-term unemployment and disabled people into the work force.
External benefits are also related with prevention of the environmental impacts that are not integrated in the price of the product and that are usually paid by society via cleanup costs or environmental degradation.

Costs

The main investments in Lithuania associated with the implementation of requirements of Directive 2002/96/EC will be related with the establishment of WEEE collection infrastructure as well as modernisation of existing recycling/ recovery and shredding facilities.

According to European practice[1], WEEE treatment costs are distributed in such a way: collection from households constitute to 48 %, 24 % - collection and transportation costs from centralised collection points to recycling/ recovery facilities, 28 % - costs associated with WEEE recycling and recovery. The average reported collection costs are in the range of 690 - 1380 Lt per ton of WEEE (EUR 200-400 per ton). Lithuania will have to meet collection target of 4 kg of WEEE per inhabitant per year, this means app.13 900 tons annually. Operational collection costs will be at a range of 14,5 mln Lt per year (4,1 Lt per inhabitant).
If municipalities remain responsible for the collection of WEEE from private households free of charge, the initial cost for municipalities would be associated with the establishment of collection points (public amenity sites), purchase of special containers and means of transportation, establishment and optimisation of collection and transportation logistics, operational costs will be related with organisation of WEEE collection including public awareness campaigns. Total cost needed to establish additional 57 collection points in 10 regional waste management systems in Lithuania is 14 mln Lt (2004-2009), including 2,7 mln Lt from municipal budgets or loans, 2,94 mln Lt from the state budget, 8,36 mln Lt will be financed by ISPA.
The cost associated with the implementation of WEEE Directive for EEE producers and importers will be related with the implementation of their financial, physical and economical

[1] The main sources of information for the assessment of costs for separate collection and recycling are the following WEEE collection and recycling pilot projects (Bregenz, Weiz, Flachgau, Apparetour, LEEP, Lower Saxony, RDE, DSD, Swedish Ecocycle Commission, Rjone-Alpes), the studies "Recovery of WEEE:Eonomic and Environmental Impacts" (European Commission 1997) and Life Cycle Assessment and Life Cycle Financial Analysis of the Proposal for a Directive on WEEE (UK DTI 1999) and the Report on Priority Waste Streams WEEE (ENEA 1995).

as well as informative responsibility for management of WEEE. Initial costs will be related with establishment and administration of Producer Responsibility Organisations (PRO), establishment of take-back systems, marking and labelling of the products, obligation to provide information for consumers, state and treatment facilities, EEE accounting, etc. Operational costs will be associated with the administration of PRO, payment to PRO fund, issue of guarantee (depending on type of the guarantee, size of the company, legislative provisions, etc.). EEE producers and importers will share additional costs, in case PRO will take initiative to control "free-riders".

Investments for the WEEE treatment enterprises will be related with: (1) establishment of WEEE collection sites according to requirements set in Annex III to Directive 2002/96/EC, (2) purchasing of special equipment/ technologies that unable companies to meet treatment requirements set in Annex II to Directive 2002/96/EC, (3) establishment of special sites for collection and treatment of hazardous waste, (4) installation of wastewater treatment systems. Total investment cost is about 28 mln Lt.

Recycling costs in Lithuania according to the equipment types varies between 800 – 3400 Lt per ton of WEEE. The costs are very depending on the amount of WEEE recycled.

Macroeconomic effects

Financial responsibility of EEE producers to cover WEEE collection and recycling costs will effect a change in product price. The internalisation of the waste management costs in the price of EEE products may lead to changes in sales of products or other effects, such as changes in the time of purchase, moves within price segments or loss of spending power.

A change in price will depend on weather the demand for the goods is elastic or inelastic. A Dutch study [2] on this subject suggests that the demand for EEE goods, especially large white goods and several type of brown goods can be qualified as inelastic (refrigerators, washing machines, heating boilers, televisions and computers) given the types of price changes that are likely to be involved (1 - 3%). This means that over the long period of time, the level of sales is not likely to be affected by these types of product prices. Therefore, several EEE (large household equipment) producers in Lithuania reported on possible price changes that are likely to be involved in a range of 5-7 %.

For certain other products, mainly consumer equipment, demands might be regarded as partially elastic. The maximum calculated loss of sales is 1-2 %, assuming the average price increase of 1 %. This effect and the associated indirect costs is, however will likely to diminish as economies of scale and innovations bring down the costs of separately collecting and treating of WEEE.

Increasing the product price may also lead to either an advanced or postponed purchasing decision. Consumers might choose to shift between product price categories opting for cheaper and less performing models, thus lowering the standard of living.

Conclusions and recommendations

[2] Economische effecten verwijderingsbijdrage wit- en bruingoed (Den Haag 1995), KPMG

Based on the analysis, a summary table of cost and benefits of adoption of Directive 2002/96EC was produced.

Summary table of cost and benefits of adoption of Directive 2002/96EC in Lithuania

Affected group	**Expected costs**		**Expected benefits**	
	Initial costs	**Ongoing costs**	**Initial benefits**	**Ongoing benefits**
State				
Drafting of the legislation	50 000 Lt.			
Strengthening capacity of state institutions				
Establishment of register of producers of EEE	700 000 Lt.	150 000 Lt. Annually		
Municipalities				
Waste disposal costs savings due to increased collection and recycling				2,4 M Lt Annually
Establishment of WEEE collection infrastructure (public amenity sites)	2,7 M Lt (2004-2009)			
Collection of WEEE		14, 5 M Lt annually		
Producers of EEE				
Financing of WEEE treatment		19,3 M Lt		
Establishment of PRO				
Decreased sales				
Guarantees				
Labelling and marking		12,4 M Lt annually		
WEEE treatment companies				
Establishment of WEEE collection sites	1 M Lt			
Investments into WEEE recycling/ recovery/ shredding technologies	28 M Lt			
Society				
Creation of new jobs			290 new jobs	
Benefits due to reduced pollution				
Total:	- 32,5 M Lt	- 46,35 M Lt annually	+ 290 new jobs	+2,4 M Lt annually

Extensional periods

Due to the fact that collection and recycling/ recovery targets of the 2002/96/EC Directive were set without taking into account conditions of Acceding countries, Lithuania faces some major difficulties to achieve them.

The consumption rate of EEE has been steadily increasing in Lithuania and likely will follow the same trends of other Member States within next five years. The secondary re-use is a widespread phenomenon that could also affect the achievement of collection target. Therefore, a large part of EEE currently in use or stored at the households was produced in former Soviet Union or originates from Western countries as second-hand products. Study on importation of second-hand products into Lithuania for the period of 1995-2002 indicated that for five randomly selected products covered by the 2002/96/EC Directive, roughly 30-50 % of all imported products were second-hand. In case of second-hand products, it is impossible to define the producer responsibility under Directive and therefore the financing of the recovery becomes unclear. According to estimates of RIA, potential amount of WEEE generated in the households in Lithuania is only 6,3 kg per inhabitant a year. This means that in order to achieve 4 kg target, almost 63 % of all generated WEEE has to be collected.

Management of WEEE in Lithuania is not undertaken to a sufficient extend. Infrastructure for collection of WEEE from households free of charge as a regular service already exists in the country, but because it is not sufficient in terms of geographical distribution and existing capacities, the strategy set by most of 10 Regional municipal waste management systems (RWMS) is to optimise the availability and geographical distribution of collection points for WEEE, because with proper improvements (technical, logistics, administration) these collection points could remain as a strong alternative collection route within the future WEEE management system in Lithuania until producers will set up their own systems. Construction of 57 new civic amenity sites and upgrading of existing 7 civic amenity sites is foreseen in the Feasibility studies of RWMS and will be financed by ISPA structural and municipal funds. Most of RWMS will be established at the end of 2009.

Preliminary analysis showed that actual collection rate per inhabitant per year of WEEE from households in Lithuania was 0,16 kg per inhabitant (2002) and only for categories of large household appliances, consumer equipment and lighting equipment. WEEE forecast for the period of 2006-2010 years shows that the collection rate of separate collection of WEEE from private household - 4 kg. per person per year - could be achieved only in 2009 with the introduction of the producer's responsibility, economic instruments, infrastructure established and with proper public awareness campaigns, which are foreseen in the frame of RWMS. Taking into account low collection rates, problematic collection and financing of historical waste, longer lifetime of EEE due to lower living standard, uncontrolled import of second-hand EEE products, absence of proper accounting of WEEE, it is not possible for Lithuania to establish the collection system of WEEE from private households by the date set in Article 5 (2) and to achieve collection target laid down in Article 5 (5).

Recycling of WEEE is not undertaken to a sufficient extend, too. Two main WEEE recycling facilities in Lithuania recycle WEEE but only IT, telecommunication equipment and consumer equipment. A lot of investments are needed to comply with Annex II and III to 2002/96/EC Directive, more experiments and research is needed to solve the problematic waste issue. Therefore transitional period is needed to achieve recovery, recycling targets provided in Article 7 (2) of the Directive.

Based on the abovementioned arguments and referring to the exceptions granted to Greece and Ireland, Lithuania should place request for the following extended periods with regards to Article 17, Article 5 (2), Article 5 (5) and Article 7 (2) of the Directive 2002/96/EC:
Article 17 - 12 months from the date set out by the Directive: instead of 13.08.2004-13.08.2005

Article 5 p.2 - 24 month from the date set out by the Directive: instead of 13.08.2005-13.08.2007

Article 5 p. 5 - 36 months from the date set out by the Directive: instead of 31.12.2006-31.12.2009

Article 7 p. 2 - 36 months from the date set out by the Directive: instead of 31.12.2006-31.12.2009

Consultations with the stakeholders and affected parties

While conducting RIA, consultation with 10 associations was carried out: Association of Lithuanian Industrialists, Engineering Ecology Association, Machine Builders and Instrument Makers Association, National Electronic Business Association, Association of Lithuanian Trade Enterprises, Association of municipal and waste treatment companies, Association of non-ferrous metal, secondary raw material, waste collection and treatment companies, Association of metal scrap companies, Association of IT, Telecommunication and office equipment of Lithuania (Infobalt association), National federation of consumers.
During consultations with various stakeholders, the following activities were taking place: (1) information about the main provisions and conditions of Directive 2002/96/EC was distributed among associations and their members, (2) associations were asked to help to identify and to help to compile the list of companies that might be interviewed, (3) associations were asked to comment on statistical data for production, import and export, (4) associations were asked to spread the questionnaires for their members and to motivate them to participate in RIA as well as provide an accurate data, (5) consultations were also made with various stakeholders in order to identify legal and administrative gaps that impede successful creation of management of other specific waste streams (packaging waste, used tires, etc.)
40 companies were interviewed during RIA: 10 producers of EEE, 7 importers of EEE, 3 importers of second-hand EEE, 5 distributors of EEE, 9 WEEE collection and pre-treatment companies, 6 WEEE recycling/ recovery and shredding companies as well as relevant institutions.

Enforcement, sanctions, monitoring and review

In order to ensure that the requirements of the Directive are implemented successfully, the state has to set appropriate penalties for breach of the Directive's requirements and to ensure that implementation of those requirements is subject to appropriate inspection and monitoring.
Successful creation of effective WEEE management system in Lithuania will also depend on close relation between various stakeholders, consultation, critical capacity at the responsible

institutions, initiative from EEE producers and importers to meet their financial, physical, informative and other obligations.