News and Views
from SNS – Nordic Forest Research Co-operation Committee
3 2005

A 19m Euro effort to develop an assessment tool – sustainability impact of the forestry wood chain

Thirty-five research organisations are joining forces to develop methods for assessing the sustainability of the forestry-wood chain in Europe. The European Commission has set aside 13 million Euro (of a total budget of 19m Euro) for the project, dubbed EFORWOOD, involving 18 of the European countries. Negotiations with the Commission are not yet complete, but the project will probably start by November this year, says Kaj Rosén, vice president of the Forestry Research Institute of Sweden (Skogforsk) and coordinator of the project.

For a a competetive economy

The overall aim of EFORWOOD is to develop a tool for assessing the sustainability impact of forestry and forest-based industries, covering the entire forestry-wood chain from the forest to the end consumer. The vision of the project is "to enhance the contribution of the European Forestry-wood chain to the strategic goals of the European Union of becoming the most competitive and dynamic knowledge-based economy, capable of sustainable economic growth with better social cohesion."

Renewable raw material – a unique potential

The project is based on one of Europe´s major economic sectors, including forestry, forest-based activities and related industries, which has a combined turnover of 550 billion Euro. Some 3–4 million people are directly employed in the forest-based industry, and there are currently 16 million private forest owners in the 25 EU countries. Forestry is the largest single type of land use in Europe, accounting for a third of the land area. The central idea of the project is that the renewable raw material from the forest has unique potential to contribute to the sustainable development of the continent.

ToSIA – the most important product of EFORWOOD

Each of the various processes in the forestry-wood chain has an impact on the sustainability, which should be possible to assess. Indicators of sustainability have been developed by various bodies, including the United Nations Commission on Sustainable Development. The EFORWOOD project will strive to develop an overall Tool for this Sustainability Impact Assessment (ToSIA). ToSIA will measure the impact of the activities along the forestry-wood chain from economic, environmental and social perspectives. The overall tool will be the most important product of EFORWOOD. A user-friendly, web-based version (ToSIA-U) will also be developed.

Existing models will be adapted

A number of tools, models and databases can be identified as potentially useful for the integrated sustainability impact analysis of a forestry-wood chain. Several of the existing models will be used and adapted for application in EFORWOOD. They can be grouped as:

1) forest ecological and forest dynamics models

2) forest resource models

3) harvesting optimisation models and decision support tools

4) forest sector or market models

5) processing efficiency tools

6) life cycle analysis tools

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"For the first time ever, EFORWOOD will enable us to analyse the sustainability impact of the entire forestry-wood chain from a holistic perspective", says professor Kaj Rosén, coordinator of the project. Photo: Nils Jerling

All the steps along the forestry-wood chain

Forest resource management
Knowledge of the forest resources and their development in Europe is fairly high, and the availability of wood appears to be adequate to meet demands in the foreseeable future. Nevertheless, a number of issues still need to be addressed, such as the extent and nature of biotic and abiotic risks, maintenance of biodiversity, climatic changes and increasing socio-economic demands on wood products. The EFORWOOD project will also consider non-wood forest goods and services, such as recreation, environmental services etc.

From the forest to industry
Modelling wood properties can help to allocate the "right raw material to the right product". Analysis of the harvesting systems can help to increase logging efficiency, and reduce the environmental impact of the harvesting operations. Education and motivation of forest owners and foresters are other important topics for EFORWOOD.

Processing and manufacturing
Research and development related to processing and manufacturing has mainly concentrated on single processes or process stages. In contrast, EFORWOOD will take a holistic, multi-disciplinary approach, considering the whole value chain.

Industry to consumer
In general, the number of researchers and the intensity of "open" research decreases when progressing along the chain from the forest to the consumer. For instance, very little has been published to date on consumers' needs, views and perceptions. EFORWOOD will carry out its own studies on this subject.

Policies
The tools developed by EFORWOOD will identify and assess forest-related policies in Europe. Such an overview of policies has been lacking so far. The results of the project will help policy makers to judge the consequences of various decisions, for example the sustainability impacts of modifying regulations concerning forest management, paper recycling, taxes on goods or trade agreements.

Starting with simple chains

"We will start with the most simple chains, but we will soon introduce more complexity", says Kaj Rosén. Initially, forestry-wood chains based

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The partners in EFORWOOD

35 organisations from 18 European countries will participate in the project. Seven of the organisations will each coordinate one of the following seven modules.

Module 0
Scientific coordination and management: the Forestry Research Institute of Sweden (Skogforsk) – Sweden

Module 1
Sustainability impact assessment: the European Forest Institute (EFI) – Finland

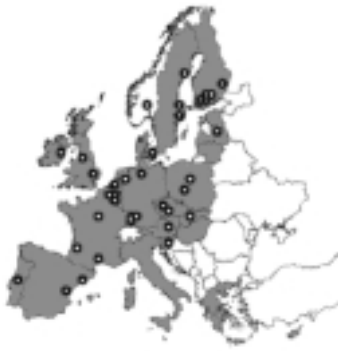
Module 2
Forest resources management: Institut National de la Recherche Agronomique (INRA) – France

Module 3
Forest-industrial interactions: Albert-Ludwigs-University, Freiburg – Germany

Module 4
Processing, manufacturing and conversion: Kenniscentrum Papier en Karton (KCPK) – Netherlands

Module 5
Industry-consumer interactions: STFI-Packforsk – Sweden

Module 6
Knowledge transfer: InnovaWood Ltd – Ireland



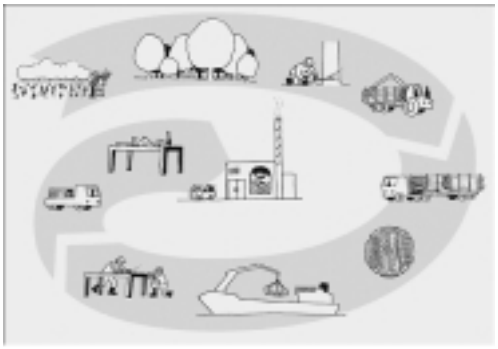
Other partners

- The Danish Centre for Forest, Landscape and Planning – Denmark
- Warsaw Agricultural University – Poland
- The Institute of Forest Ecosystem Research – Czech Republic
- University of Natural Resources and Applied Sciences, Vienna (BOKU) – Austria
- Norwegian University of Life Sciences (UMB) – Norway
- Instituto Superior de Agronomia – Portugal
- Forest Research – United Kingdom
- Technical Research Centre of Finland (VTT) – Finland
- Building Research Establishment Ltd – United Kingdom
- Associacion de Investigacion y Desarrollo en la Industria del Mueble y Afines – Spain
- JP Management Consulting (Europe) Oy – Finland
- Association Foret Cellulose (AFOCEL) – France
- Centre Tecnologic Forestal de Catalunya – Spain
- Sveriges Lantbruksuniversitet (SLU) – Sweden
- Alterra BV – Netherlands
- European Confederation of Woodworking Industries (CEI-Bois) – Belgium
- Confederation of European Paper Industries (CEPI) – Belgium
- Confederation Europeene des Proprietaires Forestiere (CEPF) – Belgium
- KCL – Finland
- Baden-Württemberg Forest Research Institute – Germany
- CIRAD-Foret – France
- Federal Research Centre for Forestry and Forest Products – Germany
- Slovenian Forestry Institute – Slovenia
- Savcor Indufor OY – Finland
- Forest Research Institute – Poland
- Technical University in Zvolen – Slovakia
- The Latvian Forestry Research Institute (SILAVA) – Latvia
- Mendel University of Brno – Czech Republic

on one species and one end product will be described with respect to its impact from the cradle to the end of life.

One example of a test chain is shown in the figure below. It starts with the planting of a beech stand, followed by forest management of the growing beech stand, which is felled manually when it is 120 years old by cutting the timber to standard lengths with chain-saws. After felling, the timber is forwarded, by trucks, to the roadside and transported to the mill, where it is sawn using modern automatic machinery, and the sawn wood is then transported to the manufacturer. The beech is used for manufacturing tables, which are transported to retailers by small lorries. The tables are used for 20 years, after which they are taken to an energy-generating plant and burned. The volume of wood material used in the different processes will be studied and sustainability indicator values will be identified for each process.

Some of the indicators will be common to all processes throughout a forestry-wood chain, for example CO_2 emissions from fossil fuels, employment and cost/price indicators. Other indicators will be specific for various points in the chain, such as bio-diversity (in the forest) or wastes (at the industrial sites).



A test chain. From a beech stand to furniture and – finally – energy production.

Why EFORWOOD?

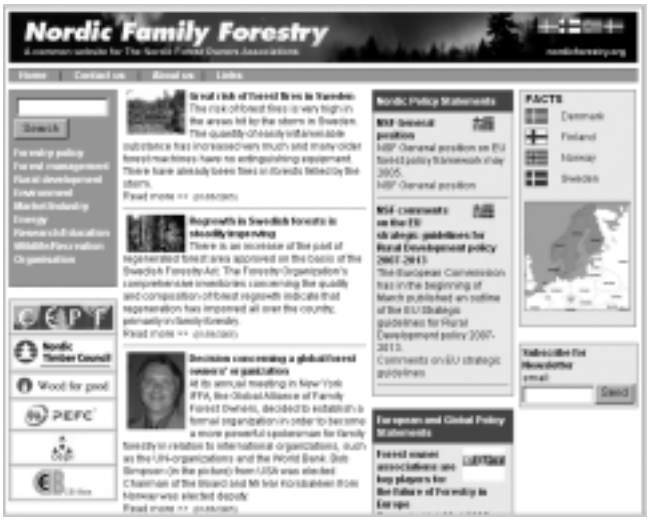
Kaj Rosén summarises the main motives for the project as follows:

- For the first time ever, EFORWOOD will enable us to analyse the sustainability impact of the entire forestry-wood chain from a holistic perspective
- EFORWOOD will contribute to the identification of sustainable options for future forestry-wood chains
- EFORWOOD will allow us to compare different future options
- EFORWOOD is needed for policy-making and to identify the possibilities for the forestry and forest-based industry sector to stand out as an advanced industrial sector contributing to a sustainable society
- The anticipated benefits of EFORWOOD include increased political and public awareness of the sector as a major contributor to sustainable development and growth.

Shortcuts

Private Nordic forestry on the web

A new website in English has been opened to the public by the Nordic forest owners organisations. The purpose of the internet-site is to present the views and activities of the national forest owners organisations and the Bureau of Nordic Family Forestry to interested parties, and to give an updated overall picture of Nordic Family Forestry. The target groups for the website are forestry workers, customers, politicians, relevant authorities and creaters of public opinion.
The website contains, *inter alia*, information and news on family forestry, legislation, market issues, research and nature conservation.



The new homepage:
www.nordicforestry.org

Denmark: Cooperation with Cambodia

Forest & Landscape centre based at the Royal Veterinary and Agricultural University of Denmark, KVL, has signed an agreement wit the Cambodian Development Resource Institute. The two centres will join forces for research, dissemination and capacity building within governance, legislation and policy related to forests and trees in Cambodia.

Source: Forest & Landscape, News International

Shortcuts

Sweden: Best in world – again

At the IUFRO World Congress, Kuala Lumpur, in the year 2000, the award for the best thesis went to Run Peng-Wei, a PhD student of Prof. Dag Lindgren. At the next IUFRO World Congress (which are held every five years), in Brisbane, Australia, in 2005 the award will be given to Kyu-Suk Kang, another student of his.

It is probably unprecedented for theses in forest genetics from the same university to be given the award twice in a row.

In addition, Dag Lindgren, a Professor in forest genetics at the Swedish University of Agricultural Sciences in Umeå, Sweden, was also awarded the gold medal from the Royal Swedish Academy of Agriculture and Forestry (KSLA) for his internationally renowned theories and mathematical models in quantitative genetics, applied to forest tree breeding.

Double prize-winner: Professor Dag Lindgren.
Photo Kjell Olofsson

Run-Peng Wei is presently the head of a research department at the Canadian Sino-Forest Corp. in Hong Kong, which primarily works with forest plantations in southern China.

Kyu-Suk Kang is a senior researcher at the Korean Forest Research Institute.

Finland: Restoration of the GreenBelt

The border area between Finland, Russia and Norway is called the GreenBelt – a network of forests, peatlands and Arctic fells. It is the largest area of unspoilt natural habitat in Western Europe.

The Finnish Forest Research Institute (Metla) has initiated a research project aiming to monitor how various approaches could help to restore forests and drained peatlands in areas where natural diversity has been reduced due to forestry. The study is partly linked to the LIFE project funded by the EU and managed by Metsähallitus. Metla and the Kainuu Region Federation of Municipalities are also participating in the project.

Natura 2000

The aim of the LIFE project is to safeguard the favoured conservation status of thirteen Natura 2000 sites in Koillismaa and Kainuu in the GreenBelt area in eastern Finland. The safeguarding measures will include: restoration of natural forest habitats where forestry has reduced natural diversity, and drained peatlands; reforestation of unused forest roads; and steps to enhance the nesting prospects of golden eagles. The restoration procedures will cover a total of 601 hectares of forests and 362 hectares of peatlands. Controlled periodic burning is one essential means of restoration.

Contact: Anne Tolvanen, Muhos research station, Metla (anne.tolvanen@metla.fi)

Norway: Research bodies to merge

The Norwegian Ministry of Agriculture and Food is merging the organisations NIJOS (the Norwegian Institute of Land Inventory) and Skogforsk (the Norwegian Forest Research Institute). According to the current timetable, the new institute for natural resources will start work on 1 July 2006. The new organisation will help to promote sustainable and profitable management of all Norwegian land resources, not just the forests.

Contact: kristen.fretheim@skogforsk.no

The merging organisations

Skogforsk (the Norwegian Forest Research Institute) is an autonomous institute under the Ministry of Agriculture and Food. Skogforsk is the leading research institute in Norway for forest-related matters. Most of the staff (equivalent to 98 full-time employees) are based in Ås, outside Oslo.

NIJOS (the Norwegian Institute of Land Inventory), with 130 employees, is Norway's major supplier of data on soil, forest, outfield and landscape resources. NIJOS is also located at Ås outside Oslo.

Contact News & Views

Write to the scientific editor:
Mats Hannerz,
Skogforsk
SE-753 52 Uppsala
Sweden.
mats.hannerz@skogforsk.se

More info about SNS:

www.nordicforestresearch.org

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- relevant to the Journal
- interesting for the readers.

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News & Views is edited by Mats Hannerz *mats.hannerz@skogforsk.se,* and produced by Carl Henrik Palmér. *chp@areca.se*