



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 PD1.0.4
Elements to the progress report of Year 4

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PU	Public	
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)	X

Project Deliverable PD1.0.4 Elements to the progress report of Year 4

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Module 1 Activity Reporting for Year 4

Abstract:

This deliverable is also the Activity report of Module 1 for Year 4 (2009-2010) of the EFORWOOD project. It includes the following filled in templates as required by the European Commission:

- Template 1, Section 1,2,3
- Template 1a and 1b for WP1.0
- Template 1a and 1b for WP1.1
- Template 1a and 1b for WP1.2
- Template 1a and 1b for WP1.3
- Template 1a and 1b for WP1.4
- Template 1a and 1b for WP1.5
- Template 3

This report presents the work of the last year of EFORWOOD and the development in order to create a decision support tool for sustainability impact assessments, called ToSIA, based on case study applications for a regional defined case in Baden-Württemberg/Germany, a production-driven case in Västerbotten/Sweden and a consumption-driven case on the Iberian Peninsula, as well as a EU25+2 case.

Key words: activity reporting, decision support tool, sustainability impact assessment, Case Studies, ToSIA

- Template 1, Section 1,2,3

1 Section 1 – Project objectives and major achievements during the reporting period

1.1 Overview of general project objectives and the project's current relation to the state-of-the-art

To be written by the Coordinator

1.2 Objectives for the reporting period, work performed, contractors involved and the main achievements in the period

1.2.1 [...]

1.2.2 Module 1

The overall objective was to develop and test a set of Tools for the Sustainability Impact Assessment (ToSIA) of FWCs and to integrate results of other Modules of EFORWOOD.

Key objectives/milestones for this reporting period were:

- to provide guidance on data collection of sustainability indicators.
- to provide a central database for characteristics of processes and products within various FWCs and sustainability indicators to be used in ToSIA.
- to assess global market interactions with the European FWC and the external impacts of changes in the European FWC on levels of sustainability.
- to identify sustainability impacts of EFORWOOD scenarios for studying future FWCs based on changes in FWC external factors, EU policies, or process innovations and management strategies in the FWC.
- To provide a software tool for the evaluation of sustainability impacts and trade-offs using Cost-Benefit and Cost-Efficiency analysis and Multi-criteria analysis.

Main deliverables:

The main output of Module 1 are the ToSIA software, the EFORWOOD database and data client, and the ToSIA evaluation modules based on Cost-Benefit and Multi-criteria analysis. Another output is a revised version of the forest sector model EFI-GTM. Moreover, information was delivered to support the implementation of a policy analysis module as a third evaluation module in ToSIA.

1.3 The most important problems during the period including the corrective actions undertaken

To be written by the Coordinator

2 Section 2 – Work package progress of the period

2.1.1 Module 1

Summary of Module work

This module provides a framework for the sustainability impact assessment within EFORWOOD, it co-ordinated the selection of social, economic and environmental sustainability indicators (SIN), which were applied consistently throughout the project. The Tools for the Sustainability Impact Assessment (ToSIA) of the FWC was developed and applied to assess sustainability impacts (SI) of changes in current European FWCs, integrating results of Modules 2-5. External factors and EU policies influencing the FWC as well as changes within the FWC affecting the sustainability were considered in deriving scenarios of alternative FWCs to be applied throughout the project. Sustainability evaluation modules based on Cost-Benefit and Multi-criteria analysis were developed, integrated into ToSIA, and tested for evaluating overall SI of scenarios of changing political or economical drivers affecting FWCs. Results of the Policy Analysis database were provided to enable the implementation of an additional policy evaluation module in ToSIA. The partial equilibrium model of the global forest sector EFI-GTM was used to analyse impacts of global developments on the European FWC and to quantify wood quantities and prices under various reference future and scenario assumptions.

Summary per WP concluded from WP-reports below

WP1.0 Coordination

Work Package 1.0 fulfilled management and co-ordination tasks within Module 1, and supported overall EFORWOOD co-ordination through communication with partners from the other modules. This included:

- providing a common framework and methodological approach for module activities,
- ensuring that the objectives are fulfilled and deliverables provided close to time schedule,
- managing the interfaces and information flow with the other modules including IP Management (M0), the selection of indicators and scenarios as well as the provision and validation of indicator values for ToSIA,
- managing and contributing to the reports to the EU,
- synthesizing results from individual Work Packages,
- transferring the results and deliverables of the module to the IP Management (M0), dissemination (M6) and other Modules as needed,
- liaising with stakeholders and end-users in relation with the activities of M0 and M6,
- ensuring the quality of the results by organizing deliverable report reviews and taking advice from the Expert Advisory Panel (EAP) (see section 7) and IP “quality control manager”.

WP 1.1 FWC Sustainability indicators and Policy Analysis for ToSIA

WP 1.1 defined a set of policy-relevant, coherent and internationally compatible FWC sustainability indicators that assesses the sustainability of FWC and provided a policy analysis component that allows ToSIA to incorporate changes in policies and policy contexts in the SIA of the FWCs under different scenarios.

Partners: [BOKU](#), [Savcor Indufor](#), [UMB](#), [CIRAD](#), [CEPI](#), [CEI-Bois](#), [CEPF](#)

WP 1.2 Data co-ordination and validation

WP 1.2 facilitated co-ordination and organisation of data collection and storage of data on FWCs in a database usable for ToSIA models and accessible to other project modules. This included:

- setting up a network of project partners in Modules 2-5 for collection of data in FWC production processes and indicators;
- identifying data availability and necessary level of harmonisation;
- compiling the data collected by Modules 2-5 for selected test chains, case studies, and at European level;
- assessing the quality of the data through uncertainty analysis and auxiliary data sets;
- preparing a database in a format readable for ToSIA models, which would be accessible to other project modules, flexible to project information needs and allowing continuous update of the collected information.

Partners: IFER, EFI, BFH/vTI, CTFC.

WP 1.3: FWC markets and trade – from local to global

WP 1.3 developed and applied a regionalised, global partial equilibrium forest sector model (EFI-GTM) for assessing how, through trade and demand & supply interactions, specific production changes in the European FWC influence other production activities in that chain. EFI-GTM links European FWCs to regions outside Europe and allows to assess how changes in these latter regions may influence the European FWC. This included:

- developing a suitable model which includes production costs and international trade of round wood, chips and forest industry products and which cover the main FWCs in Europe at country level;
- providing and securing consistent data input for the model from Module 4, particularly WP4.3;
- validating the model and link its results to ToSIA, using the model for assessing how specific production changes in European FWC influence other production activities in that chain
- using the model to quantify market responses in the European forest sector under reference future and scenario projections.

Partners: UMB, EFI, ALTERRA, CIRAD, CEPI, CEI-Bois, CEPF, CIFOR, UR2PI, CATIE

WP 1.4 TOSIA- Tool for Sustainability Impact Assessment

WP 1.4 developed the ToSIA tool framework, tested the tool and calculated sustainability indicators for current and future alternative FWCs for single and multiple chains at regional and at European levels. Factors influencing sustainability levels of FWCs were reviewed in collaboration with Modules 2-5 and scenarios of changes in current FWCs were defined. Permanent support and development of modeling features were also provided to the partners of Module 2-5.

This included, among other:

- identifying relevant processes in the FWC together with Modules 2-5 and defining the system boundaries between the main components of the FWC: forest resources management, forestry to industry interaction, processing in the forest industry, and

industry to consumer interactions; management of intra- and inter country trade flows within and outside EU

- developing ToSIA for different applications in EFORWOOD;
- providing training on the use of ToSIA to project partners;
- applying ToSIA using three case studies and European FWC analysis;
- developing and exploring alternative FWCs based on commonly agreed scenarios;
- simulating the effects on indicators of current and alternative FWCs at the regional and continental scale taking into account internal and external drivers.

Partners: EFI, ALTERRA, BFH, KU, VTT, CEPI, CEI-Bois, CEPF

WP 1.5 Sustainability Impact Evaluation

WP 1.5 applied three complementary approaches to evaluate and assess impacts on sustainability levels for policy changes, external market drivers, or technological innovations within the FWC. The three approaches were Multi-criteria analysis, Cost-Benefit and cost-efficiency analysis. Software tools were developed and integrated into the ToSIA framework for evaluating sustainability impacts and trade-offs between indicators. Cost-Benefit and cost-efficiency analysis were implemented directly as part of the ToSIA engine, whereas the Multi-criteria analysis software was implemented as a separate software module which is linked to the ToSIA engine. This work included:

- developing software tools as integrated components of TOSIA;
- applying different types of Multi-criteria analysis for an integrated sustainability impact assessment of FWCs;
- applying Cost-Benefit analyses including the evaluation of externalities for the sustainability impact assessment of FWCs.

Partners: CTFC, KU, BOKU, SFI, FCBA

[...]

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4 Section 3 – Consortium management

[...]

PROJECT BARCHART and STATUS

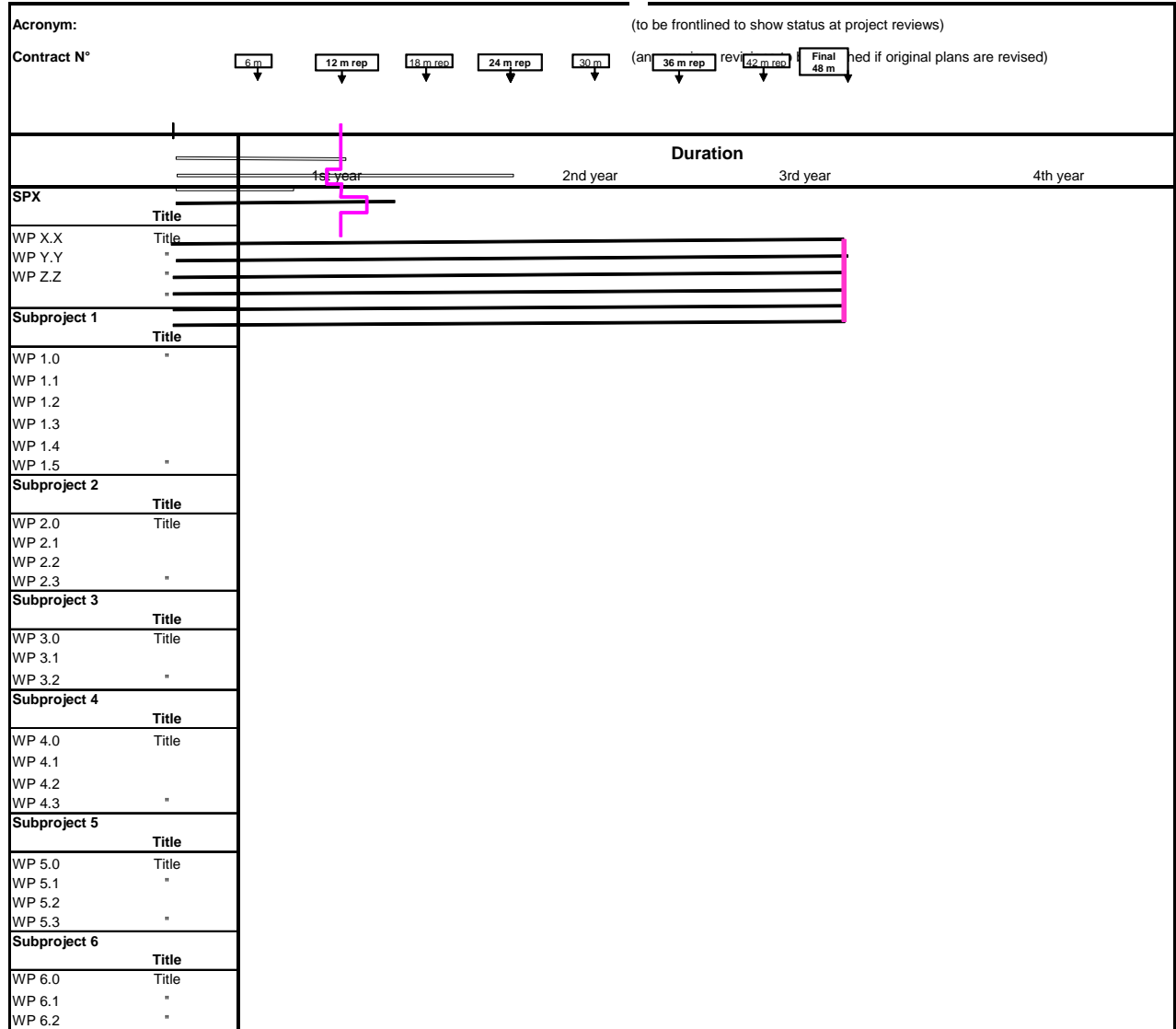


Table 5: Workpackages - Plan and Status Barchart.

- Template 1a and 1b for WP1.0
- Template 1a and 1b for WP1.1
- Template 1a and 1b for WP1.2
- Template 1a and 1b for WP1.3
- Template 1a and 1b for WP1.4
- Template 1a and 1b for WP1.5

Periodic Activity Report, WP Leader
Annual report 15 months

5 Period: November 1, 2008 - January 31, 2010

WP leader	Risto Päivinen	WP number	1.0
Date	15 Jan 2010		
Work package objectives			
<ul style="list-style-type: none"> • To ensure that the objectives of M1 within the project months 37-51 are fulfilled and deliverables provided according to time schedule; • To guarantee module coherence and effective information and data flow between WPs and with other Modules; • To co-ordinate the linkages with IP management in M0 and with other modules • To contribute to the final report of the project 			
Progress towards objectives			
<p>The objectives of WP1.0 within the project months 37-51 have been met by regular meetings of the partners of WP1.0. They met at least twice a year, (within months 37-51: 21.04.2009 (tel. conference), 05.05.2009 (physical meeting in Freiburg), 27.08.2009 (tel. conf), 22.09.2009 (physical meeting in Uppsala)) to review the project progress, data collection, reporting and budget, and to assess the fulfillment of objectives. In between the meetings the partners of WP1.0 are in close interaction via email. Standard format for reporting is agreed with M0.</p> <p>In addition to M1/WP1.0 internal communication, regular support to task forces (Scenario TF, European FWC TF, BW/Scandinavian/Iberian TF) and working groups (module-wise and chain-wise) was given in terms of participation and organization of meetings (per telephone and physical) as well as support hotline and individual consultations. In addition to these tasks, EFI/M1 took the leading of an EU FWC task force on board as well as of a sub-taskforce on "System Boundaries and Import-Export-Issues within the EU". Further, M1 coordination participated at monthly IP Boards, and accepted there a special role of updating on the present status of data collection throughout the case studies and modules.</p> <p>European FWC TF meetings: physical meetings 11-13.01.09 in Helsinki and 04.05.09 in Freiburg; tel. conferences 4.11.08, 28.11.08,, 12.02.09, 18.03.09, 22.04.09, 28.08.09, 1.12.09,, 11.01.10; EU FWC task force on system boundaries 11.02.09 and 24.02.09, EFORWOOD case study review, 09.10.09</p>			
Deviations from workprogramme (if any)			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

6 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
PD.1.04	<i>Elements to the progress report of Year 4</i>	1.0	<i>Month 51</i>	51			EFI
PD.1.05	<i>Elements to the EFORWOOD final report</i>	1.0	<i>Month 51</i>	51			EFI

*) if available

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor
M1.0.10	WP1.0 Meeting 9: progress	1.0	Month 51	51	EFI
M1.0.11	WP1.0 Meeting 10: progress, elements to final report	1.0	Month 51	51	EFI

Periodic Activity Report, WP Leader
Annual report 15 months

7 Period: November 1, 2008 - January 31, 2010

WP leader	Gerhard Weiss	WP number	1.1
Date	15 Jan 2010		
Work package objectives			
<ul style="list-style-type: none"> • to prepare, as necessary, a final adjustment of the FWC sustainability indicator set based on experiences from case studies and the EU case analysis (“exploitable result”), to prepare a respective final report, and to further publish FWC-indicator related papers • to finalize the update of the FWC-policies data base, and expand it to establish a more comprehensive FWC-policy and institutions database for policy analysis (“exploitable result”), to prepare a final report, and to publish FWC-policies and institutions related publications. PD1.1.8 was delivered and accepted. • to elaborate a policy analysis interface for ToSIA, test and improve a prototype (“exploitable result”); to write respective interim and final reports, and to publish a paper on the potential and limits of policy analysis interfaces in sustainability impact assessment tools. PD 1.1.9 and D 1.1.5 are delivered together in one document. 			
Progress towards objectives			
<ul style="list-style-type: none"> • further work on FWC sustainability indicator set was not necessary nor requested. FWC-indicator related papers were developed. • FWC-policies data base was focused on the relevance for FWC and finalized. The final report was prepared. FWC-policies and institutions related publications were developed. • A simple policy analysis interface for ToSIA, was developed, in which the policy database is connected with ToSIA results. This eventually had to be a non-interactive, text-based part. Reports are written, but no article publication, yet. 			
Deviations from workprogramme (if any)			
<p>Most tasks were completed according to the work programme.</p> <p>The policy analysis interface, however, was delayed, and finally realised in a simple, not interactive mode. This was due to delays in other EFORWOOD tasks: delays in data collection and consequently also in ToSIA results made the testing of the policy database on finalised case study results impossible. Information was submitted to facilitate the programming of the policy evaluation interface in ToSIA.</p>			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

8 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
PD1.1.8	An updated and further elaborated policy database	WP1.1	Month 41	Month 44			BOKU
PD1.1.9	A tested prototype of policy analysis interface for ToSIA,	WP1.1	Month 44	Month 51			BOKU
D 1.1.5	A description of the policy analysis interface for ToSIA, analysing policy implications of ToSIA results	WP1.1	Month 48	Month 51			BOKU

*) if available

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor
M1.1.9	Prototype of TOSIA policy interface to be tested (Month 40)	WP1.1	Month 42	Will not be possible within the project duration.	BOKU

Periodic Activity Report, WP Leader
Annual report 15 months

9 Period: November 1, 2008 - January 31, 2010

WP leader	IFER, Martin Černý	WP number	WP 1.2
Date	15 Jan 2010		
Work package objectives			
<ul style="list-style-type: none"> • prepare a database of FWC for ToSIA, accessible also to other modules • create tool for data export from database to exchange format readable by ToSIA • continuously update data in the database • provide assessment of data quality 			
Progress towards objectives			
<ul style="list-style-type: none"> • Database structure for EU-FWC was adjusted to meet ToSIA requirements. Solution for export-import buckets was implemented. The current database is stored and maintained at IFER. • Software solution for the interface between EFORWOOD database and ToSIA is continuously updated. Export of alternatives was added to the XML. The export procedure was optimised to enable export of the huge database of the EU-FWC in real time. • Continuous technical support for entering data into the database is provided <ul style="list-style-type: none"> ○ The EU-FWC topology is quite complicated (it consists of thousands of processes and tens of thousands links), therefore functions to handle the huge chain were developed in the EFORWOOD Chain Editor. ○ Topology of the export-import to / from the buckets was implemented ○ Application server (an application that provides connection between the clients and the database) has been updated. • support the finalisation of the data base of FWC for ToSIA. Data sets prepared by the project partners were cross checked and validated in terms of consistency, agreement with published data from official sources and double accounting. 			
Deviations from workprogramme (if any)			
<p>Management of the EU-FWC topology became a very important as well as time consuming part of the management of the whole database.</p> <p>Data validation by vTI (41) was carried out according to the workprogram. Because most data sets were delivered towards the end of the EFORWOOD project work load and man power input by vTI was also concentrated at the end of the project. This explains deviation of expenditures over the project duration.</p>			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

10 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
D1.2.5 (update)	Database of case studies and summary report of database development	1.2	Month 43	Month 51			IFER
D1.2.6 (update)	Report on data quality, part 2 (case studies) and part 3 (EU-FWC)	1.2	Month 51	Month 51			(5 - vTI)
D1.2.5 (update)	Database of EU-FWC and summary report of database development	1.2	Month 43	Month 51			IFER

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor
M1.2.2	Database structure for case studies available to model ToSIA	1.2	Month 39	Month 48	IFER
M1.2.3	Database structure for European FWC analysis available to model ToSIA	1.2	Month 38	Month 48	IFER

Periodic Activity Report, WP Leader
Annual report 15 months
Period: November 1, 2008 - January 31, 2010

WP leader	Birger Solberg	WP number	1.3
Date	15 January 2010		
Work package objectives			
<ul style="list-style-type: none"> • develop a suitable model which includes production costs, demand, and international trade of round-wood, chips and forest industry products and which covers the main FWCs in Europe at country level • provide and secure consistent data input for the model from other modules and WPs • validate the model and link its results to the ToSIA system to enable the assessment of scenarios of changing economic and political drivers. • use the model for assessing how specific production changes in the European FWC will influence other production activities in that chain and in regions outside Europe (in particular Developing countries), and also how changes in these latter regions may influence the European FWC • evaluate the consequences of European policy changes on the global markets and trade relations 			
Progress towards objectives			
<p>The global forest sector model EFI-GTM was modified and improved in terms of production costs, wood fiber input and wood supply and international trade. This is a regionalised, global, partial equilibrium model which incorporates forestry (as wood fibre supplier through harvest) and forest industries (as demander of wood fibre) having 61 regions (Europe is divided in 31 regions which correspond mostly to countries, and the rest of the world in 30 regions).</p> <p>In this period the work was concentrated on the following issues:</p> <ul style="list-style-type: none"> • A report by INCO partners was completed on some elected forest policy changes which may have significant impacts in both Europe and Developing regions • The EFI-GTM was used for the alternative EFORWOOD scenario analysis and the results of the model runs was provided to M2-M5 for estimating corresponding impact on the sustainability indicators for ToSIA • Report writing 			
Deviations from workprogramme (if any)			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

11 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	W P No	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
PD1.3.4	Report on results of validation/ calibration of the model on base period data	1.3	Month 48	Month 51			EFI
PD1.3.5	Report by INCO partners of some selected forest policy changes affecting FWC in Europe and Developing countries	1.3	Month 48	Month 51			ALTE RRA

*) if available

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Work package No.	Date due	Actual/Forecast delivery date	Lead contractor
M1.3.6	EFI-GTM model runs are calculated for Scandinavian Technology Scenario and provided to M2-M5	1.3	Month 37	Month 37	EFI
M1.3.7	EFI-GTM model runs are calculated for Iberian Consumption Scenario and provided to M2-M5	1.3	Month 37	Month 42	EFI
M1.3.8	EFI-GTM model runs are calculated for NATURA2000 Scenario and provided to M2-M5	1.3	Month 37	Month 41	EFI

Periodic Activity Report, WP Leader
Annual report 15 months

12 Period: November 1, 2008 - January 31, 2010

WP leader	Marcus Lindner	WP number	1.4
Date	15 Jan 2010		
Work package objectives			
<ul style="list-style-type: none"> • To complete the development and testing of ToSIA for the SIA of the FWC • To coordinate the implementation of EFORWOOD scenarios for studying alternative FWCs • To analyze sustainability impacts of the selected scenarios in the three EFORWOOD case studies • To analyze sustainability impacts of the Natura 2000 policy scenario applied to the European FWC 			
Progress towards objectives			
<p>ToSIA is developed as a sustainability impact assessment method, using a consistent and harmonized framework from the forest to the end-of-life of final products. Identification and definition of processes in the FWCs is done by the Case Study - and European FWC Task Forces, largely aided and supported by WP1.4 in terms of a support hotline and various meetings and trainings. Each process has been characterized by means of social, economic and environmental indicators of sustainability as identified by WP1.1. The parameterization of the sustainability indicators has been made using information compiled by WP1.2 based on input from other Modules.</p> <p>ToSIA developments focused on completing the implementation of the tool using the OpenMI model integration framework, on the integration of evaluation routines from WP1.5 (MCA, CBA and PA) and the design and programming of the common user-interface for ToSIA and its evaluation routines. The ToSIA engine was adapted to enable processing of multiple data sets (2005; reference futures and scenario alternatives), to process the large EU FWC analysis and to calculate the consumption-driven Iberian case study. Material flow calculations of ToSIA were verified by comparing results against the more detailed WoodCIM model using data of the Scandinavian production case study for the sub-chain of solid wood products production (work done jointly by EFI and VTT). Results of ToSIA have also been evaluated and validated (work with input of vTI).</p> <p>Alterra led the Scenario TF to coordinate the implementation of the EFORWOOD scenarios for the different ToSIA applications in collaboration with experts from other Modules and M1 WPs.</p> <p>In this reporting period, the sustainability assessment of the three case studies (Scandinavian Production case, Baden-Wuerttemberg case, Iberian Consumption case) and the European FWC analysis were the main focus of the analysis.</p> <p>This work has been carried out and its progress screened in various physical and telephone meetings, as well as in online individual support per mail or telephone. Physical meetings were:</p> <ul style="list-style-type: none"> • ToSIA Team Status Report (with Module leaders, Case Study leaders), 26.03.2009 • EU FWC training, Wed 10.06.09 • Meeting Scandinavian Chain M2 - transformation factor, Mon 01.06.09 			
Deviations from workprogramme (if any)			
<p>Delays in the data collection reduced the available time for validation, results interpretations and scenario analysis. Several deliverable reports were consequently also delayed and will only be submitted at the end of the project. The scenario analysis had to be focused on exemplary questions mainly to demonstrate the successful implementation of the methodology.</p>			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

13 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contract or
D1.4.5 (update)	TOSIA software in open source technology, final release	1.4	Month 51	51			EFI
D1.4.6 (update)	Documentation of ToSIA Developments up to month 39, including the tool implementation in Open MI, the preliminary graphical user-interface, and results of baseline sustainability calculations for case studies	1.4	Month 43	51			EFI
D1.4.9	Report describing ToSIA applications studying sustainability impact assessments of scenarios of changing sustainability applied to case studies and European FWC analysis	1.4	Month 51	51			EFI
PD1.4.10	ToSIA Handbook documenting ToSIA functionality and use	1.4	Month 47	51			EFI

*) if available

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Workpack age No.	Date due	Actual/Forecast delivery date	Lead contractor
M1.4.6	Release of ToSIA implementation in OpenMI for project internal testing	1.4	Month 39	44	EFI
M1.4.7	Scenario runs analysed and reported for first case study	1.4	Month 42	51	EFI

Periodic Activity Report, WP Leader

Annual report 15 months

WP leader	Irina Prokofieva	WP number	1.5
Date	15 Jan 2010		
Work package objectives			
<ul style="list-style-type: none"> • To continue to support the Modules in their data collection and implementation of the Data Collection Protocol • To complete the last concept development and functionality designs of the CBA-module for TOSIA-E in cooperation with WP1.4 • To complete the documentation of the CBA method and notably the data on values for externalities of relevance for EFORWOOD and the defined indicator set • To disseminate the fundament and functioning of the CBA-component in TOSIA-E at internal and external EFORWOOD related events • To complete the development of the MCA component of TOSIA-E and the interface to TOSIA and the database structure • To complete the documentation of the MCA method as developed and implemented in EFORWOOD • To contribute to the final report of the project 			
Progress towards objectives			
<p>It has proved necessary to continue to support the Modules and the case studies in their data collection efforts and the interpretation of the Data Collection Protocol. This consumed more efforts in this part of the project than planned, with CTFC being the main contractor in this. The MCA software has been further developed to ToSIA MCA 2.0 and was finalized by the end of the year. It is a stand-alone software with a data transfer interface with ToSIA. It facilitates single user mode and offers a variety of interaction and analysis features.</p> <p>The development of the CBA-element of TOSIA-E was undertaken as planned to the degree of specifying exactly how, and implementation has been partly completed. The functionality and principles were presented in Freiburg with good response from experts and user groups. Involved in this were CTFC as the lead and UCPH. At the same event, the MCA component was also presented and received also a very good response, this being undertaken by BOKU.</p> <p>At the final conference, an outlook was given on a common implementation of CBA and MCA in the context of SIA in a presentation. Also, the perspectives of using the TOSIA-E CBA component were illustrated to the audience using available intermediary data. Again the response was positive and resulted in good discussion of potentials and limitations.</p> <p>At the FTP Conference in Stockholm, two presentations were given on the use of MCA for a regional case and the Scandinavian case in an EFORWOOD side event.</p> <p>The final deliverable for the CBA part of WP1.5 was handed in for review in the fall of 2009, and carries the title: <i>Monetary values of environmental and social externalities for the purpose of cost-benefit analysis in EFORWOOD project (D.1.5.6.)</i>. It contains an extensive description of the theoretical and in particular the empirical fundament for valuing the different externalities in the EFORWOOD indicator set, the different valuation studies underpinning the values presented. Finally, the values implemented in the TOSIA-E's CBA component are presented and justified.</p> <p>The final deliverable on the MCA part: <i>Final Report on the development of the EFORWOOD multi-criteria analysis tool (D1.5.7.)</i>, will be submitted in month 51.</p>			
Deviations from workprogramme (if any)			
<p>The implementation of the CBA evaluation module in ToSIA was delayed, due to prioritization of other ToSIA implementation tasks in WP1.4. [This work will probably be completed after 1. February 2010] D 1.5.6 was abandoned and split to a final documentation of CBA (1.5.6) and of the MCA development (D1.5.7).</p>			

Periodic Activity Report, WP Leader
Annual report 15 months – YEAR 4

14 Period: November 1, 2008 - January 31, 2010

Table 1. List of Deliverables

List all deliverables, giving date of submission and any proposed revision to plans.

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contract or
D.1.5.6	Monetary values of environmental and social externalities for the purpose of cost-benefit analysis in EFORWOOD project	1.5	Month 48	51			CTFC
D.1.5.7	Final Report on the development of the EFORWOOD multi-criteria analysis tool	1.5	Month 48	51			BOKU

*) if available

Table 2. List of Milestones

List all milestones, giving date of achievement and any proposed revision to plans.

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor

- Template 3

Section 1 - Justification of major cost items and resources

WP1.0 Co-ordination

EFI

As work package leader of WP1.0, EFI has coordinated Module 1 in its management and intra- and inter-module communication tasks. This included physical Module, Work Package and task force meetings (in Freiburg and Uppsala), preparing and disseminating relevant documents, among them the Annual and Publishable reports for the final project report, as well as quality control of Module 1 report by reviewing of PDs and Ds. In addition to the promised deliverables, an additional public deliverable PDX.X.X “Description of the EU-FWC” was written and continuously updated in discussion with all partners from M1-5; this became necessary as part of the work as taskforce leader of the EU FWC task force.

FLD at KU

FLD has contributed to the coordination of the Module 1 by participating in physical Module meetings (in Freiburg and Uppsala), phone conferences and preparing relevant documents for the coordination, sessions at regular meetings and Annual reports for the final project year.

BOKU

BOKU has contributed to the coordination of the Module 1 by participating in physical Module meetings (in Freiburg and Uppsala), preparing relevant documents for the coordination, among them the Annual reports for the final project year.

IFER

IFER has contributed to the coordination of the Module 1 by participating in physical Module meetings (in Freiburg and Uppsala), preparing relevant documents for the coordination, among them the Annual reports for the final project year.

UMB

UMB has contributed to the coordination of the Module 1 by participating in physical Module meetings (in Freiburg and Uppsala), preparing relevant documents for the coordination, among them the Annual reports for the final project year.

CTFC

CTFC has contributed to the coordination of the Module 1 by participating in physical Module meetings (in Freiburg and Uppsala), preparing relevant documents for the coordination, among them the Annual reports for the final project year.

WP1.1 Indicators and policy interface for ToSIA

BOKU

BOKU developed Three indicator development related publications, finalized the FWC-policies data base and developed a simple policy analysis interface for ToSIA, in which the policy database is connected with ToSIA results.

CEPI, CEPF, CEI-Bois and SAVCOR

Indufor are no longer involved in WP1.1.

CIRAD and UMB

UMB has contributed by discussing the various criteria and indicators and in their possible inclusion in forest sector modeling.

WP 1.2 Data co-ordination and validation**IFER**

IFER adjusted the database structure for Case Studies and for EU-FWC to meet ToSIA requirements. The current database is stored and maintained at IFER. A software solution for the interface between EFORWOOD database and ToSIA has been continuously updated. IFER provided continuous technical support for entering data into the database and updated the application server (an application that provides connection between the clients and the database). Management of the EU-FWC topology became a very important as well as time consuming part of the management of the whole database.

EFI

EFI has contributed to the Data Client development by working closely together with WP1.2 in data requirements, modeling issues, data and data base validation tasks and communicating extensively with the partners from Module 1 to 5. In addition, EFI has been involved in the revision and checking of all data reported for the FWCs (topology, shares, split ratios, conversion factors, indicator data; for baseline, reference futures and scenarios of all cases). EFI also developed in cooperation with other partners the concept and data for the Import-Export-Buckets in the EU case study, which were needed to cover trade flows between different countries of the EU25+2.

vTI

In year four of the EFORWOOD project partner vTI(41) has been working with the data which had been produced, collected and provided by the partners. vTI undertook checks for plausibility, consistency, validity and double accounting of the data. Algorithms were developed to support the validation task. The results of the tests have been sent to the partners who provided the data in order to check and, if necessary, modify the data.

CTFC

CTFC has contributed to the Data Client development by informing WP1.2 leader on the relevant developments in the final modifications of the data collection protocol on socio-economic indicators. In addition, CTFC has been involved in the revision of some of the conversion factors reported for the FWCs.

WP1.3 FWC markets and trade – from local to global**UMB**

UMB coordinated and participated in modifying and improving the forest sector model EFI-GTM in terms of production costs, wood fiber input and wood supply and international trade. UMB participated in working out the report by INCO partners on some selected forest policy changes which may have significant impacts in both Europe and developing regions.

UMB participated in applying the EFI-GTM for the alternative EFORWOOD scenario analysis and providing data from the model runs to M2-M5 for estimating corresponding impacts on the sustainability indicators for ToSIA, in particular the Scandinavian Technology Scenario, the Iberian Consumption Scenario and the Natura 2000 scenario.

CATIE, CIRAD, UR2PI and CIFOR

CATIE, CIRAD, UR2PI and CIFOR participated in commenting and finalizing the final report by INCO partners on some selected forest policy changes which may have significant impacts in both Europe and Developing regions.

Further, they provided input on forest certification in the certification assessment that was carried out by Alterra and EFI.

ALTERRA

ALTERRA and EFI, together with the Netherlands Environmental Assessment Agency (PBL), developed scenarios and assessed the effects of increasing demand for certified tropical timber on biodiversity and carbon emissions. This was done on basis of information on current forest certification in tropical countries, current EU imports of tropical hard wood and stricter timber procurement policies that are currently developed in a number of EU countries.

EFI

EFI has contributed to the EFI-GTM model runs for the alternative EFORWOOD scenarios (Scandinavian Technology Scenario, Iberian Newsprint Consumption Scenario and NATURA 2000 Scenario). The results of the model runs were provided to M2-M5 for estimating corresponding impact on the sustainability indicators for ToSIA.

CEPI and CEI-Bois

are no longer partners of WP1.3.

WP1.4 TOSIA- Tool for Sustainability Impact Assessment

EFI

As work package leader of WP1.4, EFI has continued the development and finalized the first public version of ToSIA, which is capable of handling the case studies and the EU FWC, which each have special characteristics. The usability of the tool and its functionality has been improved, and new functionality has been introduced.

In parallel, extensive communication, data checking and validation was carried out, by doing iterative and repeated ToSIA runs and analyzing the results with regard to reviewing the correctness and completeness of all data entered into the Database Client and exported to ToSIA. EFI also contributed to the interpretation and formulation of the Data Collection Protocols (DCP) and provided calculation examples.

ALTERRA

ALTERRA has participated by contributing expertise in the utilization of OpenMI modeling interface and participating in the programming work.

ALTERRA also provided support and data to the case studies to elaborate and implement the reference futures and policy scenarios in the various case studies that are carried out in

modules 2, 3, 4 and 5. Furthermore, ALTERRA contributed to the interpretation of the Natura 2000 scenario impacts on the SI of the European FWC.

FLD at KU

In this end part of the project, FLD at KU's part of WP1.4 has been reduced and mainly has been concentrated on supporting CTFC in developing and designing the link between ToSIA and the CBA-element of TOSIA-E. The functionality and principles were presented in Freiburg in a session chaired by FLD, with good response from experts and user groups.

vTI

In the last reporting period vTI only indirectly supported the development of TOSIA. vTI activities in WP 1.4 were related to the development of algorithms for checking data consistency and plausibility in data sets to be used by TOSIA. Moreover, vTI continued to support data collectors with the interpretations of the DCP on environmental indicators and coordinated the revision of the deliverable report documenting the revised DCP.

VTT

VTT contributed to validating a part of the data in the database and ToSIA runs by providing WoodCIM model results for the Scandinavian case study.

CEPI, CEPF and CEI-Bois

are no longer involved in WP1.4.

WP1.5 Sustainability Impact Evaluation

CTFC

During the last project year, as responsible for the DCP on socio-economic indicators, CTFC has continued giving support to the Modules in their data collection activities and interpretations of the data collection protocols. Further improvements in the DCP have been implemented during this period.

The work on the integration of cost-benefit analysis (CBA) module into TOSIA software has been continued. The final conceptual developments have taken place, functionality design was improved (jointly with WP1.4) and the interface has been re-designed. The CBA module functionality has been presented to the partners during the EFORWOOD Week in Freiburg in May 2009, and the conceptual functionality has been presented to the external public at the EFORWOOD Final Conference in Uppsala in September 2009.

The collection of external costs and benefit estimates of selected externalities has been continued and additional information on new externalities (e.g. waste disamenities) has been collected for the benefit transfer exercise. This work has been reported in the deliverable *D1.5.6. Monetary values of environmental and social externalities for the purpose of cost-benefit analysis in EFORWOOD project*, which is one of the main deliverables of the work package.

EFI

EFI has been implementing the Cost-Benefit-Analysis functionality in ToSIA according to the functional and user-interface requirements given by CTFC. EFI has also provided expertise in refining these software requirements.

FLD at KU

FLD-KU supported CTFC in the development of the CBA-element of TOSIA, cf also WP1.4. At the final conference, an outlook was given on a common implementation of CBA and MCA in the context of SIA in a presentation prepared by BOKU, CTFC and FLD. Also, the perspectives of using the TOSIA CBA component were illustrated to the audience, by CTFC and FLD using available intermediary data. Again the response was positive and resulted in good discussion of potentials and limitations.

The final deliverable D.1.5.6.for the CBA part of WP1.5 was handed in for review in the fall of 2009 in joint work between CTFC and FLD.). It contains an extensive description of the theoretical and in particular the empirical fundament for valuing the different externalities in the EFORWOOD indicator set, the different valuation studies underpinning the values presented. Finally, the values implemented in the TOSIA's CBA component are presented and justified.

BOKU

BOKU has contributed with commenting and contributing to discussions in the process of conducting the sustainability impact evaluation.

During the last 15 months of the project, the MCA tool was redesigned and further developed to ToSIA-MCA 2.0. In addition, the interface for data transfer between ToSIA and TOSIA MCA was established. The tool was presented in a live demonstration at the EFORWOOD Week in Freiburg (May 2009), and by means of two applications on the regional and Scandinavian case studies during the EFORWOOD side event at the FTP C conference in Stockholm (November 2009). At the final EFORWOOD conference in Uppsala (September 2009), a presentation was given on methodological considerations on the use of evaluation methods in sustainability impact assessment, and three posters were prepared. During 2009, two master students supervised at BOKU finalised their theses on EFORWOOD -related topics.

FCBA

FCBA is no longer involved in WP1.5.

SFI

SFI is no longer involved in WP1.5.