Environmental and Safety Marking of Products and Production in the Context of Sustainable Prosperity

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Abstract

Products that are introduced on the Community market should comply with the relevant applicable Community legislation, and economic operators should be responsible for the compliance of products, in relation to their respective roles in the supply chain, so as to ensure a high level of protection of public interests, such as health and safety, and the protection of consumers and of the environment, and to guarantee fair competition on the Community market. All economic operators are expected to act responsibly and in full accordance with the legal requirements applicable when placing or making products available on the market. All economic operators intervening in the supply and distribution chain should take appropriate measures to ensure that they make available on the market only products which are in conformity with the applicable legislation.

The CE marking, indicating the conformity of a product, is the visible consequence of a whole process comprising conformity assessment in a broad sense. General principles governing the CE marking are set out in Regulation (EC) No 765/2008 of the European Parliament and the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products. The CE marking should be the only marking of conformity indicating that a product is in conformity with Community harmonisation legislation.
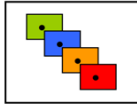
The EU Ecolabel scheme is part of the sustainable consumption and production policy of the Community, which aims at reducing the negative impact of consumption and production on the environment, health, climate and natural resources. The scheme is intended to promote those products which have a high level of environmental performance through the use of the EU Ecolabel. To this effect, it is appropriate to require that the criteria with which products must comply in order to bear the EU Ecolabel be based on the best environmental performance achieved by products on the Community market. Those criteria should be simple to understand and to use and should be based on scientific evidence, taking into consideration the latest technological developments. Those criteria should be market oriented and limited to the most significant environmental impacts of products during their whole life cycle. The EU Ecolabel should aim at substituting hazardous substances by safer substances, wherever technically possible.

Key words
environment, product, policy, ecolabelling, safety, policy

Introduction

From the analysis of different ways of the environmental protection in 80´s of the last century arose that the most effective and the most economic ways of the environmental protection are based on prevention, then a research and a liquidation of causes, which evocate the contamination of the environment. The application of this preventive strategy for the production processes conduced to the formation of the cleaner production. The cleaner production fixated to the research and liquidation of the environment devaluation causes, which the production processes effect. By the reason of the production processes are to a certain extent defined by the character of produced product, the centre of environmental policy coverage removed from the production processes to the next cause of the environment devaluation, so on the product and it began formulate so-called environmentally oriented product policy.

Marking of products to establish identity and source

Marking products for their identification and source is aimed in particular at:
- differentiation between falsies and genuine products
- providing a method of indicating other information about the product, such as its date of production, its batch, and consequently, the end of its shelf-life,
- provides a method of marking which allows monitoring of manufacturing or other processes, including such things as process streams,
- provides a means of marking products to allow for monitoring of the products for different purposes, such as marking the source country of products for customs, marking toxic wastes, and marking regulated substances.

Environmentally oriented product policy

The objective of the environmentally oriented product policy is a reduction of the potential environmental impact of products to a level, which will be acceptable from the point of view of sustainable development. It means:
- highest possible raw material exploitation,
- energy consumption minimization,
- achieving of such product quality, which will allow for prolongation of the life span of product, its increased usefulness, waste emission reduction to an acceptable level,
- environmental risk minimization linked to the product disposal after reaching its life span.

The policy is focused on the product itself, produced activity or a service offered, however, not only in their final appearance (e.g. as finalized product), but during all life cycle phases, i.e. projection, composition decision, production phase, usage and the final phase – disposal. Subjects of this process comprise high number of stakeholders – market members: producers, distributers, trade, consumers, but also the state.

Ecodesign, environmental labelling of the products, life cycle assessment, green marketing are important tools of the environmentally oriented policy and environmental management.

Resource issues will gain prominence on the international agenda. Unprecedented global economic growth—positive in so many others regards—will continue to put pressure on a number of highly strategic resources, including energy, food, and water, and demand is projected to outstrip easily available supplies over the next decade or so. For example, non-OPEC liquid hydrocarbon production—crude oil, natural gas liquids, and unconventional ones such as tar sands— will not grow commensurate with demand. Oil and gas production of many traditional energy producers already is declining. Elsewhere— in China, India, and Mexico—production has flattened. Countries capable of significantly expanding production will dwindle; oil and gas production will be concentrated in unstable areas. As a result of this and other factors, the world will be in the midst of a fundamental energy transition away from oil toward natural gas, coal and other alternatives.

New technologies could again provide solutions, such as viable alternatives to fossil fuels or means to overcome food and water constraints. However, all current technologies are inadequate for replacing the traditional energy architecture on the scale needed, and new energy technologies probably will not be commercially viable and widespread by 2025. The pace of technological innovation will be key. Even with a favourable policy and funding environment for bio-fuels, clean coal, or hydrogen, the transition to new fuels will be slow. Major technologies historically have had an "adoption lag." In the energy sector, a recent study found that it takes an average of 25 years for a new production technology to become widely adopted. [7]

Technology Breakthroughs by 2025:
- Probable - Ubiquitous computing will be enabled by widespread tagging and networking of mundane objects (the Internet of Things) such as food packages, furniture, room sensors, and paper documents. Such items will be located and identified, monitored, and remotely controlled through enabling technologies—including Radio Frequency Identifications, sensor networks, tiny embedded servers, and energy harvesters—connected via the next-generation Internet using abundant, low cost, and high-power computing.
- What Are Drivers and Barriers?
  - Key Drivers: Demand for greater efficiency in a wide variety of applications from food safety to more efficient supply chains and logistics. Corporations, governments, and individuals will benefit in areas such as energy efficiency and security, quality of life, and early warning of equipment maintenance needs.
  - Key Barriers: Implementation depends on availability of power for small, maintenance-free devices, development of profitable business models, and addressing likely major privacy and security concerns.
- Why Is the Technology a Game-Changer? - These technologies could radically accelerate a range of enhanced efficiencies, leading to integration of closed societies into the information age and security monitoring of almost all places. Supply chains would be streamlined with savings in costs and efficiencies that would reduce dependence upon human labour. [18]
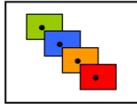
- Popular and profitable products and services that will arise by 2025 will include various forms of human enhancement, sensor-related technologies and services, and privacy services—services that will allow individuals to "opt out" or remain anonymous amidst an increasingly sensor rich environment. The decreasing cost of hardware and software will also change profit models for certain types of technology, especially consumer electronics, where some products may become cheap enough to be virtually free.[19]

The CE-marking and Keymark

The CE marking is required for many products. It states that the product is assessed before being placed on the market and meets EU safety, health and environmental protection requirements. Through this website the European Commission provides economic operators and consumers with information on how the process of affixing the CE marking on a product works. [4]

On 13th February 2013, the Commission adopted a proposal for a new stand-alone Market Surveillance Regulation, bringing together all market surveillance provisions from Regulation (EC) No 765/2008, GPSD and sectoral legislation. COM(2013) 75 final. [16]

The CE marking indicates a product's compliance with EU legislation and so enables the free movement of products within the European market. By affixing the CE marking to a product, a manufacturer declares, on his sole responsibility, that the product meets all the legal requirements for the CE marking, which means that the product can be sold throughout the European Economic Area (EEA, the 28 Member States of the EU and European Free Trade Association (EFTA) countries Iceland, Norway, Liechtenstein). This also applies to products made in other countries which are sold in the EEA. [20]

However, not all products must bear the CE marking, only the product categories mentioned in specific EU directives on the CE marking.
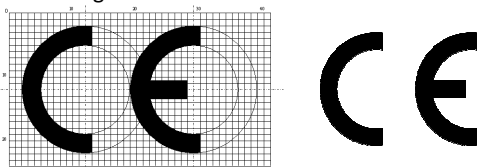

Fig. 1 The CE marking

CE marking does not indicate that a product was made in the EEA, but merely states that the product has been assessed before being placed on the market and thus satisfies the applicable legislative requirements (e.g. a harmonised level of safety) enabling it to be sold there. It means that the manufacturer has:

- verified that the product complies with all relevant essential requirements (e.g. health and safety or environmental requirements) laid down in the applicable directive(s) and
- if stipulated in the directive(s), had it examined by an independent conformity assessment body. [21]

It is the manufacturer's responsibility to carry out the conformity assessment, to set up the technical file, to issue the declaration of conformity and to affix the CE marking to a product. Distributors must check that the product bears the CE marking and that the requisite supporting documentation is in order. If the product is being imported from outside the EEA, the importer has to verify that the manufacturer has undertaken the necessary steps and that the documentation is available upon request.

Unfortunately due to counterfeiting or misuse of the marking, there is never a 100% guarantee that a product bearing the CE marking is safe. However, with the adoption of Regulation 765/2008 and Decision 768/2008, the obligations of the manufacturer are spelled out and it is clear that by affixing the CE marking to a product, the manufacturer assumes full responsibility for its compliance with all applicable requirements in EU legislation. It is the system behind the CE marking that ensures its proper functioning. The entire system, consisting of manufacturers, importers, distributors, notified bodies and market surveillance authorities, has been strengthened through the New Legislative Framework, which aims to further reduce burdens on trade while, at the same time ensuring a high level of safety and protection of other public interests.

The Keymark is the only voluntary pan-European certification system of its kind demonstrating conformity with the European Standards developed by CEN and CENELEC. In a single European market there is a need for a single European mark: one Standard, one test, one mark. CEN and CENELEC are the two co-owners of the Keymark but the certification schemes are operated by professional and qualified certification bodies, who are all accredited against ISO/IEC 17065 by members of the European co-operation for Accreditation (EA). The Keymark System is operated by certification bodies that have been authorized by CEN. The rigorous certification methodology offers the assurance that the service or product demonstrates continued compliance with all relevant European Standards (ENs).[12]
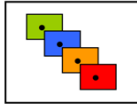
Fig. 2 Logo Keymark

The Keymark is a voluntary third party certification mark operated by empowered certification bodies. The Keymark shows that the product meets all requirements of the relevant European Standards. Once a product or service is Keymark certified there is no need for re-testing against European Standards in other countries participating in the scheme. In order to ensure ongoing compliance regular surveillance is an essential element of the Keymark system. Manufacturers, suppliers, and service providers are authorized to use the Keymark after a successful certification process.[11]

Ecolabelling

With regard to products and services environmental labelling has become a wide-spread market based environmental policy instrument in the European Union. The range of environmental labelling reaches from mandatory to voluntary approaches.
Eco-labels are seals of approval given to products that are deemed to have fewer impacts on the environment than functionally or competitively similar products.[2]
Eco-labelling systems can be either mandatory or voluntary. Mandatory eco-labels are government-backed and could act as a trade restriction for foreign producers (i.e., imports may be rejected if they do not comply).[29]
Imports of products that do not comply with voluntary eco-labels are not restricted. In the case of voluntary labels, it is up to the manufacturer to decide whether or not to apply for certification of the product, and the consumers choice whether to buy (or import) an eco-labelled product. Voluntary eco-labelling programmes may be funded and supervised by the private sector. Some, however, are government sponsored and funded.
According to standardisation efforts undertaken by the International Organisation for Standardisation (ISO) three voluntary labelling approaches can be distinguished: Its Technical Committee 207 developed three types of voluntary labels:
- Type I (ISO 14024) refers to criteria-based certification programmes,
- Type II (ISO 14021) describes self-declared environmental claims
- and Type III (ISO 14025) applies to quantified product information that is based upon independent verification using present indices.

Eco-labelling such as the European eco-label refers to ISO type I labels as making a positive statement that identifies products and services as being less harmful to the environment than products in the same product category without a label. Eco-labelling differs fundamentally from the setting of minimum product standards or requirements that it rewards environmental leadership. Eco-labels (could) refer to several environmental issues referring to potential environmental impacts of products or services based on life-cycle considerations.[6]

Environmental labelling, and in particular eco-labels, claim to have two general objectives:
- providing consumers with the information they desire and thereby increasing market efficiency (information policy instrument),
- reducing the (negative) environmental impacts via offering environmentally less harmful products and services in the market (environmental policy instrument). [15]

Germany was the first country to introduce environmental labelling after 1977. Similar systems have been gradually introduced also in other countries.
The Blue Angel guarantees that a product or service meets high standards when it comes to its environmental, health and performance characteristics. In the process, these products and services are always evaluated across their entire life cycle. Criteria are developed for each individual product group that must be fulfilled by those products and services awarded with the Blue Angel. And in order to reflect technological advances, the Federal Environmental Agency reviews these criteria every three to four years. This process requires companies to constantly improve the environmental friendliness of their products over time.
The decision to introduce an official Nordic Ecolabel was made by the Nordic Council of Ministers in 1989. The purpose was to give Nordic Consumers guidance and to help them choose products which had fulfilled strict environmental requirements.
The EU Commission decided in 1992 to launch a common Ecolabel for the European market. The criteria are commonly developed by the commission's research centre in Seville, Spain.
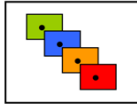
Fig.3 Logo Nordic Swan, EU Ecolabel, Blue Angel

In 1994, Global Ecolabelling Network (GEN) was formed. Within the wide class of environmental labelling and declarations in coincidence with products or services, there are labels with various extent of relation to environment or its compounds.

In frame of environmental lawmaking the European Community has accepted the Statute of European Council 880/92 as of 23rd March 1992 dealing with the system of granting environmental labels. Gradually a Committee assessed environmental criteria of granting the environmental EC label to relevant product classes. The EC statute No 880/92 as of 23rd March 1992 was revised in 2000, namely by Statute (EC) No 1980/2000, resp. Regulation (EC) No. 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel.

The EU Ecolabel is recognised across Europe. The certification is a reliable and scientifically verifiable way to let your customers know that your company is increasing its environmental sustainability by manufacturing products or providing services of good quality with reduced environmental impact. The EU Ecolabel makes your products stand out against your competitors. It adds real value to your business credentials and company image and most importantly, helps to boost your sales figures and minimise your costs.

Eco-labelling - direct and indirect benefits

Eco-labelling has different meanings and implications for different stakeholders in the product life chain. For instance, companies applying an eco-label to their products intend to increase their market share and to substitute environmentally less benign "conventional" products with the eco-labelled ones.

Successful eco-labelling activities rely on both market efficiency and environmental effectiveness.

Although the general eco-labelling objective to be efficient and effective is widely acknowledged, opinions differ whether 'real world' eco-labels are able to do so. Cautious estimations find it difficult to tell how much eco-labelling has up to now indeed contributed to reducing environmental stress, since environmental benefits will be achieved only gradually over years. [30] Others even state a 'perverse effect' caused by eco-labelling, since the "adoption of green production process and the supply of more environmentally benign products may be accompanied not only by conservation of conventional production lines […] but also by an increase in investment in 'polluting capital' before the adoption of the technology required to submit products which qualify for the label". [3]

Retailers might differentiate their procurement processes and range of products between eco-labelled and non eco-labelled products or they could become aware of environmental problems within a specific product group. Consumers could bear in mind the label and use them as an additional support while shopping. Or, consumers could become sensitive towards environmental challenges in general and more environmentally conscious in their behaviour. It is needless to say that this list of examples could be continued. It demonstrates that eco-labelling impacts are more complex and that the paths toward environmental benefits have to take into account two different, but also complementary types of environmental benefits:

- Direct environmental benefits ("performance") meaning environmental improvements attained through the practised application of eco-labelling on products and services and
- Indirect environmental benefits meaning environmentally positive impacts induced by eco-labelling schemes on surrounding policy, businesses and society (e.g. criteria as an informal 'standard', the eco-labelling multi-stakeholder approach as an initiator for co-operative action etc.). [6]

Ecolabelling and Green Marketing

Currently the customers question companies as to under what conditions their products have been produced and whether the used raw materials and procedures are environmentally safe and harmless to the health of workers. They demand to know as to in what way it is going to be possible to recycle the cover of the product as well as the product itself, or destruct it after its life cycle has terminated. [14] Firms must respect all Slovak and foreign legal aspects, regulations and norms coinciding either directly or indirectly with environment. Firms are able to evaluate the best as to what extent the legislature enables them to carry out their voluntary obligations. Therefore a whole number of significant companies in addition to their systems of quality management implement also environmental management systems. They are based on the implementation of elements of formation and protection of environment into their decision-making processes. [10]

Prior to the implementation of new products in the market, it is very important to prepare the market itself. This process is to be carried out in coincidence with each new product. In case of ecolabelling it is possible to use the advantage of the fact that ecolabels guarantee a minimum negative impact on environment, and therefore the behaviour of customers can
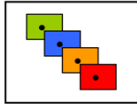
indirectly affect the quality of environment, or help the customers to conceive better the offer of products with comparable properties and functionalities. [13]

The overcome belief that market forces automatically guarantee the success of eco-labels did not fulfil. In general, eco-labelled products are placed in niche markets. Only a few schemes such as the German Blue Angel or the Nordic White Swan certify a considerable total quantity of different product groups, namely 196 for the Blue Angel [28] and 60 for the Nordic Swan [23]; but: just very few product groups show a remarkable market penetration. As it seems, current supply-side and demand-side benefits (producer image, green consumerism etc) do not suffice to make eco-labels successful. Approximately 12,000 products and services in virtually all areas of everyday life, oh (except food), currently classified Blue Angel. [27]

Greenwashing is a global concern

In practice, we meet with a false (trickish) eco-labellings, which is outwardly present themselves as environmentally friendly.

TerraChoice published its reports Greenwashing Report 2007, 2009 and 2010. The report "Greenwashing Report 2009" revealed that more and more products in the stores pretend to be the so called green ones. Up to 98% of the products referred to in the study committed one of the sins of the greenwashing [8] (so called green laundering), which led to the identification of the so called "the seventh sin": presentation (worship) of false brands. This sin is committed by a product that either verbally or visually gives the impression that it was granted a permission by a third party, although such a consent if the certificate does not really exist. [22]

In its report for the year 2009-"the sins of the greenwashing" it was noted that "greener" offer of products has increased by 79% in the period between the years 2008 and 2009.[17] Green markets are winning recognition more and more. This trend continued in 2010. Again in the study in 2010 has risen the offer of so called "greener" products by a total of 73%.[9]

As a response to greenwashing, marketing by TerraChoice created an online magazine which is designed to spread environmental awareness among consumers and sellers.[26]

The consumer cannot always rely on the credibility of the eco-label. An example can be the structure of environmental-oriented brands plausibility found in the survey done in North America, Australia and Great Britain (Fig. 4). [17]
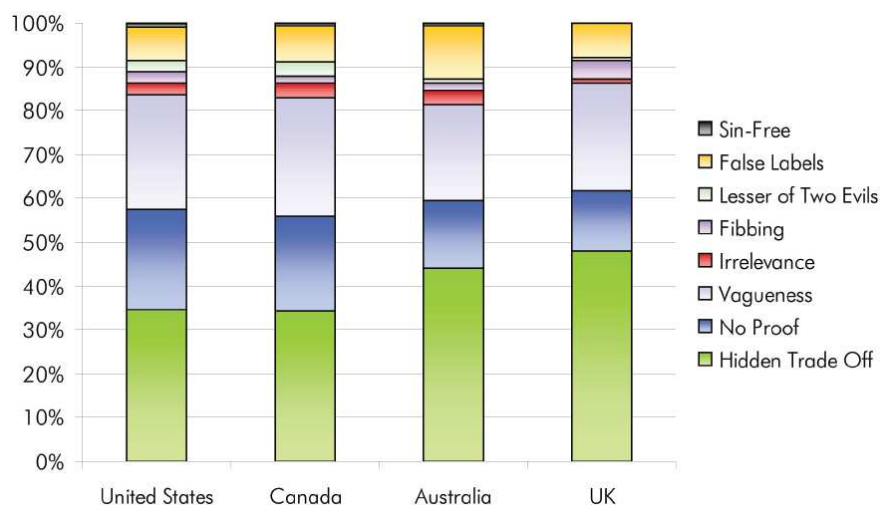

Fig. 4 The structure of the plausibility of the environmental-oriented brands identified in the survey in North America, Australia and the Great Britain
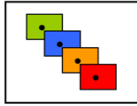
Safety labelling

Safety labelling provides instructions and information necessary to ensure safety. It is implemented by means of a mark, colour, an illuminated sign or an acoustic signal, a verbal communication or a hand signals. Safety labelling refers to a specific object, activity or situation and provides information or instructions necessary for the safety and protection of health at work.

In practice, we meet with
- the safety labelling within the meaning of the standard
  - STN EN 60073: 2002 Basic and safety principles for man-machine interface, marking and identification. Coding principles for indicators and actuators]

- EN 60417-1:1999 Graphical symbols for use on equipment. Overview and application. - In 2002 IEC launched an 'on-line' database format for the symbol library, available on subscription from the IEC web-site. Following this decision, in 2004 CENELEC decided to cease publication of EN 60417 in 'paper' form, to withdraw the then-existing standards and formally to adopt the IEC database without any changes for use in Europe.
- Safety labelling - Prohibition signs, Warning signs, Mandatory signs, Emergency signs, Fire safety signs.
- Safety and environmental labelling (example: labelling of batteries and accumulators),
- Safety, health and environmental labelling (example: CertiPUR-US® program, CIMS Standard),
- Safety and health labelling.

Safety requirements and labelling of products

A safe product is such a product which does not threaten so called a legitimate interest. This means that if it used for its intended purpose and its user shall comply with the safety instructions of the manufacturer, it will not cause its user damage to the life, health, then to the funds and properties, and to the environment.

Labelling is one of the ways to reduce the risk and approaching to the security of a safe product. For the consumer there can become a problem also the absence of clear and correct descriptions.

The keystone of a safe use of each product by common consumers is getting enough information. This information should be provided in the first place by the producer, because he is responsible for putting the safe product on the market.

Product Safety and Market Surveillance Package:
- Communication on More Product Safety and Better Market Surveillance in the Single Market of Products, COM(2013)74,
- Proposal for a Regulation on Consumer Product Safety, COM(2013)78,
- Proposal for a Regulation on Market Surveillance of Products, COM(2013)75,
- Communication on 20 actions for safer and compliant products for Europe: multi-annual plan for surveillance, COM(2013)76,
- Report on the Implementation of Regulation (EC) No 765/2008, COM(2013)77 Fake goods are bad for safety.

The counterfeit goods industry is estimated to be worth up to US $200 billion (source: OECD) and the goods produced cross every imaginable product sector, including:
- tobacco, alcohol and food products,
- designer clothes, watches, and accessories,
- medicines, chemicals and pesticides,
- perfume, cosmetics and body-care products,
- CDs, DVDs, computer software, games,
- vehicle and other spare parts,
- power tools and household appliances.[5]

Fake products pretend to be something that they are not, whether by imitating a legitimate product or by falsely claiming to meet legal requirements. A major beneficiary of this illegal business is organised crime. Worldwide, organised crime is heavily involved in distributing fake goods: for them it's a real growth opportunity.
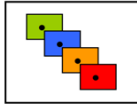
In Europe, the problem can pose health and safety risks and has become a major handicap to growth and employment. [24] Counterfeit products are offered with the intention to defraud and deceive. Not only do they mislead, pretending to be what they are not, not only are they of a much poorer quality than the originals, but they can also pose threats to health and security. [1]

What looks like a bargain often turns out to be a waste of money, as fake products are essentially not made to the same quality standards.

Many consumers are unaware that counterfeit goods don't undergo the same rigorous testing that legitimate manufacturers apply to their products to ensure they are safe. The fake products are often poorly made, do not comply with European safety standards and could be potentially lethal.

The European Commission and EU Member States are working hard to better enforce the rules which protect citizens and business against goods and products which do not meet safety standards. From 2013 authorities in Member States have stronger powers to take non-compliant and dangerous products off the market immediately. Unsafe fake products will get caught in the net and kept away from consumers. To raise the effectiveness of this across the EU, the Commission has set out a plan which involves greater resource sharing, better IT tools, tougher and more targeted external controls at the Union borders and harsher penalties.

Fake products can also be dangerous for health. Unlike original medicines (including generics), fake medicines, can be made out of anything. They can cause serious damage to health.

Medical devices are also subject to forgery. Contact lenses and blood testers are just some of the products that have been imitated and sold on the Internet or even in normal shops. They may cost less, but they can have serious adverse effects as they can be of poor quality, made of the wrong materials and have questionable effectiveness, if any.

Fake garments can also be unsafe. Chemicals used in textiles, clothing and footwear in Europe are thoroughly analysed and are prohibited if they are found to be harmful. A comprehensive piece of legislation called REACH insists that all chemicals in the European Union are tested. That is why, garments legally sold in Europe very rarely cause allergies and irritations. But fake items can contain chemicals that haven't been tested. They can harm your health. [25]

Car parts are among their most popular targets: fake automotive parts cost suppliers between five and ten billion euro every year. European legislation requires that all parts and components essential for the safety and environmental performance of motor vehicles are subject to controls before they can be placed on the EU market.

Dangers can also lie in products where the risk is less obvious. Think about toys. They should be the safest goods – they are made for children. But if they don't conform to safety regulations, they can pose a serious danger. Fake toys are widespread. Fake toys can contain dangerous materials, like paint containing poisonous chemicals. They may be made with detachable small parts, which are prohibited according to the EU toys safety legislation, posing choking hazards to children. There is no way of knowing if a fake item has gone through safety checks.

Products that could be dangerous to the health and safety of consumers accounted for almost one third of the total amount of articles detained by EU customs in 2011 almost double the proportion in 2010. Traders in fake articles are crooks. As they have no reputation to protect, they do not care about consumer safety. [24]

The European Commission plans to set up a globally compatible device identification system in the EU to facilitate the recognition of illegal products.[25]

Conclusions

Environmental marking of products is one of the pro-environmental voluntary approaches. The environmental mark (symbol) is perceived as a quick indicator of the protection of environment/sustainable development.
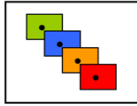
In the last decades there occurred an important broadening of the spectrum of approaches in environmental and safety policies at both national and international levels. In the frames of production and consumption policies there are now gradually forced some tools for using, as a form of communication between producers and consumers, a non-verbal communication that is most frequently applied by symbols and marks often primarily or secondary respectively.

Environmental and safety marking helps effectively appeal on implementation of environmental and safety policy principles in praxis. It contributes to betterment of business environs, environmental and safety situation in production but also in non-production spheres, to keeping cultural particularities, to better economy with natural resources, to rising of deducibility (monitoring of a product in production chain from its production to sale).

References

[1]   A serious problem for the citizens and the economy. - [on-line] Available on - URL: http://ec.europa.eu/growth/industry/intellectual-property/stop-fakes/index_en.htm [cit. 2014-10-09]

[2]   DEERE, Carolyn L., 1999**:** Eco-labelling and Sustainable Fisheries,IUCN: Washington, D.C. and FAO: Rome. ISBN: 28317-0507-X**,** 36 p.

[3]   DOSI, Cesare - MORETTO, Michele, 2001: Is Eco-labelling a Reliable Environmental Policy Measure?, Environmental and Resource Economics, 18(1): p. 113-127 [p.121]

[4]   Enterprise and Industry. - [on-line] Available on - URL: http://ec.europa.eu/enterprise/policies/single-market-goods/cemarking/index_en.htm

[5]   EUROPOL: Counterfeit Products. - [on-line] Available on - URL: www.europol.europa.eu ; https://www.europol.europa.eu/sites/default/files/publications/counterfeitproducts.pdf

[6]   EVER: Evaluation of EMAS and Eco-Label for their Revision. Report 2: Research findings, 26 December 2005. Consortium leader: IEFE- Università Bocconi, Partners: Adelphi Consult , IOEW, office Heidelberg, SPRU, Sussex University, Valor & Tinge A/S

[7]   Global Trends 2025: A Transformed World. - US Government Printing Office, Washington, *November 2008,* ISBN 978-0-16-081834-9, 99 p., electronic version: www.dni.gov/nic/NIC_2025_project.html

[8]   Green-wash (green'wash ",-wôsh") - verb: the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service. [on-line] Available on - URL: >http://sinsofgreenwashing.org/< [cit.: 2014-05-12]

[9]   Greenwashing Report 2010. - [on-line] Available on - URL: > http://sinsofgreenwashing.org/findings/greenwashing-report-2010/

[10]   HYRŠLOVÁ, J. 2004. *Benefits of Environmental Management Systems in* the Czech Republic. In.: Conference Akademická Dubnica 2004. Dubnica. pp. 163 - 166, ISBN 80-227-2076-3

[11]   Keymark - one Standard, one test, one mark. - [on-line] Available on - URL: http://www.cen.eu/news/brochures/brochures/Keymark.pdf

[12]   Keymark. - [on-line] Available on - URL: http://www.cen.eu/work/keymark/Pages/default.aspx

[13] KORAUŠ, A. 2003. *Customer Relationships Management as Key factor of Success*. Eurozpravodaj 2/2003, Plzeň, ISSN 1213-6913

[14] KOTOVICOVÁ, J. et al. 2003. *Clean Production*. Brno: MZLU. ISBN 80-7157-675-1 (in Czech)

[15] PIOTROWSKI, Ralph - KRATZ, S., 1999: Eco-labelling in the Globalised Economy. - In: International Politics and Society 4: 430-443

[16] Product safety and market surveillance package. COM(2013) 75 final**,** Brussels, 13.2.2013**,** 2013/0048 (COD)**.** - [on-line] Available on - URL: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0075:FIN:EN:PDF

[17] Seven Sins of Greenwashing, Environmental Claims in Consumer Markets, Summary Report: North America, April 2009. - [on-line] Available on - URL: > http://sinsofgreenwashing.org/findings/greenwashing-report-2009/

[18] SRI Consulting Business Intelligence a Toffler Associates. http://eravisions.eu/stocktaking/59

[19] Technology and Innovation 2025.- Toffler Associates, November 2008, 48 p. [p.8], http://www.toffler.com/

[20] The 'Blue Guide' on the implementation of EU product rules 2014. - [on-line] Available on - URL: **<http://ec.europa.eu/DocsRoom/documents/4942/attachments/1/translations/en/renditions/native> ; <http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item_id=7326>**

[21] The CE-marking. [on-line] Available on URL: http://ec.europa.eu/enterprise/policies/single-market-goods/cemarking/about-ce-marking/index_en.htm

[22] The Seven Sins. - [on-line] Available on - URL: >http://sinsofgreenwashing.org/findings/the-seven-sins/

[23] The Swan – the official Nordic Ecolabel - [on-line] Available on - URL: http://www.svanen.nu/Eng/criteria/kriterietraff.asp ; http://www.svanen.se/en/About-us/The-swan-and-the-EU-Ecolabel/

[24] Too good to be true: the real price of fake products. **-** European Commision, Brussels, 19 April 2013, MEMO/13/346, 5 p.

[25] Too good to be true? The real price of fake products.- European Commission Internal   Market, Industry, Entrepreneurship and SMEs, ISBN 978-92-79-30461-3, 16 p. - [on-line] Available on - URL: *ec.europa.eu/enterprise/stopfakes; http://ec.europa.eu/DocsRoom/documents/8713*

[26] UL TerraChoice. - [on-line] Available on - URL: > http://terrachoice.com/about/ < [cit.: 2012-06-12]

[27] Unschlagbare Produktvielfalt. - [on-line] Available on - URL: > https://www.blauer-engel.de/de/ihre-vorteile < [cit.: 2014-10-01]

[28] Vergabegrundlagen / Überblick aller Produktgruppen und Dienstleistungen. [on-line] Available on - URL: http://www.blauer-engel.de/deutsch/navigation/body_sitemap.htm ; [cit.: 2014-10-07] https://www.blauer-engel.de/de/fuer-unternehmen/vergabegrundlagen

[29] World Trade Organization. 1997. Eco-labelling: Overview of Current Work in Various International Fora, Note by the WTO Committee on Trade and Environment, WT/CTE/W/45, WTO: Geneva

[30] YANG, Wanhua, 1998: Eco-labelling: Its Role In Promoting Sustainable Production And Consumption, Paper for the International Symposium on Policy Instruments for Sustainable Consumption and Production: The Search for Effective Steering, Oslo. [p. 7]

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