



**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 D4.0.7**  
**M4 Periodic Activity Report (Year 4)**  
**Annual Report 15 months**

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Organisation name of lead contractor for this deliverable: BRE, KCL, INNVENTIA AB,  
KCPK, PÖYRY, TUZVO and VTT

Final version

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<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
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**Project acronym:** EFORWOOD

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**Instrument:** Integrated Project

**Thematic Priority:** Integrating and strengthening the European Research Area

## **D4.0.7 M4 Periodic Activity Report (Year 4) Annual report 15 months**

Authors:

Organisation name of lead contractors of this deliverable:

Oy Keskuslaboratorio – Centrallaboratorium Ab (KCL)  
and  
INNVENTIA, KCPK, JPC, BRE, TUZVO and VTT

**Period covered:** from November 1, 2008 to January 31, 2010  
28th 2009

**Date of preparation:** December

**Start date of project:** November 1, 2005

**Duration:** 51 months

**Project coordinator name:** Kaj Rosén

**Project coordinator organisation name:** Skogforsk

**Revision:** [2/GR]

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

## 1.1.1 Module 4

The overall objective of Module 4 (“Industrial Processes”) in EFORWOOD was to compile relevant sustainability criteria and indicators for forest based industry, collect data for the indicators and finally to study sustainability impacts of the industrial processes. In accordance with the other actors in the chain (represented by other modules), a Forestry Wood Chain (FWC) indicator list was generated and used throughout the project. The overall work done in compiling the indicator lists, defining the indicators and the information and data search linked to the indicators has generated valuable information not only about data availability and gaps but also about future development needs.

The main industry sectors analyzed in Module 4 are the pulp and paper industry, solid wood industry, wood products industry and wood based bio-energy sector. These industries were chosen to represent the forest based industries. The selected industry sectors represent constantly changing and a highly complex system with several connections and feedback loops between different actors. One of the promising future forest related concepts, bio-refinery, definitely brings a new aspect of dynamics to the industry. Bio-refinery, which was not included in this work, can be regarded as an even more complex and rapidly evolving part of the forest based industry.

All of the described industries are linked together by material flows and there are several feedback loops within the industry. It is obvious that the complexity of the flows and the amount of different fibre-based products was a challenge for data collection, which was one of the key tasks during the last year of EFORWOOD. Data collection during the last year of EFORWOOD was focused on the four different case studies that were based on four different scenarios. The Case Studies were the Scandinavian, Iberian, Baden-Württemberg and EU-FWC case. For the EU-FWC case, industrial data was collected for the following defined regions: Nordic Countries, Western Central Europe, Southern Europe and Eastern Europe. In the solid wood sector, Southern Europe was combined with Western Central Europe.

The amount of collected data was significant, covering the years 2005, 2015 and 2025. In addition, the future was defined for two different reference futures, A1 and B2. The methodology for estimating the data for 2015 and 2025 for each indicator was developed together with all M4 partners. Data collection and method definitions occurred mainly in WPs 4.1 and 4.2. There were differences in data availability that affected the work of Module 4. The industrial data for the pulp and paper processes was statistical data, collected for years by the industry and it was quite easy to obtain. However, the situation was different regarding solid wood data and there were difficulties in collecting process data especially from Eastern Europe. Country specific data was generally speaking difficult to gather for all processes and technologies and sometimes it was in the wrong format and needed extra work from Module 1. The data was based on estimations and the quality of the data was not always as good as could be expected.

The concept of “industrial dynamics” was introduced in Module 4. The impacts of developments that were not directly process related or value chain specific were modeled. Specific tools and datasets were developed with regard to the forest product market and to industrial dynamics, with a view to complement and support the analysis of WP 1.3. The analysis focused on the following issues in relation to the levels of FWCs sustainability: future product demand, technical development opportunities and competitiveness of the

industry as well as impact on the industrial dynamics and on the future development in Europe.

Co-operation in the field of data collection and to solve methodology questions within Module 4 and the other Modules (M1, M3, M5) was essential for the successful results. There were several common meetings arranged with the purpose of solving the problems. Module 4 participated actively in redesigning the topology of the industrial process chains and was involved in methodological development with the correction factors for carbon flows and with a concept to solve import/export buckets in the EU-FWC chain. Module 4 also co-ordinated the Technology Scenario and was responsible for financial data collection for the EFI-GTM model, participated in the reference futures and scenario work and helped in interpreting and checking ToSIA results.

## **2 Section 2 – Work package progress of the period**

### **2.1.1 Module 4**

#### **Summary of the work of Module 4 during Year 4**

Module 4 has actively participated in the data collection for the EU-FWC Case Study, which mainly took place in WP 4.1. The tasks of managing the many different industrial process flows, their products, raw materials and technologies needed intensive cooperation between the Module 4 partners but also with Modules 1, 3 and 5. Module 4 was also involved in checking the topology of the Data Client (for industrial processes and products). Module 4 co-ordinated the Technology Scenario and was responsible for the collection of financial data for the EFI-GTM model, participated in the reference futures and scenario work and helped in interpreting and checking ToSIA results. Module 4 was involved in the methodological development of the correction factors for the carbon flows and of the concept of solving the import/export buckets task.

#### **Summary per WP concluded from the WP-reports below**

##### **WP 4.0 Co-ordination**

The overall objective was to ensure that the M4 objectives are fulfilled through effective co-ordination and co-operation between the M4 partners, and that the M4 deliverables are delivered according to the time schedule. The aim of WP 4.0 was also to encourage co-operation with other Modules. KCL (Helena Wessman) took over the leadership of M4 from Innventia/STFI-Packforsk (Anna von Schenck) during the last year of EFORWOOD.

Activities carried out by WP 4.0:

- Representing M4 in the IP Board;
- Coordinating activities and responsibilities within M4;
- Coordinating and enhancing linkage with other Modules, especially with M1, M3 and M5;
- Coordinating M4 work in the EU-FWC Task Force;
- Ensuring that the M4 objectives are fulfilled;
- Organizing 4 physical M4 meetings (2 of which in connection with the EFORWOOD Week), EU-FWC Task Force Group meeting, several physical meetings for smaller groups, 5 telephone meetings for M4;
- Editing the M4 part for the EFORWOOD Annual Reports and the Final Report;
- Acting as internal reviewer for M4 Deliverables.

### **WP 4.1 Data collection**

The main tasks concerned data collection and scenario definitions. Module specific scenarios were defined for each Case Study and for the EU-FWC. The data collection work was intense during the period. The M4 partners created, updated and checked the EU-FWC topology in the Data Client together with M1. A methodology was created for the carbon correction factors and the import/export buckets.

Activities carried out by WP 4.1:

- **Scenario definitions:** VTT and KCPK defined the impacts of the Technology scenario, KCL, Pöyry and BRE those of the Bio-energy scenario, Pöyry those of the Consumer scenario and KCL and Pöyry those of the Forest conservation scenario.
- **Method development together with M1:** M4 identified a need for correction factors in M4 processes where carbon was “lost” during the process. Pöyry and KCL developed a method for correction factors for such processes together with M1. KCL and Pöyry participated closely in the development of the importing/exporting concept.
- **Data collection** and checking for indicators (2005, 2015, 2025), input/output shares, conversion factors and split ratios. The main work concerned the EU-FWC case and data for other cases was finalized and checked. Data was collected for pulp and paper products, solid wood products and for bio-energy.

### **WP 4.2 Development of Process Models**

In WP 4.2, technology development in regard to the European region was identified together with appropriate technologies in relation to scenarios/reference futures within the manufacturing processes. Reference future calculations for environmental indicators were discussed among all partners and response factors agreed upon across all processes within the manufacturing stage.

Activities carried out by WP 4.2:

- Redesigning the EU-FWC topology and chain details within the solid wood manufacturing stage was done by BRE;
- Inclusion of import/export links between countries within the EU;
- Revision of the Scandinavian topology was undertaken by Innventia (STFI-Packforsk);
- Coordination of the M4 technology scenario was undertaken by KCPK and VTT.

### **WP 4.3 Development of Industry Dynamic Models**

WP 4.3 provided specific data and support for refining the EFI-GTM model covering issues such as expected economic changes as well as other factors driving the market/demand development of forest products in Europe including the dependence of the demand of forest products on economic and societal changes. In addition, WP 4.3 carried out complementary and more detailed analyses of key aspects of the industry dynamics and developed tools and analysis of industry dynamic aspects not covered by the EFI-GTM model in regard to the sustainability levels of the FWC.

Activities carried out by WP 4.3:

- Data and support for EFI-GTM modelling was finalized together with the analysis of the model's results;
- WP 4.3 actively participated in the reference futures and scenario work, and helped in interpreting and checking ToSIA results;

- There was intensive communication between M4 and WP 1.3, thus striving to uniform as much as possible the M4 work, the “EFI-GTM world” and the “ToSIA world”.

#### **WP 4.4 Inclusion, Acceptance and Evaluation**

The main WP 4.4 activity was to organize and review the industrial feedback to the M4 work and to EFORWOOD results in general. This work was done through members of CEPI and CEI-Bois and by using different industrial networks. Feedback from industry during the project and to the final results has been co-ordinated by M6.

Activities carried out by WP 4.4:

Deliverable 4.4.2: Industrial feedback for EFORWOOD by CEPI. Based on discussions with the industry representatives at the Forest Technology Platform seminar in Stockholm (Nov 2009) and the EFORWOOD Final Conference in Uppsala (September 23-24, 2009).

## **2.2 Appendix 1**

### **2.2.1 WP-reports for months 37-51**

**Periodic Activity Report, WP Leader**  
**Annual report 12 months**  
**3 Period: November 1, 2008 – January 31, 2010**

<b>WP leader</b>	<b>Helena Wessman, KCL</b>	<b>WP number</b>	<b>4.0</b>
<b>Date</b>	<b>December 10<sup>th</sup>, 2009</b>		
<p><b>Work package objectives</b>, starting point of work at beginning of reporting period</p> <p>1. To ensure that the objectives of M4 are reached and activities completed in accordance with time schedule and budget.</p> <p>2. To coordinate the linkages with the IP management and with other Modules and Tasks.</p> <p>3. To arrange M4 telephone conferences every 1-2 months and physical M4 meetings in connection with the EFORWOOD weeks (were held in Freiburg May 2009 and in Uppsala Sept 2009) and separate M4 meetings in Finland (March 2009, December 2009).</p>			
<p><b>Progress towards objectives</b>, tasks worked on, and achievements made with reference to planned objectives, contractors involved.</p> <p>During the last EFORWOOD year, M4 was active in data collection and checking of data quality. M4 covers several products and successful data collection needed intensive coordination work between the M4 partners and between M4, M3 and M5.</p> <p>WP 4.0 acted as internal reviewer for all M4 deliverables and edited the M4 part for the Final (public) Report of EFORWOOD.</p> <p>The objectives for WP 4.0 were fulfilled as agreed:</p> <ul style="list-style-type: none"> <li>- Representing M4 in the IP Board;</li> <li>- Coordinating M4 activities and responsibilities especially in the data collection between KCL, Innventia (STFI-Packforsk), Tuzvo, BRE, Pöyry and VTT;</li> <li>- Coordinating linkages with other Modules (in particular with M1, M3 and M5);</li> <li>- Coordinating the M4 representation in the different Task Forces, especially the EU Task Force;</li> <li>- Ensuring that the M4 objectives were reached and activities completed in accordance with time-schedule and budget.</li> </ul>			
<p><b>Deviations from workprogramme (if any)</b>, corrective actions taken, nature and reason</p> <p>Deviations from the work program have been listed under the description of each work package.</p>			

<b>WP leader</b>	<b>Katri Behm, KCL</b>	<b>WP number</b>	<b>4.1</b>
<b>Date</b>	<b>November 24<sup>th</sup>, 2009</b>		
<p><b>Work package objectives</b>, starting point of work at beginning of reporting period.</p> <ul style="list-style-type: none"> <li>• Finalize data collection of Indicators for 2005 on the European level and define the change for the reference futures A1 and B2 for 2015 and 2025..</li> <li>• Finalize the specifications of module specific scenarios: Technology (Scandinavia), Bioenergy (B-W), Consumer (Iberia) and Forest conservation (EU-FWC).</li> <li>• Collect data for the scenarios.</li> </ul>			
<p><b>Progress towards objectives</b>, tasks worked on, and achievements made with reference to planned objectives, contractors involved.</p>			



The WP 4.1 deliverables were D4.1.9 “Report describing the Manufacturing processes in the EU cases”, PD4.1.10 “Report describing the technology scenario” and PD4.1.11 “Experiences from the data collection for the manufacturing processes in M4 (Final report)”. They were slightly delayed but finalised, accepted and delivered in the reporting period. Deliverables D4.1.9 and PD4.1.11 were contributed by Innventia (STFI-Packforsk), KCL, KCPK, Pöyry, VTT and BRE, and PD4.1.10 was written by KCPK and VTT.

Module specific scenarios were defined to each Case Study and to the EU-FWC. VTT and KCPK defined the impacts of the Technology scenario, KCL, Pöyry and BRE those of the Bio-energy scenario, Pöyry those of the Consumer scenario and KCL and Pöyry those of the Forest conservation scenario.

Pöyry identified a need for a correction factor in M4 processes where carbon is “lost” during a process. Pöyry and KCL developed a method for correction factors for such processes together with M1.

Data collection was intense during the reporting period. The M4 partners created, updated and checked the EU-FWC topology in the Data Client together with M1. KCL and Pöyry participated closely in the developing of the importing/exporting concept. Data was collected for indicators, input/output shares, conversion factors and split ratios. The partners responsible for the data collection were:

- Wood products: BRE (Environmental and social Indicators for Western Central Europe, achieved. BRE also collected data for social indicators in Eastern Europe on behalf of TUZVO), TUZVO (Env. and social indicators for Eastern Europe, not fully achieved), VTT (Env. and social indicators for the Nordic Countries, delayed but achieved), Pöyry (Economic indicators for all Europe, achieved).
- Pulp and Paper: Innventia (STFI-Packforsk) (Environmental indicators for newsprint, container board and carton board production, achieved), KCL (Env. indicators for market pulp, woodcontaining paper and woodfree paper production, achieved), KCPK (Social indicators for all pulp and paper production, achieved), Pöyry (Economic indicators for all pulp and paper production, achieved).
- Bio-energy: VTT (Economic, env. and social indicators, delayed but achieved).

**Deviations from workprogramme (if any),** corrective actions taken, nature and reason for problem, contractors involved.

TUZVO's input to WP 4.1. has not been finished. Data has been collected but still not in the correct format to be possible to include in the Data Client.

<b>WP leader</b>	<b>Katie Johnson, BRE</b>	<b>WP number</b>	<b>4.2</b>
<b>Date</b>	<b>November 11<sup>th</sup>, 2009</b>		
<p><b>Work package objectives,</b> starting point of work at beginning of reporting period. To identify developments in technology in regard to the European region and to begin work on appropriate technologies in relation to the scenarios/reference futures within the manufacturing processes.</p> <p>Details of the regional and European chains need to be refined, reflecting changes and progress in other modules. Volume tracking within the EU-FWC and across Modules, providing challenges which need to be overcome.</p> <p>Environmental indicators for all case studies/reference futures/scenarios are proving to be difficult to ascertain for obvious reasons. It may be that an overall comprehensive answer for future ‘predictions and/or estimations’ to questions, regarding the environmental aspects of</p>			

sustainability, is not possible to obtain without jeopardising an unambiguous quality of results.

Deliverables/partial deliverables due:

- [PD4.2.8 'Draft report on theoretical response functions with practical implications'](#);
- [PD4.2.9 'Sequel to the report on conditions and consequent timing of technological developments in processes in relationship to response functions \(follow up on PD4.2.7\)'](#);
- [PD4.2.10 'Commentary on functions and best, most favourable, changes applicable to the use of response functions'](#);
- [D4.2.11 'Final report on theoretical response functions with practical implications, including ToSIA'](#);
- [PD4.2.12 'Manufacturing and environmental indicators in FWC Background of approaches'](#);
- [PD4.2.13 'Response functions and reality of manufacturing processes and technologies adaption'](#);
- [PD4.2.14 'Case studies of selected technologies adoption in relation to EFORWOOD work'](#);
- [D4.2.15 'Lessons learned in WP 4.2: Review, implication and the way forward'](#).

**Progress towards objectives**, tasks worked on, and achievements made with reference to planned objectives, contractors involved.

Reference future calculations for environmental indicators were discussed among all partners and response factors agreed upon across all processes within the manufacturing stage.

Non-applicable/non-feasible data was adopted appropriately with M3/M5 partners for particular indicators and whole processes within the BW Case Study.

BRE redesigned the EU-FWC topology and chain details altered within the manufacturing stage from a solid wood perspective, to accommodate issues arising with data collection. Inclusion of import/export links between countries within the EU was also added. This import/export data highlights the difficulty associated with volume and value tracking within this module border. Revision of the Scandinavian topology was undertaken by Innventia (STFI-Packforsk).

KCPK, together with VTT, coordinated the M4 technology scenario.

Deliverables/partial deliverables completed:

- Deliverable PD4.2.6 'Conceptual outline of response functions and draft response functions for case studies'
  - Main authors: Pöyry Forest Industry Consulting.
- Deliverable D4.2.9 'Technology Scenario Impacts'
  - Main authors: KCPK
- Deliverable D4.2.11 'Response factors: Background, Practical implications and their use in ToSIA'
  - Main authors: BRE. Contributors: KCL, KCPK, VTT, Pöyry Forest Industry Consulting, TUZVO, Innventia (formerly STFI-Packforsk)
- Deliverable PD4.2.12 'Sustainability Indicators for FWC; Background of approaches for reference futures'
  - Main authors: BRE. Contributors: KCL, KCPK, Pöyry Forest Industry Consulting, VTT
- Deliverable D4.2.15 'Lessons learned in WP 4.2: Review, implication and the way

forward'

- Main Authors: BRE. Contributors: KCPK, VTT, Innventia, Pöyry Forest Industry Consulting

**Deviations from workprogramme (if any)**, corrective actions taken, nature and reason for problem, contractors involved.

Delays occurred only where work (deliverables) relied on other deliverables (work) that was also delayed. Delays also occurred as a result of modifications to the reports actually delivered. Due to changes in ToSIA, the title of Deliverable D4.2.11 was altered to 'Response factors: Background, Practical implications and their use in ToSIA'. This development represents merged objectives of the following reports originally planned in the 18-months appropriate period:

- PD4.2.8 'Draft report on theoretical response functions with practical implications';
- PD4.2.9 'Sequel to the report on conditions and consequent timing of technological developments in processes in relationship to response functions';
- PD4.2.13 'Response functions and reality of manufacturing processes and technologies adoption'.
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These changes in ToSIA also led to the deletion of Deliverable PD4.2.10 and PD4.2.14. After the merging and loss of several Deliverables, the title of PD4.2.12 was changed to 'Sustainability Indicators for FWC; Background of approaches for reference futures' and D4.2.9 to 'Technology Scenario Impacts'. These changes were agreed by all partners involved in WP 4.2.

<b>WP leader</b>	<b>Pia Nilsson , JPC</b>	<b>WP number</b>	<b>4.3</b>
<b>Date</b>	<b>November 6<sup>th</sup>, 2009</b>		
<b>Work package objectives</b> , starting point of work at beginning of reporting period.			
1) Provide support in refining the EFI-GTM model in WP 1.3 in the manufacturing, processing and market parts of the FWC chain.			
2) Carry out complementary, more detailed analysis of key aspects of the industry dynamics.			
3) Develop tools and carry out analysis of industry dynamic aspects not covered by the EFI-GTM model in regard to FWCs sustainability levels.			
<b>Progress towards objectives</b> , tasks worked on, and achievements made with reference to planned objectives, contractors involved.			
1) Providing specific data and support in refining the EFI-GTM model, covering issues such as expected economic changes as well as other factors driving the market/demand development of forest products in Europe, the dependence of the demand of forest products on economic and societal changes.			
⇒ Data and support for EFI-GTM modelling: finished according to plans, Pöyry has delivered all the data to EFI-GTM. In addition, we have participated in the analysis of the model's results.			
⇒ Participation in the compilation of the "import-export bucket"- concept and			

<p>participation in Import-export training.</p> <p>⇒ WP 4.3 has actively participated in the reference futures and scenario work, and helped in interpreting and checking ToSIA results.</p> <p>2) Carry out complementary, more detailed analysis of key aspects of the industry dynamics.</p> <p>⇒ Development and writing of PD4.3.9 “Final report on value added model and response functions”.</p> <p>⇒ KCPK (together with VTT) compiled a technology scenario for the solid wood industry to be used in ToSIA. The work included:</p> <ul style="list-style-type: none"> <li>• coordinating the technology scenario (driven by M4);</li> <li>• coordinating the process and communication with other Modules concerning this scenario.</li> </ul> <p>3) Develop tools and carry out analysis of industry dynamic aspects not covered by the EFI-GTM model in regard to FWCs.</p> <p>⇒ Development and writing of the reports:</p> <ul style="list-style-type: none"> <li>• <i>PD4.3.10 Final report on the industry’s competitiveness and its impact on the industry dynamics;</i></li> <li>• <i>D4.3.11 Final report on the interdependence between the agents within the FWC.</i></li> </ul> <p>4) WP 4.3 has also taken part in and followed the M4 internal work (e.g. model mills and data collection, it has organised a data collection/split ratio correction factor meeting etc.) and has taken its share in the communication between M4 and WP 1.3, thus striving to uniform as much as possible the M4 work, the “EFI-GTM world” and the “ToSIA world”.</p>
<p><b>Deviations from workprogramme (if any),</b> corrective actions taken, nature and reason for problem, contractors involved.</p> <p>None.</p>

<b>WP leader</b>	<b>Arie Hooimeier, KCPK</b>	<b>WP number</b>	<b>4.4</b>
<b>Date</b>	<b>1.11.2009</b>		
<p><b>Work package objectives,</b> starting point of work at beginning of reporting period.</p> <p>The objective is to organize and review the feedback of the forest industries to the M4 work but also to the overall results of EFORWOOD and their benefits to the industry. Work will be done through the members of CEPI and CEI-Bois.</p> <p>N.B. Feedback from industry during the project lifetime and after the project is finished is coordinated by M6. Workshops with industrial and European Commission participation during the project, final results to be communicated after the IP is finished (month 50) as part of M6.</p>			
<p><b>Progress towards objectives,</b> tasks worked on, and achievements made with reference to planned objectives, contractors involved.</p> <p>KCPK is WP-leader of WP 4.4. This includes:</p> <ul style="list-style-type: none"> <li>- Coordinating the activities in this WP.</li> <li>- Using existing industrial networks (representative industry confederations on European level like CEI-Bois and CEPI and their member federations) to generate information and test and disseminate M4-specific information. (Central in these interactions have been the various committees and working groups on e.g. Research, Environment, Sustainability, social matters, building and living with wood etc. that</li> </ul>			

mainly consists of industrial representatives and which regularly interacts with Commission representatives on relevant matters within their area.

- In close cooperation with WP 0.1 and WP 6.1, dedicated actions (both at general association level in Brussels as in the case of B-W with local representatives) have been taken to assure the maximum involvement of relevant industrial representatives on one hand and to assure the acceptance and inclusion of the results on the other.
- Industrial evaluation of EFORWOOD by CEPI. Based on discussions with the industry representatives in the Forest Technology Platform seminar in Stockholm (Nov 2009) and the EFORWOOD Final Conference in Uppsala (Sept. 2009).

**Deviations from workprogramme (if any),** corrective actions taken, nature and reason for problem, contractors involved.

### 3.1 Appendix 2

**Table 1. List of Deliverables during the period November 1, 2008 – January 31, 2010.**

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
D4.1.9	Report describing the Manufacturing processes in the EU case	WP4.1	28.2.-09	6.3.-09			KCL
PD4.1.10	Report describing the technology scenario	WP4.1	30.4.-09				KCPK
PD4.1.11	Experiences from the data collection for the manufacturing processes in M4 (Final report)	WP4.1	31.8.-09	13.10.-09			KCL

\*) if available

Del No.	Deliverable name	WP No.	Due date	Actual/Forecast delivery date	Estimated indicative person-months *)	Used indicative person-months *)	Lead contractor
D 4.2.9	Technology Scenario Impacts	4.2	Month 42	Month 44			KCPK



### 3.2 Appendix 3

**Table 2. List of Milestones during the period November 1, 2008 – January 31, 2010.**

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
M4.1.7	Data collection for EU-FWC for 2005	WP4.1	Month 37	Month 40	All partners
M4.1.8	Defining module specific scenarios	WP4.1	Month 36-38	Month 40	KCPK, VTT, KCL, Pöyry
M4.1.9	Report of Indicator values for 2015/2025 for the case studies	WP4.1	Month 39	Month 46	All partners

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor
M4.2.8	Environmental indicators manipulation for modelling purposes	4.2			BRE
M4.2.9	Response functions and technologies implementation	4.2			BRE
M4.2.10	Framework for use of EFORWOOD results	4.2			BRE

Milestone No.	Milestone name	Workpackage No.	Date due	Actual/Forecast delivery date	Lead contractor
4.3.2	Production cost structures and capacities of the industry	4.3	Month 42	Month 42	Pöyry
4.3.3	Regional cost competitiveness analysis and its impact on the industry dynamics	4.3	Month 42	Month 42	Pöyry

4.3.4	Selected data on specific demand and supply drivers in the forest product markets	4.3	Month 44	Month 44	Pöyry
4.3.5	Analysis of interdependence of the industry within the FWC	4.3	Month 45	Month 45	Pöyry
4.3.6	Co-operation with WP 4.2., WP 1.3 and M3	4.3	Months 37-48	Months 37-48	Pöyry