

LOW CARBON FOOTPRINT TRADE

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Abstract: *The impact which trade has on the economy, the performance of business entities and the daily life of individuals is in result of the immense significance and the scope it has acquired as a business activity. Although contemporary trade contributes to the carbon footprint of economic activity on the environment, it also provides a number of feasible opportunities for neutralizing the effect of the carbon footprint. While acting as the intermediaries in the exchange of goods and services, the agents engaged in trade need to develop efficient systems for waste management and resource allocation which, in addition to environmental benefits, will produce commensurate economic effects.*

Key words: *trade; waste management; carbon footprint.*

JEL: L81, Q50.

Introduction

The advance of human civilization has contributed to the dramatic impact which our activity produces upon the environment. The intensity of the process has been growing over the last decades to affect both individuals and societies in general. As a rule, economic activity is a major prerequisite for growing environmental concerns, although the impact which economic entities have on the environment depends on a number of factors. The exchange of goods and services has always been a fundamental feature of any business. Therefore, any change in trade patterns and approaches would affect other economic activities and thus produce its effects in the performance of the economy in general. Trade may improve or deteriorate the performance of the market mechanism, so it is trade which largely determines the opportunities of businesses to benefit from market conditions. Trade thus becomes a key element of the general issue of the interaction between businesses and their environment and may be part of the solution for achieving long-term environmental equilibrium.

The aim of this paper is to provide a summary of the issues related to the impact which trade has upon the environment and the measures which are employed to reduce the carbon footprint produced by trade.

Business agents need to adopt a more responsible attitude to the environment, since a similar step would produce sustainable results in terms of resolving environmental issues.

Review of Related Theory and Legal Framework

The category 'carbon footprint' is used in this paper to refer to the volume of carbon dioxide emissions generated per person, organization, economic sector, etc.¹ It relates to any power-consuming activity which generates waste or by-products. Organizations may become 'carbon-neutral' entities when 'there is balance between the amount of carbon they release and the amount of carbon they sequester (for example, by planting trees)². At the same time, trade is a major factor contributing to the increase of 'the EU's carbon footprint since greenhouse gases which are emitted in the production of goods consumed in Europe but produced elsewhere'³. Hence, trade, whose primary objective is to provide the necessary products to fully meet consumer demand, has both a direct and an indirect impact on the environment. At the same time, trade, in all its varieties and forms, acts as an intermediary between production and consumption, thus transferring an enormous volume of information which relates to the entities involved in the economic process. In addition to all its economic aspects, that information is essential to the environmental behaviour of the entities involved in the economic process. Thus, for instance, accumulated information may be used to shift consumer demand towards more environmentally products. Furthermore, trade is best aware of consumer behaviour in terms of consumer preference for products with weaker environmental impact. The rapid rate of development of computer and electronic technologies and the shorter life-cycle of individual products are among the major factors behind the immense volume of unusable products which are accumulated. At the last stage of their existence, such products are defined as waste, yet they may and should be put to some appropriate use. These products may be recycled or used again as second-hand products, for example. The latter option implies that non-perishable products may be consumed as second-hand goods in less developed countries, since the majority of the population there cannot afford cutting-edge expensive devices or appliances (such as computers, communication technology, household appliances, clothing, footwear, furniture, etc.). Another option is to use further the valuable raw materials and materials which such products contain, such as plastics; black, non-ferrous, and precious metals; glass, etc. These obligations have been legally prescribed

¹ European Commission. (2008, May 13). Addressing the challenge of energy efficiency through Information and Communication Technologies (Text with EEA relevance). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*. Retrieved on 14.02.2107 from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0241:FIN:BG:PDF>.

² Ibid, p. 5.

³ European Parliament. (2009, February 4). 2050: The future begins today - Recommendations for the EU's future integrated policy on climate change. *European Parliament Resolution of 4 February 2009*. (2008/2105(INI)), P6_TA(2009)0042, 2009. Retrieved on 14.02.2107 from <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+P6-TA-2009-0042+0+DOC+PDF+V0//BG>.

in the Waste Electrical and Electronic Equipment Ordinance⁴, in which Art. 32. (1) states that distributors and sellers of electrical and electronic equipment to end users are obliged to take back free of charge end-of-life equipment from end users. The regulation thus aims at setting common standards on the separate collection, transportation, storage, pre-treatment, reuse, recycling, recovery and/or disposal of discarded electric and electronic equipment (Art. 1, Para. 1). It is thus possible to prevent the harmful impact upon the environment and to increase the quantity of reused, recycled and recovered through other operations electric and electronic equipment (Art. 1, Para. 2). The recovery of discarded electric and electronic equipment is also possible through repurchase or through an appropriate system of deposit in which the vendor pays a certain sum upon the return of discarded equipment. Another option is to apply a discount system to the price of new equipment when customers take back discarded electric and electronic equipment of the same kind or with the same functions (Para. 1, p. 4). Thus, the stage of final exchange and its agent once again become the stage and the entity that put the beginning of the reverse process of recovering the raw materials which have earlier been put in the production of the returned products and waste materials. Offering material incentives will further encourage entities to engage in that type of final exchange since they will thus be rewarded for their responsible behaviour towards the environment.

Local regulations which govern waste management and maintaining the cleanliness of towns and villages provide a detailed list of the obligations of all residents in terms of the waste they produce⁵. Thus, the economic agents whose economic activity results in the production of waste are required to organize and observe the prescribed procedure of waste disposal. There are also regulations on the standard of separate waste collection, yet the implementation of that approach in practice is unsatisfactory. This is due to the poor consumer culture, the low motivation of the source of waste, poverty, social exclusion, etc. Furthermore, a number of other requirements are not met at present, such as to produce the smallest amount of waste possible; not to mix food waste with waste which should be collected separately to be recycled; not to mix hazardous products with common waste, etc. This situation is mainly due to the mechanism for charging the so-called household waste fee which has been applied for many years. According to that approach, the amount of the due fee is calculated based on the tax valuation of the property, its balance or market value, rather than on to the

⁴ Naredba za izlyazloto ot upotreba elektrichesko i elektronno oborudvane [In English: Waste Electrical and Electronic Equipment Ordinance]. (2012, December 28). *State Gazette*, Prom. SG No. 2/8.01.2013, amend. SG No.5/18.01.2013, repealed SG No.100/19.11.2013. Retrieved on 13.02.2107 from <http://www.lex.bg/bg/laws/ldoc/2135831155>.

⁵ See further: Stolichna obshtina (2015, June 25). Naredba na stolichen obshtinski savet za upravlennie na otpadatsite i poddarzhane i opazvane na chistotata na teritoriyata na stolichna obshtina. (Prieta s Reshenie No. 364 na SOS po Protokol No. 84 ot 25.06.2015.). Retrieved on 13.02.2107 from http://www.sofiacouncil.bg/content/docs/c_f35359.pdf

Obshtina Varna. (2016, September 26). Naredba za upravlennie na otpadatsite na teritoriyata na obshtina Varna. Retrieved on 13.02.2107 from <http://www.varna.bg/bg/getfile.html/id/ab0fe664c6f53269bb8882b81b54430d>.

volume of the waste generated by the owner of the property. The latter would be more logical since the obligation to pay a household waste fee would arise from and be attributed to the entity producing that waste and the amount of the fee which is due would be calculated based on the quantity of produced waste. An attempt to change the status quo was made through the supplements and amendments that were made to the Local Taxes and Fees Act (Art. 67)⁶. The Act prescribes that from 2017 on each municipality shall design a mechanism for determining the size of the fee according to the quantity of household waste (Para. 1), and where the quantity of household waste is unascertainable, the amount of the fee shall be determined per user or as a ratio of a base determined by the Municipal Council, which shall not be the tax valuation of the property, its balance value or market price (Para. 2). The aim is to relate the direct volume of produced waste, i.e. the volume of pollution, to the amount of the fee, and thus impose sanctions on individuals who are irresponsible to the environment. The mechanisms and opportunities for exercising objective and regular control on each source of waste remain doubtful, however, and the reliability of the mechanism for determining the waste fee remains debatable, given the heterogeneity of the environment, the people who are charged the fee, etc. Hence, the interests of trade agents will partly be balanced since the amount of the waste fee they pay shall be related to more adequate indicators for measuring their activity and their share in the production of waste, than the value of their property in terms of buildings and retail space. This will allow trade companies to be more active in the process of determining the fee they must pay for produced waste and they will even be able to negotiate the size of the waste fee with institutions and organizations⁷. Economic agents will thus be able to measure straightforwardly the quality of waste they produce and to seek for rational solutions to the issue of reducing the amount of that waste.

Another legal requirement for the agents of trade exchange is the obligation of traders to label all consumer goods with intelligible, accessible, clear, easily identifiable and not misleading information about the type of the good; its essential characteristics; its expiry date and, if necessary, instructions for use (Art. 9 of the Consumer Protection Act). Likewise, 'any appliance or product which might have a direct or indirect impact upon energy consumption and other potential resources when in exploitation, i.e. energy-related products'⁸ are required to have an energy label. This label must provide

⁶ Zakon za mestnite danatsi i taksi 1997 [In English: Local Taxes and Fees Act]. *State Gazette*, Prom. SG No.117/10.12.1997, last amend. and suppl. SG No.97/6.12. 2016. Retrieved on 15.02.2107 from <http://lex.bg/laws/ldoc/2134174720>.

⁷ See further: Stolichna obshtina. (2006, November 23). Naredba za opredelyane i administrirane na mestni taksi i tzeni na uslugi, predostavyani ot Stolichna obshtina. (Prieta s Reshenie No. 894 po Protokol No. 93 ot 23.11.2006; posl. izm. s Reshenie No. 481 po Protokol No.46 ot 12.09.2013). Retrieved on 15.02.2107 from <http://sofiacouncil.bg/inc/print.html?page=ordinance&id=75&print=yes>.

⁸ European Parliament. (2010, June 18). Directive 2010/30/EU of the European Parliament and of the Council of 19 May 2010 on the indication by labeling and standard product information of the consumption of energy and other resources by energy-related products (Revised version) (Text with EEA relevance). *Official Journal of the European Union*,

users with easily comparable information about the consumption of energy and other essential resources by the product. Consumers must thus receive information about the carbon footprint of the product they are purchasing and make their informed choice by including that issue in the decision-making process as well. We should note that the quantitative measurement of the carbon footprint enables consumers to indirectly evaluate the economic benefits they will gain by using products which are more efficient in the consumption of energy and other essential resources. Additional signs on the products with information about the possibility to recycle the product or its elements enable consumers to behave appropriately at the waste management stage. What is more, the restrictions imposed to certain products in terms of emitted greenhouse gases and resources consumed in their production encourage producers to be innovative and to create improved products. The underlying objective of a similar restrictive approach is the effort to make products 'more efficient in terms of their energy consumption by applying available economically-efficient technologies which are not subject to industrial property and which may contribute to reducing the combined cost of purchase and exploitation'⁹ and 'accelerate the transition of the market to energy-efficient technologies'¹⁰. This regime of requirements is an exogenous factor which affects the behaviour of manufacturers and makes them compete to produce better-quality products without consuming additional resources. This could be achieved by developing improved technologies which would be more efficient at the same level of resource consumption; by exploiting underutilized reserves or by applying innovative solutions which result in lower resource consumption.

The re-use of products could become a natural repeated process in their life-cycle, as it has been the case with packages and containers for many years now. This mode of utilization refers to so-called reverse logistics, the ultimate goal being to bring back products (or their components) that have reached the final stage of their life-cycle to a manufacturer who will use the product or some of its elements and input materials. In retail, this has been the practice with most glass containers since retailers repurchase them from customers and then handle them to manufacturers. This practice has partly been restricted over the years since, in their attempt to reduce the end-price of products, manufacturers started selling their products in cheaper mass-produced plastic containers. Such containers cannot be used repeatedly and are therefore not

18.06.2010,(14). Retrieved 14.02.2017 from <http://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX%3A32010L0030>.

⁹ European Commission. (2013, July 13). Commission Regulation (EU) No, 666/2013 of 8 July 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for vacuum cleaners. Text with EEA relevance. *Official Journal of the European Union* L 192, 13.7.2013. Retrieved on 20.02.2017 from <http://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX%3A32013R0666>.

¹⁰ European Commission. (2012, September 26). Commission Delegated Regulation (EU) No. 874/2012 of 12 July 2012 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labeling of electrical lamps and luminaires (Text with EEA relevance). *Official Journal of the European Union* L 258. Retrieved on 20.02.2017 from <http://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX%3A02012R0874-20140606>.

repurchased by retailers. They are collected to be recycled and used in the production of new goods or to produce energy. Increased public awareness of the unhealthy effect which plastic containers have on food and beverages has made consumers and producers reconsider the advantages of glass, aluminium and other containers and packages which do not interact with the products stored in them and do not deteriorate their quality. What is more, glass and aluminium containers may be recycled repeatedly without changing significantly the properties of the material. According to Art. 11, Para. 1 of the Waste Management Act in our country¹¹, as of 1st January 2014, any persons that place some products on the market which, after their use, form ordinary waste, shall be responsible for the separate collection, reuse, recycling and recovery of that waste. Paragraph 2 of the same Article provides that the persons who place packaged goods on the market shall be responsible for the separate collection of the waste produced from the use of the said goods, as well as for the attainment of the following targets for recycling and recovery: 1. At least 60 per cent of the weight of packaging waste must be recovered or incinerated at waste incineration plants with energy recovery; 2. At least 55 per cent of the weight of packaging waste must be recycled, attaining the following minimum recycling targets: a) 60 per cent by weight for glass packaging waste; b) 60 per cent by weight for paper and cardboard packaging waste; c) 50 per cent by weight for metal packaging waste; d) 22.5 per cent by weight for plastic packaging waste, counting material that is recycled exclusively back into plastics; e) 15 per cent by weight for wood packaging waste. The recycling of the minimum quantities of waste which must be recovered and recycled may look like an optimistic solution to the problem, yet it fails to take into account some of the factors which have made it an urgent issue. Decades of intensive and unequal economic development have accumulated an enormous volume of waste to whose processing into raw materials or energy no single approach can be applied. Ignoring the issue of that waste by defining them as 'inert' is in fact delaying the resolve of the problem and may have serious consequences in future. According to the definition, inert waste is waste 'that does not undergo any significant physical, chemical, or biological transformations; that will not dissolve, burn or otherwise physically or chemically react; biodegrade or otherwise adversely affect with which it comes into contact in a way likely to give rise to environmental pollution or harm human health'¹².

The overall review of the diversity of regulations which should govern the management of waste by economic agents indicates that, despite being restrictive and having some contingent weaknesses, the regulatory framework for the effective management of waste processes has already been established. Its actual implementation is under question, though, due to the long periods of time required for introducing certain mechanisms and instruments and the unclear impact which these

¹¹ Zakon za upravljenje na otpadatsite 2003 [In English: Waste Management Act]. *State Gazette*, Prom. SG No. 86/30.09.2003, last amend. SG No. 44/12.06.2012, repealed SG No. 53/13.07.2012. Retrieved on 14.02.2017 from <http://lex.bg/laws/ldoc/2135472222>.

¹² European Council. (1999, July 16). Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste. *Official Journal of the European Union*, OJ L 182, 16.07.1999, p. 1–19. Retrieved on 21.02.2017 from <http://eur-lex.europa.eu/legal-content/BG/ALL/?uri=CELEX%3A31999L0031>.

regulations will have on the economic activity of enterprises. Last but not least, relevant regulatory texts are scattered throughout multiple laws and regulations, while the rights and obligations to exercise control are simultaneously delegated to several administrative units and inspection bodies.

Measures for Managing the Carbon Footprint

At present, the carbon footprint of trade may be efficiently managed in several ways:

- Through the optimum development of the processes of specialization, concentration and territorial deployment of the retail network and retail stores. This will ensure the appropriate retail units whose specialization, size and range of goods meet the demands of local customers. Thus, the need to use transport and travel long distances will be eliminated since shops will be within walking distance.

- The optimum territorial deployment of the retail outlets which belong to the same chain will make it possible to optimize the transport for the delivery of goods and this reduce both total transportation costs and the amount of emitted carbon gases. Furthermore, by applying the methods and models of linear optimization, deliverers will be able to minimize their transportation costs as well as the distance they need to cover and the volume of carbon emissions.

- By using energy-efficient equipment (to ensure the optimum temperature, light, humidity, etc.) in stores – for example, switching to automated control of indoor temperature and light through electronic blinds; adjusting the artificial lighting and switching it on when necessary; the use of energy-efficient escalators and lifts which switch to an energy-saving mode when not in exploitation; optimum use of day-light, etc. A major technological innovation is the use of LED lighting whose energy efficiency is higher in terms of the intensity of the stream of light and the minimum loss of energy as heat. The rapidly developing technology may be employed for business purposes as a better alternative of conventional lighting.

- The use of renewable energy resources. The huge horizontal roof structures of commercial buildings are extremely suitable for installing photovoltaic solar installations for generating electricity or heating water. Refrigerating equipment is mainly used in conventional supermarkets, discount stores, hypermarkets and catering establishments. Two of its by-products may be appropriately utilized in different energy recovery systems:

1. Emitted heat – the refrigerating equipment which is used to cool food emits a lot of heat which may be used for other commercial purposes. The heat emitted by refrigerating equipment may be used to directly heat premises or water which will then be used for cleaning the commercial and sanitary facilities, in staff bathrooms, etc.

2. Condensed water – the steam condensed during the process of cooling produces a considerable amount of water which may (after filtration and purification) be used for watering, in sanitary facilities or for other purposes. The use of the by-products

of commercial refrigerating equipment will thus result in economic effects which may be measured straightforwardly and in economy of business resources.

Furthermore, the use of Freon gases with improved environmental and thermodynamic performance is becoming increasingly common in the refrigeration industry in addition to improved design, precise electronic control, inverter technology of the main unit, automatic defrosting, thermo-insulating properties, improved hygienic parameters, etc.

- Appropriate landscape architecture of adjacent parking areas can be employed to create natural green plots where typical plants are grown. Different architectural solutions may be applied to help trade complexes fit in or complement the territory on which they are built. For example, when building commercial buildings, architectural solutions should aim at utilizing available space vertically, i.e. parking lots may be located under or above commercial areas (underground and roof parking facilities), so as to use available space and land more efficiently.

- Product labelling providing additional information on recycling and proper waste disposal. Such information is useful for consumers who are willing to act responsibly after using products. The waste management policy of the trading company should be promoted among all persons who are directly or indirectly involved. It should be public so that customers will have the opportunity to become part of its implementation.

- Using product packages which are tailored to individual and group needs so that consumers will be able to purchase only the quantities they need. The model will reduce the amount of waste. Furthermore, by making products available on bigger packages, trade will be optimized since end users will get a better price for the products they purchase and packaging costs will be reduced.

- Biodegradable waste may alternatively be used for composting in which organic matter is transformed into a fertilizer through the natural biological, physical and chemical processes of decomposing and recycling. Thus, products which have not been sold (for example, fruits, vegetables, food and food waste of vegetable origin mainly) may be composted. Since composting is a lengthy process which requires special facilities and technology, it would be appropriate have the biodegradable waste collected separately and then transported to an enterprise specializing in the production of compost.

- Products which are close to the end of their shelf-life may be sold at lower prices or sent to food banks to support people and organizations in need. Through the participation in support programs through products within their shelf life, the social commitment of the business to the society, which has a favourable dimension on the corporate image and its corporate responsibility towards the citizens, is fulfilled. Businesses will thus fulfil their commitment to society by participating in social assistance programmes, which will have a favourable effect on their image in terms of their corporate responsibility to the public.

- There are statutory and voluntary schemes for repurchasing and discarding some used goods so that they can be recycled. Traders are thus able to fulfil their duty to efficiently manage hazardous waste after products have reached the end of their life-cycle.

- Providing information about product innovations and the impact which they have upon the environment. An essential element of a product presentation during the sales process is the information related to the way that product should be used; its resource efficiency; the commitments which users should fulfil once the product is out of exploitation, etc. Such comprehensive information keeps customers informed about the benefits of products as well as their advantages and disadvantages compared to similar products.

- The employment of technologies for reducing the volume of waste which is sorted for further recycling, mainly from packages, which makes them convenient for both handling and transportation. By balancing the different types of waste, the volume of waste to be stored is optimized and the capacity of the vehicles for its transportation is increased.

- By getting involved in environmental projects, business fulfil their social commitment to be socially responsible, to interact efficiently with local communities and to engage in sustainable good practices.

- Using customer feedback and customer data to improve products and their packaging. The efficient exchange of such information between entities involved in the economic process and its use by manufacturers in particular may result in product changes that would encourage demand from end users.

The business practices we listed above are just few of the policies and measures that might be implemented to increase the efficient exploitation of energy and other essential resources so as to ensure adequate commercial environment and atmosphere.

Nevertheless, they are indicative of the commitment of commercial companies to global environmental issues. Furthermore, they are evidence of the willingness of business entities to regulate their business practice so as to be able to face the challenges of environmentally and socially responsible behaviour.

The Current State of Household Waste Generation

A national statistical survey is conducted annually to assess the volume of waste generation and the capacity of the system for collecting waste. According to the definition given by the National Statistical Institute, household waste is 'the waste generated in result of people's activity at their homes, in administrative, social and public buildings, including the waste generated in retail outlets, workshops and entertainment facilities, provided the waste which is generated there is not hazardous and its volume or contents does not prevent it from being treated together with household waste'¹³. The main argument of this approach is that in most towns and villages where waste is

¹³ Natsionalen statisticheski institut [In English: National Statistical Institute]. (2016, December 20). Smetki v okolnata sreda, godishni danni za 2015 godina. Retrieved on 16.02.2107 from http://www.nsi.bg/sites/default/files/files/pressreleases/Environment2015_5LDX503.pdf, p. 3

collected in an organized manner, waste containers are used for the waste generated by households, retail establishments and companies in the area and therefore it would be difficult to assess the volume generated by households and by companies. Nevertheless, it is possible to provide separate containers for the waste generated by larger enterprises and to set a schedule for the collection of that waste, thus charging an annual waste fee that would be commensurate with the costs of waste collection and disposal. Another option is that of contracts signed between trade companies and an organization specializing in waste collection and disposal, the terms and conditions of the agreement being negotiated by both parties. The waste which is generated by enterprises may be approached as waste generated by households provided that it does not pose a risk to the population and that it may be subject to the same regime of waste treatment as household waste.

Data provided by the annual statistical survey for the period from 2010 to 2015 indicate that the volume of household waste has declined by 1,057, 000 tons from 4,068.000 tons in 2010 to 3,011,000 tons at the end of 2015, which is a reduction of more than 26% for the country as a whole (See: table 1).

Table 1

Waste generated from households and capacity of the organized waste collection in Bulgaria for the period from 2010 to 2015, by years

Indicators	2010	2011	2012	2013	2014	2015
Total volume of waste generated by households – in thousands of tons	4,068	3,572	3,249	3,135	3,193	3,011
Growth rate - %	Data not available	-12	-9	-3	2	-6
Total volume of household waste generated per capita - kg/pp/y	542	488	446	434	442	419
Number of villages and towns with organized collection of household waste - number	4,238	4,364	4,431	4,556	4,578	4,593
Average population of villages and towns with organized collection of household waste - number	7,394,983	7,247,946	7,228,808	7,229,318	7,191,325	7,147,847
Share of the population with organized collection of household waste - %	98.2	98.9	99.2	99.5	99.6	99.6

Source: NSI.

The share of towns and villages which are serviced by the system for organized collection of household waste increased to reach more than 99.6% by the end of 2015, mainly due to the increase in the number of villages and towns which are serviced and the decrease of their population, which has been the general trend in the country. Hence, the increased capacity and scope of the waste management system has become a prerequisite for improved control on pollution, though this is only a partial solution to the problem of accumulated environmental issues which are hard to control. At the same time, there has been a decrease of 123 kg in the volume of waste generated per capita per year, which is a total reduction of 22.6% for the six-year period.

Conclusion

Increasing the efficiency of resource exploitation and of the subsequent waste management would be the most rational approach to dealing with environmental issues and exercising related control. The effort which has been made so far seems to be insufficient within the context of increasing global environmental concerns and the failure to apply uniform measures. Hence, the majority of initiated measures and activities continue to be only a strategic framework without efficient implementation in practice or with sustainability of achieved results. On the other hand, the magnitude of environmental issues and the fact that they have an impact on the daily life of all citizens render it necessary to introduce urgent changes in terms of personal commitment and individual behaviour; information security and corporate policy,

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