



Project: Innovations in circular economy – environmental labels and declarations (ID: 21920002)

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The idea of environmental labels and declarations

- ISO Type II and III environmental labelling -

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Increasing environmental awareness among people has put producers in a position that they must offer the products with higher environmental standards.
- Due the growing interest among consumers, government and employers for the environmental impact of products, product-related issues are increasingly becoming an important part of the purchasing decision.
- Following these trends, a large number of manufacturers are trying to show to consumers that their product has some advantageous feature, in order to convince them that in this area of production, their product is better than the competition. For example, consumers may be interested in the resources and amount of energy consumed in the production of a particular product, as well as in which form the product is designed, or the possibility of reuse, recycling or biodegradability, and whether recycled materials are used for its production, etc.
- This has led to greater need for information about products, related to the environment, for consumers, government and industry. The information that manufacturers most often point out is their investment in reducing negative impacts, i.e. that the product itself has a better impact on the environment

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Presence of products with environmental attributes has promoted “green” activities in markets all around the world and created the need for systemization and standardization of usage the environmental claims and labels.
- A significant stage in the development of the ISO standard related to environmental claims is the development of ISO 14021, an international standard that defines the type II environmental labelling – self-declared environmental claims, from 1999.
- Following the first version of this standard, the ISO published addition to the standard in form of Amendment in 2011, and then a final new revised version ISO 14021: 2016.

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Self-declared environmental claims may be created by manufacturers, importers, distributors, retailers or anyone else who think that can have benefit from such claims, but without certification by an independent third party.
- Environmental claims made in regard to products may take the form of statements, symbols or graphics on product or package labels, or in product literature, technical bulletins, advertising, publicity, telemarketing, as well as digital or electronic media, such as the Internet

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Self-declared environmental claims are statements, labels or symbols that are related to a particular activity, product or service that may have an impact on the environment.
- This is a special type of advertising. It is related to the product, its components or its packaging. It can be in the form of a statement, label or symbol found on the product or on the product packaging, or in product documentation, technical bulletins, in advertisements and promotions, or through electronic or digital media (TV and Internet).
- The parameters, which indicate that the product is “environmentally friendly”, the company chooses itself.

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- The essential factor to all of these environmental claims is to ensure that validity and reliability.
- It is very important to conduct verification properly in order to prevent negative market effects, such as market barriers or unfair competition, which may result from unreliable environmental claims.
- Also these claims should be clear, transparent, scientifically substantiated and documented so that the buyer or potential buyer of the product can be sure of the validity of the claims.
- The main advantage of environmental labels type II is their ability to attract the attention of all target groups in a simple way, with very little investment. Other advantages include :
 1. Reduce confusion in the market (by credibility of information),
 2. Facilitate the international trade,
 3. Greater benefit for the customer, potential customer and users to be better informed while choosing a product.

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Self-declared environmental labelling can exist in various forms, as simple claims, such as “recycled” and energy efficiency, or to be multi-content declarations with multiple attributes related to environmental protection.
- The final scope of environmental labels and declarations is to, through the use of confidential, accurate information that does not mislead about environmental aspects of products, encourage requirements for products and the use of those products that have a less harmful impact on the environment, affirming the potential for market-oriented environment improvement.

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Before a manufacturer decides to use a self-declared environmental decision, it is important to establish whether there is a specific law or regulation regarding how environmental information should be published.
- The regulations serves to better understanding the minimum requirements and to convince the potential users that the words, expressed through claim/label, are used correctly.
- The International Organization for Standardization with development of ISO 14021, which defines type II environmental labels, has developed a voluntary labels and claims, which do not require from companies to permanently associate with them.
- Although they are self-declared, there are some guidelines for issuing these product declarations.

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- In essence, there are three basic elements that must be considered when using self-declared environmental claims :
 1. Quality of current information that will be announcement (content),
 2. The way the information is presented (presentation),
 3. Take the steps and methods to verification of their accuracy (guarantee of accuracy).
- The symbols used for the purposes of self-declared environmental claims should be simple, easily reproducible and appropriate in position and size to the product to which they are applied.
- The use of environmental labels and symbols serves as a significant source of information about the product or manufacturer. Use should be avoided in case they may cause misinterpretation of meaning of the symbol by the consumer

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- If a company chooses to publish their graphic solution of symbol, they must undertake that a particular activity, product or service declared by this symbol has qualitative advantages, which similar products, services or companies do not possess.
- To avoid confusion, similarities with existing official symbols should be avoided.
- More details also can be posted on a website. Possibility to verify the evidence that are supporting the use of environmental labels, must be available.
- The use of labels/symbols for marketing purposes must be in accordance with national marketing law, as well as with pre-defined criteria on environmental claims

ISO Type II environmental labelling - Self-declared environmental claims in the form of statements

- Textual environmental claims should be also in a short/simple form with accurate information for customers.
- Within ISO 14021:2016, there are 16 textual statements that are defined with precise specifications about usege of terms, limitations and evaluation methodology.
- The textual statements defined by the standard are: compostable, degradable, designed for disassembling, extended life product, recovered energy, recyclable, recycled content, reduced energy consumption, reduced resource use, reduced water consumption, reusable and refillable, waste reduction, renewable material, renewable energy, sustainable and claims relating to greenhouse gas emissions .
- These claims can be used for different stages of the product life cycle.

ISO Type III environmental labelling - Life Cycle Assessment

- Life Cycle Assessment (LCA) studies environmental aspects and impacts through the whole life cycle of product from the extraction of raw materials, through the production, use, and end of life management, i.e. from “cradle to grave”.
- The LCA methodology is standardized with several International Organisation for Standardisation (ISO) standards.
- The ISO 14040:2006 and 14044:2006 are considered as essential standards for LCA, where ISO 14040:2006 provides principles and framework while ISO 14044:2006 provides requirements and guidelines for LCA.

ISO Type III environmental labelling - Life Cycle Assessment

Other ISO standards and technical reports related to LCA are:

- ISO 14045:2012 – Environmental management – Eco-efficiency assessment of product systems – Principles, requirements and guidelines,
- ISO 14046:2014 – Water footprint – Principles, requirements and guidelines,
- ISO/TR 14047:2012 – Environmental management – Life cycle assessment – Illustrative examples on how to apply ISO 14044 to impact assessment situations,
- ISO/TS 14048:2002 – Environmental management – Life cycle assessment – Data documentation format,
- ISO/TR 14049:2012 – Environmental management – Life cycle assessment – Illustrative examples on how to apply ISO 14044 to goal and scope definition and inventory analysis,
- ISO 14067:2018 – Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification,

ISO Type III environmental labelling - Life Cycle Assessment

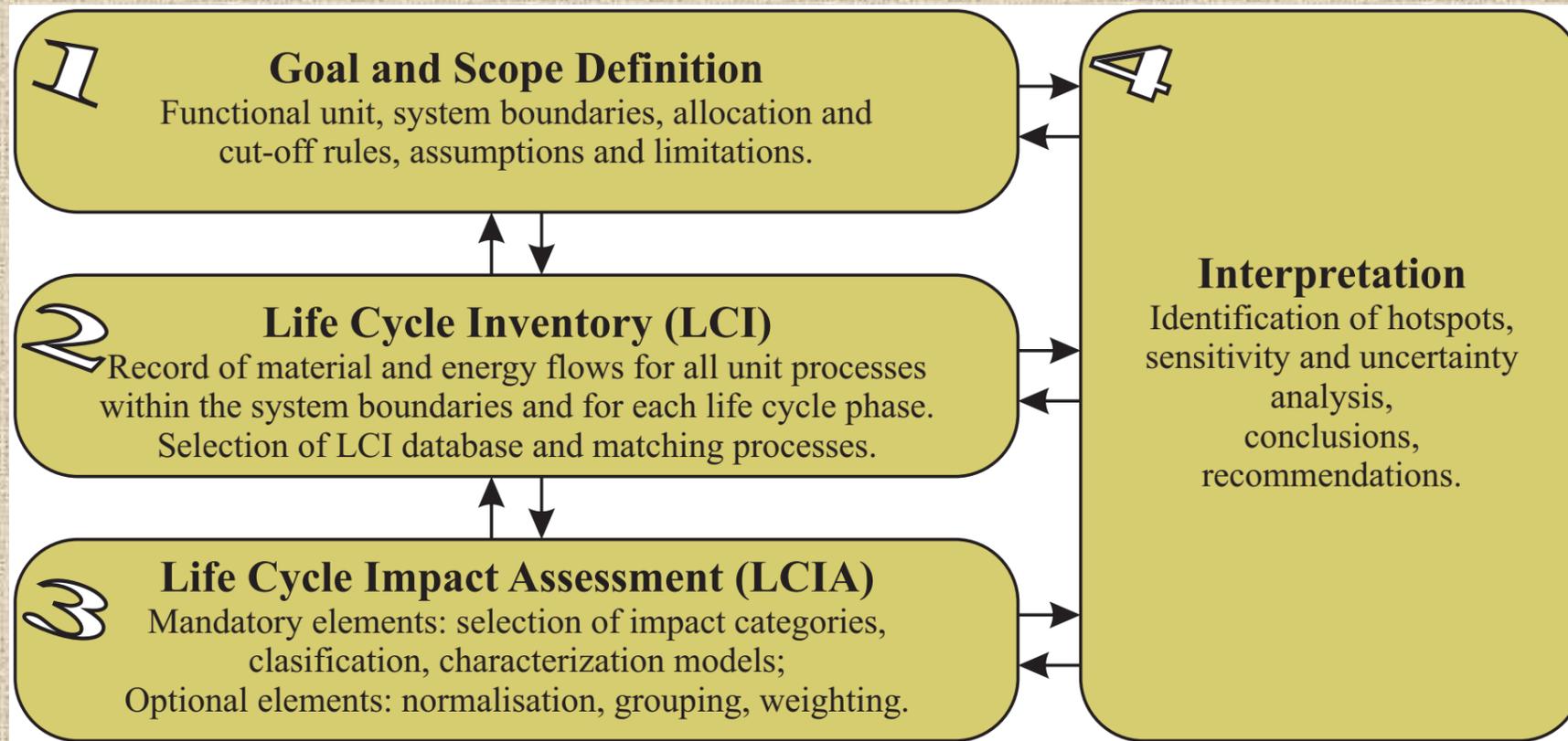
- ISO/TS 14071:2014 – Environmental management – Life cycle assessment – Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044:2006,
- ISO/TS 14072:2014 – Environmental management – Life cycle assessment – Requirements and guidelines for organizational life cycle assessment,
- ISO/TR 14073:2017 – Environmental management – Water footprint – Illustrative examples on how to apply ISO 14046,
- ISO 21931-1:2010 – Sustainability in building construction – Framework for methods of assessment of the environmental performance of construction works – Part 1: Buildings,
- ISO 21931-2:2019 – Sustainability in buildings and civil engineering works – Framework for methods of assessment of the environmental, social and economic performance of construction works as a basis for sustainability assessment – Part 2: Civil engineering works.

ISO Type III environmental labelling - Life Cycle Assessment

- LCA can be used for evaluation of environmental impacts in various fields of engineering, such as: production engineering , energy engineering , civil engineering , chemical engineering , metallurgy engineering , etc.
- Although the LCA was developed for evaluation of human activities on environmental impacts, during the time, LCA was expanded to evaluation of other aspects.
- Life cycle costing is used for estimation of costs, social LCA for evaluation of social issues, working environment LCA for assessment of impacts on worker, life cycle sustainability assessment evaluates sustainability through the environmental, social LCA and life cycle costing, organisational LCA for evaluation of environmental impacts associated with organisation. Within the environmental LCA, carbon footprint and water footprint emerge as the most popular single-issue LCAs that evaluate only one impact category.

ISO Type III environmental labelling - Life Cycle Assessment

- Realisation of LCA is thorough the following four phases , which are interconnected as shown in Figure

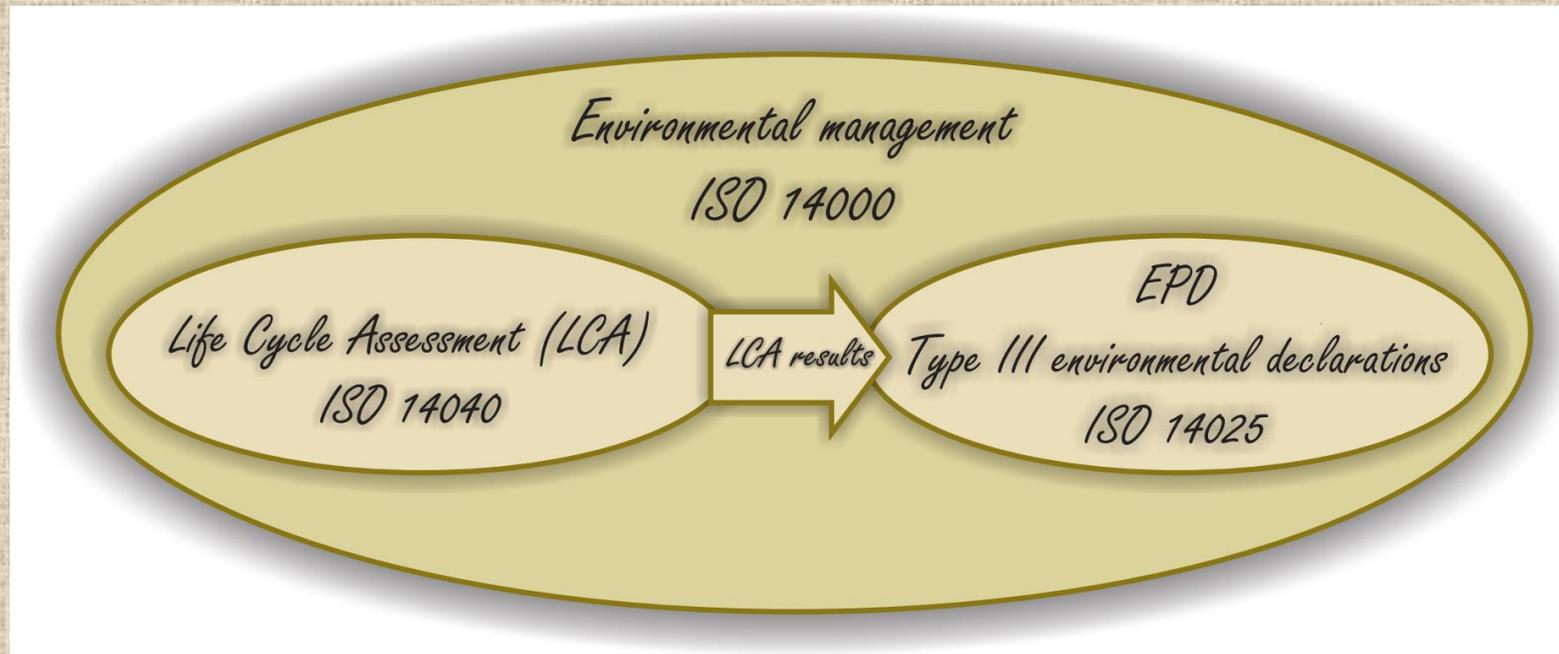


ISO Type III environmental labelling - Introduction

- Environmental product declarations (EPD), or type III environmental declarations, are defined with ISO 14025 standard, and contain quantitative environmental data using the previously defined parameters based on LCA, and additional quantitative or qualitative information about environmental protection.
- EPDs are third-party verified data sheets developed based on the requirements of ISO 14025, and are governed by Product Category Rules (PCR) – documents developed by program operators that are responsible for rule creation and third party verification .

ISO Type III environmental labelling - Introduction

- Therefore, EPDs core information about the environmental impacts generated by products or processes are based on LCA results and both ISO standards are framed with ISO 14000 standard family.



ISO Type III environmental labelling - Introduction

- EPD is voluntary program that provides quantified and verifiable environmental information about the product through it's the entire life cycle. EPD enhances communication between the product producers and buyers.
- Using environmental information from EPDs, consumers can compare product features and to choose the one with better environmental performances. Therefore, the companies are motivated to improve their products, apply LCA, and declare their improvements through EPD.
- Providing information about the impacts on environment in form of quantitative statements drives consumers to make environmentally conscious decisions and to prefer more sustainable products.
- Quantitative environmental statements in form of EPDs influence consumer behaviour and prevent possible actions that could have negative environmental impact.

ISO Type III environmental labelling - Introduction

- Although LCA is complex method and requires time for understanding, EPDs narrows this gap and provides fast and crucial LCA information that are easily available for consumers. In this manner LCA promotes environmentally friendly products, and although it can be used as an optimisation tool for production processes, it is an effective marketing tool also.
- The unique feature of EPD is that they allow comparison of similar products within the same product categories where magnitude of environmental impacts is quantified and measureable. Quantified information provide sense of how much are environmental impact significant. Company suppliers, investors, non-governmental organizations, and government institutions are also potential EPD users. Various user groups are motivated towards EPD because it provides information that are not available elsewhere.

ISO Type III environmental labelling - Introduction

- Currently active standards ISO 14020:2000 and ISO 14025:2006 are baseline for development and use of EPDs. ISO 14020:2000 provides general principles for environmental labels and declarations while ISO 14025:2006 provides principles and procedures for EPDs. ISO 14020:1998 was the first standard that regulates environmental labels and it was published in 1998. ISO 14025:2000 was released in 2000 and is now replaced with ISO 14025:2006. Other ISO standards, technical reports, and working drafts related to EPDs are:
 - ISO 14026:2017 – Environmental labels and declarations – Principles, requirements and guidelines for communication of footprint information,
 - ISO/TS 14027:2017 – Environmental labels and declarations – Development of product category rules,
 - ISO/WD TS 14029 – Mutual recognition agreements between Type III Environmental Declaration (EPD) Programme Operators – Principles and procedures (Currently under development),
 - ISO 21930:2017 – Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.