

**Eco-label Furniture; Extension of the Scope**  
**Final report**

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## Introduction

### 1.1 Background

The European Commission assigned Stichting Milieukeur<sup>1</sup> a project to prepare a draft Commission Decision establishing ecological criteria for the award of the EU Eco-label to furniture. CREM carried out the practical implementation of this project in close co-operation with Stichting Milieukeur with the objective:

*To provide a document which can be used as a basis for a draft Commission Decision establishing ecological criteria for the award of the Community Eco-label to furniture or sub-groups thereof that will receive a high level of support and guarantee the necessary high level of credibility and reliability of the European Scheme.*

Sub objectives were:

1. To finalise the product group name and definition.
2. To establish, update and extend as appropriate market information and life cycle considerations.
3. To develop a finalised criteria proposal, covering the relevant environmental aspects related to the product group, that can be successfully presented to the Eco-label Regulatory Committee.
4. To prepare a list of relevant options for testing of the different proposed criteria including an outlook on future criteria development.
5. To justify the proposed criteria giving the necessary argumentation and background data.
6. To prepare a user manual for applicants and competent bodies.

The project took place within the framework of EC Regulation 1980/2000 of 17 July 2000 on a revised Community Eco-label award scheme. This Regulation establishes a Community Eco-label award scheme, which is intended to promote the design, production, marketing and use of products and services, which have a reduced environmental impact during their entire life cycle. On the basis of this Regulation the Commission and the European Union Eco-Labeling Board (EUEB) have the task to establish ecological criteria<sup>2</sup> for product groups in view of awarding the eco-label. The criteria for product groups are established by product group, using life cycle considerations.

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<sup>1</sup> The Dutch competent body for the EU Eco-label

<sup>2</sup> Although the Regulation itself only refers to ecological criteria, the certification schemes of EU Eco-labels also include functional criteria, e.g. durability, and criteria on health and safety, e.g. ergonomics. These latter should be considered to be included where the term "ecological criteria" is used.

The project took “The feasibility of an EU Eco-label for furniture” as a starting point. This study was carried out by Umweltbundesamt (UBA), the German Competent Body for the Eco-label, in close co-operation with Klaus Novy Institut and Tauw. In February 2001, the results of the study were presented. The results were generally favourable to finalising a draft Commission Decision establishing ecological criteria for the award of the EU Eco-label to furniture. This conclusion has led the Commission to the decision to continue the process of preparing a draft Commission Decision establishing ecological criteria.

#### **Extension of the Scope of the project**

Based on the interim results of the project, it was decided to extend the scope of the project to several issues which needed to be covered in an Eco-label Furniture, but were not yet sufficiently included. These issues were:

1. Defining a strategy which takes into account the inclusion of energy consumption criteria and its implications in terms of methodology.
2. Defining a strategy which takes into account the inclusion of a criterion for wood coming from so called “controversial sources”.
3. Defining a strategy which takes into account present criteria on recyclability as presented during the EUEB meeting of September 2003, proposing a solution to make them compatible with possible material exemption clauses in terms of implementation.
4. Identifying recommendations for the successful establishment of an EU Eco-label for furniture in general, and specifically on the above issues.

The performance of a full review of Commission documents detailing relevant past work was needed to deal with these issues.

## **1.2 \_\_ Outline of the report**

This draft final report describes the results an *extension of the scope* of the Eco-label Furniture study, focussing on the issues mentioned in paragraph 1.1:

- Energy consumption
- Controversial sources
- Recyclability.

In chapter 2 the strategies to address these issues are discussed.

In chapter 3 the proposed criteria for the Eco-label Furniture are presented.

Chapter 4 outlines conclusions and recommendations.

# 2

## Discussion on energy consumption, controversial sources and recyclability

### 2.1 \_\_ Energy consumption

In the French national eco-label criteria for furniture, the energy content of materials is used as an important criterion to reduce the environmental impact of the products. Although the rationale behind the development of such a criterion is very plausible (after all, the energy use of materials can be considered an important environmental aspect), it is considered to be very difficult to realize a suitable system to address this issue.

The following should be taken into account:

- The proposed product group definition for the EU Eco-label Furniture is very broad. This would imply that product specific limits need to be set for each and every furniture product within the scope as the energy content of an upholstered sofa can obviously not be compared with that of a wooden school chair.
- The only feasible way to address the energy required to produce the materials is to set average values for the production of materials. In particular for non-synthetic materials the required energy can vary highly. The energy used in Western Europe to produce a specific material can in many cases be considerably lower than that of a production site in for example a developing country. The use of an average may therefore be too unreliable.
- When working with an average value for materials, the only options to vary the total energy use on product level are (a) to reduce the amount of material used and (b) to choose between materials. It is expected that from an economic point of view, producers of furniture will automatically try to minimize the amount of material applied in their product (an energy requirement will not lead to additional environmental benefit). The only option remaining is the choice between various materials. However, the method does not provide for the choice of *the same material produced with a lower energy use* (which it should from an environmental point of view). As it is in many cases difficult to consider different materials as being equal alternatives, both from a technical as well as from a consumer point of view, this approach may not be very practical and useful.

Based on these arguments, it was decided not to include energy requirements in the certification scheme. However, in order to create an appropriate energy consumption database useful for next revisions, it was decided to include an obligation to calculate the energy input on the basis of the average energy consumption related to the production and manufacturing of materials. For this purpose, a table with Csi data, average energy consumption related to the production and manufacturing of materials, shall be made

available through the internet on the EU Eco-label website. Different data to Csi can be used by the applicant if they are proved to be more precise than Csi values.

The calculation of the energy input of materials applied in the eco-labelled furniture has to be provided by the applicant on the basis of the Csi data according to a formula which is presented in paragraph 3.1.

## 2.2 \_\_ Controversial sources

Many stakeholders involved in the development of criteria for the EU Eco-label indicated that they feel that wood from not-certified forests should in any case not originate from controversial sources. It is suggested to include this provision in the Eco-label, as part of the criteria on sustainable forest management.

However, it is advised not to use the term "controversial sources" in the criteria, since this concept may be open to a lot of discussion.

The proposal included in the final draft of criteria (see paragraph 3.2) is based on information of (1) the main used forest certification schemes inside and outside the Community, like for example FSC and PEFC, and (2) the Communication from the Commission to the Council and the European Parliament on forest law enforcement, governance and trade (FLEGT): Proposal for an EU Action plan.

The sources used can be found here:

- Commission FLEGT doc: [http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003\\_0251en01.pdf](http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0251en01.pdf)
- PEFC definitions: [http://www.pefc.org/TechDocs/Annex1\\_Definitions\\_2002-11-22.pdf](http://www.pefc.org/TechDocs/Annex1_Definitions_2002-11-22.pdf)
- FSC definitions: <http://www.fscoax.org/principal.htm> (go to document list, FSC Policy on percentage based claims, 15 May 2000).
- Directive 2001/18/EC: [http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/l\\_106/l\\_10620010417en00010038.pdf](http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/l_106/l_10620010417en00010038.pdf)

On the grounds of the aforementioned information it was proposed to refer to 3 types of sources which can be considered "controversial". These are:

- Wood that has been illegally harvested.
- Wood from uncertified high conservation value forests (HCVFs).
- Wood from genetically modified trees.

Due to the mandate of the Eco-label, currently excluding social issues in its scope, it was decided not to include any requirements referring to social issues.



## 2.3 \_\_ Recyclability

Recycling requirements on product level are very limited in existing schemes. Most recycling requirements are on a material level. Several options are available to deal with recycling on product level:

1. Non specified reference to international and national legislation (Nordic Swan and NF Environnement);
2. Measure based standards (Ökocontrol, Nordic Swan, EU Eco-label Hard floor coverings, NF Environnement, Österreichisches Umweltzeichen);
3. Consumer information (Stichting Milieukeur, EU Eco-label Mattresses).

### National eco-labels and EU Eco-labels

Type of criteria	
Non specified reference to (inter)nat. standards	<p>The producer or importer of ecolabelled products ensures that national legislation governing recycling schemes for products and packaging are fulfilled in the Nordic countries in which the ecolabelled product is sold. (<i>Nordic Swan</i>)</p> <p>Waste during production which cannot be reused at location and containing more than 5% of organic materials has to be disposed of in authorized installations according to national legislation. (<i>NF Environnement</i>)</p>
Measure based standards	<p>Products have to be recyclable or fit for reuse. Materials have to be separable. (<i>Ökocontrol</i>)</p> <p>Waste generated during furniture production has to be reduced and recycled as far as possible. Waste deriving from renewable resources may be exploited for energy purposes. (<i>Nordic Swan</i>)</p> <p>At least 70 % (by weight) of the total waste generated by the process or the processes shall be recovered according to the general terms and definitions established by Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste. (<i>EU Eco-label Hard floor coverings</i>)</p> <p>Possibility of disassembly at end of life of each element heavier than 50 gram. (<i>NF Environnement</i>)</p> <p>The producer or retailer has a take back obligation. (<i>Österreichisches Umweltzeichen</i>)</p>
Consumer information	<p>Consumer information on the best way of discarding the furniture has to be provided. (<i>Stichting Milieukeur</i>)</p> <p>"Please consult your local authority on the best way to dispose of your old mattress." (<i>EU Eco-label Mattresses</i>)</p>

The environmental impact of furniture is to a large extent associated with waste. According to information of UEA, it is likely that most furniture waste is dumped although no detailed official statistics are available. An increase in consumption of furniture contributes to a rise in the amount of waste associated with furniture and vice-versa. Increased recycling and re-use of furniture has the opposite effect. ([www.ueanet.com/furniturewaste](http://www.ueanet.com/furniturewaste)).

Therefore, recycling of the materials used in furniture after end of life should be encouraged. It goes without saying that national legislation in the field of recycling has to be fulfilled, but this is an obligation for all manufacturers and does not need special mentioning in the Eco-labelling scheme.

Several aspects are necessary to take into account when formulating criteria for recycling at product level:

- Disassembly is a prerequisite to ensure recycling, but is difficult to test (it will come down to expert judgement).
- Disassembly is more expensive than moulding furniture, after which the materials are separated for recycling.
- Recycling needs a take back system of products. This brings about certain problems:
  - The change of materials by consumers (e.g. painting etc.) should be taken into account when setting criteria for take back.
  - Take back of furniture is of no use when there is no system to handle products that are taken back.
  - There is discussion on the fact if the responsibility for take back has to be posed either on the retailer or the manufacturer.
  - The costs of take back of products will directly or indirectly be paid by the consumer.

None of the approaches of existing labels provides a solution to the above-mentioned dilemmas. It would be very ambitious to require the set up of a take back system for all types of furniture. For this reason it is suggested to only impose criteria with respect to recyclability, but not to require the set up of a take back system. This has resulted in a proposal to require that aluminium, steel, glass and plastic, if used in an amount > x%, should be easily separable (see paragraph 3.3).

#### **Contaminants/pollutants in the eco-labelled waste furniture**

In addition to a disassembly requirement, the Commission has proposed a criterion that addresses the reduction of environmental impacts related to the end of life of furniture. It was decided to set this criterion at the level of the final product instead of at a single material level in order to be sure of taking into account possible cumulative effects as well and to make its implementation easy and feasible, even for SME's. This requirement is backed up by the following information:

A requirement to regulate the content of possible contaminants/pollutants associable to environmental aspects related to the waste furniture has been set since the beginning of the development of criteria (see the criterion regarding the recycling of wood). It was intended to be applied only to recycling of wood in the wood based material production as, at that time, the recycled waste wood was assumed to be the only possible input source of contaminants/pollutants in furniture.

Provided that:

- according to UEA statistics the figures about the disposal of furniture in the EU countries accounts every year for:
  - approximately 8-10 millions tons equivalent to more than 4% of the total Municipal Solid Waste (MSW) and that 80-90% of such a volume is incinerated or dumped in landfills, whereas only 10% can be considered as used for recycling in wood transforming industries;
  - and that, consequently, possible environmental impacts associable to the waste disposal of furniture cannot be neglected;

- waste disposal is one of the key environmental aspects to be taken into account by the EU Eco-label, according to the Regulation 1980/2000;
- contaminants/pollutants associable to environmental aspects related to the waste furniture can significantly come in the furniture even from materials other than wooden materials;
- the article 3.a of the Directive 91/56 so quotes: *“Member States shall take appropriate measures to encourage: ..... the prevention or reduction of waste production and its harmfulness in particular by:.....products designed so as to make no contribution or to make the smallest possible contribution, by the nature of their manufacture, use or final disposal, to increasing the amount or harmfulness of waste and pollution hazards; ... “*
- a reference in limiting some contaminants/pollutants in the MSW exists in the Directive 94/62 on packaging and packaging waste;
- the observance of the equity application of eco-label criteria must be guaranteed;

the Commission, in accordance to the provisions of the EU eco-label Regulation, considers that it is appropriate to set a strict criterion limiting the content of possible contaminants/pollutants in the eco-labelled waste furniture in compliance with the Commission recommendations in the matter of waste disposal.

The limit values, as fixed by the Appendix 1 in the certification scheme, have been derived on the basis of the Directive 94/62, Directive 91/689, the Commission Decision 532/2000, the German RAL-Gutezeichen 428 for used wood, and the EPF industrial standards for the use of waste wood.

Criterion 2.2 (dealing with contaminants in recycled wood) has been retained as specific requirement for recycling wood in the wood based material production being its application already in use by industry.”

Based on these considerations and after intensive consultation with CREM, Stichting Milieukeur and members of the EUEB, it was decided to include a criterion on contaminants on a product level. To take into account situations in which this requirement may be contra productive from an environmental/technical point of view, the following materials/substances are excluded from calculations requested for the compliance with this criterion:

- The natural ambient content
- The chromium in stainless steel materials
- The recycled material used in the production of the applied material
- Materials exempt according to the criterion 1.2.a/b/c  
This exemption refers to materials applied in relatively small amounts and materials not covered by the scheme (for which the application is also only allowed in small amounts). It should be noted that these exempted materials do have to comply with the general criteria.

The resulting criterion is presented in paragraph 3.3.



# 3

## Draft criteria for the EU Eco-label Furniture

### 3.1 — Data collection on energy input

Energy input data of materials applied in furniture shall be calculated and provided by the Applicant on the basis of Csi, average energy consumption related to the production and manufacturing of materials. In this regard, a table with Csi data shall be made available through the internet on the EU Eco-label website.

The calculation of the energy input of materials applied in the eco-labelled furniture shall be provided by the Applicant on the basis of the Csi, average energy consumption according to the formula in Appendix 3. Different data to Csi can be used by the Applicant if they are proved to be more precise than Csi values.

The data on the composition of the furniture shall be those included in the dossier of the criterion 1.

Appropriate guidelines shall be provided in the user manual.

#### Appendix 3 Description of the criterion on energy input

1. **Calculation of energy** consumption related to the final eco-labelled furniture:

$$\sum_{1}^{n} m_i \times CS_{i*}$$

with :

**mi:** weight of material contained in the product (in kg) (the materials whose total weight per product is less than 3% of the weight of the product are not taken into account);

**CSi:** average energy consumption related to the production and manufacturing of materials.

The CSj data refer to listed average values of natural energetic resources consumptions and are expressed in MJ. They shall be provided in the user manual and made available through the internet on the EU Eco-label web site.

## 3.2 \_\_ Controversial sources

### **Solid wood and wood based materials; Sustainable forest management; part (c) of the requirement**

Wood from forests that are not certified as being sustainably managed forests shall not originate from:

#### *Illegal harvesting*

Illegally harvested wood: wood that is harvested, traded or transported in a way that is in breach with applicable national regulations (such regulations can for example address CITES species, money laundering, corruption and bribery<sup>3</sup>, and other relevant national regulations).

#### *Genetically modified trees*

Wood from genetically modified trees: which have been induced by various means to consist of genetic structural changes (for a definition of genetically modified, please refer to Directive 2001/18/EC on the deliberate release of genetically modified organisms in the environment). Please note that this does not exclude traditional tree breeding programmes, since these are not considered to be part of the techniques of genetic modification.

#### *Uncertified high conservation value forests*

High Conservation Value Forests are forests that possess one or more of the following attributes:

- a) forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance
- b) forest areas that are in or contain rare, threatened or endangered ecosystems
- c) forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control)
- d) forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities)

**Assessment and verification:** *The applicant shall indicate types, quantities and origins of the wood used in the eco-labelled product. The origin of virgin solid wood shall be indicated with sufficient precision to allow checks, where appropriate.*

- i) For virgin solid wood from uncertified sustainably managed forests, the applicant and/or his supplier shall provide the appropriate declarations, charter, code of conduct or statement, verifying that the requirements of criterion 2.1.1.a and 2.1.1.c are met.

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<sup>3</sup> These are the topics addressed in the Commission communication on an EU Action plan on FLEGT.

### 3.3 \_\_ Reclability

#### Recycling and waste

- a) The eco-labelled product shall be easily disassembled making possible the recovery and recycling of materials used.

In order to facilitate recycling of the materials used in products, the following materials have to be easy separable:

- All aluminium
- Steel, if it composes  $\geq 10\%$  by weight of the eco-labelled product.
- Glass, if it composes  $\geq 10\%$  by weight of the eco-labelled product;
- Plastic, if it composes  $\geq 50\%$  by weight of the eco-labelled product.

**Assessment and verification:** *The applicant shall provide appropriate documentation showing full compliance with this criterion, including an instruction for disassembly and where it is explained how aluminium, steel, glass and plastic parts can be disassembled. Furthermore, the applicant shall provide appropriate information on the construction and composition of the product on the basis of which the certifying institute can assess whether the product is separable.*

- b) In order to promote the reduction of pollutant hazards in the disposal, landfill and/or incineration of end of life furniture, the eco-labelled furniture shall comply with the requirements set for elements and substances as laid down in Appendix 1. The natural ambient content, the chromium in stainless steel materials, the recycled material used in the production of the applied material, and materials exempt according to the criterion 1.2.a/b/c are excluded from calculations requested for the compliance with this criterion.

**Assessment and verification:** *The applicant shall provide appropriate documentation showing full compliance with this criterion.*

#### Appendix 1 Limit values of elements and substances allowed in the final eco-labelled furniture according to the criteria 7.b.

Elements and compounds	Limit values* (mg/kg of total dry eco-labelled product)
Arsenic	2
Cadmium	25
Chromium	25
Copper	20
Lead	30
Mercury	0.4
Fluorine	100
Chlorine	600
Pentachlorophenol (PCP)	5
Tar oils ( benzo(a)pyrene)	0.5

\* **The natural ambient content**, the chromium in stainless steel materials, the recycled material used in each constituting material, and materials exempt according to the criteria 1.2.a/b/c are excluded from calculations.





# 4

## Recommendations for a potential next phase

### 4.1 \_\_ Introduction

In chapter 3 the conclusions and recommendations for Eco-label criteria for an EU Eco-label Furniture have been outlined on three specific issues. These conclusions have been taken into account in the development of the final draft criteria that have been put to a vote in December 2003.

However, the majority of the Regulatory Committee could not accept the criteria; the criteria were therefore not accepted. Although there is a definite interest among the members of the EUEB in an EU Eco-label for furniture, several of the Member States rejected the proposal for various reasons. Some of the major bottlenecks relate to:

- The criteria on energy content of products
- The criteria on plastics, particularly those on PVC
- The criteria on recycled wood, particularly with regard to the hazardous substance content
- The criteria on flame retardants
- The criteria with respect to wood certification

Based on the discussions in the EUEB and AHWG the conclusion can be drawn that it will probably be very difficult to reach a positive vote without changing the scope of the product group.

### 4.2 \_\_ Recommendations

The main recommendation to bring the project to a successful end is to re-consider the scope of the product group. By narrowing the scope it may be possible to exclude some of the major obstacles, to establish revised criteria for an Eco-label for Furniture and to come to a positive vote. In future revisions, the scope of the product group may be extended again depending on the availability of new information. The scope can be narrowed down based on *materials* or *functions*.

#### **Narrow the scope from a material point of view**

Before deciding to limit the scope solely from a material point of view, it should be studied whether that is possible within the framework of Regulation (EC) 1980/2000. Taking into account article 2 "Scope" of Regulation (EC) 1980/2000 which lays down that "Product group means any goods or services which serve similar purposes and are equivalent in

terms of use and consumer perception”, it does not seem possible to limit the scope for furniture by focusing solely on materials.

### **Narrow the scope from a functional perspective**

Another way to narrow the scope is from a functional perspective. Of course this will only be useful if one or more of the identified obstacles is tackled by doing so. Basically, limiting the scope based on functional grounds will only be useful if this is accompanied by a change in materials used. Looking at the major obstacles, it might be advisable to limit the scope to product groups where the use of plastics in general and PVC in particular and the use of upholstery is limited as much as possible. For example, an option would be to limit the scope to kitchen furniture. In doing so, discrepancies with the UK flame retardant legislation may cease to exist since this legislation is applicable to “upholstered furniture” which then no longer falls within the scope of the product group. Moreover, only small amounts (in weight of the product) of plastics are used in most kitchen furniture, which may make it easier to come to a satisfactory solution with regard to the use of plastics and PVC.

From a market perspective (is there a demand for kitchen furniture with an Eco-label?) and environmental perspective (what are the potential environmental benefits of an Eco-label for kitchen furniture?), limiting the scope to kitchen furniture is probably acceptable. However, from a viewpoint of green procurement by governmental organizations (in general considered to be a major chance for eco-labeled products), limiting the scope to kitchen furniture may be considered an important set back.