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**Food and Agriculture
Organization**

The Green Life of Wood

Assessing its Environmental Impact from Cradle to Cradle¹

15 October 2012

Room XII, Palais des Nations, Geneva

I. Background: The Life Cycle Assessment

1. This workshop offers a unique opportunity to discuss the current situation and future potential of wood as a sustainable material, with a focus on the life cycle assessment (LCA). The event is supported by the Ministry of Agriculture and Forestry of Finland.
2. While informed opinion on forestry and environmental matters acknowledges the role of wood as a “green material” and a vital factor in the fight to mitigate the effects of climate change, it has yet to truly gain that image with the general public, most policy makers and the construction industry; tending instead to maintain its traditional role. The image we need to cast off is that of wood as a ‘traditional’ material, with no relevance to modern technologies, circumstances and concerns. Changing the public and investor perception of forest products is one of the many challenges facing us now, i.e. how to move wood from a well-established niche market to being the first and most obvious material of choice for a number of uses.
3. Moreover, when it comes to building choices, other materials are often preferred to wood, despite their higher environmental impact. This choice is often to the detriment of sustainability, as forest products can be carbon neutral, sustainably harvested and used in an environmentally friendly manner. Life cycle assessment (LCA) can be applied to evaluate the overall environmental impacts of a material or a product throughout its life from cradle to grave, and it can help actors to understand which parts of a production chain are most harmful to the environment, as well as to compare different materials and products.
4. Life cycle assessment (LCA) is a comprehensive environmental accounting tool with well-established procedures and methods that are governed by rules and standards, mostly developed by the International Organization for Standardization (ISO). LCA is an

¹ The Workshop is conducted in English. Interpretation in Russian and French is provided. More practical information for participants, including the on-line registration form, can be found on the ECE/FAO Workshop homepage at: <http://www.unece.org/forests/lca-workshop.html>

approach which covers the whole life cycle of a product or a service, usually from cradle to grave, looking at environmental impact from raw material extraction to manufacturing, to packaging, distribution, use and end of life. The cradle to cradle approach refers to the possibility of further recycling of a material. In LCA, process steps are identified for each stage, and inputs such as material and energy, as well as outputs such as emissions and pollutants, are determined. The inputs and outputs are grouped into impact categories according to environmental problems. Typical impact indicators include abiotic depletion, acidification, climate change, human toxicity, ecological toxicity, fossil fuel depletion, photo-oxidant smog formation and stratospheric ozone depletion.

5. With the help of LCA, informed decisions can be made of a product or a service in order to avoid transferring pollution from one life stage to another or from one media (i.e. air/water/soil) to another. Nevertheless, it should be kept in mind that although carbon emissions and carbon footprinting represent important part of life cycle studies, carbon is only one of the many elements in LCA.

6. Customers and consumers are increasingly interested in environmentally sound consumption and greener procurement practices. Thus LCAs that follow an internationally recognized methodology, and which is certified by a panel of independent experts, can provide credible information for marketing communications. Furthermore, companies, policy-makers and NGOs are promoting life cycle thinking because it provides a holistic view of the environmental performance of products. Additionally, investors benefit from using environmental performance indicators to support their valuations and evaluate company risk.

7. However, LCA, as all environmental tools, has its limitations. The results of an LCA are relevant for the geographic area where the data is collected, i.e. an LCA of an energy-intensive product in a region where electricity is mainly produced from hydropower is not the same as an LCA for the same product in another region where the electricity is mainly produced from fossil fuels. Additionally, the inventories of the inputs and outputs are collected from the place where they occur, and then are analysed to develop estimates of global and/or regional environmental impacts. Thus, the results from LCA represent potential impacts and are not comparable to actual impacts, meaning that LCA calculations cannot replace local ecosystem based studies of forest ecosystems and biodiversity.

8. Background reading is: “Forest Products Association of Canada, Life Cycle Assessment and Forest Products: A White Paper”, September 2010, and can be found at: <http://www.pwc.com/gx/en/forest-paper-packaging/pdf/fpac-lca-white-paper.pdf>

II. The Workshop

9. It is necessary to gather knowledge and evidence on the sustainability of wood, and work with relevant partners to discuss the importance of LCA to the sector.

10. The workshop will develop recommendations for relevant stakeholders and promote future cooperation between participants, organizations and countries interested in working on better understanding the sustainability of wood. Organizations invited to contribute to the workshop include the European Environment Agency, The World Bank, Natural Resources Canada, the Swiss Federal Office for the Environment, Greenpeace Canada, the Technical Research Centre of Finland, the Quebec Wood Export Bureau, and the European Cork Federation.

11. The workshop will consist of a series of expert level presentations followed by discussion. Working groups will allow all workshop participants to contribute to the work by discussing and formulating recommendations for:

- Actions and/or follow-up for the UNECE Timber Committee, which takes place back-to-back with the workshop in Geneva (16.-19.10.2012).
- Policy-makers on how to further implement LCA in decision-making in order to promote environmentally sustainable production, influence building material choices, and guide consumer choices in favour of the environment.
- Follow-up actions/activities for relevant stakeholders, who are willing to take the lead and participate in actions/activities to continue the work on promoting wood as a sustainable product.

12. The four working groups will develop recommendations by answering the following questions:

1. How effective is the LCA as a tool to measure the environmental sustainability of wood and how well is it currently used?
2. How effective are member States / the public sector in promoting the environmental benefits of wood?
3. How effective is the forest industry in promoting the environmental benefits of wood?
4. How effective is the Timber Committee in promoting the environmental benefits of wood?

13. Additionally, the UNECE/FAO secretariat will prepare a policy brief as a follow up to the workshop. With the speakers' approval, presentations will be made available on the website at www.unece.org/forests.

III. Provisional Agenda

Monday, 15 October 2012

10:00	Opening and Welcome Heikki Granholm (Chair), Director, Ministry of Agriculture and Forestry, Finland
10:05	Introduction to the Workshop Paola Deda, Chief, UNECE/FAO Forestry and Timber Section and Elina Warsta, Associate Professional Officer, UNECE/FAO Forestry and Timber Section
10:15-10:25	Supporting Sustainable Development with Environmental Information Annemarie Bastrup-Birk, Project Manager, European Environment Agency
10:25-10:35	Widening the Scope of Forest Based Mitigation Options Gerhard Dieterle, Forests Advisor, The World Bank

- 10.35-10.45 **Atmospheric Benefits of Using Wood Products: How should we deal with time?**
David Paré, Research Scientist, Natural Resources Canada
- 10.45-11.15 Questions and Discussion
- 11.15-11.25 **Cascaded Use of Wood**
Alfred W. Kammerhofer, Head of Section, Swiss Federal Office for the Environment (FOEN)
- 11.25-11.35 **From Forests to Boilers: Key LCA issues related to wood energy exports from North America to Europe**
Nicolas Mainville, Director for Greenpeace Quebec, Forest Campaigner, Greenpeace Canada
- 11.35-11.45 **Potential Impact of Wood building on Green House Gas Emissions**
Tarja Häkkinen, Senior Principal Scientist, Technical Research Centre of Finland (VTT)
- 11.45-12.15 Questions and discussion
- 12.15-12.25 **The Role of Material Use in Green Building**
Sylvain Labbé, CEO of Quebec Wood Export Bureau
- 12.25-12.35 **Cork - a sustainable choice for the 21 century**
João Ferreira, Secretary General, European Cork Federation
- 12.35-13.00 Questions and Discussion
- 13.00-14.30 Lunch Break
- 14.30-16.30 Working groups (4) – discussion, questions and recommendations
- 16.30-16.45 Break
- 16.45-18.00 Results of the working groups.
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