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Footwear

1st Ad Hoc Working Group Meeting for the revision of Ecolabel criteria

8th October 2013

February 2013

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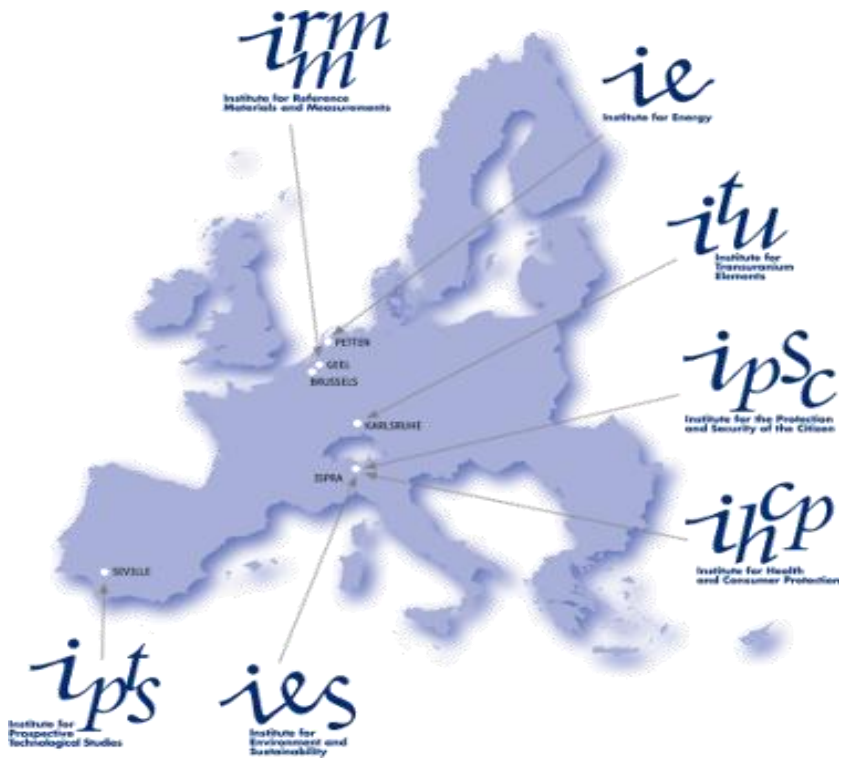

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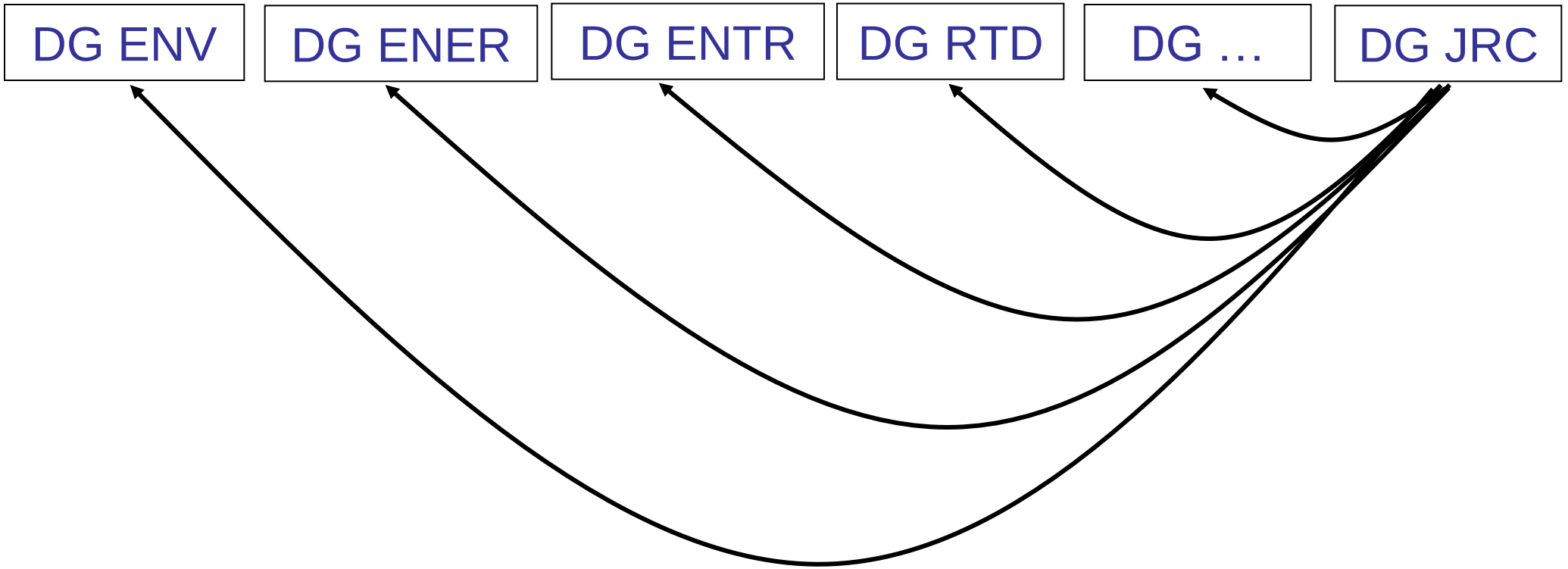


Activities in support of Product Policy

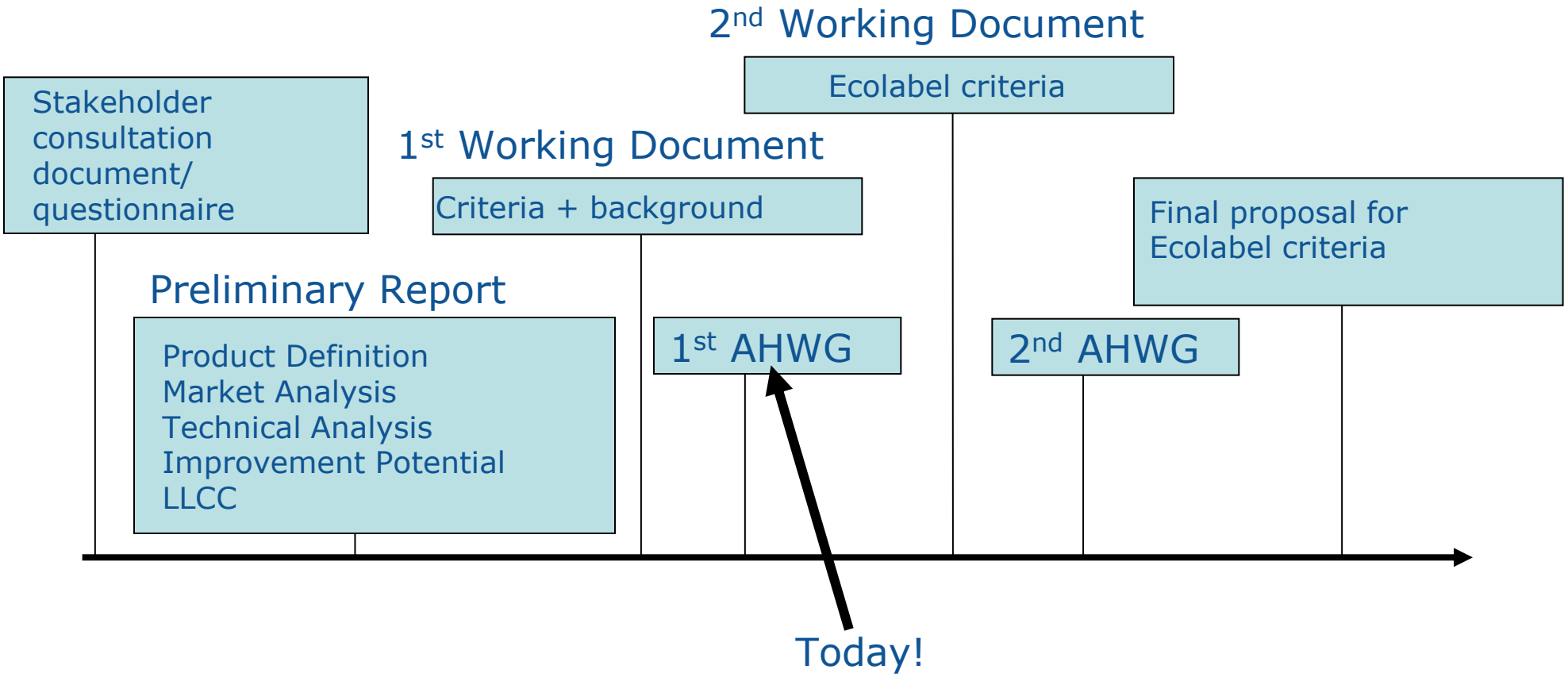
IPTS supports the development and implementation of environmental product policies, amongst them the EU Ecolabel Regulation and the Green Public Procurement Communication.

Analysis of each product group with focus on techno economic and environmental aspects

Aligning criteria with Ecolabel Regulation EC 66/2010

Develop criteria and implementing measures until the stage of voting in committee

Criteria development process



Criteria Development for Footwear

1. *Stakeholders can provide comments on working document up to 3 weeks after the meeting (28th October)*
2. *Comments need to be submitted in BATIS*
2. *A draft criteria proposal for EU Ecolabel criteria will be prepared and published 4 weeks ahead of next AHWG*
3. *Second AHWG to take place in May 2014 (Brussels)*
4. *Again 3 weeks deadline for comments after 2nd AHWG*
5. *November 2014 final draft criteria available*

Today's 1st AHWG

Agenda:

- *Session 1: Product group scope and definition*
- *Session 2: Key results from the preliminary report*
- *Session 3: Product description and hazardous substances*
- *Session 4: Criteria areas – Materials production*
- *Session 5: Criteria areas – VOCs emission & Energy consumption*
- *Session 6: Criteria areas – Packaging and use phase criteria*
- *Session 7: Criteria area – New proposals*

Thank you

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Revision of EU Ecolabel Criteria for Footwear product group

Session 1: Scope of the product group

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

According to the current criteria (Decision 2009/563/EC), the product group 'Footwear' shall *comprise all articles of clothing designed to protect or cover the foot, with a fixed outer sole which comes into contact with the ground. Footwear shall not contain any electric or electronic components*.

Criteria applies for components weighting more that 3% separately for upper and sole footwear parts.

Revision objective: *to analyse the possibility to extend footwear product group to other leather products and update the existing criteria according to the actual Legislation and state-of-the-art of targeted industry*

Methodology: Cross-analysis

1. European Standards: (CEN/TC, ISO, IULTCS)
2. Footwear categorization: (use, materials, gender)
3. Other environmental schemes of relevance: (Blue Angel, Nordic Swan, Eco Mark,…)
4. Preliminary market analysis: (segmentation, trades)
5. Technical aspects and process differences (leather processing)
6. Preliminary Life Cycle Assessment consideration (functional unit)
7. Stakeholders interaction
8. Questionnaire

RECOMENDATION

Extension to leather goods is not recommended

Broad and heterogeneous product group
Potential confusion of the consumer = lack of alignment within the same product function (leather vs. other materials wallet)

Market data: globally 9,4 % of leather intended destination are "other" leather products, 4,4% are gloves; 50% are footwear
Footwear with leather uppers accounts to 24% of apparent consumption and 60% of production

Leather products might not be principally made of leather
Setting a threshold of leather content in the product could potentially exclude non-leather footwear

Technical requirements of leather processing and **fitness for use** criteria are product specific

Inquired stakeholders are not in favour of the scope extension
Other schemes

LCA environmental comparison not possible: different functional unit

The EU Ecolabel Regulation No 66/2010 requires that "the EU Ecolabel criteria shall include requirements intended to ensure that the products bearing the EU Ecolabel function adequately in accordance with their intended use".

Product Group Scope and Definitions (1)

Present scope definition, Decision 2009/563/EC
The product group 'footwear' shall comprise all articles of clothing designed to protect or cover the foot, with **a fixed** outer sole which comes into contact with the ground. Footwear shall not contain any electric or electronic components.
Suggested scope definition
Recommended scope: The product group 'footwear' shall comprise all articles of clothing designed to protect or cover the foot, with **applied sole** which comes into contact with the ground. Footwear shall not contain any electric or electronic components.

JRC-IPTS proposal:

Revised deifnition proposal in line with Directive 94/11/EC

The product group 'footwear' shall comprise all articles of clothing designed to protect or cover the foot, with applied sole which comes into contact with the ground. Footwear shall not contain any electric or electronic components.

The new definition does not use the term "fixed outer sole" which leads to confusion when considering moulded footwear.

Safety footwear (Personal Protective Equipment Directive (PPE) 89/686/EEC): light industrial shoes (occupational footwear) are proposed to be included in the scope

Personal Protective Equipment Directive (PPE) 89/686/EEC

- **Category I:** "simply" design PPE providing protection against minimal risks
- **Category II:** Intermediate design, products that provide protection against risk of severe injury
- **Category III:** PPE of complex design intended to protect against mortal danger or against dangers that may seriously and irreversibly harm the health: (emergency equipment used in high/low-temperature environments, high voltage protection)

Light industrial shoes (occupational footwear)

- Special occupational footwear protecting the wearer from injury. Special features: without toecap, but with skid resistant, anti-static or similar characteristics.
- Standard occupational footwear, of low protective strength. Often part of uniformity (e.g. in public services or retail trade) and not, or hardly, different from casual footwear.

Only safety footwear that incorporate metal toe-cap are included in EUROSTAT database (2% of volume market share)

Questions:

1. Should the product group definition be re-worded to reflect the possible use of injection moulding technique?
2. Should occupational footwear be included in the scope?
3. Should protective footwear of complex construction (e.g., with integrated protective toe-cap, designated for fire fighters) be excluded from the product group scope?

Revision of EU Ecolabel Criteria for Footwear product group

Session 2: Technical analysis

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

Technical background

	PRELIMINARY REPORT
TASK1	European legal framework summary
	Product group analysis (categorization, materials used, assembly technologies)
	Other labels and initiatives
	Questionnaire I
TASK2	Market data analysis: European and global statistics, market segmentation
	Current EU Ecolabel status
	Identification of key innovations and best-practices, available technologies and production methods; BREFs
TASK3	LCA literature review and specific LCA case study. Hot-spots identification
	Non-LCA impact analysis
	Questionnaire II
TASK4	Improvement potential analysis transfer to criteria areas proposals

PRODUCT GROUP ANALYSIS

Footwear segmentation

Material

Rubber, plastics, leather, textile, wood, cardboard…

Destination

e.g. Casual, towns, sport, sandals, boots, indoor, fashion, waterproof,…

Gender

Female, Man, Children

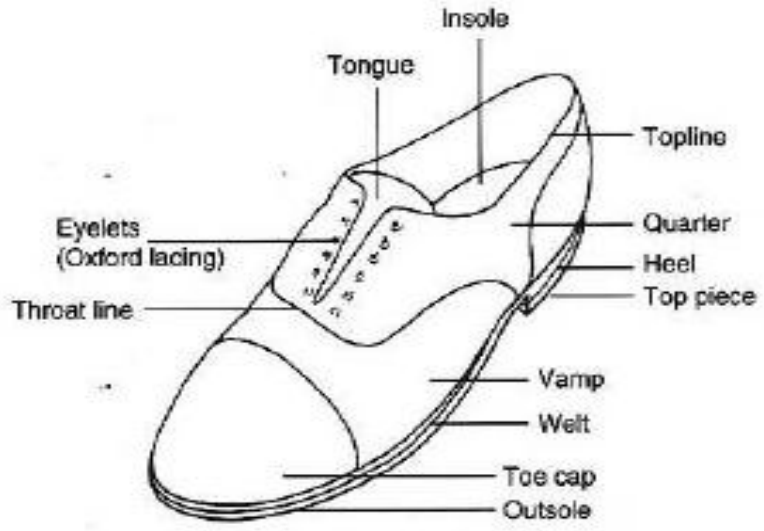
Price category

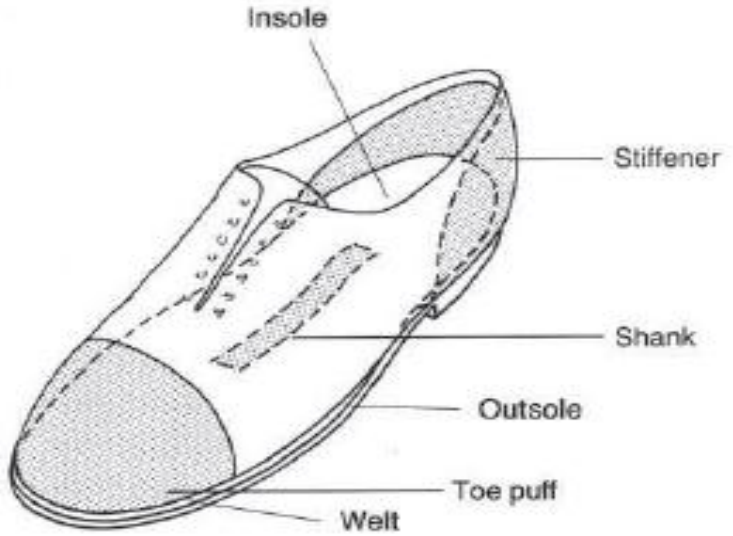
e.g. Low, middle, high

Statistical nomenclature (NACE 15 20, CN 64» Annex I&II PR)

Material for soles	Material for uppers	Use	Gender
Plastic and rubber	Plastic and rubber	Sports / athletic	Men
Leather	Leather	Ski boots	Women
Wood	Textiles	Indoor	Children
Other	Other	Outdoor	
		Waterproof	
		Sandals (only NACE)	
		Protective (only NACE)	

Structure of footwear





- **Uppers;**
- **Lining;**
- **Sole;**
- **Accessories.**

Figure: Rossi, W.A. (2000) The Complete Footwear Dictionary. Malabar: Kreiger Publishing Co

Footwear Manufacturing stages

Manufacturing stage	Possible processes
Upper fabrication	Hand-cut, vibrating cutting machine, die cutting machine, cutting machine in continuous fixed blade, ultrasonic cutting machine, laser cutting machine, jointing preparation, splitting, skiving, trimming, hemming.
Insole fabrication	Hand-cut, vibrating cutting machine, die cutting machine, cutting machine in continuous fixed blade, ultrasonic cutting machine, laser cutting machine.
Outsole fabrication and preparation	Injection moulding, cutting hell, wedge application, heeltap application, welt preparation.
Production of other auxiliary components	Pieces cutting, stamping, splitting, textile and fabrics coupling, box manufacturing.
Assembly of the upper with the other parts	Rope warping, tacks warping, staple warping, double warping, turned warping, warping with iron wire, Strobel warping, gluing, stitching, nailing, vulcanization, injection.
Finishing and packing	Insole application, Accessories application, Polishing, Details painting. Laces application

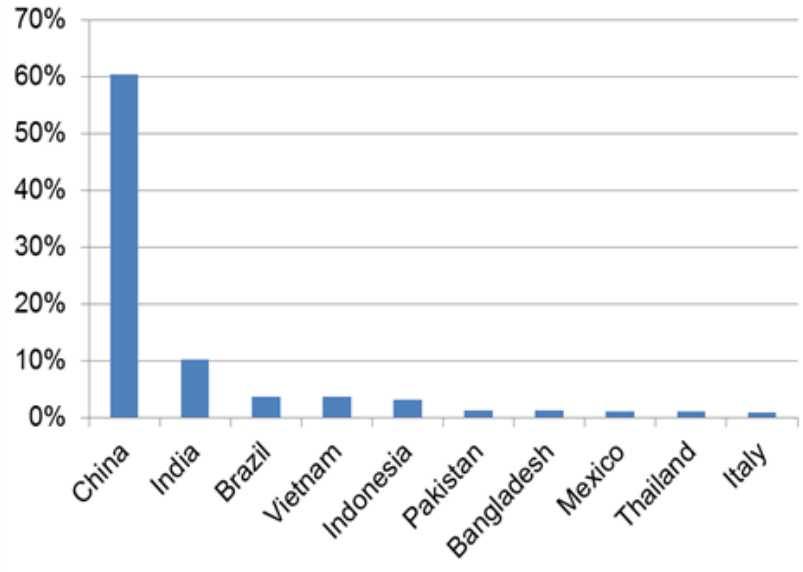
MARKET ANALYSIS

Main references:

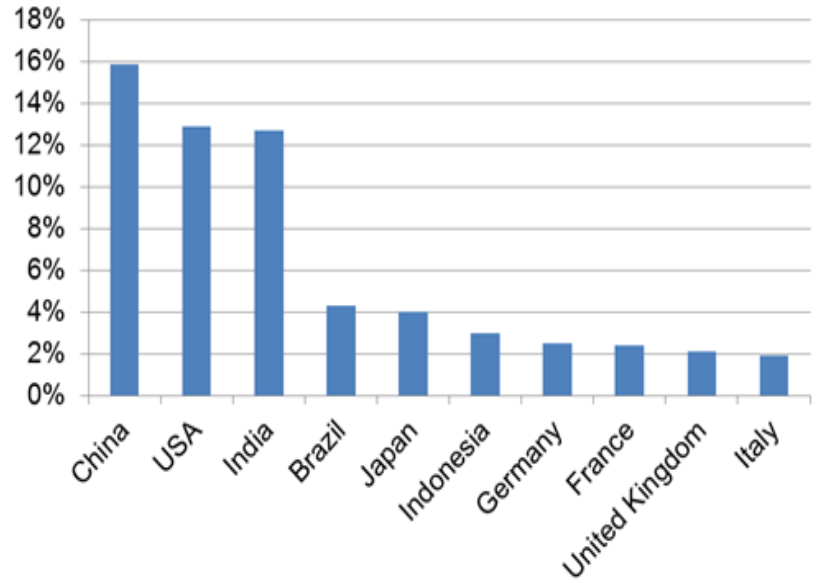
- **EUROSTAT – PRODCOM, COMEXT (2007-2011);**
- **CBI, 2010**
- **APPICAPS, 2012**
- **IBIS World Statistic, 2010**
- **European Commission Enterprise and Industry (http: //www.ec.europa.eu/enterprise/footwear/statistics.htm)**

Global footwear production patterns (volume)

1. 87% originates from Asia / China (60,5%), India (10,4%),
2. 5% from South America / Brazil (3,8%)
3. 3% from Europe, Africa (each)
4. 2% North America



Top 10 of 2011 world footwear producers (volume)*

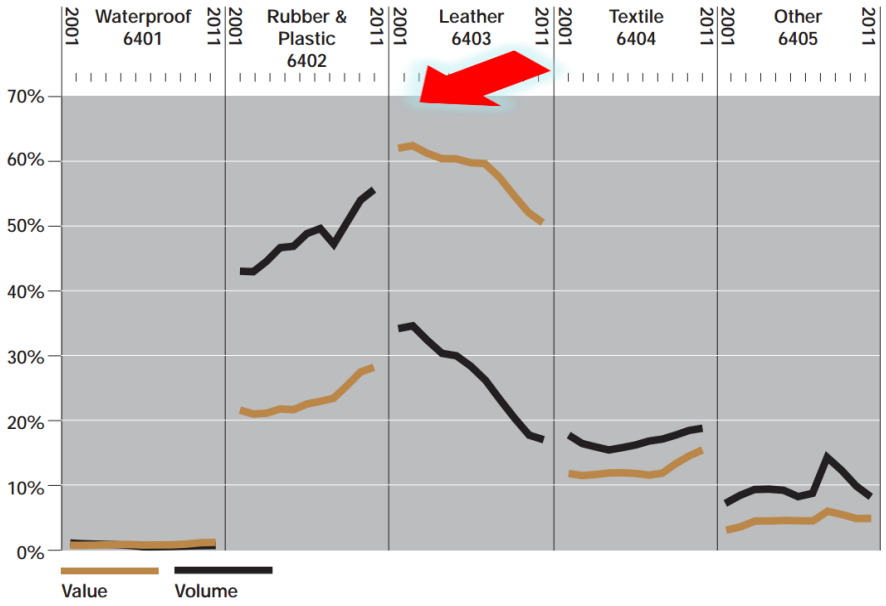


Top 10 of 2011 world footwear consumers (volume)*

Worldwide footwear production approx. 21 bilion pairs (2011)

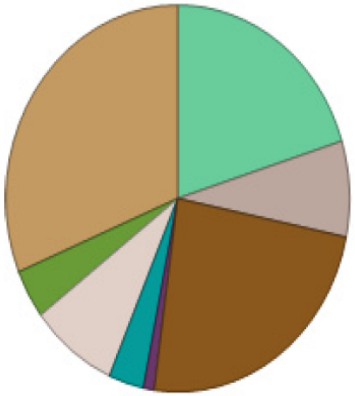
Source: APICCAPS, 2012

Global footwear export share volume *vs* value by type



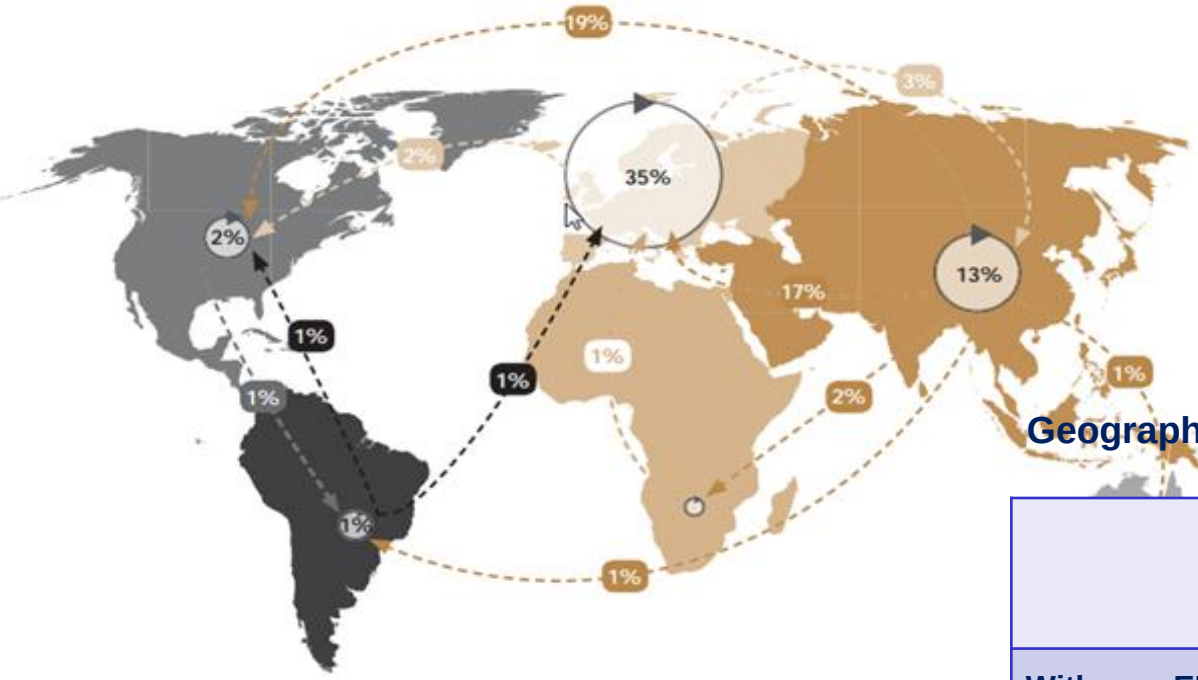
Source: APICCAPS, 2012

Global market segmentation (value)



Product/Services	Share
Athletic shoes	20.2%
Children's shoes	8.0%
Men's footwear (except athletic)	24.0%
Other	1.0%
Protective footwear	3.3%
Rubber and plastic footwear	8.2%
Slippers	4.1%
Women's shoes (except athletic)	31.2%

Source: IBIS World, 2010



Geographic patterns of footwear trade (value)*

Source: APPICAPS, 2012

Geographic patterns of European footwear trade (value) (2007-2011)

	Imports 2011 into EU27	EU27 exports 2011
With non-EU27 countries	14037	5944
With EU27 countries	18134	21308
Percentage of internal trade	56%	78%

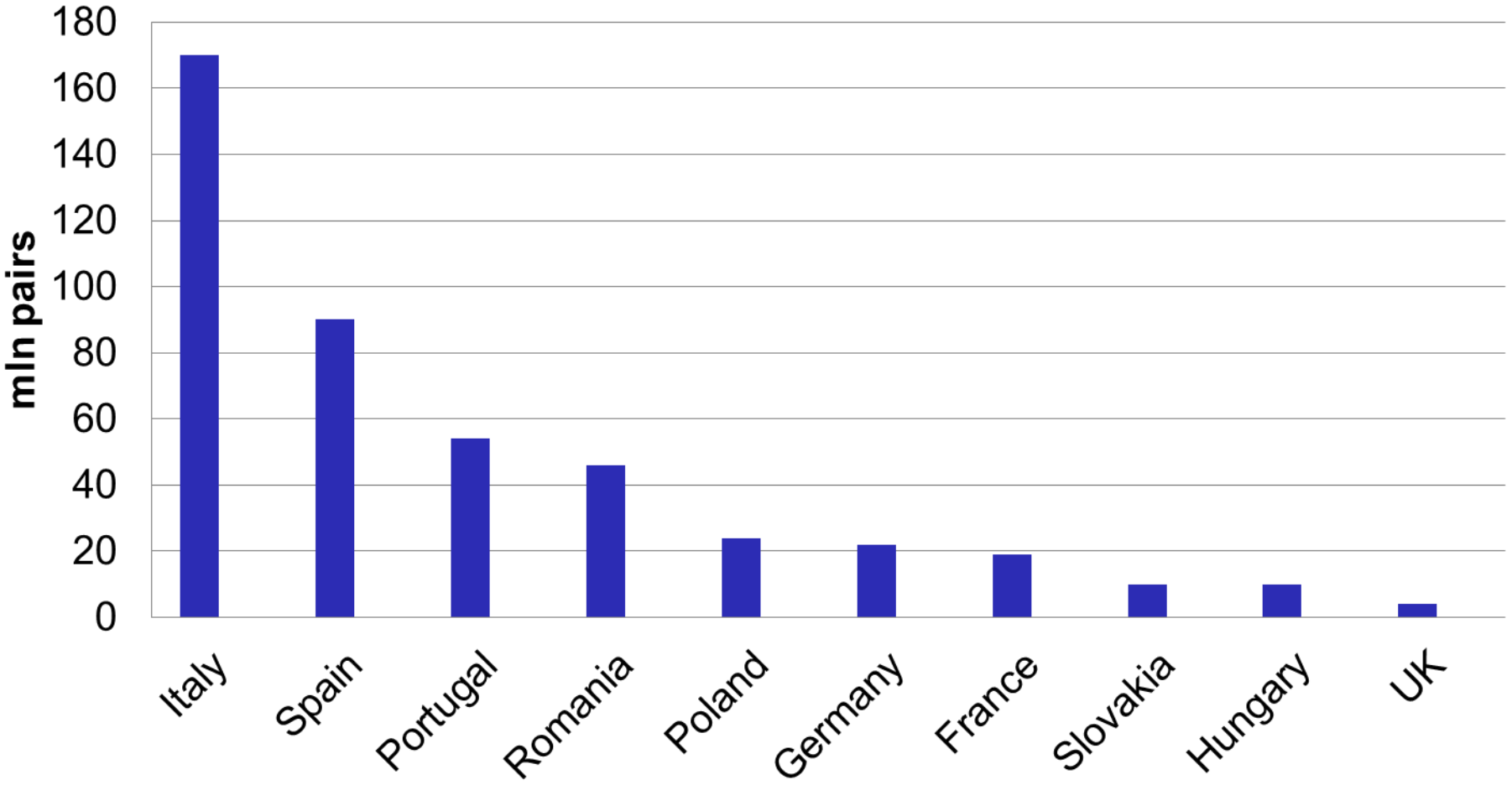
Source: EUROSTAT (2011)

European production, consumption and external trade

(Data expressed in 1000.000 pairs)	2007	2008	2009	2010	2011	Var.% 2007-2011
Production	647	560	471	491	505	-22
Exports (extra-UE27)	176	175	155	171	195	11
Imports (extra-UE27)	2521	2438	2251	2523	2564	+2
Apparent consumption (EU 27) [(product. + imports) – exports]	2992	2823	2567	2843	2874	-4

- *The average European production price has increased from 21.39 EUR in 2007 to 25.65 EUR in 2012*
- *75% of extra-European supply volume comes from China (price increase from 3.14 to 4.52 EUR/pair), other EU suppliers (price increase from 5.06 to 6.78 EUR/pair/2007-2012.*

European footwear market overview (production volume - 2011)

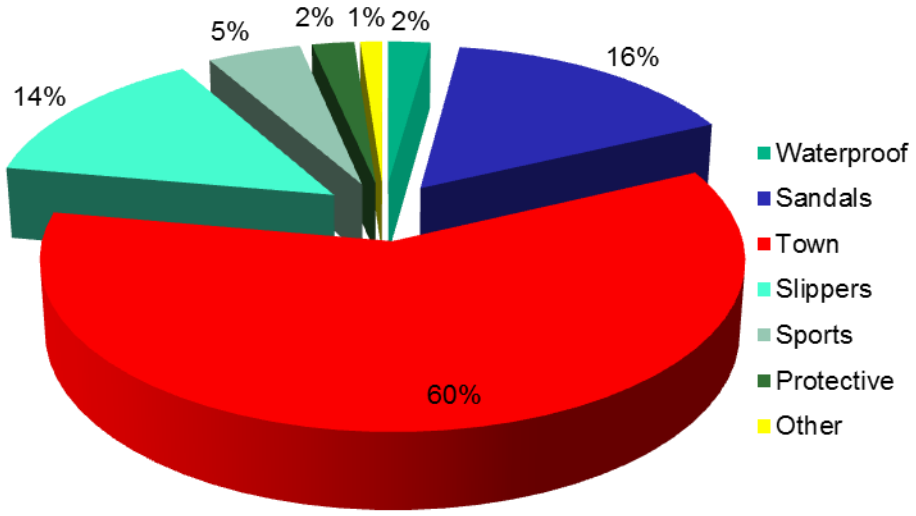


Footwear Classes

(Apparent Consumption: EUROSTAT data/volume/2011)

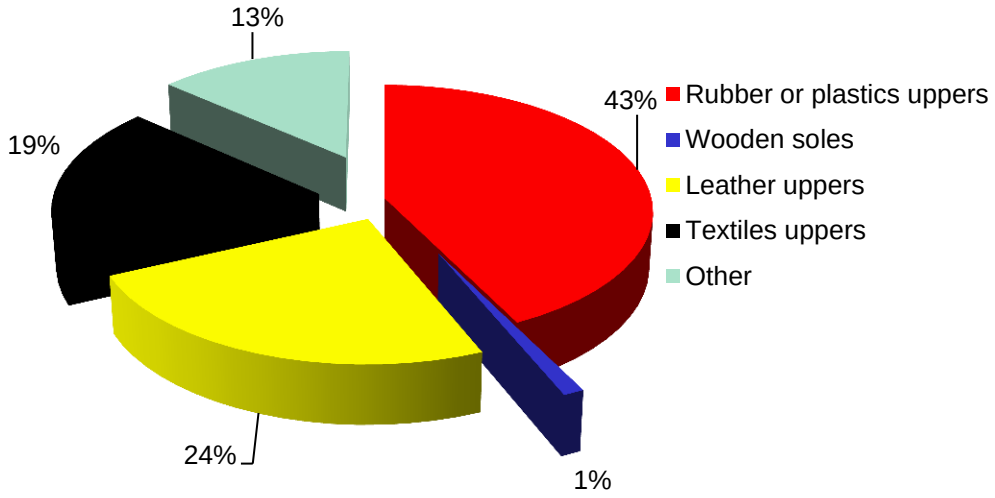
Category "Use"

(including different use classes to highlight main footwear market's demands)



Category "Materials"

(main materials used in the footwear manufacture)

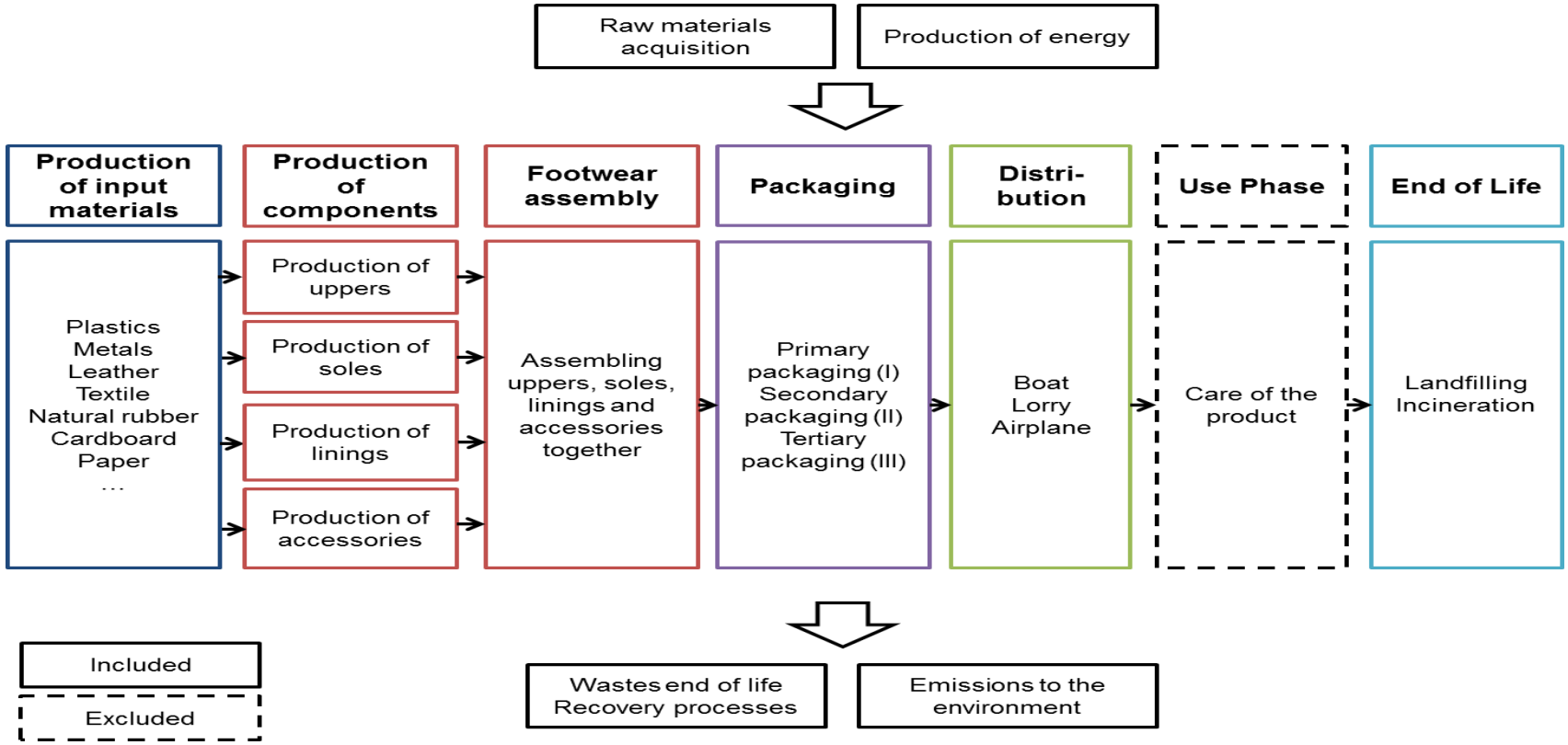


LCA Analysis

Content

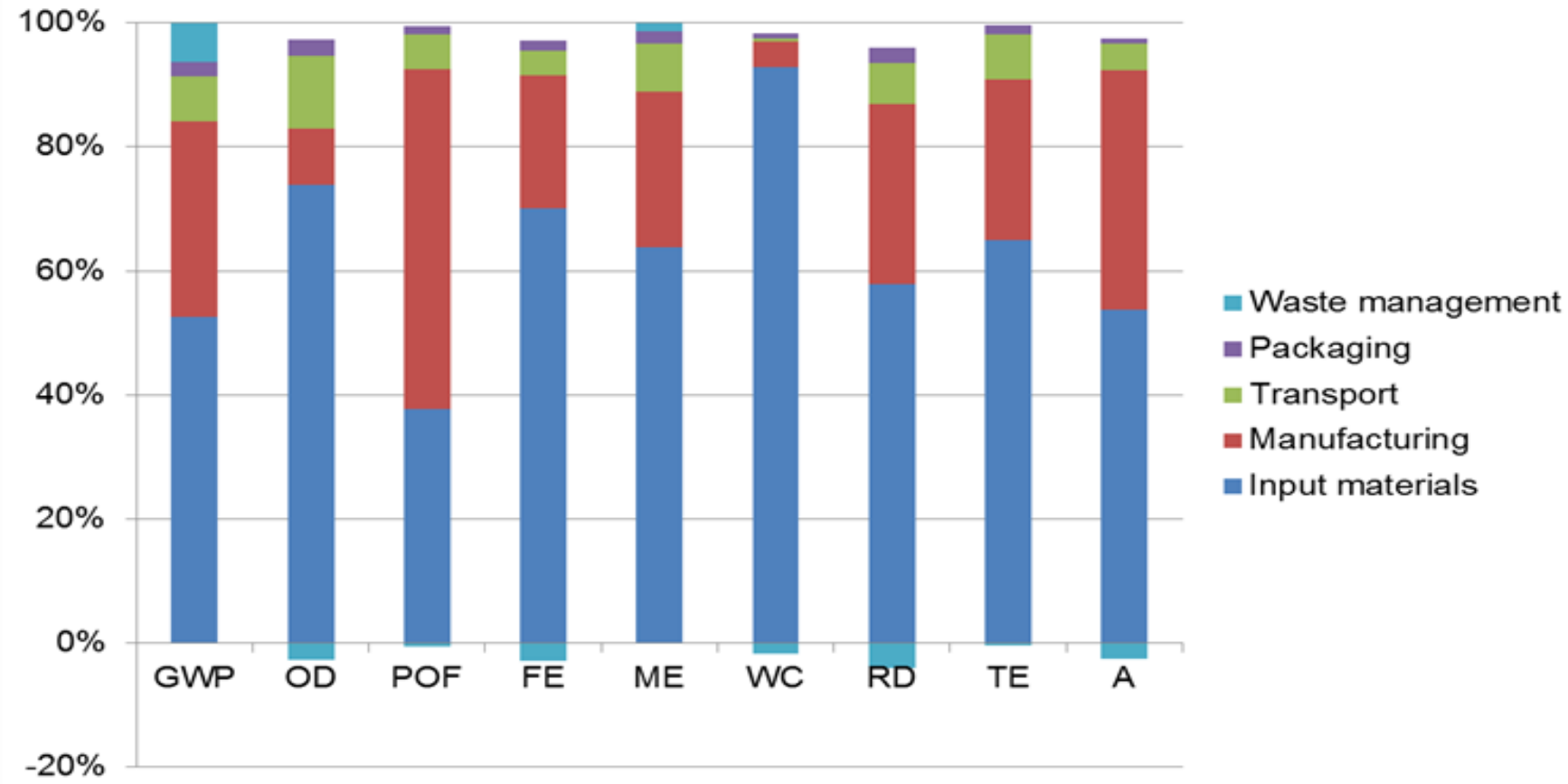
1. Literature review
2. LCA case study based on data collected within 2nd questionnaire
3. Identification and assessment of other impacts
4. Improvement potential analysis

The system boundaries considered



Functional unit: ***To wear and use appropriately a pair of shoes in good conditions for one year.***

Relative results – Average scenario



GWP: Climate change, OD: Ozone depletion, POF: Photochemical ozone formation, FE: Freshwater eutrophication, ME: Marine eutrophication, WC: Water consumption, RD: Resource depletion, TE: Terrestrial eutrophication, A: Acidification.

According to LCA results key environmental criteria areas are:

- Product durability;
- Energy consumption reduction;
- Focus on materials with reduced environmental impact (e.g., recycled materials);
- Leather, hides and skins should come from the meat and milk industries in order to attribute the impacts to meat and milk;
- Waste reduction during material processing and footwear manufacturing;
- The VOC emissions should be minimised during footwear manufacturing.

Non-LCA impact analysis

Methodology

- ✓ Legal requirements in the European Union and Member States
- ✓ Existent EU Ecolabel for footwear, other EU Ecolabels of relevance
- ✓ CEN/TR 16417
- ✓ European and non-European Ecolabels type I
- ✓ Restricted Substances lists from 14 companies
- ✓ Commission Statement 19 March 2009/ ENV G2
- ✓ Initial stakeholder feedback
- ✓ Analysis of available scientific literature, reports and publications

General output: Annex X PR (Table 100)

Main group of substances identified

By function

- Biocides, preservatives, and antibacterial substances
- Dyes and pigments
- Organic solvent
- Plasticizers and elastomers
- Flame retardants
- Impregnation agents
- Auxiliary

By substance group

- Nanomaterial
- PAHs
- Formaldehyde

Questionnaire Feedback

Questionnaire Feedback I

CURRENT CRITERIA ANALYSIS	KEEP	MODIFY	REMOVE
1. Dangerous substances in the final product*	Shall be reviewed (cf. Article 6.6. and 6.7. of the EU Ecolabel Regulation EC/66/2010)		
2. Reduction of water consumption	10	4	4
3. Emission from the production of material (Limitation of water pollution)	12	4	3
4. Exclusion of use hazardous substances (up until purchase)*	Shall be reviewed (cf. Article 6.6. and 6.7. of the EU Ecolabel Regulation EC/66/2010)		
5. Use of VOCs during final assembly of shoes	13	2	2
6. Energy Consumption	12	2	3
7. Use of recycled material for packaging	15	0	2
8. Information on the packaging	14	2	0
9. Information appearing on the eco-label	13	4	0
10. Parameters contributing to durability	13	3	0

Improvement potential analysis

Possible improvement areas within the footwear supply chain

Life Cycle stage	Potential improvements
Input materials	Use of organic cotton
	Use of recycled polyester
	Use of bio materials
	Use of recycled plastics
	PVC
	Reduction of emissions to water
Chemicals	Restriction on hazardous substances
Manufacturing	Reduction of energy consumption during footwear manufacturing
	Use of renewable energy for footwear manufacturing
	Reduce VOC emissions from solvents and adhesives
	Reduce wastage
	Reduce water consumption
Distribution	Restriction of airplane transport
Fitness for use	Improvement of footwear durability
End of life	Improvement of end of life management

Question

Do you have any comment on the background information shown?

Revision of European Ecolabel Criteria for Footwear products

Session 3: Criteria area

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

Proposed framework for criteria revision

1. Commission Statement of 19 March 2009 (ENV G2)
2. Update of best available techniques (BAT) levels;
3. Addressing the main environmental 'Hot spots" of the footwear supply chain
4. Analysis of the product best practices present on the market
5. Harmonization with so called "horizontal approach" in line with EU Ecolabel Regulation (EC) 66/2010
6. Analysis of other existing ecolabels and initiatives, such as NGO and private label scheme criteria;
7. Possible synergies with the on-going criteria revision for the EU Ecolabel for the textile product group will also be considered.

Commission Statement (19 March 2009/ ENV G2)

On the occasion of the next revision of the criteria for footwear at least the following points will be taken into consideration:

- *stricter limits on emissions according the best value in BAT/Bref;*
- *emissions on other materials than natural materials, i.e. plastic/polymers;*
- *inclusion of waste phase of materials;*
- *regulation or exclusion of materials giving rise to problems in the waste phase;*
- *look at PFAs and environmental problems*
- *look at PVC and environmental problems*
- *look at formaldehyde in leather*

Current structure of the criteria (2009/563/EC)

1. Dangerous substances in the final product
2. Reduction of water consumption
3. Emission from the material's production: (Limitation of water pollution)
4. Exclusion of use hazardous substances (up until purchase)
5. Use of VOCs during final assembly of shoes
6. Energy Consumption
7. Use of recycled material for packaging
8. Information on the packaging
9. Information appearing on the eco-label
10. Parameters contributing to durability

Framework of the current criteria (2009/563/EC)

1. Criteria objectives;

   "limiting the levels of toxic residues, the emission of volatile organic compounds and promoting a more durable product."

2. Specification of the background for the assessment and verification requirements (e.g., functional unit, cut-off limit).

Assessment and verification

Suggested requirement
(…)The functional unit is one pair of shoes. Requirements are based on shoe size: **42 Paris points for men and 38 Paris points for woman**. For children's shoes, the requirements apply to a size 32 Paris point (or the largest size, in the case of maximum sizes smaller than 32 Paris point). Any upper shoe components weighing less than 3% of the whole upper part shall not be taken into account for the application of the criteria. Any shoe sole components weighing less than 3% of the whole outer sole shall not be taken into account for the application of the criteria. **In case of a shoe made as one integral element, any components weighting less than 3 % of the whole product shall not be taken into account for the application of the criteria.** Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

Assessment and verification (1)

- Functional unit serves as the reference in order to fairly compare products of the same category, size being most logical reference unit.

- As highlighted by stakeholders, the proposal is to use the most common, differentiated by gender, European footwear sizes, as follows:
  - *Men: 42 Paris point (size 8 in UK system)*
  - *Women: 38 Paris point (size 5 in UK system)*
  - *Children: 32 Paris point (size 13-13.5 in UK system*)

Assessment and verification (2)

Questionnaire output:

- Vast majority of stakeholder are in favour of maintaining differentiation of the uppers and soles parts.

- Vast majority of stakeholders are in favour of keeping the same threshold (3%).

- For shoes made as one integral element (eg. injection moulded rainboots), any component weighing less than 3 % of the whole product shall not be taken into account for the application of the criteria.

Assessment and verification (3)

In case the EU Ecolabel holder wish to extend range of products, the following conditions are proposed to apply:

- **New design:** validation could apply when materials specifications (type, suppliers, colour, production method***, to be specified***) used for the new product assembly **are those contained** in the licensed product, but used in different proportions » after validation by CB a new certificate with the new commercial reference could be sent.
- Extension with **new technical characteristics** (for example new materials, new chemicals, dyes, etc.) or for a new type of product, as far as these are affected by the criteria, must be approved by the Competent Body prior to use. In this case additional tests should be provided, if applicable.

Questions:

1. Should the functional unit be differentiated by gender?
2. Are proposed changes to the functional sizes appropriate?
3. Should the components material mass threshold be changed?
4. Is implementation of the proposed license extension approach feasible?

New criterion requirement:
Hazardous substances and mixtures

In accordance with Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any component of it shall not contain:

- Substances or preparations/mixtures meeting the criteria for classification as toxic, hazardous to the environment, carcinogenic, mutagenic or toxic for reproduction (CMR), in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures;
- Substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency;
- Substances or preparations/mixtures that have been identified according to the procedure described under Article 59 of the REACH Regulation No 1907/2006 and which have been subsequently classified as Substances of Very High Concern.

Hazardous substances and mixtures

Derogations of specific substances are allowable in exceptional circumstances where inclusion would prevent take up of the EU Ecolabel or shift the environmental burden to other life cycle phases or impacts (Art. 6.7 of the EU Ecolabel Regulation).

- Based on life cycle approach where the hazard classification pose the most significant risk,
- Quantitative information through standardise feedback form

Substitution request for specific substances:

- are safer and provide sufficient environmental protection;
- can provide the same technical function;
- are present in a sufficient number of products.

http://www.echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database

Hazardous substances and mixtures

The use of substances or mixtures which change their properties upon processing (e.g., become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

No derogation shall be given concerning substances that meet the criteria of Article 57 of Regulation (EC) No 1907/2006 and that **are identified according to the procedure described in Article 59(1) of that Regulation**, and are present in mixtures, in an article or in any homogeneous part of a complex article in concentrations higher than 0,1 % (weight by weight).

The hazard statements would be differentiated by splitting them into two hazard categories: A (the most significant hazards according to CLP Guidance and those corresponding to the criteria in Article 57 of Regulation (EC) No 1907/2006); and B (lower level hazards according to CLP guidance).

It should be discussed with stakeholders which classes of substances can be derogated and which cannot using the definitions of two hazard categories.

Possible approaches to implementation

Manufacturing Restricted Substance List (MRSL)

- ***Specific test report:*** *Setting limit values* for residual substances and specific functional groups of compounds
  - *How might we determine limit values for substances in finished products?*
  - *Are there organisations that could assist in providing data to assist with this approach?*
- ***Declaration of no-use from supplier supported by Safety Data Sheet***
- ***Mutual recognition with other EU Ecolabels*** (e.g. Textile, Bad Mattresses)
- ***Equivalent testing carried out for other schemes could be accepted,*** e.g. Blue Angel, Nordic Swan,
- **Derogations for specific substances** that of high concern but present in a product at >0.1%
  - *Should any derogation from the list of H/R phrases be made for specific substances, material? We require quantitative data to demonstrate that a substance should be derogated*

MRSL Proposal (Annex VI TR)

The final product and the production recipes used to manufacture the final product shall not contain the hazardous substances listed in the Manufacturing Restricted Substance List (MRSL) at or above the concentration limits specified.

Methodology

REACH Regulation (EC) No 1907/2006
SVHC list from ECHA
CLP Regulation (EC) No 1272/2008
Biocidal products Regulation (EU) No 528/2012
Persistent Organic Pollutants Regulation (EU) No 850/2004
EU Ecolabel Regulation 66/2010
CEN TR 16417
Existent EU Ecolabel for footwear, EU Ecolabels of relevance
European and non-European Ecolabels type I
Restricted Substances lists from 14 companies
Commission Statement 19 March 2009/ ENV G2
Initial stakeholder feedback
Analysis of available scientific literature, reports and publications

Highlighted substances: Background Report

- Formaldehyde;
- Biocides;
- Phthalates;
- Organotin compounds
- Short-Chain Chlorinated Parrafins;
- PAHs
- Perfluorochemicals (PFCs);
- Certain dyes,
- Several auxiliary substances (APEOs, halogenated carriers, organic solvents,…).

Categorisation of existing criteria

Criteria applying to the end-product

- Chromium VI
- Arsenic, Cadmium, Lead
- Formaldehyde

Criteria applying to process

- PCP, TCP its salts and esters
- 20 Azo dyes
- 9 N-Nitrozamines
- C10-C13 chloroalkens
- Dyes classified by specified R-phrases
- APEOs, PFOS
- Phtalates classified with R-phrases, additionaly: DNOP, DINP, DIDP
- Biocides: only those listed in Annex 1A (98/8/EC) are permitted

Formaldehyde:

Existing requirement

- textile: not detectable,
- leather: 150 ppm

Proposal:

-textile: not detectable,

-leather: 75 ppm

<20 ppm for products for children under 36 months

Proposed test method:

ISO 14184-1 (textile),

ISO 17226-2 (leather)

	Formaldehyde
Nordic Swan	• Leather: **75ppm**
The New Zealand Trust	• Direct skin contact: **30ppm** • No direct skin contact: **300ppm**
Japan Eco Mark	• Under 36 months: **16mg/kg** • Direct skin contact: **75mg/kg** • No direct contact: **300mg/kg**
Blue Angel	• Under 36 months: **20mg/kg** • Other materials: **75mg/kg**
BLC guidelines	• Under 36 months: **20mg/kg** • Skin contact**: 75mg/kg** • Others: **200 mg/kg**

Heavy metals:

Label	Restriction (mg/kg)							
	Mercury	Cadmium	Lead	Nickel	Cobalt	Copper	Arsenic	Chromium VI
Footwea	?	n.d.	n.d.	?	?	?	n.d.	n.d.
Nordic Swan	x	n.d.	n.d.	n.d.	x	x	x	3
Trust	x	n.d.	n.d.	x	x	x	n.d.	3
OKO-Tex (ch)	0,02	0.1	0.2	1.0	1.0	25	0.2	n.d.
Blue Angel	0.02	0.1	0.8	4 .0	4.0	50	0.2	n.d.
AFIRM	0.02	0.1	0.2	1.0	1.0	25	0.2	3
Textile	0.02	0.1	0.2 (ch)	1.0	1.0	50.0	0.2 (ch)	x

Metal elements: Nickel migration threshold: 0,5/cm2/week (Test method: EN 1811)

Proposed test method: Cr (VI) ISO 17075

Heavy metals/extractables: Proposed test method: Leather ISO 17072-1, non-leather: ISO 17072-2

Biocides:

Biocide shall not be incorporated into the final product in order to impart biocidal properties.

If biocidal substances are used they should meet requirement of the Criterion 1 (a). Only biocidal products containing biocidal active substances included in Annex IA of the Directive 98/8/EC of the European Parliament and of the Council, and Biocide Regulation (EC) No 528/2012, and authorised for use in footwear, shall be allowed for use.

Applicants should consult the most current authorisation list:
http://ec.europa.eu/environment/biocides/annexi_and_ia.htm

Assessment and verification: Unless separately specified under Criterion 1(c) the applicant shall provide a declaration that the requirements of this criterion have been met along with a list of biocidal products used, and supported by SDS.

The following biocides are proposed to be specifically listed:

- Chlorophenols (their salts and esters):`(Test method: Leather 17070, Textile XP G 08-015)
- Polychlorinated biphenyls (PCB), Boric acid; (declaration of no use supported by SDS)
- Organotin compounds, including TBT, TPhT, DBT and DOT; (Test method ISO 17353)
- Dimethyl fumarate (DMFu) (Test method: ISO/TS 16186)
- Nanosilver (declaration of no use supported by SDS)

Revision:

APEOs:

- Proposal: Declaration from supplier supported by test method <25 mg/kg sum/in line with EU Ecolable for textile, Test method: Solvent extraction followed by LCMs;

PFOS:

- Proposal: Declaration from supplier supported by test method: GC-MS-MS or HPLC-MS-MS

DYES:`

- Azodyes: amines 2,4-Xylidine (CAS 95-68-1), and 2,6-Xylidine (CAS 87-62-7) in line with Oko Tex, AFIRM; (threshold 20 mg/kg for each amine)
- Chrome mordants restriction: in line with EU Ecolabel for textile: declaration of no use from the chemical supplier supported by SDS;
- Metal complex dyes shall not be used exempt of wool, polyamide, blends of both: in line with EU Ecolabel for textile: declaration of no use supported by SDS

New proposals

- Flame retardants (?);
- Halogenated solvents:
  - Shall not be classified with specified risk phrases
  - Halogenated organic carriers (in line with EU Ecolabel for textile)
- Isocyanate (MDI)
- PFCs
- PAHs

PAHs under REACH Annex XVII, entry 50

Name	CAS	Limit	Source
Anthracene	120-12-7	Sum total 10 mg/kg	In line with Annex XVII of REACH
Benzo[a]anthracene (BaA)	56-55-3		
Chrysene (CHR)	218-01-9		
Benzo[b]fluoranthene (BbFA)	205-99-2		
Benzo[j]fluoranthene (BjFA)	205-82-3		
Benzo[k]fluoranthene (BkFA)	207-08-9		
Dibenzo[a,h]anthracene (DBAhA)	53-70-3		
Benzo[e]pyrene (BeP)	192-97-2	1 mg/kg	

Proposed test method: ISO 21461

Questions:

- What proportion of restricted substances may subsequently remain in the final product?
- Which exposure pathways are more relevant along the supply chain and during the use phase?
- What is the capacity of industry to respond to restriction of listed classifications?
- What is the best approach to simplify assessment and verification procedure?
- Should the proposed MRSL be introduce as a separate Criterion be introduced?
- Should other substances be added to the MRSL?

Revision of European Ecolabel Criteria for Footwear products

Session 4: Criteria area

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

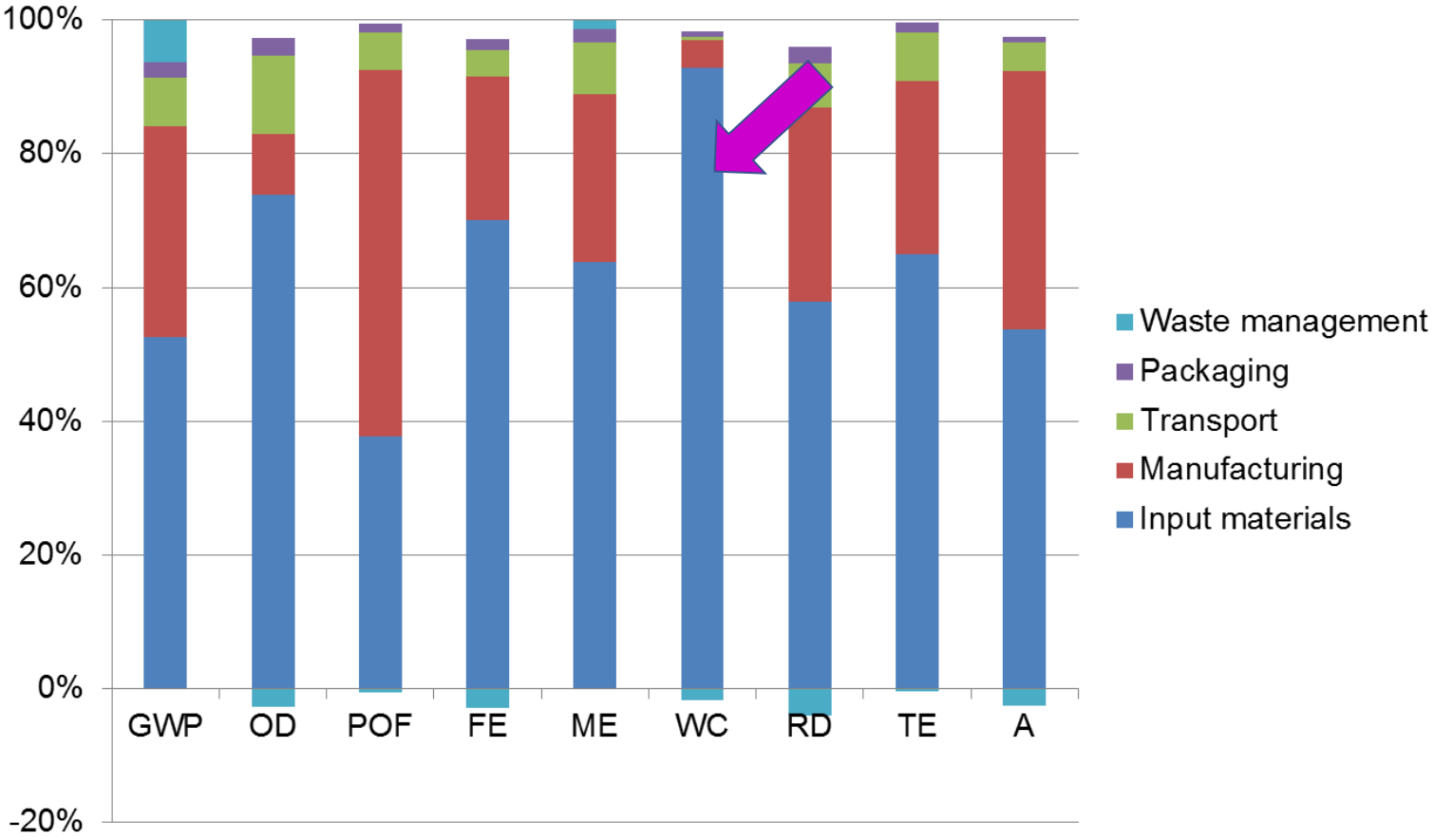
CRITERION 2: Reduction of water consumption

Present criterion, Decision 2009/563/EC
The following limits to water consumption for the tanning of hide and skin shall not be exceeded: — Hides: 35 m^3/t, — Skins: 55 m^3/t, Assessment and verification: the applicant and/or his supplier(s) shall provide appropriate documentation that the mentioned limits have not been exceeded.

Proposal:

1. **To revise the threshold values according to BAT levels**
2. **To verify the feasibility to introduce requirement for the water consumption in textile finishing**

Water consumption hotspot: materials production



Leather processing: BAT water consumption levels

Sheepskins

Processes stages	Specific water consumption (litres/skin)
Raw to pickle	65 to 80
Pickle to wet blue	30 to 55
Post-tanning processes and finishing	15 to 45
Total	110 to 180

Raw hides

Process stages	Water consumption per tonne of raw hide (m³/t)	
	Unsalted hides	Salted hides
Raw to wet blue/white	10 to 15	13 to 18
Post-tanning processes and finishing	6 to 10	6 to 10
Total	16 to 25	19 to 28

Modern tanneries: average water consumption 12 – 30 m³/tonne for bovine hides/skins, and approx. 34-40 m³/tonne for calfskin

BAT water consumption levels – Textiles processing

Process stages	Water consumption
finishing of yarn	70 - 120 l/kg
finishing of knitted fabric	70 - 120 l/kg
pigment printing of knitted fabric	0.5 - 3 l/kg
finishing of woven fabric consisting mainly of cellulosic fibres	50 - 100 l/kg
finishing of woven fabric consisting mainly of cellulosic fibres (including vat and/or reactive printing)	_ <200 l/kg
finishing of woven fabric consisting mainly of wool	<200 l/kg
_ finishing of woven fabric consisting mainly of wool (for processes that require high liquor ratio)	<250 l/kg

LCA baseline scenario:

Leather		Textiles	
Baseline scenario	BAT consumption level	**Baseline scenario**	BAT consumption level
35-55 l / kg	16-28 l / kg	**130-160 l/kg**	70-100 l/kg

By contrasting BAT data with the baseline scenario analysis, it appears that the improvement potential is about 5 % on water consumption.

If water consumption is only reduced for leather processing, the improvement potential is 2%;

If water consumption is only reduced for textiles finishing, the improvement potential is 3%.

Other schemes:

- **Blue Angel**- Footwear:
  - 25 m³/t for raw skins of cattle;
  - 45 m³/t for hides of calves, goats and kangaroos;
  - 80 m³/t for skins of pigs and;
  - 120 m³/t for hides of sheep;
- **Nordic Swan**: 25m³ water/tonne hides/skins and leather, Textile processing: water consumption reporting
- **Leather Working Group** 19.4-36.1 m³/tonne of raw hide is classified as good range
- **EU Ecolabel for textile**: Best practices application

The analysis of this eco-innovation did not conclude that current criterion should be reviewed

Questions:

1. Should the requirement on water consumption be updated?
2. Should the consumption limit for leather be defined according to the specificity of material (animal origin)?
3. Should specific water consumption limits for textile processing be introduced?
4. What are the difficulties to implement this criterion?
5. Should the criterion be removed?

Criterion 3: Emission from the production of materials:

Proposal:

1. To revise the current COD emission threshold value;

2. To separate textile processing, leather tanning, and rubber processing;

3. To revise the Cr III/I emission threshold;

4. To extend the list of requirements according to BAT values;

5. To align emissions requirements with the EU Ecolabel for textile

6. To revise the reporting period (annual average, monthly average)

Proposal: Leather

Suggested criterion
(a) Waste water from leather tanning sites shall, when discharged to surface waters after treatment (whether on-site or off-site), have a COD content of less than **xx mg/l**, expressed as annual average. Assessment and verification: The applicant shall provide detailed documentation and test reports, using ISO 6060, showing compliance with this criterion, together with a declaration of compliance. Assessment and verification: the applicant shall provide a test report and complementary data, using the following test method: COD: ISO 6060 — Water quality, determination of chemical oxygen demand.
(e) Tannery waste water after treatment shall contain less than **x mg total** Chromium. Assessment and verification: the applicant shall provide a test report and complementary data, using the following test methods: ISO 9174 0r EN1233 or EN ISO 11885 for Cr

Water emissions levels - tanning of hides and skins

	BAT emissions levels	Blue Angel	Nordic Swan	Leather Working Group
COD	200-500 mg/l	250 mg/l	10 kg/t of raw hide	100 ppm
BOD5	15-25 mg/l			60 ppm
Total chromium	<0.3-1 mg/l	1 mg/l	1 mg/l	0.4 ppm
Suspended solids	< 35 mg/l			
Ammoniacal nitrogen NH4-N (as N)	< 10 mg/l			
AOX		0.5 mg/l		
Ammonium nitrogen		10 mg/l		
Phosphorous		2 mg/l		
Sulfide	< 1 mg/l	2 mg/l		

Proposal: Textile (1)

Suggested criterion

<u>Proposal 1:</u> Wastewater discharge from textile processing shall comply with the criteria for the EU Ecolabel for textile

(b) Wastewater discharges to the environment shall not exceed 20 g COD/kg textiles processing. This requirement shall apply to weaving, dyeing, printing and finishing processes used to manufacture the product(s). The requirement shall be measured downstream of on-site wastewater treatment plant and/or off-site wastewater treatment plant receiving wastewater from these processing sites.

If the effluent is treated on site and discharged directly to surface waters, it shall also meet the following requirements:

(i) pH between 6.0 and 9.0 (unless the pH of the receiving water is outside this range)

(ii) Temperature of less than 35°C (unless the temperature of the receiving water is above this value)

Proposal:Textile (2)

Suggested criterion

If colour removal is required by a derogation condition (to be specified) then the following spectral absorption coefficients shall be met:

(i) 436 nm (yellow sector) 7 m-1

(ii) 525 nm (red sector) 5 m-1

(iii) 620 nm (blue sector) 3 m-1

Assessment and verification: the applicant shall provide detailed documentation and test reports, using ISO 6060 and ISO 7887 as relevant, and showing compliance with this criterion on the basis of monthly averages for the six months preceding the application, together with a declaration of compliance. The data shall demonstrate compliance by the production site or, if the effluent is treated off-site, by the wastewater treatment operator.

Proposal: Rubber

Suggested criterion

(c) Proposal 2: Waste water from processing of natural rubber and/or manufacturing of synthetic rubber sites shall, when discharged to surface waters after treatment (whether on-site or off-site), have a COD content of less than **X g/kg**, expressed as an annual average.

Assessment and verification: the applicant shall provide a test report and complementary data, using the following test method: COD: ISO 6060 — Water quality, determination of chemical oxygen demand.

(d) Proposal 3: If the waste waters from activities covered by Criterion 3 (a), (b) and (c) are released into a municipal waste water treatment plant/facility, then this criterion shall not apply, as long as it can be demonstrated that:

the discharge of waste water from the site into the municipal waste water supply is authorised and,

the municipal waste water treatment facility is operational and that the subsequent discharge of treated water into the fresh water system is in line with minimum Community requirements according to Council Directive 91/271/EEC.

Emission from polymers production

Emission values depends on the polymer type

a) One specific limit per polymer
b) One average limit per polymer

The Blue Angle

Wastewater characteristic during the Processing of Natural Rubber / Latex and the Manufacturing and Processing of Synthetic Rubber:

- 2 mg/l for zinc,
- 0.5 mg/l for lead,
- 1 mg/l for AOX,
- 0.1 mg/l for benzene and its derivatives,
- COD of 150 mg/l or at least 90% reduction compared with the inflow on a monthly average,
- 20 mg/l for total nitrogen (N_{total}) and 2 mg/l for total phosphorous (P_{total})

Questions:

- What levels of COD should be set for natural rubber/synthetic rubber, if applicable?
- Should the threshold value for total Cr content in the tannery waste water be updated?
- Should assessment and verification test reports be updated?
- On what time basis should the average concentration value be reported?
- Should emissions to water other than COD be considered as well (e.g., BOD, suspended solids, sulphide)?
- Should material specific emissions be considered, e.g., zinc for rubber processing?
- Is it feasible for footwear manufacturers to collect/compile information related to emissions from materials production?

Revision of European Ecolabel Criteria for Footwear products

Session 5: Criteria area

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

Proposal: Use of volatile organic compounds (VOCs) during final assembly of shoes

Suggested criterion
Proposal 1: Solvents and adhesives used shall be water-based. **Proposal 2:** The total use of VOCs during final footwear production shall not exceed, on average, **xx gram VOC/pair.** Assessment and verification: the applicant shall provide a calculation of the total use of VOCs during final shoe production, together with supporting data, test results and documentation as appropriate, with the calculation made using EN 14602. (Registration of purchased leather, adhesives, finishes and production of footwear during at least the last six months is required.)

LCA findings

VOCs emission is responsible for **about 35 % of photochemical ozone** formation during the manufacturing stage of footwear and **of 6 % during** the production of leather.

Improvement potential

Potential reduction of photochemical ozone formation **by 3% and 8%** could be achieved by setting the VOC emission threshold at **18 and 15 g** / pair, respectively (reference scenario 20g VOCs/pair of shoes).

European Commission

Use of solvent-free adhesives during various footwear binding operation (LIFE02 ENV/E/000242)

Bonding operation	Traditional adhesive	Alternative adhesive
Preparation of uppers (stitching, lining, folding, etc.)	Adhesives such as glue or cement applied with a brush	Polychloroprene water-based adhesives applied with spray. Latex adhesive. Water-based natural rubber applied with spray.
Lasting	Organic solvent-based polychloroprene adhesive applied with a brush or by machine.	Polychloroprene water-based adhesive resistant to temperature, applied with a brush or by machine.
Upper-sole bonding	Organic solvent water-based polychloroprene adhesive applied with a brush.	Polyurethane water-based adhesive, applied with a brush or by machine
Insert placing	Adhesives such as glue or cement applied with a brush.	Polychloroprene water-based adhesive, applied with a brush. Hot-melt adhesive, machine applied.

Complete elimination of solvents from adhesives and the treatment process would reduce solvent use in the footwear manufacturing by more than 80%.

Barriers and opportunities

- Frequently used: polyurethane and polychloroprene adhesives based on organic solvent;
- Water-based adhesives have been notified as viable alternatives to conventional solvent-based products;
- Water-base adhesives are price competitive;
- Use of water-based adhesives requires specific investments to shorten the product drying time.

European Commission

Question:

- What is the market penetration level of water based adhesives?
- Otherwise, shall the emission limit value/pair of shoe be reduced, as suggested?
- Which revised threshold value of VOCs emission would be feasible **15 or 18 g/pair** of shoe

Proposal: Energy consumption

Suggested criterion
Proposal 1: The energy consumption of footwear final assembly shall be lower than X MJ per pair on an annual base. If green energy is produced and/or used on site, it should be discounted from the total amount of energy consumed. **Proposal 2:** The energy consumption for footwear final assembly shall be declared. **Proposal 3:** The energy consumption of footwear final assembly shall be declared, together with the information on energy consumption for footwear components manufacture. Assessment and verification: the applicant is requested to provide the relevant information according to the Technical appendix X *(see Annex II of this document)*.

Improvement potential analysis

Use of renewable energy (wind and hydropower) instead of European average grid

Impact category	1 pair of footwear
Climate change	13 %
Ozone depletion	6 %
Photochemical ozone formation	5 %
Freshwater eutrophication	17 %
Marine eutrophication	7 %
Water consumption	7 %
Resource depletion	13 %
Terrestrial eutrophication	12 %
Acidification	18 %

Reduce energy consumption (from 2 to 0.5 kWh / pair)

Impact category	1 pair of footwear
Climate change	12 %
Ozone depletion	2 %
Photochemical ozone formation	6 %
Freshwater eutrophication	8 %
Marine eutrophication	9 %
Water consumption	-
Resource depletion	11 %
Terrestrial eutrophication	10 %
Acidification	18 %

European Commission

Barriers and opportunities:

- According to EUROSTAT data, renewable energy capacity accounted to 9,8% share in 2010 (74 % increase between 2000 and 2010);
- According to the Renewable Energy Roadmap, the projected electricity production scenario from renewables could increase to approximately 34% of overall electricity consumption by 2020;
- Contribution of renewable supply varies substantially by country and region and depends, to a large degree, on the structure of its energy system;
- Stakeholders have highlighted that energy consumption depends on the factory size, and geographical location of the production site.

European Commission

Question:

- Should a threshold value for energy consumption be defined?
- How could the quantity of energy consumption be assessed to reflect difference in energy consumption patterns within Europe?
- Should the use of green energy be promoted by discounting from the consumption value?

Revision of European Ecolabel Criteria for Footwear products

Session 6: Criteria area

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

CRITERION 7: Packaging of the final product

Suggested criterion
Proposal: Where cardboard boxes are used for the final packaging of footwear, they shall be made of 100 % recycled material. Where plastic bags are used for the final packaging of footwear, they shall be made of at least, **xx %** recycled material or they shall be biodegradable or compostable, in agreement with the definitions provided by the EN 13432. Assessment and verification: a sample of the product packaging shall be provided on application, together with a corresponding declaration of compliance with this criterion. Only primary packaging, as defined in the Directive 94/62/EC of the European Parliament and the Council, is subject to the criterion.

QUESTION:

- Should the recycling content of plastics bag be raised to xx%?
- Which are the technological constraints?

CRITERION 8: Information on the packaging

Suggested criterion
(a) User Instructions: **To add** **— 'Once a year, wax your leather shoes with appropriate product'** **— 'Use your shoes correctly, in accordance with their original design'** **— 'When necessary, please use a shoehorn to put on your shoes'** (b) Information about the eco-label The following text (or equivalent text) shall appear on the packaging: 'For more information visit the EU Ecolabel website: http://www.ecolabel.eu' (c) Information to consumers An information box in which the applicant explains its approach to environmental sustainability should be put on the packaging. **(d) when available and third-party reviewed, the environmental impacts of the pair of footwear may be displayed.** Assessment and verification: the applicant shall provide a sample of the product packaging and of the information supplied with the product, together with a declaration of compliance with each part of this criterion.

European Commission

Question:

- Should additional information be added?
- What are the most appropriate instructions to the user to improve footwear durability?
- What are the most appropriate information to the consumer to be displayed?

CRITERION 9: Information appearing on the Eco-label

Present criterion, Decision 2009/563/EC
Box 2 of the eco-label shall contain the following text: — low air and water pollution, — harmful substances reduced. Assessment and verification: the applicant shall provide a sample of the product packaging showing the label, together with a declaration of compliance with this criterion.
Suggested criterion
Box 2 of the eco-label shall contain the following text: • **use of more eco-friendly materials,** • low air and water pollution, • **low water and energy consumption,** • **reduce waste generation,** • **harmful substances avoided,** • **durable product** Assessment and verification: the applicant shall provide a sample of the product packaging showing the label, together with a declaration of compliance with this criterion.

Question:

-Are additional information added relevant?

-Should any additional information be provided?

CRITERION 10: Parameters contributing to durability

Suggested criterion
Occupational and safety footwear shall carry the CE mark (in accordance with Council Directive 89/686/EEC). All other footwear shall meet the requirements indicated in the table overleaf. Assessment and verification: the applicant shall provide a test report corresponding to the parameters indicated in the table overleaf, using the following test methods: — EN 13512 — Upper — Flex resistance, — EN 13571 — Upper — Tear strength, — EN 17707 — Outsoles — Flex resistance, — EN 12770 — Outsoles — Abrasion resistance, — EN 17708 — Whole sole — Sole adhesion, — EN 12771 — Outsoles — Tear strength, — EN ISO 17700 — Test methods for uppers, linings and in socks — Colour fastness to rubbing.

Test methods required by other schemes

Test method	ISO norm	Current EU Ecolabel	Blue Angel	ADEME-AFNOR
Upper – Flex resistance	ISO 13512	X	X	
Upper – Tear strength	ISO 13571	X	X	
Outsoles – Flex resistance	ISO 17707	X	X	X
Outsoles – Abrasion resistance	ISO 12770	X	X	
Outsoles – Tear strength	ISO 12771	X	X	
Whole sole – Sole adhesion	ISO 17708	X	X	X
Uppers, linings and insocks – Tear strength	ISO 17696			X
Insoles – Abrasion resistance	ISO 20868			X
For the lining Textiles – Determination of the abrasion resistance of fabrics by the Martindale method – Part 2: Determination of specimen breakdown	ISO 12947-2			X
Test methods for uppers, linings and insocks — Colour fastness to rubbing	ISO 17700	X	X	103

ADEME-AFNOR's approach for durability

- Based on ISO tests;
- Minimum and maximum threshold represent poor and excellent quality, respectively;
- A linear score between 0 and 7.5, based on the minimum and maximum values is attributed for each test.
- Each score is then weighted with respect to its relative importance on the overall durability of footwear, and an overall score is given.

European Commission

Question:

- Shall other tests be used?
- Shall updated limits be introduced?
- Shall testing methods be updated?

Revision of European Ecolabel Criteria for Footwear products

Session 7: New Criterion proposals

1st Ad-hoc Working Group Meeting
8th October 2013, Seville

Joint Research Centre, Institute for Prospective Technological Studies

Corporate Social Responsibility (CSR)

Applicants shall ensure that the fundamental principles and rights at work as specified in the International Labour Organisation's (ILO) Core Labour Standards shall be observed by all production sites used to manufacture the licensed product(s). The ILO Core Standards shall apply are:

029 Forced Labour
087 Freedom of Association and Protection of the Right to Organise
098 Right to Organise and Collective Bargaining
100 Equal remuneration
105 Abolition of Forced Labour
111 Discrimination (Employment and Occupation)
155 Occupational safety and health
138 Minimum Age Convention
182 Elimination of the Worst Forms of Child Labour

These standards should be communicated to production sites used to manufacture the final product.

Assessment and verification: The applicant shall demonstrate third party verification of compliance, to include site visits, for all production sites in the supply chain for their licensed products. This shall take place upon application and subsequently during the license period if new production sites are introduced.

European Commission

Question:

- Is introduction of this criterion relevant?
- Are there any particular production stages that should be considered?
- Which is the capacity of industry to verify proposed criterion?

Materials origin

(a) origin of hides and skins

Only raw hides and skins from animals kept primarily for milk and/or meat production are allowed to be used in the product. Wild, endangered or vulnerable species according to International Union for Conservation of Nature (IUCN) Red List of Threatened Species shall be explicitly excluded.

(b) cotton and other natural cellulosic seed fibres

Cotton and other natural cellulosic seed fibres (hereafter referred to as cotton) shall contain a minimum content of xx% either organic cotton or xx% of IPM (Integrated Pest Management) cotton. In addition to this:

Products meeting specific content thresholds for organic or IPM cotton shall be permitted to display additional text alongside the Ecolabel communicating the content claim.

Materials origin

(c) Origin of natural rubber, wood, and cork

Virgin wood, cork or natural rubber may not come from illegal felling and trade or from forests that need to be protected for ecological and/or social reasons. The material shall be covered by valid sustainable forest management and chain-of-custody certificates issued by an independent third-party certification scheme such as FSC, PEFC or equivalent. Cellulose for synthetic cellulose fibres must come from sustainable forestry.

Where certification schemes allow mixing of certified material and uncertified material in a product or product line, the proportion of uncertified material shall not exceed xx %. Such uncertified material shall be covered by a verification system which ensures that it is legally sourced and meets any other requirement of the certification scheme with respect to uncertified material.

Materials origin: LCA Results

Improvement potential analysis:

- Use of organic cotton: 3% improvement on water eutrophication
- Sustainable farming practices encourage reduction of the environmental impact of agriculture phase, e.g. Rainforest Alliance CertifiedTM Seal

Barriers and opportunities:

- The main area of best practices identified pertain to the use materials of reduced environmental impact;
- Market data, e.g. organic cotton (Europe/≈2%), footwear with wooden sole (1% consumption-volume)
- Capacity of footwear manufacturer to verify material origin.

Question:

- Should a criterion on materials origin be introduced?
- Which materials should be considered?
- Should leather be certified as originating from the sustainable agriculture?
- Should the criterion that requires XX% for organic cotton, or XX% for IPM content be introduced?
- Should criteria on wood, cork and natural rubber origin be introduced?
- Which is the capacity of industry to verify this criterion?

New criterion: Use of recycled materials

Criterion proposal

(a) **Use of recycled polyester in textile uppers and linings**

Polyester fibres shall be manufactured using a minimum content of PET that has been recycled from pre-consumer and/or post-consumer waste. Staple fibres shall contain a minimum content of **xx%** and filament fibres **xx%.**

Assessment and verification: Recycled content shall be traceable back to the reprocessing of the feedstock. This shall be verified by independent third party certification of the chain of custody or by documentation provided by suppliers and processors.

New criterion: Use of recycled materials

Criterion proposal

(b) Use of recycled plastic in shoe soles

Shoe soles shall be manufactured using a minimum content of xx % that has been recycled from pre-and/or post-consumer waste.

Assessment and verification: Recycled content shall be traceable back to the sole manufacturer. This shall be verified by documentation provided by suppliers and processors.

Improvement potential:

- When contrasted with virgin PET, recycled PET fibres offers 40–85% saving in non-renewable energy use (NREU), and 25–75% saving in global warming potential (GWP)[1];
- Using 1 kg of recycled rubber can save 1 kg of CO2 emissions compared to using 1 kg of synthetic rubber
- Base case scenario: mechanical recycling, climate change (3%) and resource depletion (4%), other categories (<1%)
- Proposal: to align requirement with the EU Ecolabel for textile revision

Barriers and opportunities

- Cost reduction;
- Recycled PET fibre accounts for approx. 8% of the world PET production (2007);
- Market capacity shall be evaluated through stakeholders dialogue,

[1] **Shen et al. (2010)**

Question:

1 Should the requirement on the minimum content of polyester that comes from recycling be introduced?

2. Which is the recycled polyester market capacity for footwear?

3. Should minimum recycling content for other synthetic fibres be considered?

4. What is the market situation regarding the use of recycled plastic in shoe soles?

5. Should the requirement on the minimum recycling content in shoe soles be introduced?

New criterion: PVC

The footwear shall not contain PVC.

Assessment and verification: the applicant shall provide a declaration of compliance with this criterion.

- Significant impacts can arise from end-of-life phase (potential PCDDs/PCDFs formation, heavy metals release, strong contribution to acidification),
- Footwear is exported to or reused in developing countries where the end of life might not be controlled (approx. 5% of global footwear production is recycled or reused).
- Alternatives to PVC are present on the market
- Other schemes (Blue Angel, Nordic Swan, Japanese Eco-Mark), and market drivers (AFIRM, Adidas, Timberland) restrict the use of PVC in the product

New criterion: Waste management systems

The applicant shall record and provide the wastage rate for the assembly site.

The wastage rate is calculated as follows: (the mass of output products minus the mass of input materials) divided by the mass of input materials: Wr= (Mo-Mi)/Mi

Following discussion with stakeholders, the proposal is to set a wastage limit value and to precisely define the steps of production (upper, sole…) in the scope of evaluation.

The applicants must document the approach on the waste management and how they intend to improve it.

Improvement potential: Waste reduction (15 % -> 5%)*

Impact category	Environmental improvement for 1 pair of footwear
Climate change	5 %
Ozone depletion	8 %
Photochemical ozone formation	3 %

* According to Questionnaire II

Large majority of stakeholders confirmed the feasibility of introducing a requirement for a waste management system:

- It could be based on LCA.
- It would be possible to set requirements on the waste management system at the production stage, but not for the product end of life.
- Circular economy could be promoted (re-use of waste as material or energy)
- It could be based on the efficiency (a percentage of the production)

New Zealand Trust requires reporting annually the quantity and types of wastes generated, recovered for reuse, recycled, disposed, and burned by them and their suppliers. Initiatives related to the waste management policy shall also be reported.

Question:

- Should a limit value be set for the wastage rate?
- Are there any particular production stages that should be included in the waste rate calculation?
- Which is the capacity of industry to verify the criterion?

New criterion: Post-consumer wastes

Criterion proposal

The brand shall explain qualitatively its waste management system, if it exists.

- Best practices analysis: Less than 5% of global footwear production is reused or recycled;

- Proposal: introduction of specific information for the consumer indicating that footwear should be dispose according to the adopted segregation system (usually used apparel bins).

Question:

1. Which is the capacity of industry to fulfil this criterion?

Thank you for your attention

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