



EFORWOOD
Sustainability Impact Assessment
of the Forestry - Wood Chain



Project no. 518128

EFORWOOD

Tools for Sustainability Impact Assessment

Instrument: IP

Thematic Priority: 6.3 Global Change and Ecosystems

**Deliverable D6.3.4 EFORWOOD promotional material designed, produced
and distributed through all partner networks - Update**

and

Deliverable PD6.3.6 EFORWOOD brochure - Update

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Organisation name of lead contractor for this deliverable: InnovaWood Ltd., Ireland

Final version

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

1 Brochures

1.1 EDORWOOD brochure 2007

This brochure was designed in autumn 2007 and disseminated primarily during the stakeholder events (conferences and Road shows). Over one thousand copies were distributed to different stakeholders all over Europe.



EFORWOOD

Sustainability Impact Assessment of the Forestry-Wood Chain

Project ID 518128

Thematic Priority: Global Change and Ecosystems

Duration: November 2005 - October 2009 (4 years)

Budget: 20€ millions

Partners: 38 organisations

Project Co-ordinator:

Prof. Kai Rosen, Skogforsk, Sweden

Email: kai.rosen@skogforsk.se



THE FOREST-BASED SECTOR IN A CHANGING WORLD

Europe's forest-based sector faces major challenges.

Globalisation, changing trade relationships, as well as shifts in demography, lifestyles and consumption patterns have led to changing demands for forest products and services. Many of these factors challenge sustainable development.

Through current debates about issues such as climate change, renewable energy, biodiversity, competitiveness and people's wellbeing, European forest and forestry issues have once again moved up on the political agenda. Europe's increasing forest resource, for example, supplies a forest products industry which is a global technology leader and which provides employment to millions of Europeans. Forest biomass can contribute to meeting the European Union's goals for more renewable energy. On the other hand, the supply of raw material to paper, woodworking and other industries needs to be secured. Europe's forests also provide a wide range of essential ecosystem services, such as securing our drinking water, helping to mitigate climate change and providing settings for recreation and tourism.

Stakeholders in the European forest-based sector have one important thing in common – forests as a resource base. The sector is unique in providing a wide range of products and services in an environmentally-friendly way. Its raw material is grown in a biodiversity-rich, natural environment.

The forest-based sector is an example to other sectors when it comes to sustainable production processes.

However, its character of being land-based and at the same time embodying a high-tech industry makes it a very complex sector. It requires a careful balancing act between economic, social and environmental sustainability.

EFORWOOD - responding to changing demands



Decision makers dealing with forest-based sector issues, be it in government or industry, need comprehensive, reliable, timely and policy-relevant information to respond to changes and changing demands. The EFORWOOD project has set out to assist, enhancing understanding of how global changes impact the European forest-based sector. EFORWOOD will stress the importance of minimising the negative consequences of ongoing changes, and making full use of the opportunities that societal changes offer to the sector.

The main object of study of the EFORWOOD project is sustainability impact assessment of forestry-wood chains in Europe. All main components of these chains are in focus, from forest status and production to industry to consumer interactions.

www.eforwood.com



TOSIA TOOL

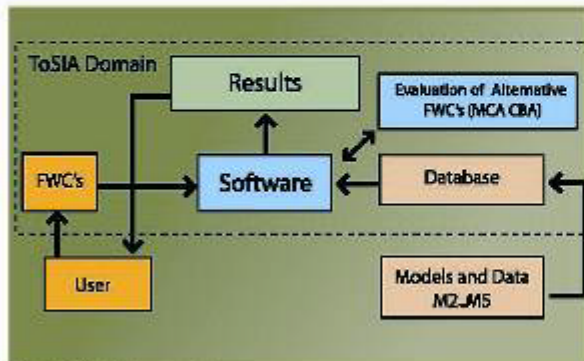


Fig.1 ToSIA Environment.

EFORWOOD will produce major product: a Tool for Sustainability Impact Assessment (ToSIA) for the forest-based sector. The ToSIA, in the form of a software package, will enable users to simulate and compare impacts of various potential decisions influencing the economic, social and environmental performance of the forest-based sector. The tool will be unique in addressing all sustainability dimensions (economic, social and environmental) for the entire forestry-wood chain in a balanced way.

When developing the tool the four main components of the forestry-wood chain to be considered are: Forest Resource Management, Forest to Industry Interactions, Processing Manufacturing and Converting, and Forest to Consumer Interactions. For each of the components, the current level of sustainability will be assessed. This provides the basis for an integrated sustainable impact assessment for the European forest-based sector.

The ToSIA will be developed in close collaboration with end users representing industry and policy.

There will be three different versions of the tool. The first can be used for assessment of processes along single or multiple forestry-wood chains. The second version of the tool can be used for integrated sustainability impact assessment of the entire forestry-wood chain. It will use cost-benefit and cost-efficiency assessments, as well as multi-criteria analysis. The third version will be a simplified demonstration version of the tool. This version will be especially important for promoting use of ToSIA amongst stakeholders, through a demonstration package with 'real-life' cases, as well as by means of training courses.

EFORWOOD in Practice

How will EFORWOOD's results be used in the daily reality of forestry-wood chains? Imagine, for example, that five years from now, a new environmental policy goal arises. Public agencies and authorities start working on possible policy instruments, rules, regulations and so on to achieve this goal. Let us suppose that regulation of forestry practices in a large part of the Atlantic region's forests is also considered.

With EFORWOOD's ToSIA decision-support tool, stakeholders have a new, powerful instrument in their hands. They can – individually, through their European umbrella organisation, or in co-operation with others – use the tool for evaluating the possible impacts of various policy alternatives. Those making the assessment, such as independent experts, will be supplied with comprehensive and transparent information, for example on the proposed regulation and other policy instruments and key assumptions. The stakeholders will receive transparent results in return, for example about the direct impact of the regulation on selected indicators, as well as information about costs and benefits of this. Results can be provided at local, national and regional level. Stakeholders would have difficulty producing this type of comprehensive, policy-relevant information by themselves.

There are other benefits of using the tool, as its use will also level out the playing field, as stakeholders can join the policy debate with a sound information base. In this situation, stakeholders and authorities are on a more equal footing, discussing the assumptions made prior to the analyses. Discussions about the trade-offs of different policy alternatives will also be more transparent. For example, what are the consequences in terms of loss or gain of jobs in the sawmilling industry when the regulation is implemented? What does the regulation mean for the forest's environmental services?

Using independent experts for the analysis, as well as transparent information inputs, will raise the credibility of the analysis. Moreover, as the ToSIA is a state-of-the-art tool effectively endorsed by the European Union, its results cannot be easily ignored.



PROJECT MAIN ELEMENTS

Indicators, Scenarios, Case studies

In order to develop the ToSIA tool, the project team needs to identify indicators for sustainability that are valid for the entire forestry-wood chain. Only those indicators should be used that can capture the impacts of the chain on sustainability. The set of indicators used within the project first of all needs to cover economic, social and environmental dimensions. On the other hand, indicators should also be in line with needs from the international down to the local level of decision making.

The scenarios used in EFORWOOD lead to alternative forestry-wood chains with different sustainability impacts compared to current chains. Two baseline futures based on IPCC (Intergovernmental Panel on Climate Change) scenarios will be used, both specified with detailed, contrasting 'storylines' using different assumptions of environmental (e.g., climate conditions) and socio-economic (e.g., development of energy prices, demand for forest products and services) key variables.



Fig. 2 Main components of the forestry-wood chain.

An important exercise within EFORWOOD will be identifying policy scenarios and their expected impacts on the economic, social and environment performance of forestry-wood chains. Scenarios can be used as a tool to explore the different ways the future and policies may develop, and their impacts on the sustainability of the forestry-wood chain. Scenarios are neither predictions nor forecasts, but they are used to create a consistent image of *how* the future may look.

Indicators and scenarios will be tested for a series of case studies at different levels, namely those of selected single production chains, regional or country-scale case studies, and case studies at the European scale. Cases can be, for example, a Scandinavian production driven case, an Iberian product driven case, or a German regional case of both production and consumption. The case studies will also be used in the EFORWOOD's demonstration material and training courses.

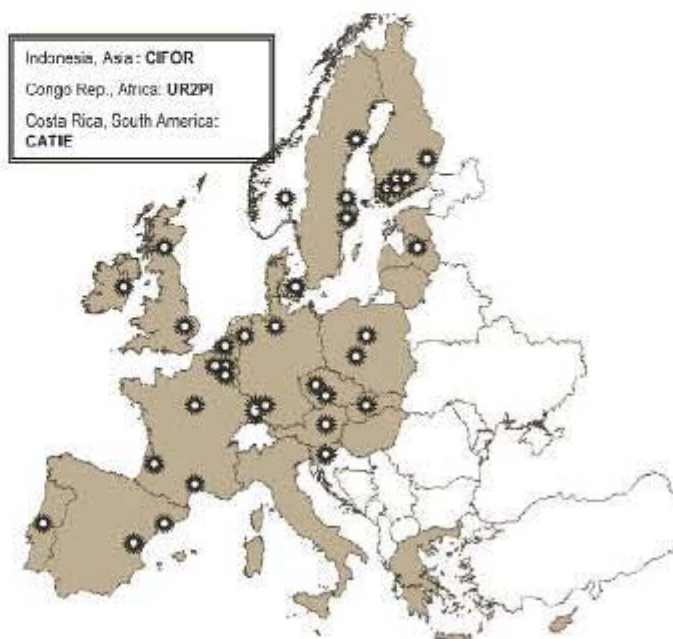


PROJECT RESULTS SO FAR

The project is well on track. A strong project team was built comprising of 120 scientists, experts and stakeholder representatives. The team regularly meets, for example during so-called 'EFORWOOD weeks' for the entire consortium, as well as during meetings of the different project modules.

The first prototypes of the ToSIA decision-support tool have been developed. An extensive database has been compiled for three case studies of selected forestry-wood chains. This information will be used for testing and improving the tool. The first case studies include the forest-defined Scots pine chain in northern Sweden and the regionally-defined spruce chain from Baden-Württemberg, Germany. A first ToSIA tool training session was held during April 2007. The training session highlighted different aspects of the tool, answering questions such as: what can ToSIA do for you? Based on the first case studies the practical application of the tool was demonstrated to participants.

Intensive dialogue has taken place with industrial and other stakeholders, and especially with their European confederations. This dialogue will be strengthened further during the next project stages. This should ensure that EFORWOOD's work is well embedded in reality and will meet the needs of end users. An important event for interaction with stakeholders was the EFORWOOD conference in Brussels, held during 1-2 October 2007 under the title "The Forest-based sector - Sustainability for Competitiveness".



PROJETC Consortium - An inclusive approach

The EFORWOOD consortium comprises 38 organisations from 21 countries. Partners represent some of the best scientific expertise in relevant fields, as well as key representatives from forest-based industry. By involving partners from developing countries in regional case testing, global aspects of the impacts of changes in European forestry-wood chains are also considered.

EFORWOOD is a truly joint effort of researchers, industry and policy makers. In order to deliver results that are valuable and applicable in daily life, close dialogue with stakeholders in the forest-based sector is an absolute necessity. Therefore stakeholders' views, feedback and recommendations will be incorporated at all stages of the project, including when developing the two baseline scenarios for analysing sustainability of the forestry-wood chains

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1.2 EFORWOOD first conference brochure

The EFORWOOD conference brochure was used as dissemination material for the first EFORWOOD conference held in October 2007 in Brussels. More than 500 copies were sent to project relevant stakeholders around Europe.



EFORWOOD CONFERENCE

"The Forest-based Sector - Sustainability for Competitiveness"

1-2 October, 2007,

Huis Van Het Hout, Arsenaal, Brussels, Belgium



CONFERENCE INVITATION

Sustainability is a very significant concern for all sectors in the European economy and is of enormous importance to the Forest-based sector.

Climate change, forest management related to biodiversity and natural disturbances, rural development, bio-energy, reduction of pollution, the role and financial position of forest owners, globalisation, technologies and consumer trends are just few of the issues facing our sector. The commitment of Europe to the goal of becoming the most competitive knowledge-based society in the world by 2010 (Lisbon Agenda) and the increasing support for the implementation of sustainability concepts in society are some additional factors that influence the sector.

EFORWOOD is a four-year project aimed at developing methodologies and tools that will, for the first time, integrate Sustainability Impact Assessment of the whole European Forestry-Wood Chain (FWC), by quantifying the performance of the FWC using indicators for all three pillars of sustainability - environmental, economic and societal. The project will provide methods to assess the sustainability impacts of modifications of Forestry-Wood Chains as influenced by policy changes, market drivers, or technological innovations.

On behalf the partners of the EFORWOOD project (<http://www.eforwood.com/>), it is my pleasure to invite you to attend the up-coming EFORWOOD Conference in Brussels, entitled **The Forest-based sector – Sustainability for Competitiveness**. The conference will take place on **1st and 2nd October 2007**. The conference is expected to attract a large number of international participants from the sector and beyond, including:

- Scientists and researchers from research organisations, universities and industry,
- Political decision makers from national and EU Parliaments,
- Industry decision makers from across the Forest-based sector
- Decision makers from EU Commission and related agencies,
- Decision makers from national and regional ministries and administrations

I look forward to your response and may I take this opportunity to thank you in advance for your support.

Yours sincerely,

Prof. Kaj Rosén
Coordinator of the EFORWOOD project

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SWEDEN*



Project supported by EU



EFORWOOD CONFERENCE

"The Forest-based Sector - Sustainability for Competitiveness"

1-2 October, 2007,

Huis Van Het Hout, Arsenal, Brussels, Belgium



CONFERENCE PROGRAMME

1st October

13.00 – 14.00	Registration and poster viewing	
14.00 – 14.15	Welcome and introduction	Kaj Rosén (Skogforsk)
14.15 – 14.45	Opening Address: The sustainability imperative	Catherine Guy-Quint (European Parliament) <i>to be confirmed</i>
14.45 – 15.15	The forest-based sector – sustainability for competitiveness	Mikael Eliasson (Setra Group)
15.15 – 15.50	<i>COFFEE</i>	
15.50 – 18.20	The European bio-based economy – the policy perspective	Pierre Mathy (EU Commission) <i>to be confirmed</i>
16.20 – 18.50	NGO perspective	Tamas Marghescu (I.U.C.N.)
16.50 – 17.10	EFORWOOD – just the beginning	Kaj Rosén (Skogforsk)
17.10 – 17.30	Conclusions Day 1	Member of External Advisory Panel
17.30 – 18.00	Poster review session	
18.00 – 19.30	<i>Buffet DINNER</i>	

KEYNOTE SPEAKERS

Catherine Guy-Quint (MEP) - French politician and Member of the European Parliament for central France

Mikael Eliasson (Setra Group) - Marketing Director of the Swedish Setra Group (Setra Group AB is Sweden's largest and Europe's third largest wood products company). Chairman of CEI-Bois.

Pierre Mathy (EU) - Head of Unit: Management of natural resources, DG Research, EU Commission.

Tamas Marghescu (IUCN) - The World Conservation Union Regional Director for Europe.



EFORWOOD CONFERENCE

"The Forest-based Sector - Sustainability for Competitiveness"

1-2 October, 2007,

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2nd October

08.30 – 09.00	Registration and poster viewing	
09.00 – 09.25	Key goals of the EFORWOOD project	Kaj Rosén (Skogforsk)
09.25 – 10.10	Tool for Sustainability Impact Assessment (ToSIA)- Initial results from Single Chain cases	Marcus Lindner (EFI)
10.10 – 10.35	The use of scenarios in the EFORWOOD project	Gert-Jan Nabuurs (Alterra)
10.35 – 11.15	<i>COFFEE</i>	
11.15 – 11.40	Risk analysis in Sustainability Impact Assessment (SIA) of Forest Resource Management	Jean-Michel Carnus (INRA)
11.40 – 12.05	The structure of regional forestry-wood chains - case study Baden-Württemberg and its contribution to EFORWOOD	Gero Becker (ALUFR)
12.05 – 12.30	A market perspective on Forestry Wood Chain sustainability	Carl Olsmats (STFI-Packforsk)
12.30 – 13.40	<i>LUNCH</i>	
13.40 – 14.05	Update from another European SIA project (SENSOR)	<i>Speakers to be confirmed</i>
14.05 – 14.30	SIA – the use of indicators in EFORWOOD	Ewald Rametsteiner (BOKU)
14.30 – 14.55	Conclusions Day 2	Member of External Advisory Panel
15.00	<i>END OF CONFERENCE</i>	





EFORWOOD CONFERENCE

"The Forest-based Sector - Sustainability for Competitiveness"

1-2 October, 2007,

Huis Van Het Hout, Arsenal, Brussels, Belgium



PRACTICAL INFORMATION

REGISTRATION

Registration form to be sent via email or fax to Ms Brita Pajari, brita.pajari@efi.int, +358 10 773 4377.

(Registration form also available for download from www.eforwood.com)

Registration deadline: **7 SEPTEMBER 2007**

This event is free of charge including conference meals (dinner day 1 and lunch day 2).

LOCATION/VENUE

Huis Van Het Hout (Wood House),
Arsenal, Vrijwilligerlaan 2,
1040 Brussels
Belgium

TRANSPORT

Tram : 23 (Heysel — Lemonnier), 24 (Schaarbeek Station — Vanderkindere (Uccle / Ukkel))

For more information on transport in Brussels see <http://www.stib-irisnet.be>

ACCOMMODATION

You can book your accommodation by:

RESOTEL

122, Avenue de l'Atlantique

1150 Brussels - Belgium

Tel. + 32 (0)2 779.39.39 - Fax + 32 (0)2 779 39 00 - www.resotel.be/Ceibois

If booking by phone or fax please refer to the EFORWOOD conference specifically.

EFORWOOD IN A NUTSHELL

EFORWOOD is a four-year (November 2005-October 2009) integrated project, funded under the EU "Global change and ecosystems" research activity of the Sixth Framework Programme. The objective of EFORWOOD is to develop a decision support tool for Sustainability Impact Assessment of the European Forestry Wood Chain (FWC), **ToSIA**.

It will be first tool of this kind, that will address all three sustainability dimensions (environmental, economical and social). 38 organisations from 21 countries have combined their expertise and professional skills in a project that focuses on a very significant challenge for the sector.

PARTNERS

AFOCEL Association Forêt Cellulose (FR) • AIDIMA Furniture, Wood and Packaging Technology Institute (ES) • **Alterra** Alterra BV, Centre for Ecosystems Studies (NL) • **ALUFR** Institute of Forest Utilisation and Work Science, Albert Ludwigs University, Freiburg (DE) • **BFH** Federal Research Centre for Forestry and Forest Products (DE) • **BOKU** Dept. of Forest and Soil Sciences, Institute of Silviculture, University of Natural Resources and Applied Sciences, Vienna (AT) • **BRE** Building Research Establishment (UK) • **CA-TIE** Dept. Natural Resources, Tropical Agricultural Research and Higher Education Center (CR) • **CEI-Bois** -European Confederation of Woodworking Industries (BE) • **CEPF** Confédération Européenne des Propriétaires Forestiers (BE) • **CEPI** Confederation of European Paper Industries (BE) • **CIFOR** Center for International Forestry Research (ID) • **CIRAD** CIRAD, Forestry dept. (FR) • **CTFC** Centre Tecnologic Forestal de Catalunya (ES) • **EFI** European Forest Institute (FI) • **FR** Forestry Commission Research Agency (UK) • **FVA** Baden-Württemberg Forest Research Institute (DE) • **IBL** Dept. of Forest Management in Mountain Regions, Forest Research Institute (PL) • **IFE-MUAF** Institute of Forest Ecology, Faculty of Forest and Wood Technology, Mendel University of Agriculture and Forestry (CZ) • **IFER** Institute of Forest Ecosystem Research (CZ) • **IW** InnovalWood Ltd. (IE) • **INRA** Institut National de la Recherche Agronomique (FR) • **ISA** Instituto Superior de Agronomia (PT) • **Pöyry** Pöyry Forest Industry Consulting Oy, (FI) • **KCL** Oy Keskuslaboratorio Centrallaboratorium Ab (FI) • **KCPK** Kenniscentrum Papier en Karton (NL) • **UCPH** University of Copenhagen (DK) • **Savcor Indufor** Savcor Indufor OY (FI) • **SFI** Slovenian Forestry Institute (SI) • **SGGW** Dept. of Forest Utilisation, Faculty of Forestry, Warsaw Agricultural University (PL) • **SILAVA** Latvian State Forestry Research Institute (LV) • **Skogforsk** The Forestry Research Institute of Sweden (SE) • **SLU** Sveriges Lantbruksuniversitet (SE) • **STFI-Packforsk** STFI-Packforsk AB (SE) • **TUZVO** Faculty of Forestry, Technical University in Zvolen (SK) • **UMB** Dept. of Ecology and Natural Resource Management, The Norwegian University of Life Sciences (NO) • **UR2PI** Unité de Recherche sur la Productivité des Plantations Industrielles (CG) • **VTT** Technical Research Centre of Finland (FI)

1.3 Final conference brochure

This conference brochure was used as dissemination material for the EFORWOOD final conference held in September 2009, Uppsala, Sweden. More than thousand copies of the brochure were distributed to the different stakeholders.



Registration

Please find further information about the conference and a direct link to the registration form on www.eforwood.org

In order to avail of accommodation arranged by the organisers you need to register by 21 August 2009 at the very latest. An early bird discount will be available until 31 July. Registration will close on 7 September.

Please note that registrations are dealt with in the order they arrive. The sooner you register the greater the chances of getting your preferred accommodation.

Conference fee

Early-bird registration until 31 July: 150 EUR

Regular: 200 EUR

Authors of papers: 150 EUR

Students: 55 EUR

Venue

The conference will take place at Uppsala Concert & Congress Hall (Uppsala Konsert & Kongress) which is located in central Uppsala, Sweden.

Closest airport: Stockholm Arlanda Airport (35 km)

Distance to Stockholm: 40 minutes by train (30 km)



Photo: Uppsala Concert & Congress Hall

About Uppsala

Uppsala is Sweden's fourth largest city with a population of 150 000 inhabitants. Unique cultural treasures and an exciting history are to be found in the city of knowledge and innovation. Uppsala has retained its small-town charm while offering a big city's selection of shops, restaurants and other entertainment.



Photo: Uppsala Concert & Congress Hall

Contact

Detailed information about the conference and how to get there can be found on www.eforwood.org.

Please don't hesitate to contact

eforwood@eforwood.com for any matter.



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SHAPE YOUR SUSTAINABILITY TOOLS

- and let your tools shape you

23-24 SEPTEMBER 2009, UPPSALA, SWEDEN

Join researchers, policy makers and practitioners from all over the world in discussion of Sustainability Impact Assessment of the Forest-based Sector.

Around the globe, tools for analysing sustainability are being developed to help us make better choices. One of them is the ToSIA tool, the EFORWOOD project's main outcome.

The ToSIA tool is a dynamic sustainability impact assessment model that analyses environmental, economic and social impacts of changes in forestry-wood production chains, using a consistent and harmonised framework from the forest to the end-of-life of final products.

"Shape your Sustainability Tools" will be your opportunity to combine experiences and expertise with scientists within and outside the EFORWOOD project, who are developing tools to support decision making on policies related to various areas of science, such as environmental economics, socio-economics, land use and landscape research.



Programme

Wednesday
September 23rd, 2009

08:30 - 09:15
Registration & coffee

09:15 - 10:18 Plenary:
Welcome (Jan Nyk, Managing Director, Eforwood)
Introduction (Jan Nyk, Eforwood)
The Policy Context of SA - The Case of Sweden (Peder Nilsson)
Main Tools: General Overview, 95 Indicators and Industry, Economic Contribution
The Forest-based Sector in the 21st Century (Wolfgang Blaudschmidt) (moderated, 100)

10:20 - 10:40 Break

10:40 - 11:40 Theme 1:
Sustainability Impact Assessment
in a Knowledge-based Economy
(2 presentations)

10:40 - 10:45 Theme 2:
Methods for Evaluation of
Sustainability Impact from Forests to
Sector Level (2 presentations)

11:50 - 12:00 Theme 3:
Sustainability Impact Assessment
in a Knowledge-based Economy
(2 presentations)

11:50 - 12:00 Theme 2:
Methods for Evaluation of
Sustainability Impact from Forests to
Sector Level (2 presentations)

12:30 - 14:00 Lunch

14:00 - 15:10 Plenary:
EFORWOOD - An Approach to Sustainability Impact Analysis
for the Forest-based Sector (Boris Frankard)
A Tool for Sustainability Impact Assessment (ToSIA) of
Forest-based Production Chains with a Database of Sustainability
Indicators Collected within the EFORWOOD Project (Marcel Gauthier)

15:20 - 15:50 Plenary:
SIA - A Tool for Sustainability Impact Assessment
of Forest-based Chains (Boris Frankard)

15:50 - 16:20 Coffee break

16:20 - 17:00 Theme 1:
Sustainability Impact Assessment
in a Knowledge-based Economy
(2 presentations)

16:20 - 17:00 Theme 3:
Case Study Applications in
Sustainability Impact Assessment
(2 presentations)

17:00 - 18:00 Poster session

19:00 - Conference dinner at Uppsala Concert & Congress Hall

Thursday
September 24th, 2009

09:00 - 10:00 Plenary:
Concepts of and Developments in Sustainability Assessment
(Roger Taylor, Researcher for the Project)
Criteria and Indicators to Assess the Sustainability of the Forest-based Chain
(Christoph Pritz, IUFRO/FAO/FAO/FAO)

10:00 - 10:30 Coffee break

10:30 - 11:30 Theme 3:
Case Study Applications in
Sustainability Impact Assessment
(2 presentations)

10:30 - 11:30 Theme 4:
Sectoral Analysis of the Forest-
based Sector and Parts thereof
(2 presentations)

11:00 - 12:00 Theme 3:
Case Study Applications in
Sustainability Impact Assessment
(2 presentations)

11:00 - 12:00 Theme 4:
Sectoral Analysis of the Forest-
based Sector and Parts thereof
(2 presentations)

12:30 - 13:00 Plenary:
The Future of SUSTAINABILITY (Boris Frankard)
Closing remarks (Boris Frankard, IUFRO/FAO/FAO/FAO)

13:00 - 14:00 Lunch
End of conference

For a more detailed programme,
please visit www.eforwood.org

Registration & venue info

1.4 ToSIA brochure

This brochure was designed in autumn 2009 and disseminated primarily during the stakeholder event, the FTP conference held in Stockholm in November 2009. The purpose of the brochure is to give more information on EFORWOOD final product, ToSIA tool. Over 500 copies were printed. The distribution of this brochure will continue also in the post-project period, during the ToSIA training workshops and other stakeholder's events.

Project funded by European Commission under Thematic Priority 'Global Change and Ecosystems'

Duration: November 2005 - October 2009 (4 years)

Budget: €20 million

Partners: 39 organisations

Project Co-ordinator:
Prof. Kaj Rogan, Skogforsk, Sweden
Email: kaj.rogan@skogforsk.se

Project Partners

AIDIMA (Spain)
Aitera (the Netherlands)
ALUFR (Germany)
BRE (United Kingdom)
BOKU (Austria)
CATE (Costa Rica)
CEI-Bols (Belgium)
CEPF (Belgium)
CEPI (Belgium)
CIFOR (Indonesia)
CIRAD (France)
CTFC (Spain)
EF (Finland)
FCBA (France)
FR (United Kingdom)
FVA (Germany)
IBL (Poland)
IFER (Czech Republic)
IFE-MUAF (Czech Republic)
InnovaWood (Ireland)
Inventia (Sweden)
INRA (France)
ISA (Portugal)
KCL (Finland)
KCPK (the Netherlands)
KU (Denmark)
Pöyry (Finland)
Savcor Indufor (Finland)
SFI (Slovenia)
SGGW (Poland)
SILAVA (Latvia)
Skogforsk (Sweden)
SLU (Sweden)
VTI (Germany)
VTT (Finland)
TUZVO (Slovakia)
UMB (Norway)
URZPI (Congo Republic)



ABOUT EFORWOOD

Europe's forest-based sector faces major challenges. Globalisation, changing trade relationships, and shifts in demography, lifestyles and consumption patterns have led to changing demands for forest products and services. Many of these factors threaten sustainable development.

The sector has great potential to serve as a model for society, demonstrating how to integrate environmental protection, economic growth, and the satisfaction of human needs, making progress towards a truly sustainable Europe. This is a realistic target. However, it requires integrated tools with built-in sustainability criteria and indicators to support and guide policy makers, forest owners and companies in their work towards sustainable development.

Decision makers dealing with forest-based sector issues, be it in government or industry, need comprehensive, reliable, timely and policy-relevant information to respond to changing demands.

The EFORWOOD project has set out to support and to enhance understanding of how global changes impact upon the European forest-based sector.

The project highlights the importance of minimising the possible negative consequences of ongoing changes, and making full use of the opportunities that societal changes offer to the sector. It aims to evaluate and improve the contribution of the European forest-wood chain (FWC) in the context of the EU's strategic goal of becoming the world's most competitive and dynamic knowledge-based economy, capable of sustainable economic growth with better social cohesion. For the first time, the whole FWC is assessed using indicators for all three dimensions of sustainability: environmental, economic and social.

The main project outcome, ToSIA (Tool for Sustainability Impact Assessment) offers a dynamic sustainability impact assessment model that analyses the environmental, economic and social impacts of changes in the forest-wood chains. It enables the measurement of the steps taken towards sustainability by the sector and helps to balance environmental, economic and social sustainability targets. At the same time, it may improve the competitiveness of the forest-based industries compared to less sustainable sectors operating without a renewable resource base.



Sustainability Impact Assessment of the Forest-Wood Chain

ToSIA MAIN EFORWOOD PRODUCT

ToSIA - How does it work?

ToSIA is a decision support tool for the forest-based sector. With this tool the forest-based industry, national and international policy makers and researchers can analyse the sustainability impacts of changes brought about by deliberate actions (e.g., in policies or business activities) or due to external forces (e.g., climate changes, global markets).

ToSIA is also suitable for identifying hot-spots in value chains that can contribute to improved sustainability.

This is done by:

- Selecting, weighing and analysing indicator values;
- Applying sustainability indicators to production processes;
- Relating sustainability indicator values to material flows or another preferred reference base, e.g., value.



Fig.1 ToSIA work flow indicating the steps in conducting a sustainability impact assessment for the FWC.

Targeted users

- European Commission/policy makers
- Forest-based industry
- Politicians/civil servants at national level
- NGOs
- Researchers

What if?

ToSIA is primarily designed to give answers to 'What if?' questions, such as what if...

- ...the EU introduces new policies on, e.g., energy/transport / recycling / habitat protection?
- ...the use of wooden frames in houses doubles?
- ...the global market changes?
- ...the oil price doubles?

What can you do with ToSIA?

A user can:

- Assess sustainability impacts of changes in a FWC as influenced by external and internal drivers;
- Assess material flows along a FWC;
- Assess indicator values (economic, social and environmental) for processes defined for a FWC.



Fig.2 Example of ToSIA user-interface.

ToSIA is very scalable and can operate at different levels, within defined system boundaries.

ToSIA is applied on different regional data sets, which have been collected within the EFORWOOD project – e.g., the Baden-Württemberg Case Study with emphasis on an increasing demand for forest bio-energy in future, or the the Scandinavian Case Study where different technology scenarios are assessed.

The results do not only give a holistic picture on the current status of the region's forest value chains in terms of, e.g., employment figures, production costs or CO₂ emissions, but also make it possible to evaluate the impacts on sustainability of potential future developments as a consequence of e.g., increasing demand for forest bio-energy.

Some specific examples in which ToSIA could be used are projections of the impacts of:

- Banning imports of certain timber species;
- Restricting the size of clear cuttings;
- Increased use of biomass, greater use of harvest residues (e.g., pellet production);
- Increase in conservation areas;
- Changing limits on the amounts of toxic waste that may be released by industry;
- Implementation of new technologies in production processes;
- Changing in consumer behavior.

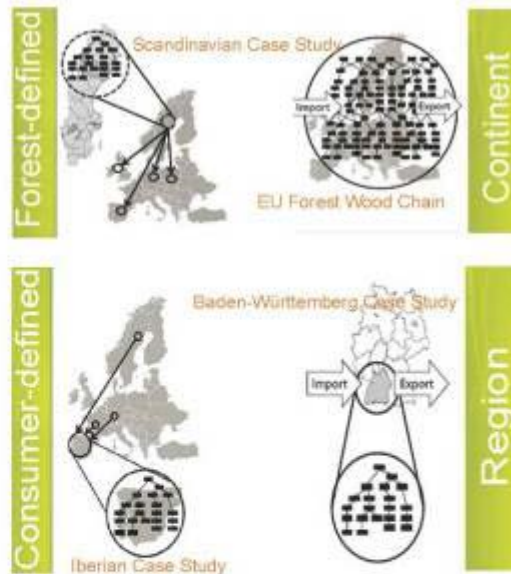


Fig.3 Examples for selecting different scales and areas of interest in chain and case study design – from regions to continents, from forests to consumers.

Data collection

Significant project resources were applied to the collection and assessment of the data throughout the duration of the project. This is the first time that data has been collected for the European FWC in such detail and on such a scale. The EFORWOOD database is another important outcome of the project.

ToSIA versions

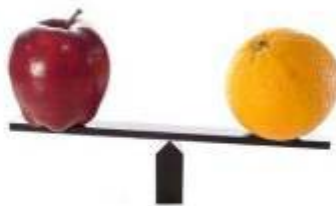
ToSIA is available to interested users outside the project. A web-based demonstration version of ToSIA is also available. This version uses simplified examples of the chains to demonstrate potential and to introduce users to the functions of the tool.

For more information about ToSIA visit our web site www.eforwood.org. You can also contact the coordinator directly using the details below.

Project Coordinator: Kaj Rosen
The Forestry Research Institute of Sweden
Skogforsk
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S-751 83 UPPSALA
Sweden

Contact Information
Phone: +46 18 18 85 00
Fax: +46 18 18 86 00
E-mail: kaj.rosen@skogforsk.se
Web: www.eforwood.org

The entire ToSIA package includes a separate database and user interface for chain design and data entry. It also contains tools for performing cost-benefit analysis and multi-criteria analysis to interpret the results produced in ToSIA.



Multi-Criteria Analysis (MCA)

MCA is used to evaluate policy options, management strategies and the outcomes of different scenarios by integrating ToSIA outputs and stakeholder value information (i.e., weights and preferences). MCA is implemented as a software component of ToSIA. It facilitates indicator weighting and the evaluation of alternatives for single users and in server-facilitated mode. Analysis of the sensitivity of preferences and uncertainties of the input data is provided. By these means, the MCA tool is expected to prepare a specific decision environment and to support exchange and negotiation between stakeholders and decision makers.

Cost-Benefit Analysis (CBA)

CBA is a technique for the assessment of the relative desirability of competing alternatives. In the context of the EFORWOOD project, CBA is used to evaluate the overall sustainability impact of different policy measures on the FWCs. The assessment involves the comparison of the status quo (baseline case) with one or more alternatives, considering the incremental differences between the baseline case and the alternatives. The CBA compares the costs and benefits measured in monetary terms.





In the framework of the EFORWOOD project, the social perspective on the CBA is taken as the benchmark. A social CBA attempts to assess the overall impact of a project improving the welfare of society as a whole, rather than of the (private) agents that implement the project.



Sustainability Impact Assessment of the Forest-Wood Chain

1.5 Posters

Poster presented at the FTP conference in May 2008.

EFORWOOD

Sustainability Impact Assessment of the Forestry-Wood Chain

ABOUT EFORWOOD


Thematic Priority:
Global Change and Ecosystems
Duration: November 2005 - October 2009 (4 years)
Budget: €20 million
Partners: 38 organisations from 21 countries
www.eforwood.com

The aim of the project is to provide methods and tools that will, for the first time, integrate Sustainability Impact Assessment of the whole European Forestry-Wood Chain (FWC), by quantifying performance of FWC, using indicators for all three pillars of sustainability; environmental, economic and societal.

EFORWOOD is developed for the forest-based sector but based on the idea of developing a general method to assess the sustainability impact of complete industrial sectors (or parts thereof).

economic impact analyses (CBA)	ecological impact analyses (EIA)	social / participative aspects
Green Supply Chain Management		SIA

EFORWOOD develops its ideas using the Forest-based Sector (FBS) as a "study object".



Sustainability and the forest-based sector

- Industrial activities are evaluated against their impact on Sustainable Development
- The forest-based sector has the potential to play a key-role in the development of a sustainable society

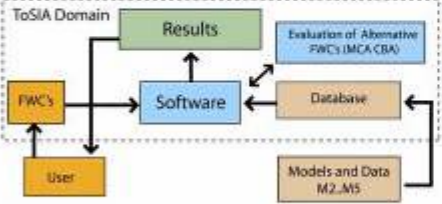
ToSIA - Main EFORWOOD product

A quantitative decision-support tool to assess sustainability of European-Forest Wood Chains and the impacts of potential changes to the sustainability therein.

The questions to be answered by ToSIA:

The main questions to be answered by ToSIA relate to economic, social and environmental sustainability impacts of modified FWCs under the influence of, for example:




- Changes in Policy (e.g. forest conservation, increasing utilization of woody biomass for bio-energy)
- Changes in Technology of the FWC (e.g. harvesting methods, transport alternatives, minimal-pollution technology in industrial processing)



- Changes in Consumer Behaviour (e.g. increased utilization of wood materials in housing construction, higher recycling rates for paper and wood based products)
- Changes in External Markets (e.g. higher energy prices, collapsing round wood imports from Russia)

ToSIA operates on three levels:

- (1) Single FWCs
- (2) Case study FWCs
- (3) European FWC

ToSIA functions

A user can :

- select sustainability indicators to analyse alternative production chains,
- assess sustainability impacts of changing from today's production to alternative production chains
- study trade offs between sustainability indicators.

ToSIA versions

ToSIA - FWC
The basic version of ToSIA used for assessing indicator values for processes along single/ multiple FWCs

ToSIA - E
This version will include Cost-Benefit, Cost-Efficiency and Multi-Criteria analysis for integrated evaluation of sustainability impacts

ToSIA web-demonstration
A web-based application with pre-defined scenarios and a limited number of results

Post-project applications

For post-project applications, the potential user should:

- Select the approach
- Choose the alternative scenarios as driving forces in changing the FWCs and /or indicator values
- Define the system boundaries in terms of Processes to be described
Indicators to be measured
Alternatives to be studied
- Carry out data collection
- Derive indicator values for each alternative using ToSIA
- Assess the impacts of changes to sustainability indicators



EFORWOOD

Sustainability Impact Assessment of the Forestry-Wood Chain



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The **aim of the project** is to evaluate and improve the contribution of the European Forestry-Wood Chain (FWC) 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. The **main objective** of EFORWOOD is to develop a tool which will allow analysis of Sustainability Impacts (SI) of existing and future FWCs.

Project targeted users: European commission/policy makers, forest-based industry, politicians/civil servants at national level, NGOs, researchers.



Project impact

The forest-based sector has the potential to play a key-role in the development of a sustainable society. The impact of the project is in providing policy-makers, industries and stakeholders with a tool to strengthen the contribution of forest-based sector towards a more sustainable Europe.

ToSIA - Main EFORWOOD product

A quantitative decision-support tool to assess sustainability of European-Forest Wood Chains and the impacts of potential changes to the sustainability therein.

ToSIA is suitable for:
identifying hot-spots in value chains that can contribute to improved sustainability.

This is done by :

- selecting, weighing and analysing indicator values,
- applying the Sustainability Indicators to production processes,
- relating Sustainability Indicator values to flow of material or another preferred reference base, e.g. value.

What can you do with ToSIA?

A user can :

- assess sustainability impacts of changes in a FWC as influenced by external and internal drivers,
- assess material flows along a FWC,
- assess indicator values (economic, social and environmental) for processes defined for a FWC.



WHAT IF? – questions to be answered by ToSIA:

ToSIA is primarily designed to give answers to **WHAT IF? - questions.**

- EU introduces new policies on e.g. energy / transport / recycling / habitat protection?
- Wooden frames in houses are doubled?
- Global market changes?
- Oil price doubles?

ToSIA is very scalable and can operate at different levels, within defined system boundaries.

ToSIA levels:

- (1) Single FWCs
- (2) Case study FWCs
- (3) European FWC



(1)



(2)



(3)

Other EFORWOOD products/results

Multi-criteria analysis (MCA) and cost-benefit analysis (CBA) evaluation tools

A two-fold set of approaches has been used for the evaluation of sustainability impacts in EFORWOOD:

- (1) **Multi-criteria analysis (MCA)** is designed to integrate data from the EFORWOOD database with qualitative stakeholder information and preferences,
- (2) **Cost-benefit analysis (CBA)** and **cost-efficiency analysis (CEA)** perform evaluations in monetary terms.

Scenarios

EFORWOOD set of 4 scenarios (Policy, Planet, People and Production) aims to describe divergent futures against two so-called reference futures (i.e. 'benchmark' scenarios with dynamics, but without major policy interventions), derived from the IPCC A1 and B2 scenarios. These are applied to the three regional cases, and to the European scale Forest Wood Chain (FWC). ToSIA is tested on various scenarios.

Indicators

Indicators for all three pillars of sustainability – in relation to the whole forestry wood chain (FWC) – are used (10 environmental, 9 economic and 8 social indicators).

The indicators have been chosen with due reference to and consideration for all relevant indicator development processes on sustainability indicators in the EU. This applies in particular to EU sustainable development indicators and the EU Sustainability Impact Assessment Guidelines.

ToSIA versions

ToSIA - FWC
The basic version of ToSIA used for assessing indicator values for processes along single/multiple FWCs

ToSIA-E
This version will include Cost-Benefit, Cost-Efficiency and Multi-Criteria analysis for integrated evaluation of sustainability impacts

ToSIA web-demonstration
A web-based application with pre-defined scenarios and a limited number of results

EFORWOOD final conference poster distributed to all partners' organisations and their contacts.

SHAPE YOUR SUSTAINABILITY TOOLS

- and let your tools shape you

23-24 SEPTEMBER, UPPSALA 2009, SWEDEN

Join researchers, policy makers and practitioners from all over the world in the discussion of Sustainability Impact Assessment of the Forest-based Sector.

Around the globe, tools for analyzing sustainability are being developed to help us make better choices. One of them is ToSIA - Tool for Sustainability Impact Assessment - the product of EFORWOOD.

Read more on eforwood.org

