

Integrated Product Policy (IPP) pilot project  
report on a tropical wood garden chair

Disclaimer: The views expressed in this document reflect the discussion among the pilot project participants. The report must not be regarded as stating an official position of the European Commission services or any of the participating organisations separately.

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# Introduction

Integrated Product Policy (IPP) aims at reducing the environmental impact of products through their life cycle in an integrated way taking into account economic and social impacts and following where possible a market-driven approach with involvement from stakeholders. The Integrated Product Policy Pilot Project exercise was initiated by the European Commission to demonstrate how IPP can work in practice for specific products by looking at improving their environmental impact through their life cycle and engaging stakeholders from the different part of the products life cycle. The purpose of this exercise was also to learn about the IPP approach.

The European Commission (EC) openly asked proposals from stakeholders to volunteer to carry out IPP Pilot Projects. The teak garden chair proposal, submitted by Carrefour, was selected from 22 suggestions that the EC had received. The importance of the environmental impact of this product did not play a role in selecting it, rather other criteria were considered including how elaborate the project proposal was, how well the proposal considered the whole supply chain and whether the product was well known to the public. The project on the teak garden chair is run in cooperation with Carrefour and the European Commission. It began in mid-June 2004.

The project is carried out in the following stages:

1. Analysis of the environmental impacts of the teak garden chair throughout its life-cycle based on available information;
2. Identification of options to improve the environmental impact of the teak garden chair & analysis of the potential social and economic effects of the improvement options identified;
3. Selection of the viable options for improvement and ideally different participants making commitments to implement some of the solutions identified;
4. Monitoring of commitments in a year's time.

## Scope of the project

The scope of the project was to look at the improvement of a teak garden chair. However, the project participants found that the findings of this project can apply to garden furniture made of tropical wood in general. The specific chair that was examined in this project was produced by Carrefour, therefore many of the specificities mentioned in this report is related to the production and the purchasing done by Carrefour.

## Pilot Project Stakeholder Group

One of the principles of IPP approach is stakeholder cooperation. Stakeholders and interested parties from different parts of the products' life cycle can achieve better greening of the products by cooperating with each other and taking action on their sphere of influence. The stakeholders participating in this pilot project are:

- Consumers: BEUC
- NGOs: Pro-natura, WWF
- Retailers: IKEA, Carrefour
- Governmental Organisations: OVAM (Openbare Vlaamse Afvalstoffenmaatschappij), European Commission

- Wood certification organisation: Forest Stewardship Council (FSC)
- Woodworking Industry: CEI-Bois (European Confederation of Woodworking Industries)

## Pilot Project Stages and reports

This pilot project completed **its third stage** looking at what commitments stakeholders can make to improve the environmental impact of garden furniture made from tropical wood. Previously, the project analysed a teak garden chair's environmental impact throughout its life-cycle based on available information. Following this, options were looked at to reduce the environmental impact of a teak garden chair in the most pressing environmental areas considering their social and economic impacts. In addition to this, different policy and business instruments were identified to mitigate these impacts. The European Commission has contracted a consultant, to prepare a report assisting the project.<sup>1</sup>

The report of the Commission's consultant has concluded that the **main areas** where improvement/action can be made, and the suitable tools to mitigate these were the following:

- The biggest environmental impact of a teak garden chair lies in **wood production** where the unsustainable production of the wood can cause environmental problems. **Certified forest management** is a good tool to address this. This is also assisted by the EU's FLEGT programme. Greater **consumer awareness** would also increase the pressure on retailers, distributors, manufacturers to apply sustainable forest management practices.
- **Eco-design** is a good tool to address other impacts including waste minimisations and process optimisation during chair manufacturing, product packaging, waste and volume optimisation for more efficient distribution, increased quality to increase the product's life time.
- **Consumer information** is important to mitigate impacts **during end-of-life and lifetime extension**. This included information on repair of the chair, use of the chair, etc. This should be done in a way that is visible and easy to understand for consumers.

This report is the final report prepared for this IPP Pilot Project, it will outline:

- Ongoing actions and actions to be developed in the areas that were identified as most important from an environmental perspective in the previous stages of the pilot project;
- learnings of the different participating stakeholders from this pilot project.

This report was prepared on the basis of contributions from stakeholders participating in the project.

# 1. Options for improving Life-cycle Environmental performance

## 1.1 Forest Management Systems & Traceability

The study prepared by the Commission's consultant for the previous stages of the pilot project, outlined that wood production has the biggest environmental impact in the teak garden chair's life

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<sup>1</sup> [http://ec.europa.eu/environment/ipp/pdf/teak\\_chair\\_final\\_report.pdf](http://ec.europa.eu/environment/ipp/pdf/teak_chair_final_report.pdf)

cycle with risks of illegal and unsustainable logging with environmental impacts such as reduced biodiversity. Also, there are numerous social risks associated to this including poor working conditions due to uncontrolled working environments (work related accidents, exposure to dust, etc). There are difficulties faced by companies trying to source teak wood from legal, sustainable sources in Indonesia. In addition to this, illegally sourced timber is readily available and much cheaper than legally sourced timber. As such the report of the European Commission's consultant highlights the importance of traceability, the ability to trace the timber coming into timber processing factories back to the stump. The various stakeholders participating in this project have many ongoing initiatives to improve the sustainability of the wood production, but further improvement can be made as described in the following.

### Ongoing actions:

#### **CEI-Bois**

The European Confederation of Woodworking Industries recommends to its members the use of wood purchased from legal sources and sustainably managed forests. It thereby accepts however certification by FSC, PEFC, CSA, SFI and other schemes, as long as they comply with (in Europe) the principles and measures corresponding to those of the Pan-European Operational Level Guidelines for Sustainable Forest Management, as endorsed by the Lisbon Ministerial Conference on the Protection of Forests in Europe (2-4 June 1998). Outside Europe they shall at least correspond to the UNCED Forest Principles (Rio de Janeiro, June 1992) and, where applicable, to the criteria or guidelines for sustainable forest management as adopted under the respective international and regional initiatives (ITTO, Montreal Process, Tarapoto Process, UNEP/FAO Dry-Zone Africa Initiative). (cfr. EU eco-label for printed products).

CEI-Bois also developed a neutral chain of custody standard to assist also SMEs identifying and tracing the wood flows and sourcing origin in their operations. The standard is also adaptable to larger scales of operations.

#### **WWF**

WWF is a member of Forest Stewardship Council's environmental chamber<sup>2</sup> and it promotes the use of FSC wood certification<sup>3</sup> to consumers, retailers, manufacturers, importers, forest managers and governments.

WWF established a Global Forest and Trade Network (GFTN), which is an initiative aiming at eliminating illegal logging and improving the management of valuable and threatened forests. WWF though this network accompanies committed companies towards producing, manufacturing, purchasing and selling only FSC products within a specific timeframe. In the countries where tropical furniture is bought, some purchasers have been cooperating with WWF on sustainable forestry issues through this network since long. Carrefour France is a member of the WWF French Forest and Trade Network named Club Proforêt.

The Global Forest and Trade Network provides a range of support services to its members:

- Market Links: identifying and facilitating contacts between responsible investors, buyers and producers.
- Forest Management & Chain of Custody Certification: guidance on achieving certification and developing systems for tracing wood products to forest of origin.

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<sup>2</sup> [http://www.fsc.org/fsc/about/governance/membership\\_chambers](http://www.fsc.org/fsc/about/governance/membership_chambers)

<sup>3</sup> [http://www.fscus.org/faqs/what\\_is\\_certification.php](http://www.fscus.org/faqs/what_is_certification.php)

- Communications: support with marketing and policy advocacy.

More recently, WWF has established Producers Groups in producer countries. The Producers' Group aims to accompany logging and manufacturing companies to halt illegal logging and to achieve sustainable environmental, social and economic practices. Members commit to achieve credible certification within a specific timeframe, and an action plan is defined with the steps to reach the forest management level that is "certifiable". Independent auditors verify each year the status of progress according to the plan.

WWF promotes the use of lesser known species to release the pressure on the few species that are internationally traded.

### Pro Natura

Pronatura's activities include initiatives in the area of sustainable forest management in South East Asia in Myanmar and Laos.

### IKEA

IKEA believes that good working conditions and the protection of the environment at their suppliers is a prerequisite for doing good business. Their code of conduct, **"The IKEA Way on Purchasing Home Furnishing Products" (IWAY)**, was introduced in 2000 (for more information see Annex II).

IWAY defines what suppliers can expect from IKEA and what IKEA requires from its suppliers in terms of legal requirements, working conditions, child labour, environment and forestry management. These requirements apply to all suppliers, in addition to this, IKEA wooden merchandise suppliers are subject to a more intensive treatment of their raw material use via the forestry work. The forestry management is applying to all suppliers of wooden products, not only for products made of tropical timber. These requirements follow a staircase model. (for more information see Annex III)

Timber for IKEA must come from responsibly managed forests and certified forests are the long-term goal.

IKEA does not accept timber, veneer, plywood or glue-laminated/stratified wood from intact natural forests or from forests with a clearly defined high conservation value. The timber used to manufacture solid wood products sold by IKEA comes from 45 countries. IKEA imposes strict rules governing the use of high-value tropical tree species. At present these must be certified in accordance with a standard for responsible forest management. The only current standard that meets the long-term aims of IKEA according to IKEA is that of the Forest Stewardship Council (FSC). For FSC certification, forestry must, among other things, respect the rights of indigenous peoples and manage high conservation value forests in a way that preserves the natural values of the area. (for more information see Annex III)

IKEA requires in IWAY that suppliers must make sure that their sub-contractors follow this code. Today IKEA audits only its suppliers, but they are in the process of starting up limited auditing also of sub-contractors if the sub-contractors have a substantial part of the production of an IKEA product. IKEA thinks it would be unrealistic to monitor all 20,000 sub-contractors in an intensive manner. For the wooden merchandise suppliers an annual forest tracing survey is conducted which is followed up with supply chain audits performed by professional foresters. Even if, at times, can be challenges to traceability, IKEA overall has more than 90 percent transparency in the wooden merchandise supply chain due to tracing and auditing measures.



## **Carrefour**

**Carrefour** applies a **Sustainable Forest Management charter and its Social Charter**. The sustainable management of forests means for Carrefour “proper management” and the use of forests and woodland in such a manner and at such an intensity that they maintain their biological diversity, their productivity, their capacity for regeneration, their vitality and their capacity to satisfy, now and in the future, their appropriate ecological, economic and social functions at local, national and global levels, and that they do no harm to other ecosystems.

Carrefour created this charter to enable it to ensure that those of its suppliers who source wood or timber as a raw material recognise and observe the agreements and certification that currently exist concerning conservation and the sustainable management of forests.

The primary aim of this charter is to promote sustainable management of forests by making a contribution to the resources deployed by the various national and international organisations concerned. This is done by laying down specific requirements for all Carrefour timber product suppliers.

**Carrefour requires from its suppliers of wood products** that they organise their operations in such a way as to:

- Ensure the proper supervision and monitoring of the traceability of the wood at its production site;
- Train its employees to keep to and monitor the steps taken to ensure traceability;
- Ensure that raw materials used for Carrefour consist solely of raw materials from sustainable managed forests or plantations: sourcing control;
- Identify the product, from raw material to finished product;
- Record and keep data that ensure reliable traceability.

Carrefour applied this approach to the teak timber furniture sourcing in Indonesia. Unfortunately the teak forest owner had its FSC certification repealed. Despite this Carrefour continued to work with its supplier and local NGOs in setting up a tracing scheme to track the wood from the forest to the finished products. This has enabled Carrefour to have a relatively secure system to purchase sustainable wood. However, this approach put the Carrefour products at a price disadvantage in final markets. Because of this in 2005 Carrefour decided to stop sourcing teak and to instead source another tropical wood with similar properties but certified FSC. Thus Carrefour was able to maintain its sustainable development purchasing policy and values while being able to offer a more competitively priced product.

### Future actions:

## **Carrefour**

As described above, Carrefour had a system in place to trace the teak wood coming from Indonesia, which was a relatively well functioning but expensive way to trace the tropical wood. In order to purchase sustainable tropical wood but to have better business benefit Carrefour commits itself to purchasing FSC certified wood for garden furniture in the future and to stop purchasing teak. This will ensure that the wood coming from sustainable forest will be less expensive and in addition to this the FSC label will be easier to communicate to consumers.

Carrefour's teak products will be replaced by Amburana, certified FSC, from Bolivia. The new wood species Carrefour will purchase will not have very different qualities from the teak with regard to lifetime and other quality aspects.

For 2007, Carrefour **wood sourcing** will orientate towards FSC certified species and species classified as not endangered by IUCN (The World Conservation Union).

In the perspective of a progressive approach, Carrefour works towards the substitution of Keruing sourcing by another FSC certified species. Technical trials are under way.

**Carrefour** furthermore commits to continue to assist its suppliers at each stage from initial evaluation to the actual introduction of the development measures necessary to the implementation its Sustainable Forest Management Charter. Before any business relationship is established, Carrefour will **visit the sites**, accompanied where appropriate by outside observers. The forestry facilities, from which raw materials to be incorporated into the Carrefour product are sourced, will be **audited according to a questionnaire provided to the supplier beforehand**. A report on the visit is prepared evaluating the supplier's compliance with the obligations contained in the Charter. This report will enable the supplier to know where he stands and what improvement actions, if any, need to be taken for FSC or any other similar certification.

During the manufacture of goods ordered by or intended for Carrefour, the supplier authorises Carrefour, or any person appointed under the internal supervision mechanism instituted by Carrefour, to conduct unannounced inspections on compliance with his commitments. Failure to meet these obligations on the part of the supplier may lead Carrefour to review its business arrangements with that supplier.

The implementation of external supervision may be carried out by third-party organisations. A supervisory committee composed of members from Carrefour and from its partner NGOs will make it possible:

- to evaluate the implementation of the corrective action prescribed as a result of the internal supervision.
- to carry out all such additional inspections as Carrefour thinks fit, including unannounced visits.
- to commission suitable local NGOs to assist Carrefour on the spot in its monitoring of the application of progress measures set out as a result of the first internal supervision.

Before any purchase order is given, the supplier undertakes to observe the above principles, and to notify his sub-contractors and employees of them. These commitments on the part of the supplier constitute material conditions of the business relationship. In any case of serious failure in keeping these commitments, Carrefour reserves the right to cancel current orders and to suspend all commercial relations.

## **WWF**

WWF as a partner of Carrefour accompanies them in their process of switching from the teak chair to FSC labeled chair in Amburana. Other products, like the Keruing garden furniture were purchased from manufacturer members of the Forest Trade Network Vietnam (a member of the WWF's Global Forest and Trade Network). Sourcing of this in 2006 will eventually be replaced by FSC certified Eucalyptus assisted by WWF.

## **IKEA**

Audits of the suppliers will be made on a regular basis, as a minimum every two years to make sure the IKEA supplier maintains his IWAY approved status. However, all Asian trading service offices have decided to do this more frequently, e.g. once a year or every six months.

In total IKEA has also 80 (full or part time) auditors at the trading service offices. The auditor's task is to support the suppliers, including to agree upon action plans for improvements as well as to explain the requirements, perform monitoring and consultation visits



and to offer and execute training. The IWAY auditor informs the supplier of a forthcoming visit and prepares the inspection, which takes one to two days to carry out on site. The auditor covers a checklist of approximately 90 detailed criteria on working conditions, including child labour, on the environment and on wooden merchandise.

#### **IKEA forest managers**

IKEA has 12 forest managers. Their task is to support IKEA trading service offices around the world when tracing the origin of the wood back to where it was felled. These wooden supply chain audits make sure that IKEA can critically evaluate the supply chain for traceability. The forest managers also help suppliers to find timber that has been harvested in responsibly managed forests.

#### **The “Compliance and Monitoring Group”**

IKEA is concerned that the same standards are followed throughout the organisation. The “Compliance and Monitoring Group” (CMG), a part of IKEA group staff Social and Environmental Affairs, is responsible for internal auditing of the compliance work worldwide.

#### **External and third party auditing**

In order to ensure objectivity and verification, IKEA uses external auditing companies to verify its working methods and results and to make actual audits at suppliers. The third party audits are to a large extent conducted every other year.

## **1.2 Eco-design & Logistics**

The most important environmental impact of the teak garden chair lies in wood production. However, reduction of environmental impacts can also be achieved by environmental product design addressing most significant aspects and impacts, including process optimisation and waste minimisations during chair manufacturing, product packaging, waste and volume optimisation for more efficient distribution, increased quality to increase the product's life time. Eco-design could also be able to optimise the use of the wood material for the furniture in the future.

#### Ongoing actions:

##### **IKEA**

Ikea's aim is continuously improve the design and packaging of its products. IKEA makes the packages smaller and easier to transport. The products are assembled at home.

Ikea is working step by step towards more environmentally adapted transport solutions as well. Work is carried out on how to reduce environmental impact of transport policy.

When IKEA develops new products, the spotlight is placed on the environmental consequences of those new products throughout their entire life cycle. This is done with the help of the “eWheel” – a tool providing a systematic approach to analysing the environmental impact of the product (for more information see Annex III).

##### **OVAM**

As the public Flemish waste agency OVAM believes in the potential of eco-design as a means for reducing and prevention of waste. Therefore, the department of prevention of OVAM has specific activities towards designers and producing companies providing information on the implementation of eco-design. Most companies and designers are not aware of the potential of eco-design or think it's only possible if high investments of time and money are made. Therefore

OVAM has recently released the Ecolizer<sup>4</sup>, an easy to use eco-design tool based on eco-indicators.

### **European Commission**

The European Commission's European Platform on Life Cycle Assessment, where work has already started, will provide a useful basis for eco-design activities by establishing a European reference life cycle data system. The data reference system includes a database and data collection methodology for both life cycle inventory and impact data. The Platform will also consist of best practices on life cycle assessment use and interpretation.<sup>5</sup>

### Future actions:

#### **Carrefour**

Improvement of the weaknesses identified by the study: transport, packaging. Carrefour will continue to work with suppliers on the design of the product and packaging in order to optimise material use and transport.

#### **IKEA**

This year IWAY requirements for foods and transports will be finalised and implemented which will mean that tougher demands regarding social and environmental responsibilities will be asked of the suppliers in these areas.

A target for reduction of CO2 emissions will also be set this year and steps on how to reach the target developed.

#### **OVAM**

OVAM is planning an extension of the Ecolizer with some missing material groups including commonly used wood types.

## **1.3 Product Information**

### **1.3.1 Consumer information**

IPP aims at encouraging both the supply and the demand side of the market to move the market into a more sustainable direction. IPP seek to encourage producers to produce environmentally friendlier products as well as consumers to consume greener products.

When looking into improving the environmental impact of the product, consumers also have to be considered, on the one hand taking into account the environmental impact at the use and waste phase of the products, and encouraging the consumption of greener products in order to have business benefits from green production. For consumers to be able to move to the direction of sustainable consumption a prerequisite is to provide them suitable environmental information.

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<sup>4</sup> The Ecolizer provides an easy way of assessing the environmental impact of a product. This tool will be distributed to Flemish designers and companies as an introduction to eco-design. This tool also contains eco-indicators of the environmental impact of some wood types. At the same time it is important to consider the whole chain of the product and also approach the consumer and supply chain. If the store can't influence the eco-design aspects of the product they provide, the environmental benefits of the product will be limited.

<sup>5</sup> <http://ec.europa.eu/environment/ipp/lca.htm>

Encouraging public or professional consumers to buy in a sustainable manner could make a big difference in shifting the market to an environmentally friendlier direction.

In the case of the teak garden chair consumers need to get simple and straightforward messages and be informed about the issues related to illegal logging and sustainable forestry. However, the differing definitions on what sustainable sourced wood is could cause difficulties in this area.

### Ongoing actions:

#### **FSC**

**FSC** believes the current communication to consumers could be stronger. From the consumers point of view a wooden product itself doesn't tell its origin. If traders would have to put signs on their products saying: "with 80 % of probability<sup>6</sup> produced from stolen wood and therefore 10 euros cheaper", consumers would be repelled to buy the cheaper option. Competition from illegal sources especially in tropical timber garden furniture is strong, clear actions by the authorities are needed together with credible labeling, like FSC for example.

Studies on consumer (and buyers) behavior and purchase decisions have shown the following:

- strong effect of FSC label on plywood, a commodity product in the US, virtually identical with non-labeled products<sup>7</sup>:
  - o same prices: the FSC option outsells the non-labelled alternative by 2 to 1
  - o 2 % premium on the FSC-labelled products: sales of the labeled products still 1 to 1.7
  - o 37% of sales were to consumers who paid a price premium of 2%
- increase of 12 % in sales of products which have been promoted with a credible label<sup>8</sup>
- 12 % of German consumers know the FSC label and 37 % of these prefer it when buying forest products<sup>9</sup>
- FSC-certified companies in the paper and printing sector in Europe expect an increase in FSC sales in 2006 of 50%, from 4.3 % to 6.7% of annual turnover<sup>10</sup>

#### **WWF France**

WWF France uses campaigns to raise awareness and promote progress of retailers/manufacturers. A campaign is being conducted in France to inform consumers on what information to look for when buying tropical wood products ([www.wwf.fr](http://www.wwf.fr)). Also, the guarantees offered on products of major retailers were analysed and published in order to promote a level playing ground of the whole sector.

The main message of the campaign is on illegality: if a wood has no independent guarantee, it might contribute to tropical forest deforestation. The goal is FSC certified forests and products. The minimum asked is independent verification of legality and chain of custody, applicable only if a species is NOT endangered and doesn't come from countries "at risk" (e.g. Myanmar). Teak

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<sup>6</sup> Estimation of the German Federal Government for Consumer protection on Indonesia

<sup>7</sup> "Do Forest Certification Ecolabels impact consumer behaviour. Results from an Experiment", Oregon State University 2002, source FSC US News and Notes Dec. 2003

<sup>8</sup> Blauer Engel or FSC, Study made by the German Agency for consumer protection, Verbraucherinitiative, and the two retailers Obi and Otto

<sup>9</sup> study Umweltbewusstsein 2004, Federal Ministry of Germany for Environment, Nature Conservation and Reactorsicherheit

<sup>10</sup> study by FSC Arbeitsgruppe Deutschland, April 2006

from Indonesia having an independent audit of legality could thus be an acceptable step for WWF. Same goal would be reached if the forest enterprise would be member of GFTN (See above, forest Management and Traceability) or TFT (Tropical Forest Trust), as both lead to FSC certification after the step of legality.

### **Carrefour**

Carrefour's communication policy includes on its new **commercial publications (please see picture below)** the following information **on the garden chair**:

- Latin name of the species
- Country of origin
- Information on legal warranty, good governance and traceability (certification)

Carrefour aims at adequate and credible **promotion of the certified products**. The new Amburana garden furniture products will be communicated on two French national brochures, diffused to more than 12 millions consumers.

## Le Keruing

### La garantie d'une origine contrôlée

Pour le keruing, Carrefour s'approvisionne majoritairement auprès d'entreprises qui se sont **engagées à tracer l'origine des bois**, à éliminer les sources de bois illégaux et douteuses et à augmenter leur part de bois certifié, sous le contrôle indépendant du FTN (Forest & Trade Network).

**FTN est animé depuis 15 ans par le WWF** afin d'accompagner les entreprises engagées vers une politique responsable d'achat de bois.

### Un bois tropical de premier choix

- Des propriétés parfaitement adaptées à un usage extérieur : forte densité, durabilité au contact de l'eau, stabilité dans le temps
- Une gamme de meubles fabriquée de façon traditionnelle, avec des contrôles constants à chaque étape de la production
- Un excellent rapport qualité/prix

**Toute la gamme de mobilier de jardin en keruing est garantie 2 ans.**

## L'Amburana

### Le choix de la qualité dans le respect des ressources naturelles

La dégradation de la forêt se poursuit à un rythme inquiétant, or, **les arbres jouent un rôle vital** dans la régulation des climats et du cycle de l'eau. C'est pourquoi en 2006, Carrefour a fait le choix d'arrêter le teck d'Indonésie, dont l'exploitation a conduit à une situation écologique et humaine catastrophique.

Pour le remplacer, Carrefour et le WWF ont **sélectionné pour vous l'Amburana**, un bois originaire d'Amérique du Sud (Bolivie) qui bénéficie du label FSC, garantissant la **préservation de l'espèce**, les droits des peuples indigènes et des travailleurs de la filière, dans un objectif clairement défini de **développement durable**.

**L'Amburana vous offre toutes les garanties d'un bois tropical de très haute qualité :**

- Comme le teck, c'est un bois très dur, imperméable, résistant aux attaques des agents extérieurs.
- Sa longévité, sa stabilité en font un bois idéal pour un usage en mobilier extérieur.
- C'est un bois décoratif, dont la couleur naturelle, beige gris, rappelle le chêne.

**Une gamme de meubles de jardin en Amburana en tous points exemplaires :**

- Elle est issue de bois qui provient exclusivement de forêts ayant la certification FSC.
- Toute la gamme de mobilier de jardin en Amburana Carrefour est **garantie 5 ans**.



## **IKEA**

IKEA wants its brand to stand as a guarantee of genuine concern for the environment and social responsibility. Therefore, IKEA does not mark its products with any external environmental labels. The only exception to this is that IKEA has an ambition to **FSC-label outdoor furniture in dark tropical hardwoods**. During the financial year 2003 IKEA started to produce environmental information about its products to be displayed on price tags. A list has been produced containing around 35 key words relating to the environment, and the intention is to use this list as a basis for describing the environmental properties of products

### Future actions:

## **WWF**

In 2006, **WWF France** has started a campaign to raise consumer awareness on risks and solutions when buying garden furniture. Retailers have been compared, to stimulate improvement. Such activities will probably be done (even if at a smaller scale), every year. The goal is also to promote a level playing ground.

**WWF**, as partner of Carrefour, accompanying them in their progress, has participated in the process that moved from the teak chair to FSC labeled chair in Amburana. Other products, like the Keruing garden furniture, where processed from manufacturer members of the Forest Trade Network Vietnam (a member of the WWF's Global Forest and Trade Network). Sourcing of 2006 will eventually replace this "in progress" wood with FSC certified Eucalyptus. According to WWF not much more can be done to promote responsible purchasing, except independent audits on acacia plantations from Malaysia to ensure their respect of legality, and later, their certification. Next step would now be **active communication** to promote FSC products and inform the consumer about what it means.

External communication via a **in store animations will be carried out by WWF**, in the context of their campaign against illegal logging.

## **Carrefour**

In 2007, Carrefour will focus the information to consumers on the origin of its tropical garden furniture. In France, Carrefour is working with WWF to improve the information that is given in catalogues on the tropical garden furniture and on Carrefour's sourcing policy.

In 2007, Carrefour will improve systematic labelling of its wood products on the product:

- Latin name of the species
- Country of origin (for garden furniture)
- Information on legal warranty, good governance and traceability (certification)

Carrefour commits to focus its activities on **communication and information to the consumers** and other retailers:

- Inform its federations (FCD, EuroCommerce) about the IPP approach and the conclusions of the Pilot Project's report prepared by the European Commission's consultant;
- Communicate the publication of the final report on the IPP Pilot project, in order to emphasise our wood sourcing policy;

- Communicate the project report to financial analysts, CSR observers, in order to allow an increased awareness of the investments undertaken in the area of responsible sourcing of wood;
- Develop and improve their reporting on wood sourcing in their Sustainable Development reports;
- Extend communications done towards their consumers via activities in their stores, leaflets, and Internet websites.

### 1.3.2 Labels

#### WWF

For WWF, a credibly certified source is a forest certification using a system requiring:

- Participation of all major stakeholders in the process of defining a standard for forest management that is broadly accepted;
- Compatibility between the standard and globally applicable principles that balance economic, ecological and equity dimensions of forest management;
- An independent and credible mechanism for verifying the achievement of these standards and communicating the results of all major stakeholders.

WWF believes that to date, only FSC meets these requirements.

#### FSC

On 1<sup>st</sup> January 2007, **FSC** will make compulsory the use of a new standard, the “FSC controlled wood” standard<sup>11</sup> for all non-FSC products that mix up with FSC products and get a “mixed source” label (following the volume credit or the threshold method). Approximately more than 3.500 COC-certificate (Chain of Custody Certificate)<sup>12</sup> holders around the world will have to comply with this and will be potentially able to supply FSC-controlled wood.

The FSC controlled wood standard guides companies to avoid unacceptable wood sources such like illegal logging areas with severe social conflicts or endangered forests or wood coming from natural forest conversion.

This standard could also be used by purchasers wanting to control the minimum requirement of its non-FSC wood. Further applications i.e. in the investment sector to gain additional securities and risk management, or as a minimum requirement to show legal compliance.

#### European Commission

The European Commission is in the process of developing EU Ecolabel criteria for wooden furniture that will award products that have good environmental performance. The use of the EU Ecolabel will make it easier to communicate on the environmental characteristics of the product to the consumers and thus will encourage greener production and consumption. EU Ecolabel is planned for 2007 and the findings of this IPP pilot project will feed into the development of the eco-label criteria. In addition to this the Commission is also in the process of reviewing the EU Eco-label scheme with a view to making it more widespread and well-known.

### 1.3.3 Training of vendors

<sup>11</sup> [www.fsc.org/controlled\\_wood](http://www.fsc.org/controlled_wood)

<sup>12</sup> <http://www.fsc.org/coc/docs/en/Chain%20of%20custody%20user%20guide.pdf>

Providing information for consumers can be reinforced by assistance in the shop, this is why training of store employers can be an important contribution to help to inform consumers. Environmental awareness of the staff dealing with strategic work in the supply chain is also necessary to apply greener principles across the company.

#### Ongoing activities:

##### **IKEA**

IKEA's internal communication:

- Information about IWAY to IKEA co-workers working in other areas than the trading service offices, e.g. product development and retail.
- Training for new auditors
- Training for experienced auditors
- Training for co-workers at the trading service offices.
- Information about IWAY for new staff at the trading services offices

#### Future actions:

##### **Carrefour**

In 2007, Carrefour will concretely take on board the recommendations made by project report to improve communication in stores. **Internal training of store employees** on wood sourcing and forest management includes development of a position paper with the support of an NGO, which is presented to all the employees dedicated to the wood branch of the stores; focus on training on the garden furniture; and promotion of the FSC label.

### **1.3.4 Corporate reporting**

##### **Carrefour**

Carrefour reports regularly on its progress to WWF and provides information in its annual Sustainability Report on its wood sourcing policy and progress.

##### **IKEA**

IKEA reports annually on the progress on wooden merchandise to WWF as a member of the Global Forest and Trade Network. Information is also available in the annual Social and Environmental Responsibilities report and in a brochure on the same subject.



## 1.4 Regulatory and Policy options

### 1.4.1 Legislation

#### FLEGT

FLEGT stands for Forest Law Enforcement, Governance and Trade. The FLEGT Action Plan is the European Union's response to the causes and effects of the global problem of illegal logging and the trade in associated timber products. Illegal logging and the associated trade in illegal timber is responsible for vast environmental damage in developing countries, and impoverishes rural communities that depend on forest products for a living. The FLEGT Action Plan proposes measures to increase the capacity of developing and emerging market countries to control illegal logging, while reducing trade in illegal timber products between these countries and the EU.

The Action Plan sets out a range of measures that aim to combat the problem of illegal logging. These include:

- support for improved governance and capacity-building in timber-producing countries;
- development of Voluntary Partnership Agreements with timber-producing countries to improve their forest governance and as appropriate prevent illegally produced timber from entering the EU market by means of a timber-export licensing scheme;
- efforts to reduce the EU's consumption of illegally harvested timber through public and private procurement policies and discourage investments by EU institutions that may encourage illegal logging.

Carrefour and other European companies as well as environmental NGOs have called for the EU to go beyond the voluntary FLEGT approach and to introduce legislation banning the importation of illegally harvested timber. The European Commission is examining this amongst other options for further measures, including possible legal ones, and will issue a report on its findings in due course.

WWF has been actively promoting, with other NGOs, the FLEGT process conducted by the European Commission. In particular, a regulation banning the import of wood illegally harvested has been strongly called for by NGOs, with numerous reports and analyses backing the proposal. To date, only bilateral voluntary agreements to control the legality of wood will be launched, covering thus only part of the timber supply entering Europe. Also, lobbying is being done for FLEGT on the member states and a government Barometer comparing progress of all EU member states is published every year. One was published recently and is available on [www.panda.org/barometer](http://www.panda.org/barometer). **Carrefour and IKEA** have signed a declaration of companies asking for FLEGT to cover the banning of illegal wood coming into the European Union, as it leads to unfair competition as well as allowing forest destruction and raising poverty in producing countries through the loss in tax revenues. Most of the stakeholders involved reached a consensus on the **need to develop to help and fight against illegal logging**. WWF thinks that the present legislative environment does not stop the cheaper illegal wood coming onto EU markets.

### 1.4.2 Voluntary and Business Agreements

#### Ongoing activities

##### Carrefour

Carrefour has a partnership with WWF. As a result of the **partnership WWF/Carrefour**, Carrefour asked their manufacturers in Vietnam to join the Vietnam Forest and Trade Network. The manufacturers are now members and will implement an action plan towards eliminating illegal sources and using FSC sources within five years.

## **IKEA**

WWF and IKEA entered a partnership to promote responsible forestry in 2002. The co-operation with WWF extends over three main areas: the spread of information, education, and supporting the certification of responsible forest management. During the partnership the two organisations are committed to carrying out a series of projects that will contribute to the development of global toolkits on forestry issues and will promote responsible forestry on the ground in priority regions.

IKEA has partnered Impact, a UK-based organisation specialising in improving labour standards, in a project focusing on reducing overtime working in a sustainable way.

## **FSC**

FSC believes that to date, self declarations without an independent third party check, especially in tropical timber trade, are not trust worthy and might confuse the consumer.

## Future actions

### **Carrefour / IKEA**

Retailers involved in the project commit to use the **project study for the future sourcing of wood**.

## **IKEA**

The non-profit organisation Global Forest Watch has mapped intact natural forests in various parts of the world, compiling the results in special atlases for the respective countries. These atlases have become invaluable tools for IKEA forest managers. IKEA has supported this work in Russia, Lithuania, Latvia, Estonia, Romania, Indonesia, Canada, South East Venezuela and Chile. IKEA has also partly supported mapping in Brazil. The data produced by Global Forest Watch enables IKEA forest managers and suppliers to identify areas from which IKEA can not accept timber.

Several joint projects are under way with WWF, for example supporting the establishment of “producer groups” in which the manufacturers of timber products work together to facilitate FSC certification of raw materials. Projects are currently under way in Russia, China, Estonia, Latvia, Lithuania, Romania and Bulgaria. The co-operation between WWF and IKEA supports the implementation of IKEA’s forest action plan and is based on the common goal of the two organisations to better care for the world’s forests.

### **Carrefour**

As far as **Carrefour** is involved, future activities will include communication of the result of the study to all our partners in the supply chain of these products: suppliers, other retailers, NGOs, etc.

Carrefour is committed to source its wood products from companies which are dedicated to the traceability of the origin of the wood, and to fight against illegal logging.

Carrefour is working with its suppliers towards more certification, and independent control of the supply chain.

### 1.4.3 Green Public Procurement

Greening of public procurement stands for public purchasers who take into account environmental elements when buying products, services or works. Greening of public procurement could have significant benefits for the environment. Public authorities are major consumers in Europe, spending some 16 % of the EU's gross domestic product (which is a sum equivalent to half the GDP of Germany). By using their purchasing power to opt for goods and services that also respect the environment, they can make an important contribution towards sustainable development and move the market to a sustainable direction.

Developing public procurement policies that ensure only sustainable timber is supplied can contribute that the timber market moves to a more sustainable direction. New EU rules have clarified that public procurement policies can take into account production methods, if they relate to the subject matter of the contract. A European Commission Handbook on Green Procurement<sup>13</sup> provides some guidance on how Member States can take into consideration the sustainability of supplies, when purchasing imported timber.

### 1.4.4 Ecotaxes

Getting the prices right, through internalising environmental externalities into the price of a product so that its environmental impacts are accurately reflected in the price is an effective policy tool to move the market to a sustainable direction. Price signals give incentives for the continuous environmental improvement of products throughout the life-cycle. Tax incentives could be further promoted to give incentives to sell and purchase of products made of sustainable wood.

## 2. Learnings from the IPP pilot project

### On the Methodology:

- This project showed us how the IPP project can work in practice to improve the environmental impacts of products through the life cycle. The methodology that this project followed can provide one **model methodology** for IPP projects for the future. This process can be taken over by public authorities as well as other stakeholders.
- The project also re-emphasised the **importance to look at the whole product life cycle** in order to avoid shifting environmental impacts from one part to another part of the life cycle and to address the environmental impacts of products at the most important part of the life cycle, where environmental improvement can best be achieved.
- The project shows that environmental work does not only stop for businesses at the product development level, and at the shelf of a retailer. But the **consumers also have to be considered**, by taking into account the environmental impact at the use and waste phase of the products, and by encouraging the consumption of buying greener products in order to have business benefits from green production.

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<sup>13</sup> <http://ec.europa.eu/environment/gpp/pdf/int.pdf>

- **Willingness from the companies'** side to carry these projects out is necessary to make them successful. A **lead company** is important to encourage actions in the project. There is need for very good stakeholder cooperation, teambuilding in the similar projects. Multi-stakeholder approach adds to the dynamics of the debate on products. Stakeholders appreciate to have the opportunity to broaden the bilateral discussions. These projects can provide a basis for future cooperation among stakeholders in other areas.
- To carry out pilot projects is a resource intensive task from the European Commission's side, but the outcome can be rewarding. Even if the pilot project exercise was a voluntary initiative it stills required resources from the Commission. It is estimated that 1 person from the Commission side could run 2-4 IPP projects per year depending on the level of the Commission's involvement. If the Commission decides to keep running "pilot" projects it should move to "**product panels**" that can be used as a policy tool in the future. As it is resource intensive process in the future, it is important to consider the role of the Commission in this process and that these projects should focus on pre-determined list of products with great environmental impact and potential for improvement. The Commission's work to prioritise products according to their potential for environmental improvement under IPP must be considered in this area.
- IPP Projects can be very different depending on the type of actors involved, for example an IPP project is with a **retailer and a producer**. Manufacturer mostly have more influence on the design of the product, retailers don't for every single product. In the case of the retailers they mostly need for practical tools, as a checklist, to look into the environmental impact of the products as they deal with many and divers products.
- The appropriate **choice of the products** for the IPP project is important so that stakeholders that participate in the project can relate to this product and work on it effectively.
- Better consumer involvement is needed in the projects. This and other **NGO involvement** if progressing with product panels might require resources for financing their participation in the future.
- Product panels when starting could **link up** with other ongoing initiatives on similar issues, as for example in this project's case with the Illegal logging forum conducted by the RIIA (Royal Institute of International Affairs).<sup>14</sup> This would allow more synergies among ongoing actions.
- It is useful when running pilot projects that the stakeholders involved **represent the market**, this way more efficient solutions can be achieved that can effectively move the market to a sustainable direction.
- For the stakeholders participating in the project **political pressure grows** by providing more external visibility about one's action.
- The existence of a solid but transparent framework for voluntary actions and agreements is important for front-runner companies. This framework could be used also among supply-chain actors for its improvement of the environmental performance. The benefit of such framework would to give a certain structure for what overall methodology to use (as in the product panel) and for communication, i.e. an arena also for visibility and awards. Linked to this could be a strengthening the credibility of misleading advertisement and avoidance of misleading self-claims (Type II).

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<sup>14</sup> <http://www.illegal-logging.info/>

### On the content of the project:

- The project **confirmed the approach chosen by retailers involved in the project up to present**. Carrefour has concentrated its efforts in the past on the sourcing of wood for its garden furniture along with the social conditions associated to the product manufacturing.
- The **report of the Commission's consultant** prepared for the project suggests many important improvements that companies can undertake to reduce the social and environmental effects throughout the lifecycle of their products. Some companies are already working along the recommendations that the report outlines. They will continue to set ambitious goals for the business and refine our methods and tools in order to meet them.
- Some stakeholders feel that there should be more consideration of the **commercial life cycle** in these projects. It would be interesting in the future to identify the barriers to the uptake of green products and conduct an in depth analysis of consumer buying decisions: influence of media, NGO campaigns, relatives, sellers, brochures, etc. Furthermore an analysis of the decision making process that leads to a product being placed in a store.
- Some stakeholders call for stronger focus on how to improve **consumer information**. Some participants call for more focus on **transport or energy**.
- **Some participants** believe that less focus is needed on label and certification in the project. The project should not have only focused on FSC, other labels of certification for wood are available.

## Conclusion

The IPP Pilot Project on a teak garden chair has provided good experience on how IPP works in practice for retailers and how environmental beneficial production and consumption can be encouraged and achieved. Stakeholders involved in the supply and demand (supply chain) of a specific product or who have knowledge or experience on the product and production processes and their environmental consequences can help in identifying and developing actions to improve the environmental performance of the product.

Life Cycle thinking (life cycle analysis or life cycle studies) is a very important and useful way of identifying environmental and social impacts related to a product during all of its life, through raw material production, manufacture, distribution, use, to end-of-life. Furthermore this life cycle approach indicates which the most significant environmental impacts are and which the most significant phases are in the product life cycle. In the case of the teak garden chair it was found that the environmental impacts on biodiversity and the related tropical forest management phase are the most significant issues. This has confirmed the approach that retailers, involved in this project, have followed so far. Retailers have concentrated their efforts in the past on sustainable sourcing of wood for tropical furniture along with the social conditions associated to the product manufacturing. Stakeholders in the project will continue to follow this approach. Carrefour will continue to apply and control its tropical wood supplier charter. Carrefour has also committed to purchase certified wood instead of teak wood in the future. Carrefour by switching their product range from teak chairs, where the sustainable supply for the quantities needed could only be assured at a high price, to other certified species will supply sustainable wood that is more

affordable for consumers. IKEA will continue its practices in relation to their wood purchasing and commits to keep on improving the control of its suppliers in the future.

It is useful and can spare resources if the results of life cycle studies are shared and that the results of similar future studies, as conducted in this pilot project, are made easily accessible to all concerned institutional and market players so that they can also use the results of these. Therefore, Carrefour will promote the use of the life cycle study conducted for the pilot project for other stakeholders and will apply it as much as it is possible to other, similar products coming from natural resources, for example charcoal.

The nature and origin of a product determines to a great extent the environmental issues and the practical orientation of improvement actions. Agricultural / natural resource based products (e.g. teak garden chair) pose very different issues and practicalities from consumer manufactured goods. In the case of the teak garden chair, the origin of the natural resource (teak forest plantations in Indonesia) is the critical factor touching both the environmental issues (sustainable tropical forest management) and the practical solutions to address them (tracing the timber from a sustainably managed forest to the saw mill and chair assembly factory). As such it appears safe to propose that the recommendations made in this project can be applied to teak garden furniture, to other tropical garden furniture products and also can be useful to some other tropical natural resource products.

Findings of the project reinforced the view that the most important impacts of the teak garden chair lie in wood production but in addition to this transport and packaging could also be improved to reduce the environmental impact of the chair. Carrefour will improve the weaknesses identified through the project in relation to transport and packaging which can be dealt with through product and packaging design. IKEA will also move this area forward in the future.

Consumer demand can help drive product environmental performance improvements whereas the lack of demand can be a significant barrier to addressing environmental issues. Campaigns and other consumer information initiatives contributes to raise consumer awareness on the environmental characteristic of the product and can eventually increase their demand for environmentally friendly products also contribute to the process of improving product environmental performance. The use of certified wood (label) by Carrefour will be easier to communicate to the consumers and therefore it will make it easier to provide information on the environmental aspects of the product encouraging greener consumption. Carrefour's communication to consumers will also be assisted by WWF providing in store communications and general awareness raising campaigns. Training to employees to improve the environmental information transmitted to the consumers is an important part of this process.

In addition to these actions setting the right policy environment also plays an important role to move to greener production and consumption.

## **Annex I: List of improvement options identified in the report prepared by ERM**

- *Table 5.2 Assessment of possible instruments to address the significant environmental impacts during teak log production*
  - Forest Management Systems
  - Voluntary Agreements
  - Consumer Information
  - Forest Charges and Royalties
  - Green Public Procurement
- *Table 5.3 Assessment of possible instruments to address the significant environmental impacts during chair manufacturing*
  - (Certified) Environmental Health and Safety Management Systems
  - Voluntary agreements
  - Eco-design
- *Table 5.4 Assessment of possible instruments to address the significant environmental impacts during distribution*
  - Eco-design
  - Logistic planning
  - Packaging standards
- *Table 5.5 Assessment of possible instruments to address the significant environmental impacts during use*
  - Consumer information on product care and maintenance
- *Table 5.6 Assessment of possible instruments to address the significant environmental impacts during end-of-life*
  - Waste legislation
  - Consumer Information
- *Table 5.7 Assessment of possible instruments to address the significant environmental impacts through life-time extension*
  - Product Guarantees
  - Availability of spare parts
  - Consumer Information
- *Table 5.8 Assessment of possible generic instruments to address the significant environmental impacts across the entire life-cycle*
  - Labels
  - Ecotaxes
  - Green Public Procurement
  - Green Corporate Procurement
  - Corporate reporting

## **Annex II. IKEA IWAY system**

### **Description of the IWAY system :**

#### **Start-up requirements**

Potential IKEA suppliers – prior to starting up a business relationship with IKEA – must fulfil the start-up requirements:

- no forced or bonded labour
- no child labour
- no wood from intact natural forests or high conservation value forests
- suppliers delivering IKEA products containing solid wood, veneer, plywood and layer glued wood must ensure a questionnaire (Forest Tracing System) is completed.

In addition, IKEA requires the supplier to make an action plan including timeline for fulfilling the rest of the criteria of IWAY.

IKEA requires its suppliers to comply with national laws and regulations and with international conventions concerning the protection of the environment, working conditions and regarding child labour.

IKEA and its suppliers shall continuously reduce the environmental impacts of operations. Suppliers must:

- work to reduce waste and emissions to air, ground and water,
- handle chemicals in an environmentally safe way,
- handle, store and dispose of hazardous waste in an environmentally safe manner,
- contribute to the recycling and reuse of materials and used products,
- use wood from known areas and, if possible, from sources that are well managed and preferably independently certified as such.

Suppliers must not:

- use or exceed the use of substances forbidden or restricted in the IKEA list of “Chemical Compounds and Substances”,
- use wood originating from natural parks, nature reserves, intact natural forests or any areas with officially declared high conservation values, unless certified.

### **Comments on the challenges to IWAY**

Our basic rule is that all suppliers shall follow national laws. According to IKEA some countries have poor implementation of their laws, and there can be different interpretations locally etc. The IWAY demands, though, are not limited to the requirements of national law, and the demands are the same worldwide. The areas where the majority of the violations to IWAY compliance can be found are handling of chemicals, storage of waste and fire prevention – which are concerns on an international perspective.

Other problem areas are wages, overtime and compensation for overtime, together with limitations of the right to associate freely. These issues are mainly found in emerging economies, due to the fact that the industry standards in general are lower. When it comes to fire prevention and waste according to IKEA the problem is more related to lack of commitment from the authorities, than how difficult it really is to attend the problem.

IKEA is continuously engaged in a dialogue with the suppliers in order to set action plans for their improvement work. An important part of this is the educational part, where IKEA takes its responsibility in training the suppliers in how to improve the situation, and more importantly, the reason why they should conduct these changes.



## **Annex II. IKEA Forestry Management**

### **IKEA criteria for timber suppliers – step by step**

IKEA places demands on its suppliers in the form of a staircase model. The different steps illustrate the increasing demands on the timber that IKEA uses. The demands apply to all suppliers of products that contain solid wood, plywood, veneer and layer-glued wood.

#### **Level One – entry level**

Suppliers must comply with the following requirements to be allowed to supply to IKEA:

- Suppliers must be able to verify the country of origin of the timber and the region in the country where the timber was felled.
- The wood must not originate from intact natural forests (INF) or high conservation value forests (HCVF).
- High value tropical tree species must be certified according the Forest Stewardship Council (FSC).

#### **Level Two – IWAY**

These requirements form part of the IKEA code of conduct for suppliers, “The IKEA Way on Purchasing Home Furnishing Products” (IWAY).

- Timber must be felled in accordance with national and regional legislation.
- No timber may originate from protected areas.
- Timber must not originate from plantations in tropical or sub-tropical regions that have been planted to replace intact natural forests after November 1994.

#### **Level Three**

Level Three, “4Wood”, is a standard developed by IKEA with the aim of making it easier for suppliers to make the transition from the minimum requirements (Level Two) to verified well managed forests according to a Level Four standard. The “4Wood” program is currently being revised.

#### **Level Four – certified responsibly managed forests**

Level Four corresponds to the criteria for responsibly managed forests that are certified in accordance with an official standard. This standard must comprise approved performance levels that have been developed in co-operation with organisations that represent environmental, economic and social interests, and it must be verified by an independent third party. At present the Forest Stewardship Council (FSC) is the only certification system corresponding to the requirements of Level Four that is accepted by IKEA.

### **Annex III. IKEA – eco-design initiatives - eWheel tool**

#### **Raw material**

Around 50 percent of IKEA's 10,000 products are made from wood or wood fibers. Wood is an excellent material from an environmental perspective. It can be recycled and is a renewable resource. Other important raw materials are metal, plastic, rattan and textiles.

- As little raw material as possible should be used and IKEA strives to increase the proportion of renewable and recycled raw materials.
- Smart solutions minimise the use of materials without affecting the function or appearance of a product. Some examples are hollow legs, particleboard cores and board on frame solutions instead of solid wood, and multi-functional furniture.

#### **Manufacturing**

- Waste should be avoided. When possible, production waste is used in the manufacture of other products.
- Suppliers must follow the IKEA code of conduct, "The IKEA Way on Purchasing Home Furnishing Products" (IWAY). This includes, among other things, rules governing factory emissions to air and water, and instructions about how to handle waste and chemicals.
- We always strive to provide our customers with sound products from a health perspective and have strict material and chemical demands e.g. no use of PVC (except some electrical components due to safety reasons).

#### **Transport**

Smart packaging is the most effective weapon IKEA has to reduce the environmental impact of transport. Clever design and flatter packaging help IKEA to squeeze more products into every load-carrying unit. This reduces both emissions and transport costs.

#### **Use**

The environmental impact of a product in the customer's home is also taken into account.

- The products must be free from substances that cause allergies or that have other harmful effects on people's health or the environment.
- Certain products consume energy during use, and this energy consumption can be made more efficient through product development.

#### **End of life**

Once products have reached the end of their useful life, IKEA strives to reclaim the materials of which they are made and recycle them, so that they can be re-used as new raw materials. However, the possibility of recycling varies from country to country.

#### **Rail transport**

The amount of IKEA freight transported by rail in Europe was around 10 percent in 2004 (including combined transports, about 15%). IKEA is working to increase this figure, even though finding rail solutions that work effectively over national borders has so far been problematical.

#### **Increased use of sea transport**

The amount of IKEA freight transported by sea within Europe was around 3 percent in 2004. IKEA is working to increase the amount of freight that is transported by sea.. In 2003 IKEA also produced a series of environmental demands for all shipping operators that will be implemented during the course of future financial years.