



N&W

GLOBAL VENDING



**TECHNICAL
FORUM**

**8-9 November 2006
Rome, Holiday Inn**

What is Directive 2005/32/EC ?

This Directive establishes a **framework** for the setting of Community Eco-design requirements for energy using products (Eups)

- It also provides for the setting of **requirements** which the energy using products covered by **implementing measures** must fulfil in order for them to be placed on the market and/or put into service.
- Member States shall take all appropriate measures to ensure that EuPs covered by implementing measures may be placed on the market and/or put into service only if they comply with those measures and bear the CE marking.
- Member States shall also designate the authorities responsible for market surveillance and shall define their tasks, powers and organizational arrangements and they shall ensure that consumers and other interested parties are given an opportunity to submit observations on product compliance to the competent authorities.

TIMING OF THE MAIN STEPS :

Draft final report stakeholder workshop: September 2007
 Consultation Forum phase: October 2007 - January 2008
 Commission adoption phase: June 2008 - August 2008



Eco design parameters for EuPs

For what regards product design, significant environmental aspects are likely to be used with reference to the following phases of the lifecycle of the product:

- raw material selection and use;
- manufacturing;
- packaging, transport, and distribution;
- installation and maintenance;
- use;
- end-of- life, meaning the state of an EuP having reached the end of its first use until its final disposal.



Eco design parameters for EuPs

In particular, the following parameters are going to be used for evaluating the potential for improving the environmental aspects mentioned previously:

- weight and volume of the product;
- use of materials issued from recycling activities;
- consumption of energy throughout the life cycle;
- use of substances classified as hazardous to health and/or the environment according to Council Directive 67/548/EEC of 27 June 1967;
- quantity and nature of consumables needed for proper use and maintenance;
- ease for reuse and recycling;
- incorporation of used components;
- avoidance of technical solutions detrimental to reuse and recycling of components and whole appliances;
- extension of lifetime as expressed through: minimum guaranteed lifetime, minimum time for availability of spare parts, modularity, upgradeability, reparability;
- amounts of waste generated and amounts of hazardous waste generated;
- emissions to air, emissions to water, emissions to soil.



About conformity assessment

• Before placing an EuP covered by implementing measures on the market and/or putting such an EuP into service, the manufacturer shall ensure that an assessment of the EuP's conformity with all the relevant requirements of the applicable implementing measure is carried out with a **declaration of conformity**.

• The conformity assessment procedures shall be specified by the implementing measures and shall leave to manufacturers the choice between the **internal design control** and the **management system**.

Internal design control : a technical documentation file making possible an assessment of the conformity of the EuP with the requirements of the applicable implementing measure will be compiled by the manufacturer; the documentation will specify, in particular:

- a general description of the EuP and of its intended use;
- the results of relevant environmental assessment studies;
- the ecological profile, if required by the implementing measure;
- elements of the product design specification relating to environmental design aspects of the product;
- the results of measurements on the Eco-design requirements carried out.



About conformity assessment

- **Management system** : a management system may be used for the conformity assessment of an EuP. The management system for environmental elements is divided in four parts:
 1. The environmental product performance policy
 2. Planning
 3. Implementation and documentation
 4. Checking and corrective action



How to get ready ?

Among the policies that a producer should implement there is the eco design approach

Eco-design or “design for environment” (DfE) combines tools and methods to integrate ecological aspects to the development process of products and processes.

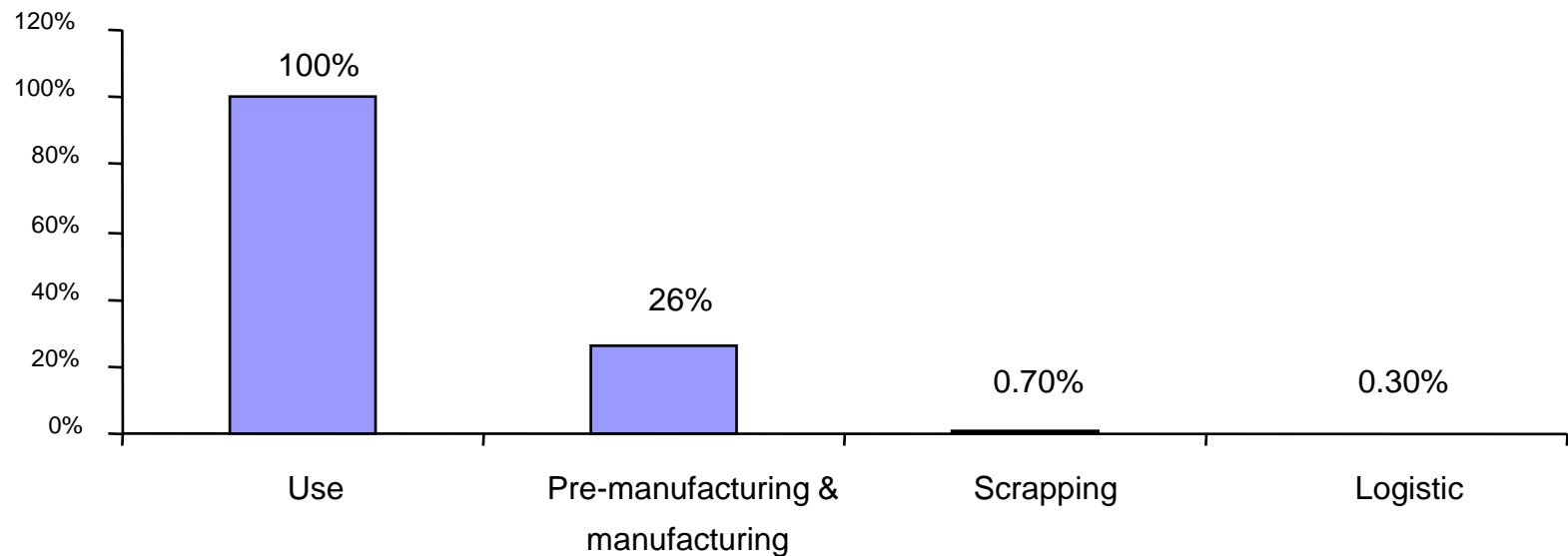
Some of the tools for eco design approach are :

- To apply LCA, Life Cycle Assessment, to some of the company products : it is a comprehensive assessment of environmental impacts related to all life cycle stages.
Main purposes:
 - Identification of the most impacting phases for Environment in the life cycle of a EUP
 - Identification of significant processes, components and materials related to environmental impacts and primary energy consumption
 - Assessment of environmental impacts of design modification and further development of products
- To set Company proprietary Guidelines for the Design of a low Environmental impacting EuP
- To set Company proprietary Checklists for the Design of a low Environmental impacting EuP



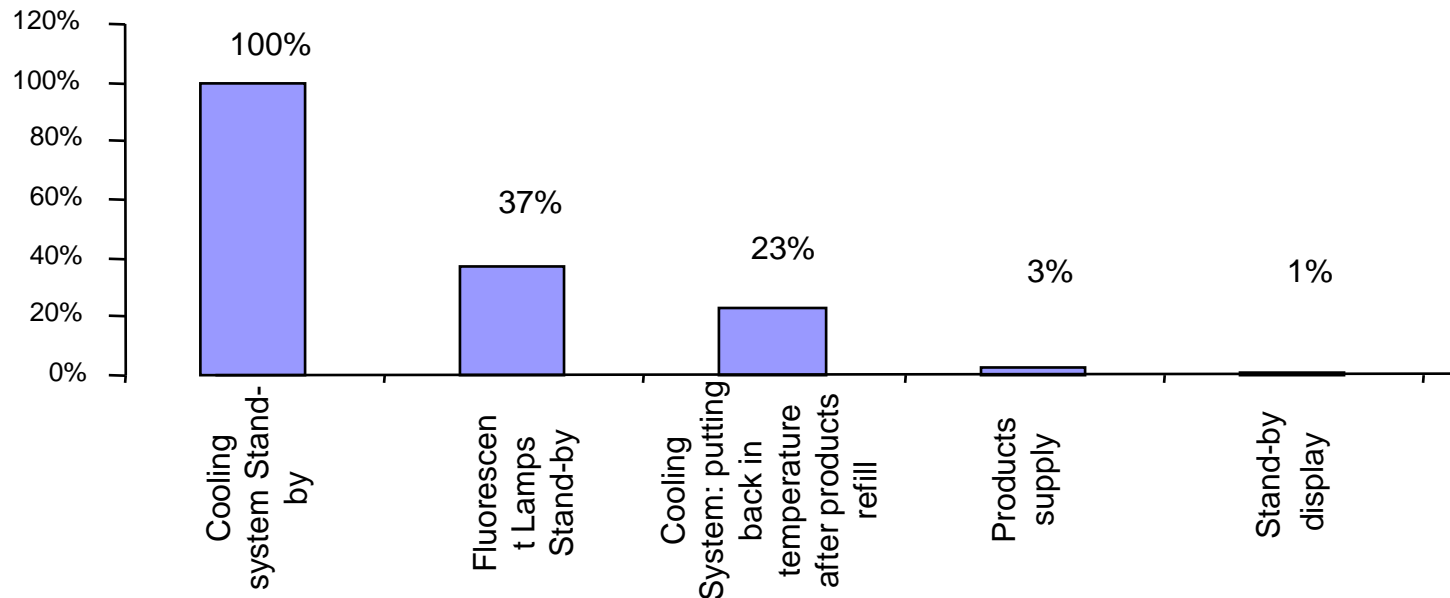
Eco-design tools: a case of LCA implementation

ECOINDICATOR of the life cycle of a spiral vending machine



Eco-design tools: a case of LCA implementation

ECOINDICATOR of power consumption during the life cycle of a spiral vending machine



Eco-design tools: a case of LCA implementation

- According to the findings the most impacting phase of the whole Life Cycle is the Use phase, which means the energy consumption of the EuP
- Inside the Use phase the energy consumption during the stand by mode is the most relevant one.
- Some of the actions that can be implemented to reduce energy consumption during the stand by mode:
 - To Introduce a SW routine to switch off the lamps during configurable time bands (e.g. night hours)
 - To improve the energy efficiency of the cooling system
 - To use most energy efficient lamps
 - ...



Eco-design tools: a case of LCA implementation

N°	Guidelines n° 4			YES	PARTIAL	NO
	DESIGN FOR DISASSEMBLY					
	(PRIORITY 34)					
1	Sono state adottate strutture modulari per lo smontaggio dei componenti?					
2	Il prodotto è stato suddiviso in sottoassiemi separabili come singole parti?					
3	Sono state ridotte le connessioni di dipendenza gerarchica tra i componenti, in modo che ogni componente sia il più possibile disassemblabile senza il previo disassemblaggio di altri componenti?					
4	Sono state ridotte le direzioni di estrazione dei componenti e sottoassiemi, ricercando la massima linearità di direzione di smontaggio?					
5	Sono stati evitati sistemi di connessione che richiedono per l'apertura l'intervento contemporaneo in più punti di giunzione?					
6	È stato ridotto il numero delle giunzioni?					
7	Sono stati ridotti i tipi di giunzioni che richiedono per l'apertura utensili diversi?					
8	Sono state evitate giunzioni difficili da movimentare o da maneggiare?					
9	Sono stati progettati punti di separazione ben visibili e accessibili per facilitare il lavoro a chi si occupa di tali operazioni?					
10	Sono stati introdotti sistemi di connessione reversibili?					
11	Ove usate, sono state scelte giunzioni permanenti più facilmente apribili?					
12	Sono stati usati materiali e inserti nel prodotto (o in suoi sottoassiemi facilmente disassemblabili) facilmente separabili una volta frantumati (in relazione ai sistemi presenti nei centri di rottamazione)?					
13	Sono state previste aree di rottura predeterminate per eliminare, tramite pressione o leva, degli inserti incompatibili (es. schede elettroniche per recuperare grossi condensatori elettrolitici e batterie, cablaggi, relè)?					
14	Sono state previste aree di rottura predeterminate che consentano la rimozione di borchie e di punzoni?					
	TOTAL					



Challenges in the next 10 years

This conclusion is taken from the results of an EC Project about Environment, Ecolife II:

- Whatever scenario there are many challenges for industry
- Industry must
 - Develop smart, energy efficient and safe products
 - Be prepared for more legislation
 - Teach consumers how to use the products to minimize the environmental impact

