



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 PD0.2.4
Coordination of the 2nd meeting of the Expert Advisory Panel

Due date of deliverable: Month 27

Actual submission date: Month 23

Start date of project: 011105

Duration: 4 years

Organisation name of lead contractor for this deliverable: SGGW

Final version

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination level		
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)	X
CO	Confidential, only for members of the consortium (including the Commission Services)	

1. INTRODUCTION

The second meeting of the EFORWOOD Expert Advisory Panel (EAP) took place in Brussels on 14 June 2007 at the European Forestry House, Brussels, Belgium.

Participants

EAP members:

Ingemar Ekdahl	Present
Andrzej Kundzewicz	Present
Marc van Leemput	Present
Frits Mohren	Present
Harald Sverdrup	Present

IP Board members:

Kaj Rosén, Project Co-ordinator and Leader of Module 0	Present
Gero Becker, Leader of Module 3	Present
Jean-Michel Carnus, Leader of Module 2	Present
Arie Hooimeijer, Leader of Module 4	Present
Denis Mc Gowan, Leader of Module 6	Present
Carl Olsmats, Leader of Module 5	Present
Piotr Paschalis–Jakubowicz, Module 0	Present, chairman
Risto Päivinen, Leader of Module 1	Present

Others:

Gunilla Rodfors, Module 0	Present, meeting secretary
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The main purpose of the meeting was to obtain the opinion of and advice from the EAP members on the adopted implementation solutions.

2. AGENDA IMPLEMENTATION

2.1 Opening and welcome

Piotr Paschalis-Jakubowicz welcomed the EAP members to this second meeting with the EFORWOOD IP Board members. Risto Päivinen shortly presented the venue, the European Forestry House in Brussels, to the EAP.

2.2 ADOPTION OF THE AGENDA

The agenda was adopted.

2.3 REVIEW OF THE OVERALL PROJECT PROGRESS

Kaj Rosén started by making an overall presentation of the EU Integrated Project "Tools for Sustainability Impact Assessment of the Forestry-Wood Chain – EFORWOOD" and its progress, as seen by the Coordination team (Annex 1).

The following background material was presented: a) Chapter 8 of the EFORWOOD DoW (Description of Work) (distributed with the Agenda), b) ppt-presentations by all Modules were distributed at the meeting.

During the presentation, Kaj Rosen emphasized the issues that should be the subject of detailed discussion by the EAP. He underlined that the project runs according to schedule and that there are no delays as far as implementation is concerned.

EFORWOOD will be presented to a wider audience in connection with the EFORWOOD Conference in Brussels in the autumn and in connection with the SENSOR project Conference in Berlin in Year 3.

The Project Coordinator invited all the EAP members to the EFORWOOD Conference in Brussels on October 1-2, 2007, and to the following EFORWOOD Week on October 3-5, 2007, also in Brussels.

2.4 SCOPE AND PROGRESS OF WORK IN MODULE 1

Risto Päivinen, Leader of Module 1, made a presentation entitled "To develop a Tool for the Sustainability Impact Assessment (SIA) of Forestry-Wood Chains (FWC)". (Annex 2)

2.4 SCOPE AND PROGRESS OF WORK IN MODULE 2

Jean-Michel Carnus, Leader of Module 2, made a presentation entitled "Update on M2 progress". (Annex 3)

2.5 SCOPE AND PROGRESS OF WORK IN MODULE 3

Diana Vötter and Gero Becker, the latter Leader of Module 3, together made a presentation entitled "Forest to Industry Interactions". (Annex 4)

2.6 SCOPE AND PROGRESS OF WORK IN MODULE 4

Arie Hooimeijer, Leader of Module 4, made a presentation entitled "Processing and Manufacturing". (Annex 5)

2.7 SCOPE AND PROGRESS OF WORK IN MODULE 5

a) Carl Olsmats, Leader of Module 5, made a presentation entitled "WP5.1 – WP5.3 Month 13 – 30 Plans and progress". (Annex 6)

3. DISCUSSION ON THE INTERNAL AND EXTERNAL MODALITIES OF REVIEWERS' WORK

The following background material was distributed with the Agenda and presented by Kaj Rosen and Piotr Paschalis-Jakubowicz:

- a) Deliverables procedures, (Annex 7)
- b) Draft list of reviewers for D and PD Deliverables.

Conclusions:

- a) It is necessary to improve the review of Deliverables. There are several ways in making changes in the circulation of documents, which are audited by internal and external reviewers.
- b) The responsibility for the final shape of the Deliverables rests with Module Leaders, who receive the final text with the introduced corrections by the Quality Controller.

- c) EAP members shall receive 3 - 6 Deliverables, selected by both Module Leaders and the Quality Controller, along with a set of inquiries, with a request for responses in the form of comments, explanations or settlements.
- d) The agreement on EAP meetings once a year shall be maintained, and because of the necessity to let the EAP members review the Implementation Plan, they will take place in June each year.
- e) The EAP members will receive invitations to participate in the EFORWOOD Week, and the Annual Report with the Commission's evaluation and comments shall be made available to them.
- f) Also, all responses submitted by other external reviewers shall be made available to the EAP members.

4. DISCUSSION OF STAKEHOLDER EXPECTATIONS ON EFORWOOD

Conclusions:

- a) The undertaken decisions to establish the Industry Task Force also included stakeholder Confederations. This precipitated a broad discussion on the scope of both EFORWOOD works, and the possibilities and consequences of using the obtained final results by industry. The situation requires transparent actions to be taken, first of all to explain the real goals of the EFORWOOD.
- b) All the Confederations that matter in Europe have access to the work results of EFORWOOD, and part of them cooperate with individual Modules and implement joint tasks on a regular basis.
- c) A possibility should be considered to set up a joint panel where the stakeholder representatives will participate in the work on testing further ToSIA models.

5. EXTERNAL COMMUNICATIONS

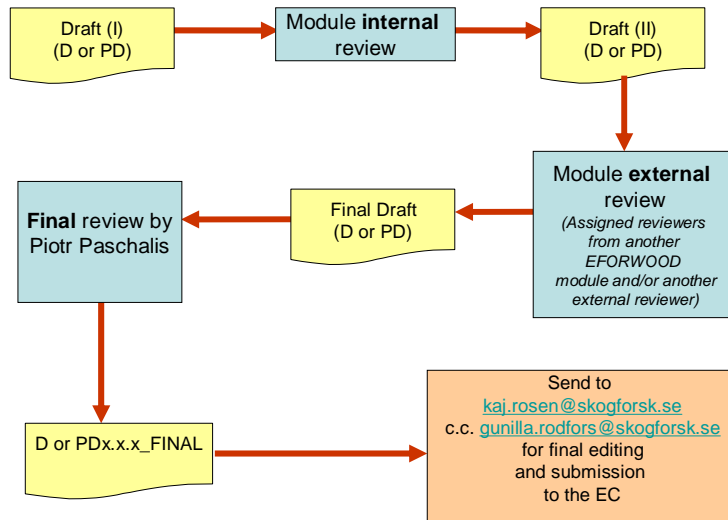
Denis Mc Gowan, Leader of Module 6, made an introduction and presented background material that was distributed during the meeting plus a brochure that will be up-dated.

Conclusions:

- a) The discussion concerned seeking the best and most effective method of communicating externally on the EFORWOOD's matters. The range of the interested parties will include first of all stakeholders, including mass communication. In addition, a reconnaissance should be made concerning other studies and research in this respect; suggestions of the partners participating in the Project will be very helpful.
- b) The adopted procedure of approving Deliverables is shown in the following diagram.



The procedure of submitting a deliverable



6. NEXT MEETING

Next meeting will be held on Wednesday May 28 (Week 22), 2008, scheduled for one full day with a ToSIA demonstration. Venue left open for the time being.

7. ANY OTHER BUSINESS

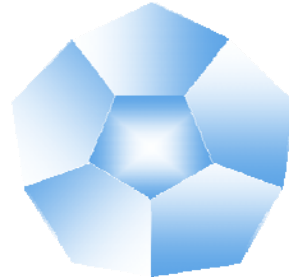
There was no other business.

ANNEX 1 – 7

The EU Integrated Project

EFORWOOD

**Tools for Sustainability Impact
Assessment of the Forestry-Wood Chain**



**Expert Advisory Panel
Brussels 14 June 2006**

Kaj Rosén
Co-ordinator

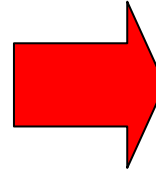
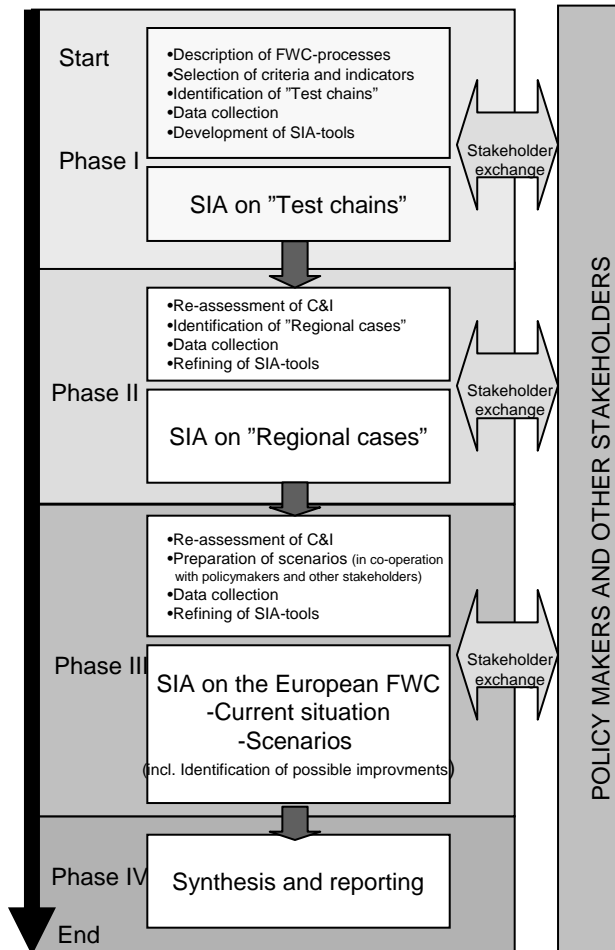


SKOGFORSK

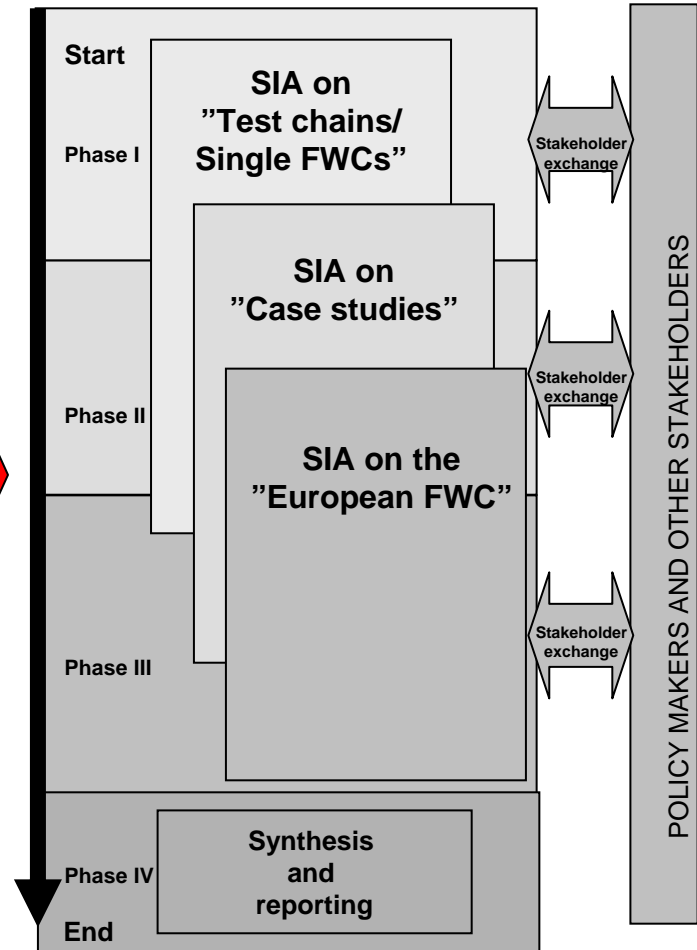


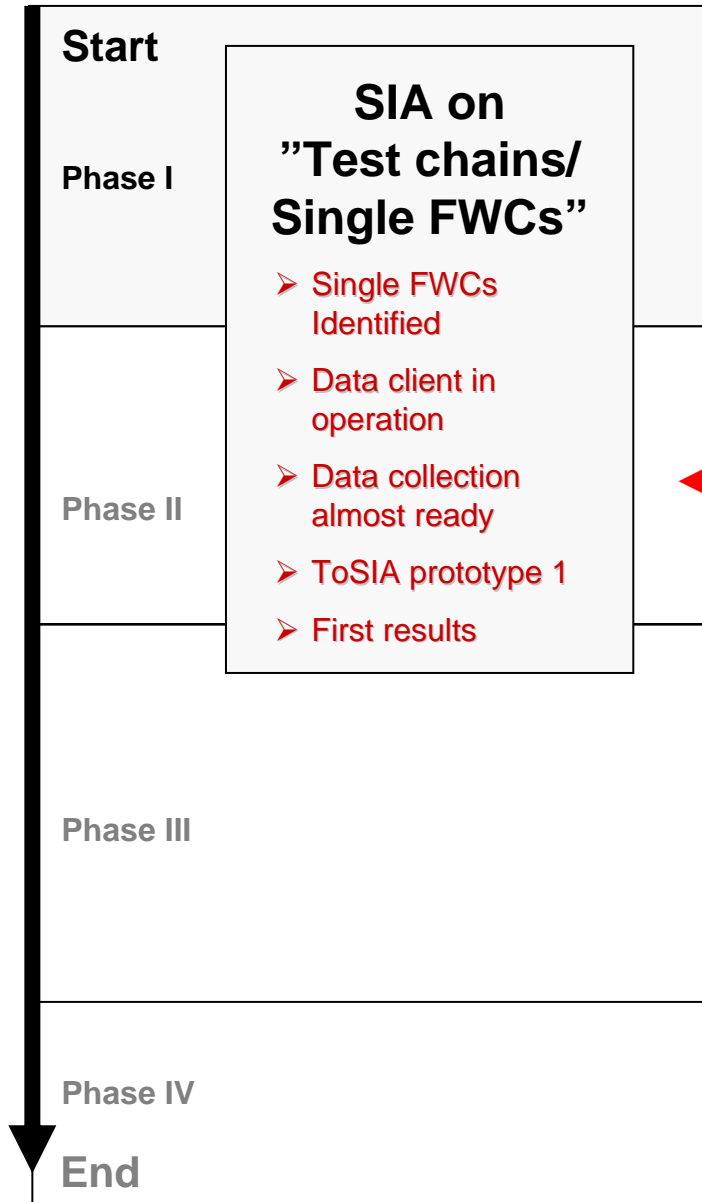
EFORWOOD Implementation Plan

DoW

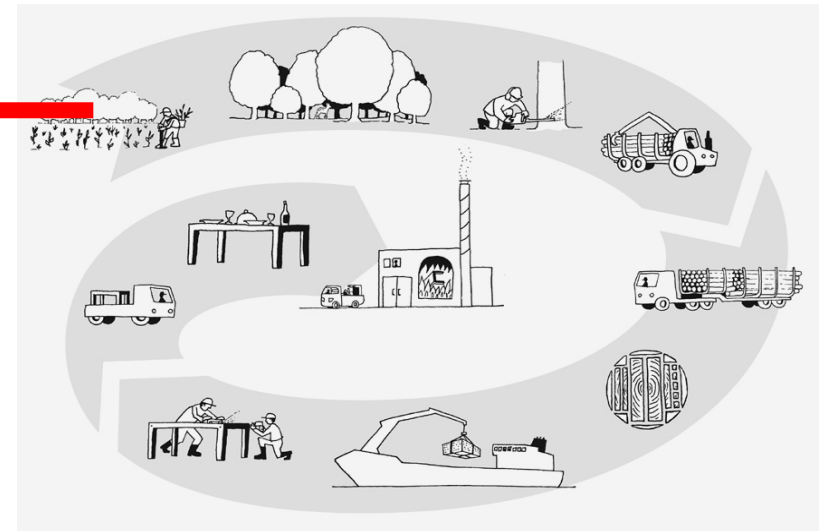


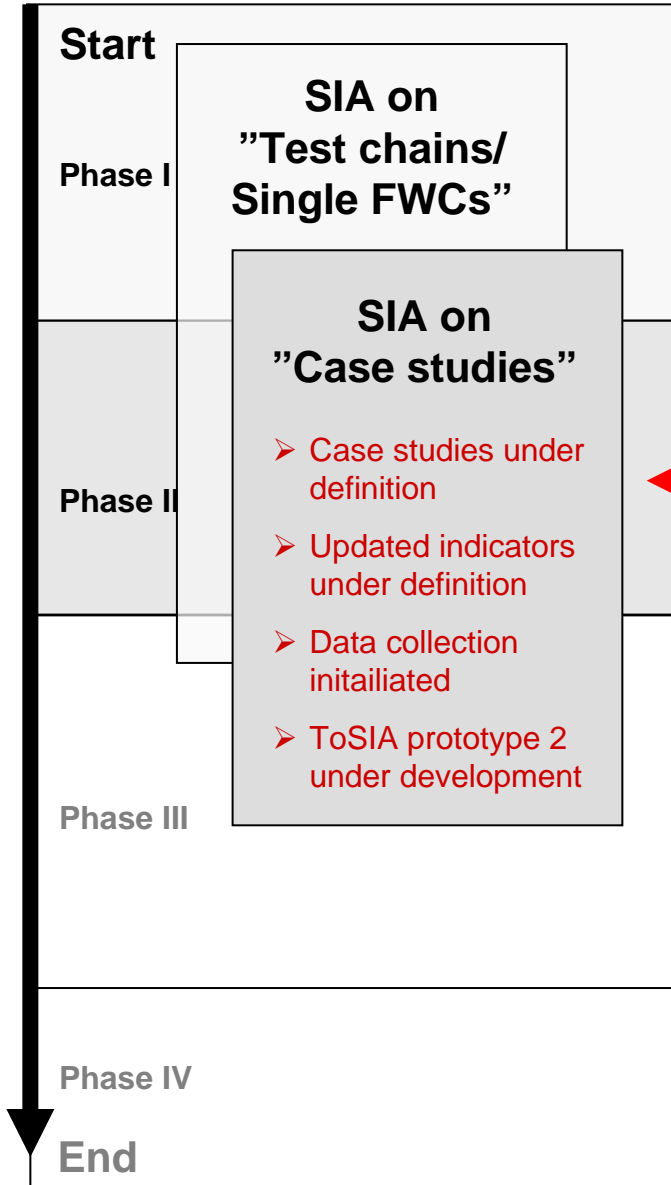
Today



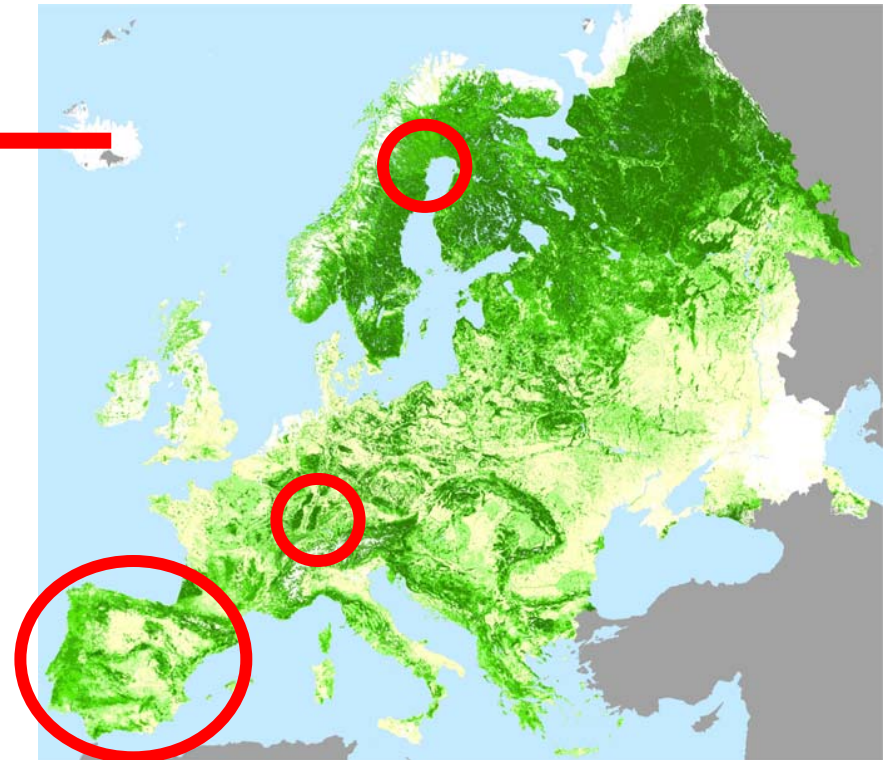


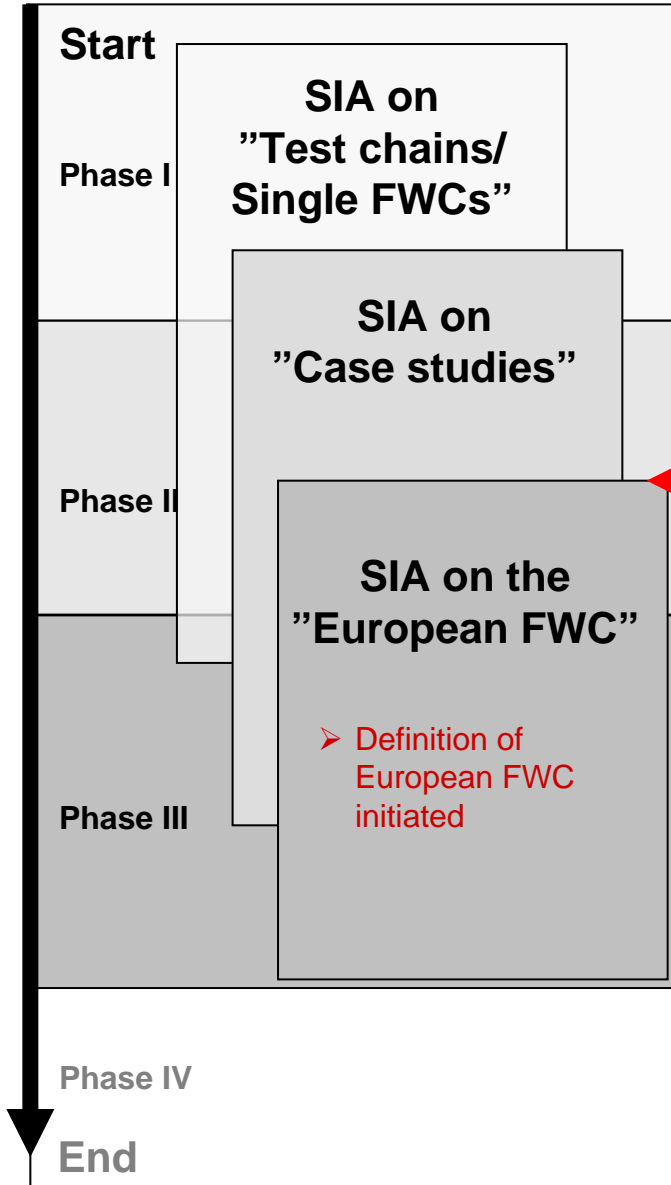
EFORWOOD Implementation Plan



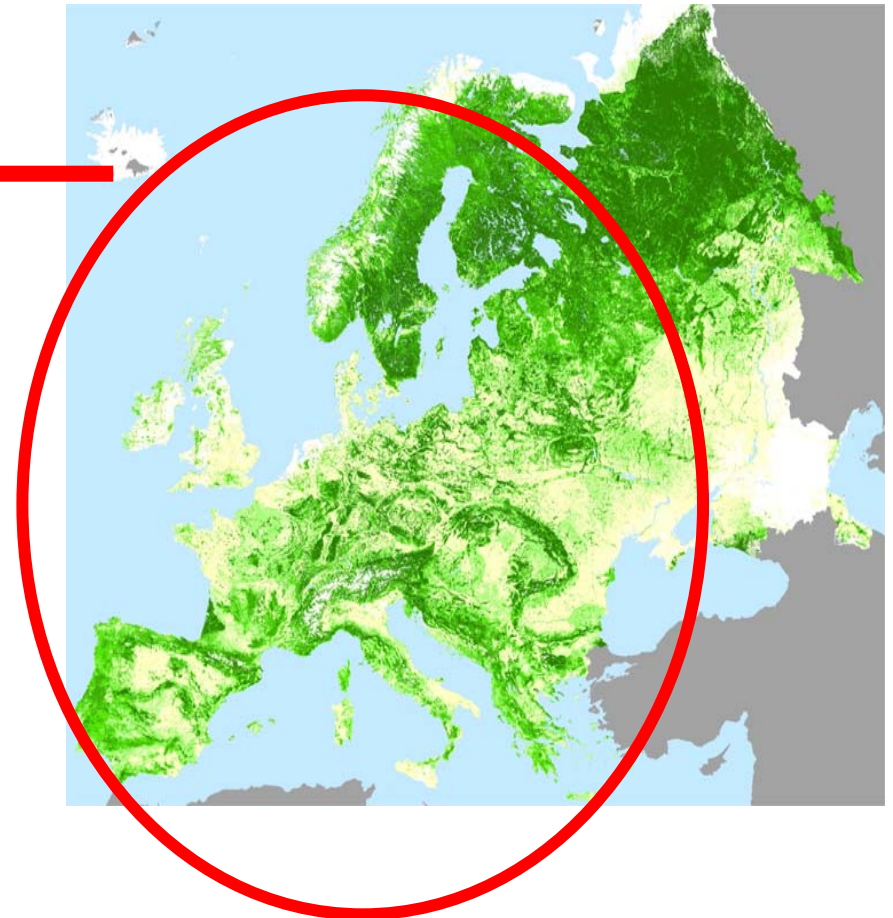


EFORWOOD Implementation Plan





EFORWOOD Implementation Plan

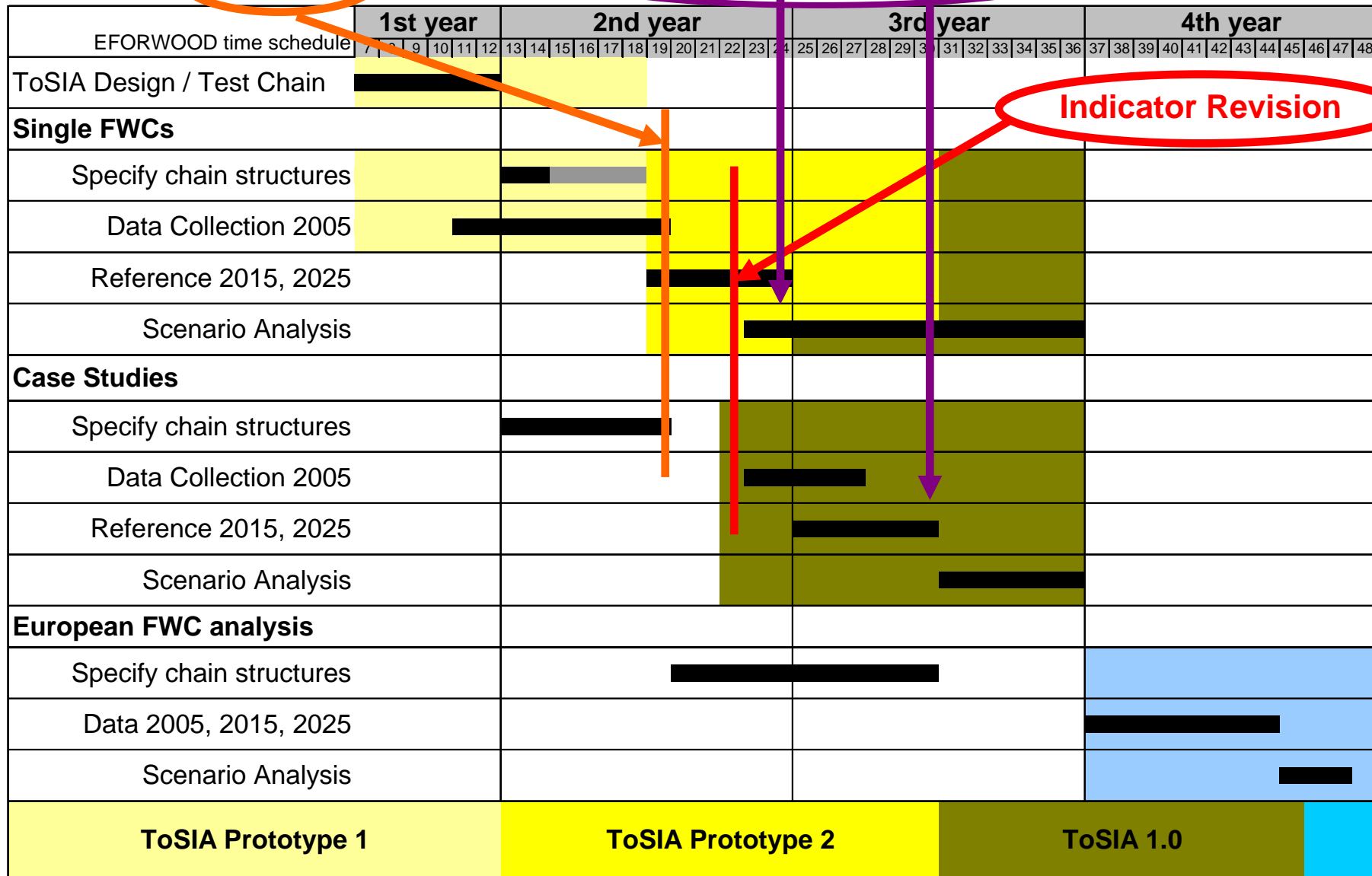


ToSIA development – where are we?

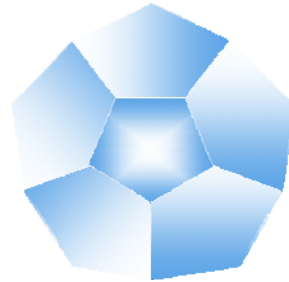
Zvolen

Conf. Brussels Conf. Berlin

Indicator Revision



The EU Integrated Project
EFORWOOD
Tools for Sustainability Impact
Assessment of the Forestry-Wood Chain



Brussels, 14 June 2007

Risto Päivinen



OVERALL OBJECTIVE

- To develop a **Tool** for the Sustainability Impact Assessment (SIA) of Forestry-Wood Chains (FWC)

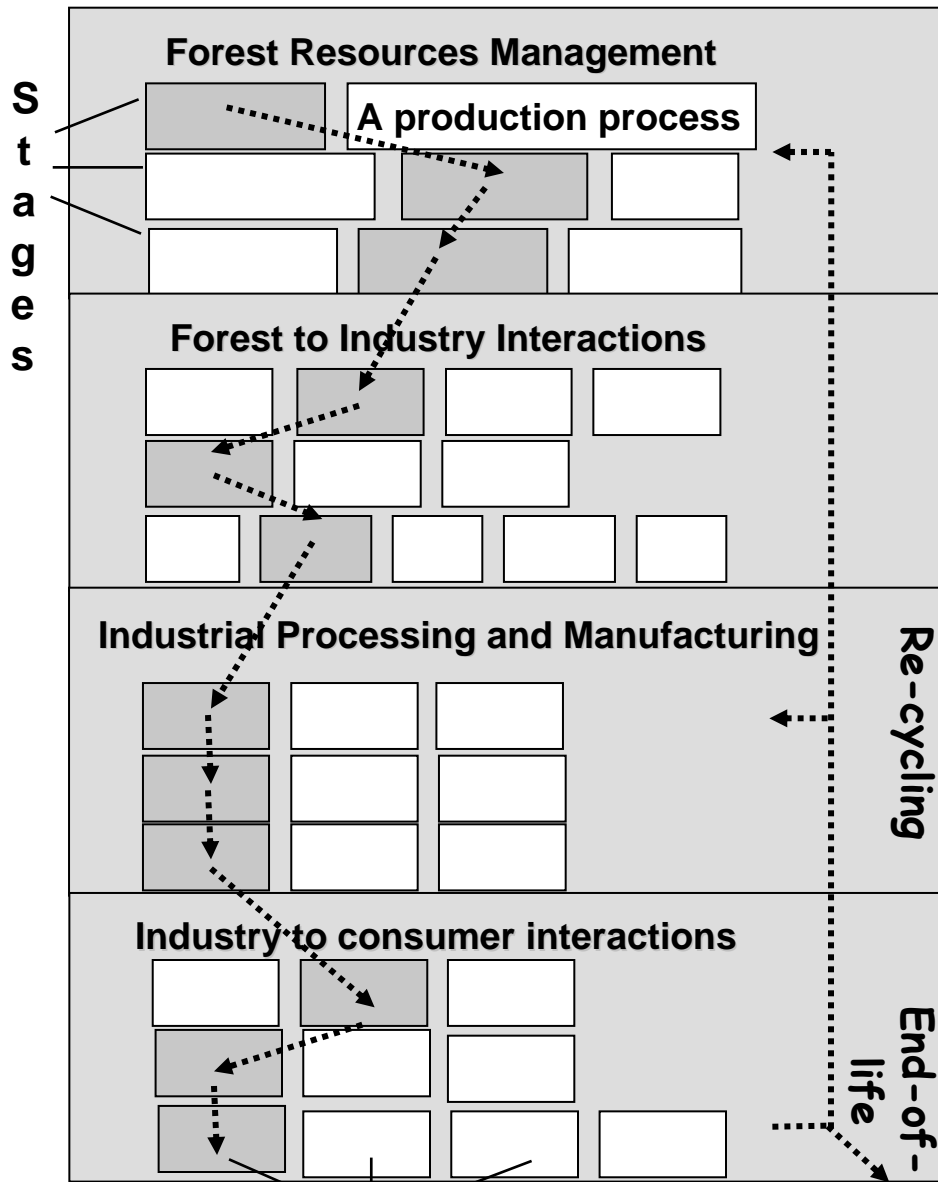


ToSIA



The analytical framework





The analytical framework:

FWC is a chain of processes

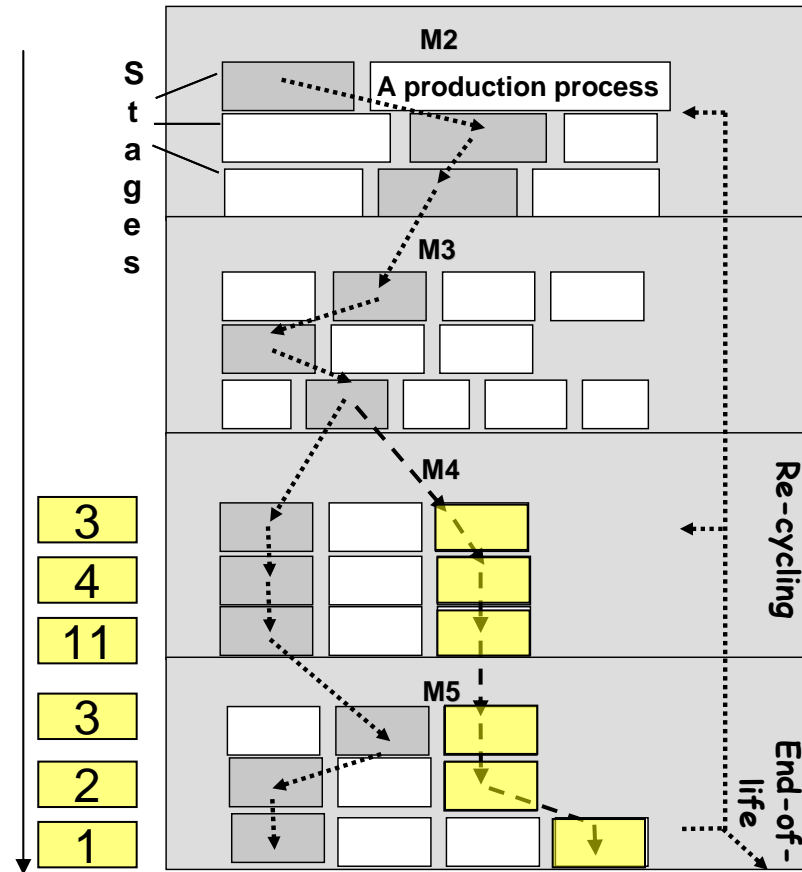
- Material flows
- Indicator value per unit of material flow in each process

Aggregation of indicator results

Employment (ID 003895)

- Identify same indicator for different processes in calculated chains
- Sum up indicators of the same ID in a calculated chain

3
2
3
7
6
5
2.5
2
7
1
2
2

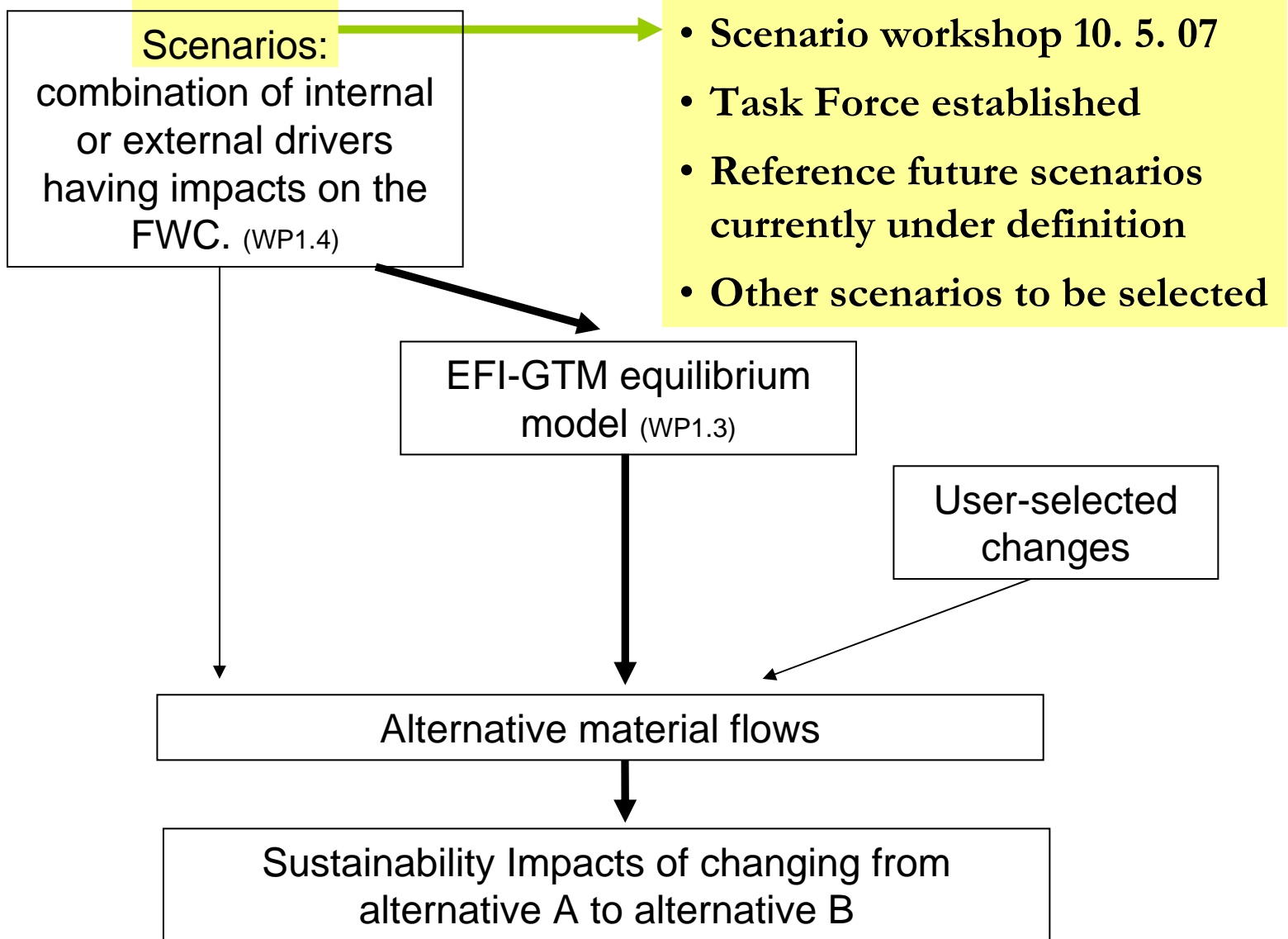


TOTAL 42.5 / 50.0 person hours

M1



What changes?



Indicator development (WP 1.1)



Indicator development (WP 1.1)

Based on:

- already existing European & international sustainability indicator Sets
- selection criteria for indicators:
 - Relevance**
 - Costs**
 - Feasibility**
 - Data availability**





4. Indicator Draft Set 5

- Indicator data collection protocols (based on Indicator Draft Set 5) have been specified for:
 - Socio-economic indicators
 - Environmental indicators
 - Transport indicators
 - Energy indicators
 - Waste indicators

- An indicator review is scheduled for end of August to revise the indicator set and propose indicator selections for different purposes

- **TWO-FOLD APPROACH:** Theoretical long list and pragmatic short list

ToSIA development phases



EFORWOOD SYSTEM DESCRIPTION

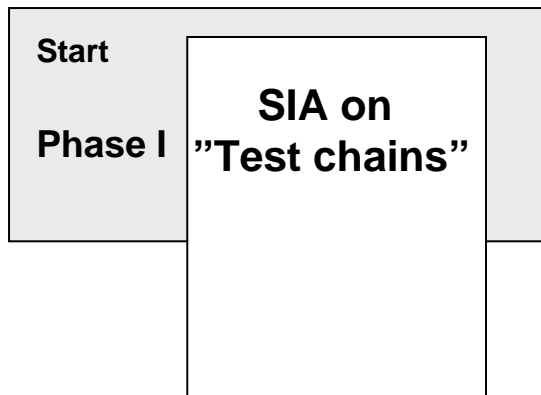
Phase I: Test Chains – to understand and harmonise
- single FWC applications

Phase II: Cases – to broaden the scope
- regional FWC analyses

Phase III: Europe – to get the big picture
- European FWC analysis



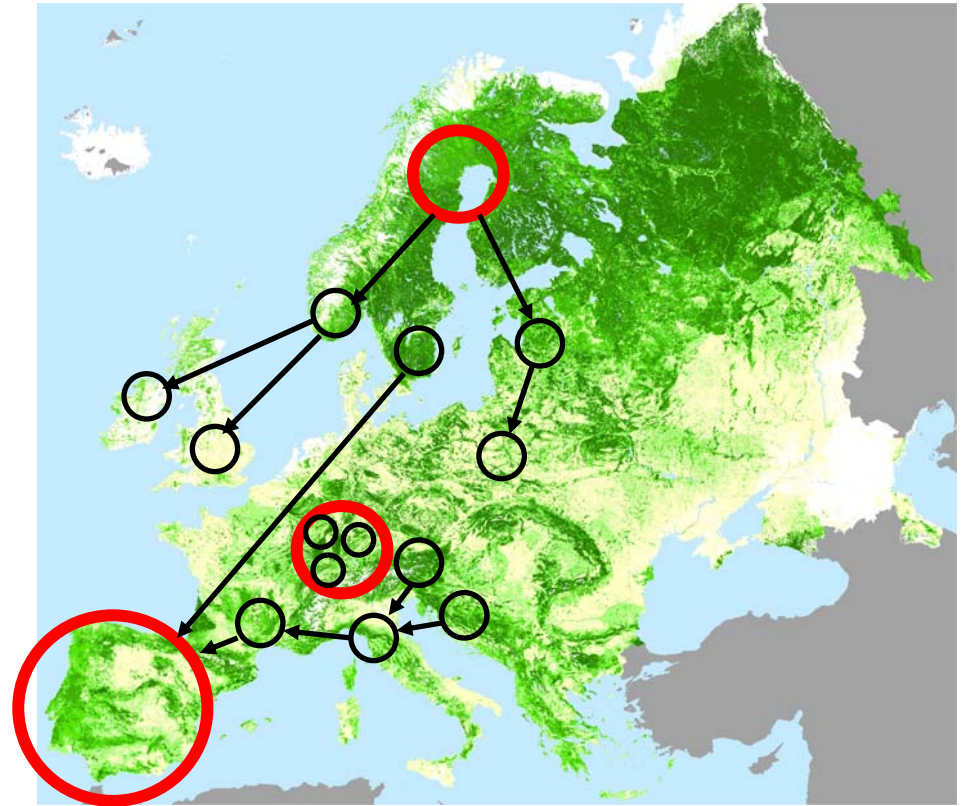
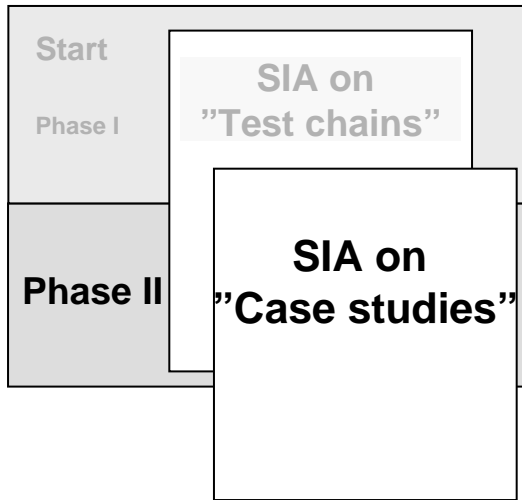
Three Test Chain/Single FWC applications



1. Scots pine chain: contains branches with two different products (Furniture and Pellets)
2. Spruce chain Baden-Württemberg: contains branches with two forest management alternatives to test MCA/CBA
3. Fine-paper/Recycling chain: contains coppice management loops and recycling loops.



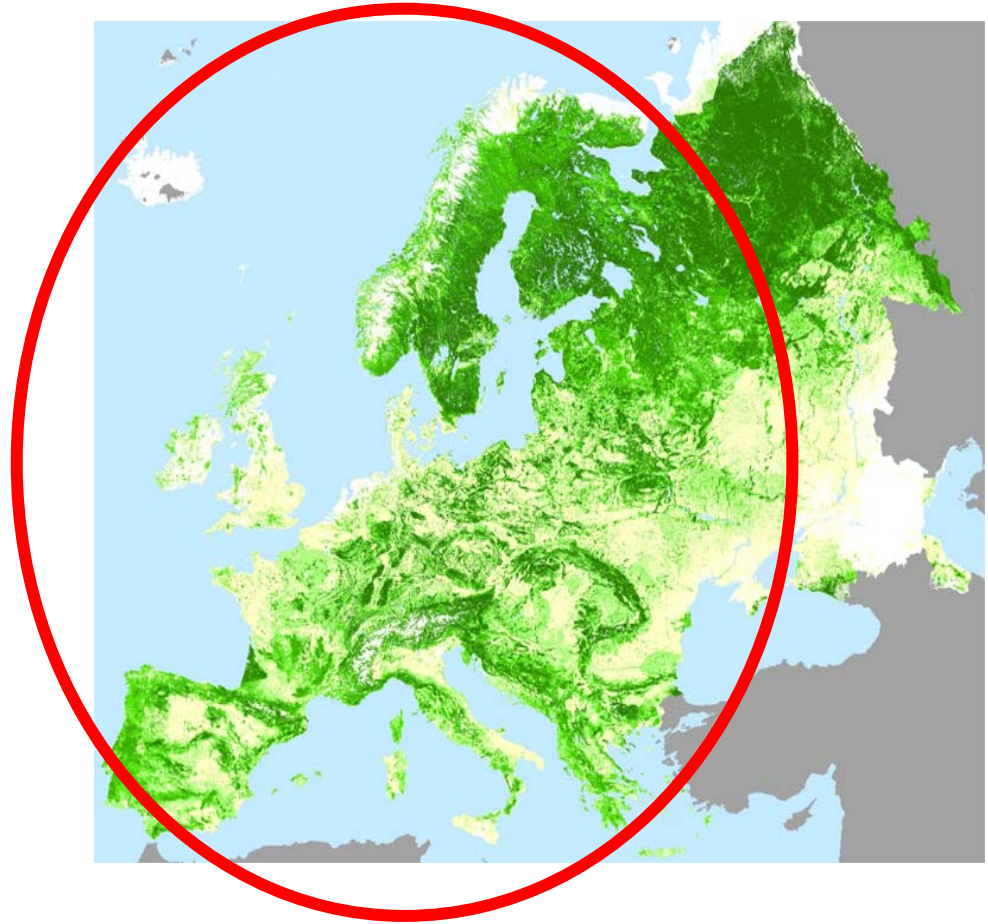
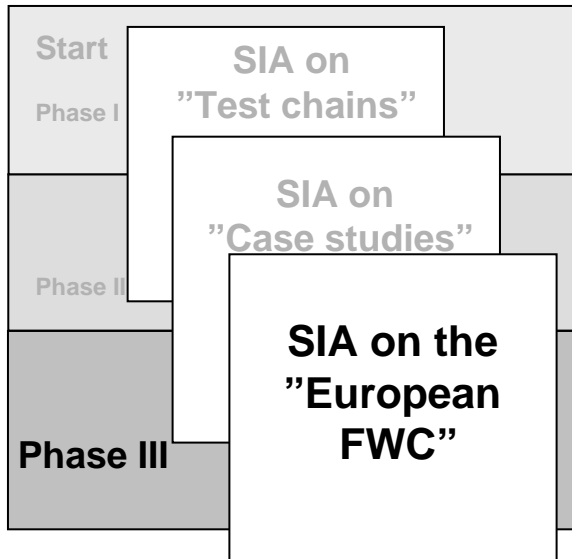
ToSIA Applications



1. Scandinavian Production Case
2. Baden-Württemberg Case
3. Iberian Consumption Case

Final specification by May 2007

ToSIA Applications



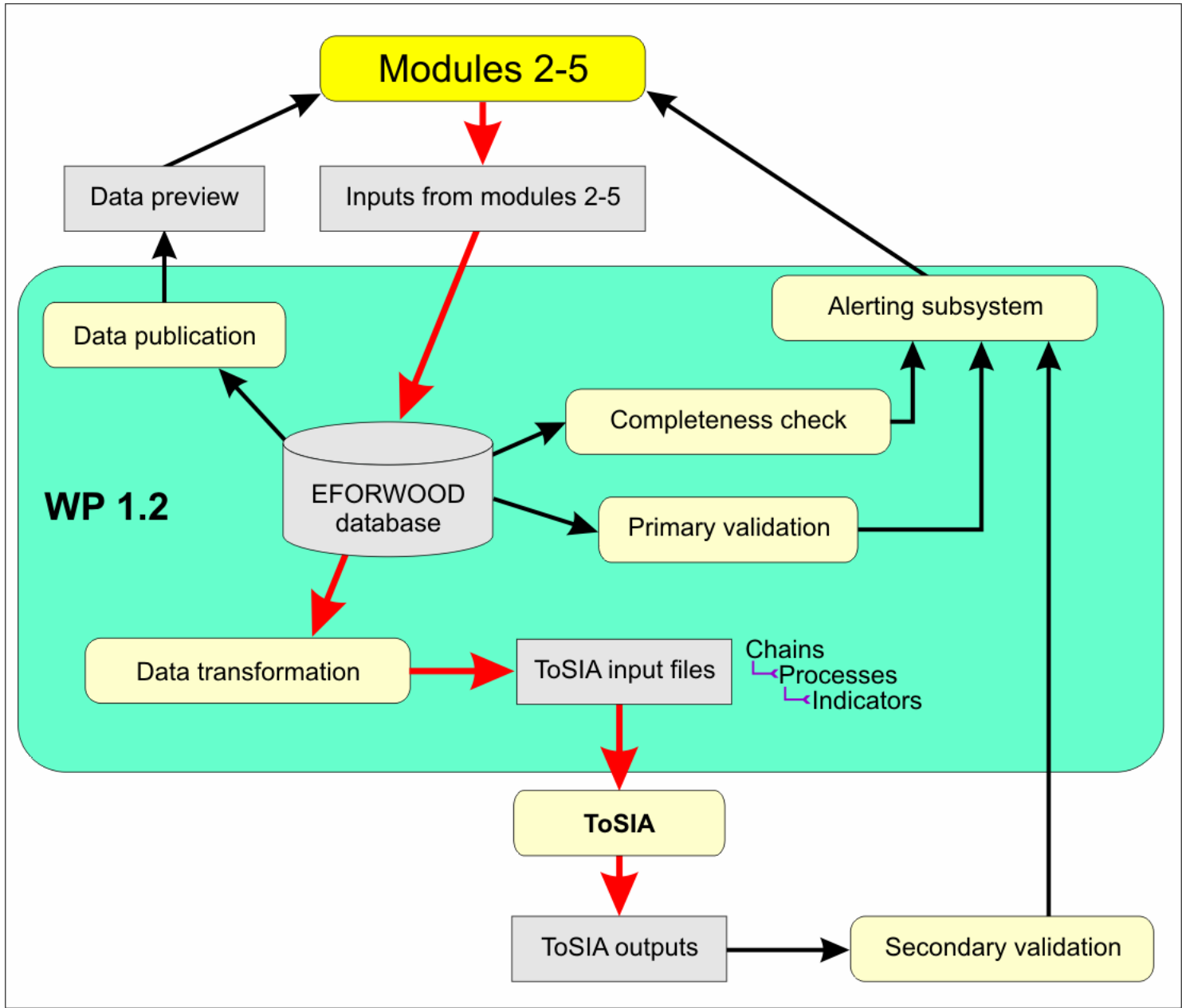
The ambition is to cover 60-80 % of the material flows in the whole European FWCs including all major forest types, production lines and wood based products.

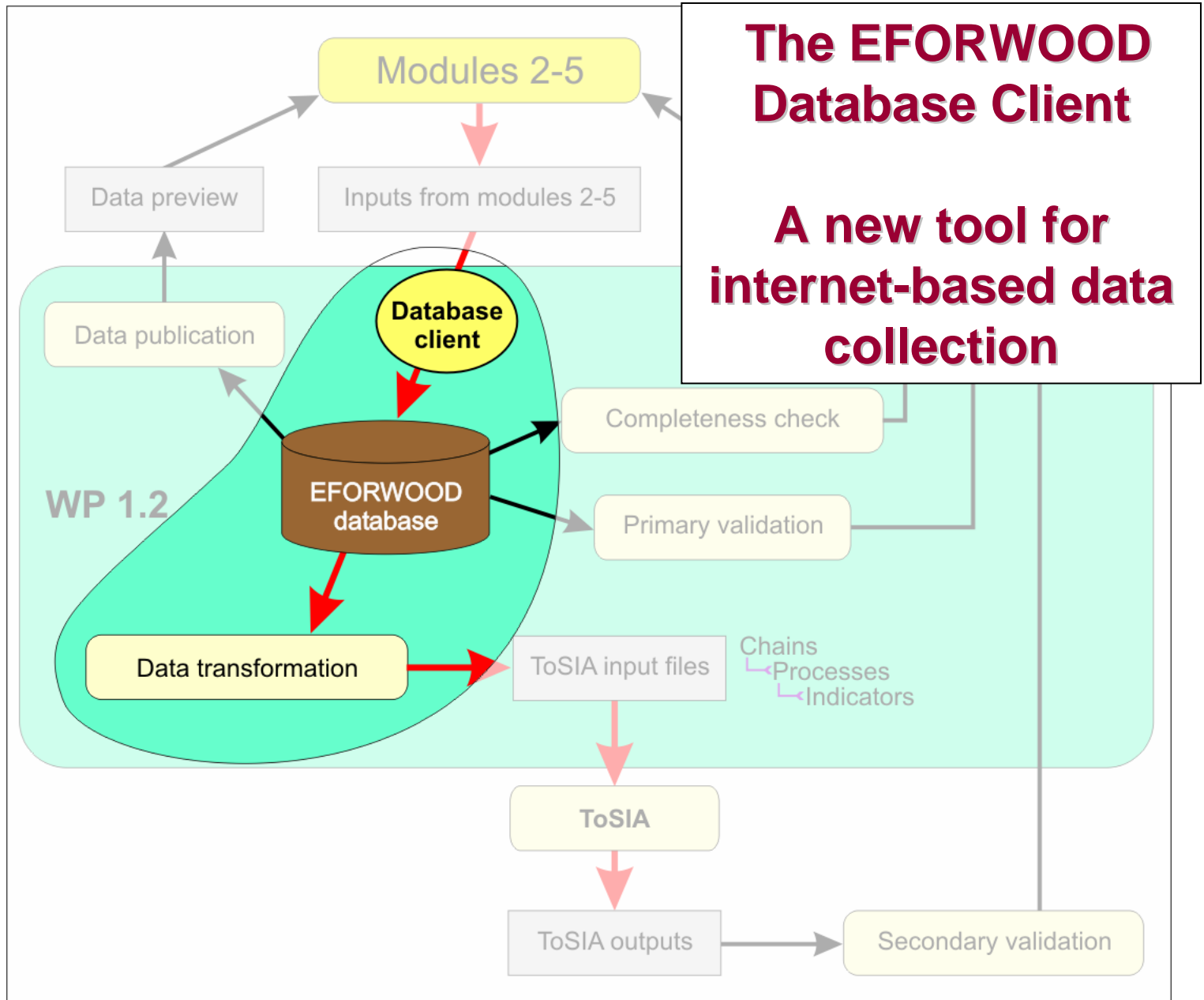




Data collection for Test Chains

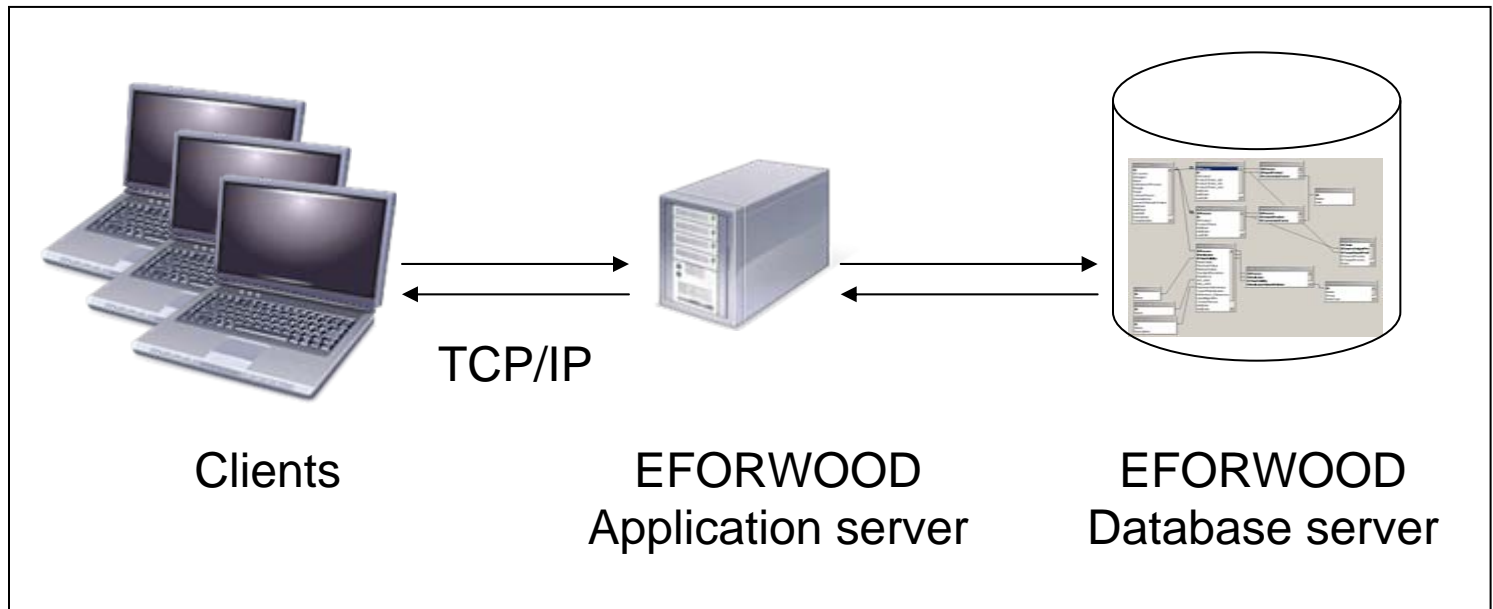
(WP 1.2)





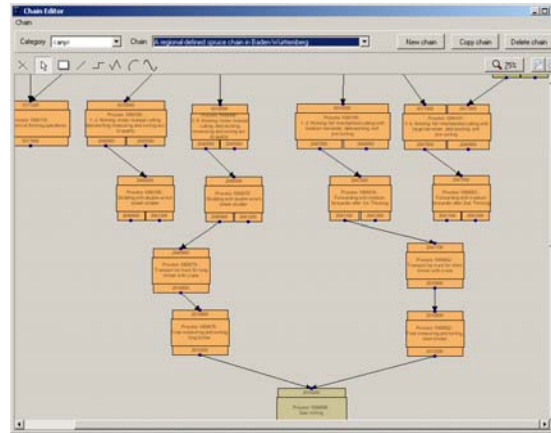
Architecture

Three-tier application



Main functionality

- Chain designer



- Data editor (processes, products, indicators)



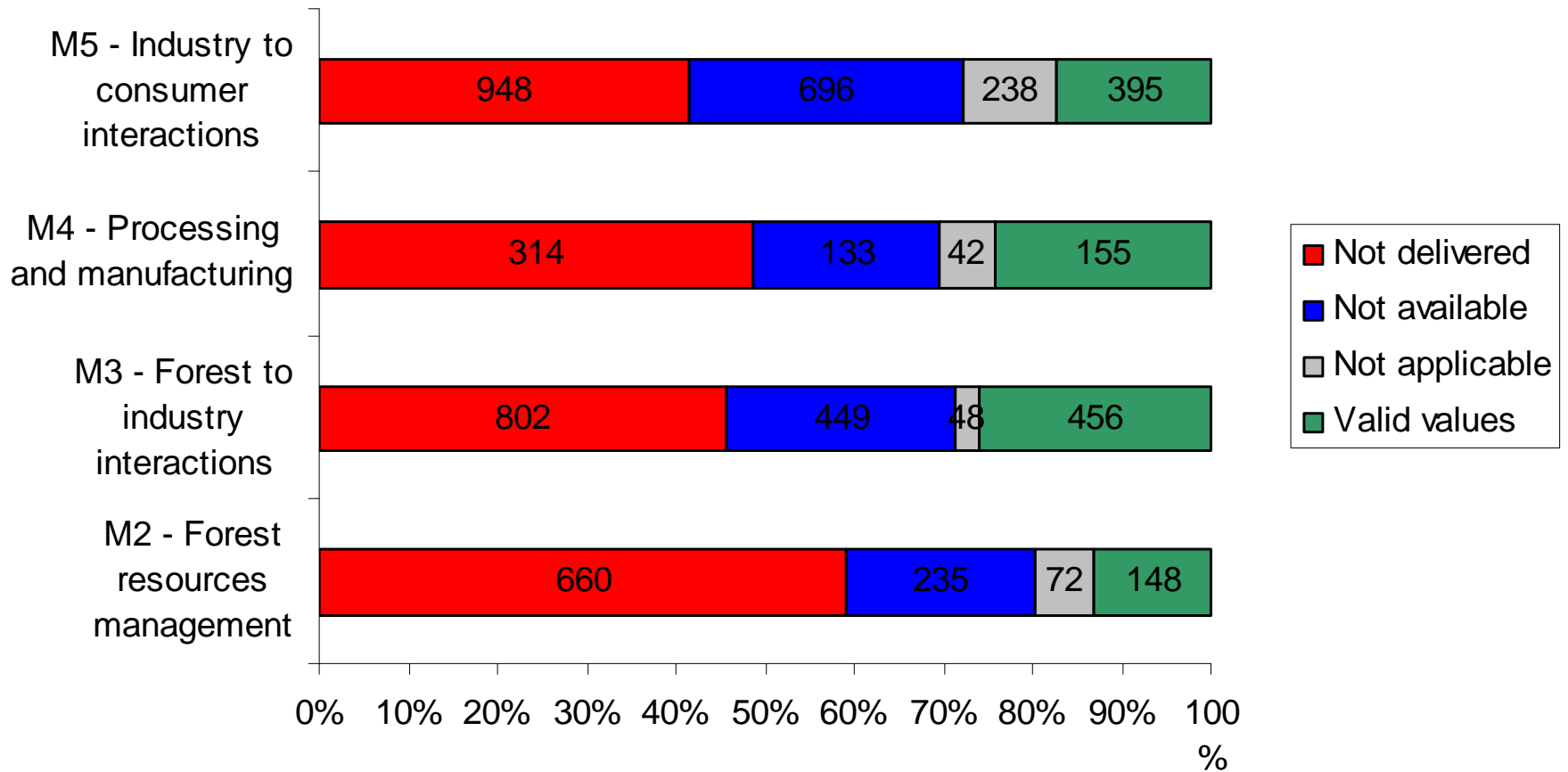
Summary statistics

Data collection for Single Chains June 12 (WP 1.2)

- Total number of chains: 3
- Total number of processes: 120
- Number of indicators: 58
- Total number of indicator values: 6960
- Number of collected indicator values: 3586
(Including “not relevant” and “not available”)



Share of indicator values (12 June 2007)



ToSIA DEVELOPMENT WP 1.4

- Review
- Design
- Implementation

10/06

1/07

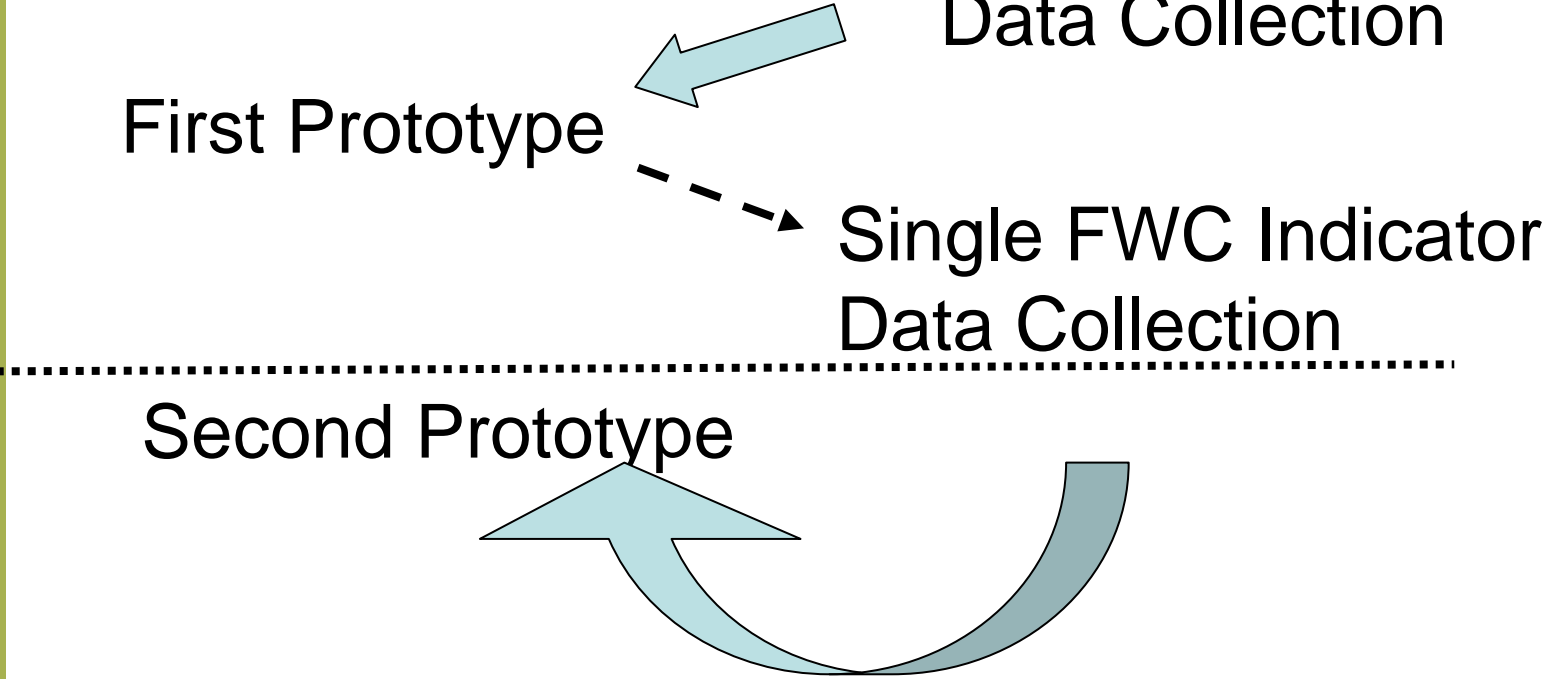
6/07

Test Chain Indicator
Data Collection

First Prototype

Single FWC Indicator
Data Collection

Second Prototype



ToSIA Training

23.-24.4.2007 Joensuu, Finland

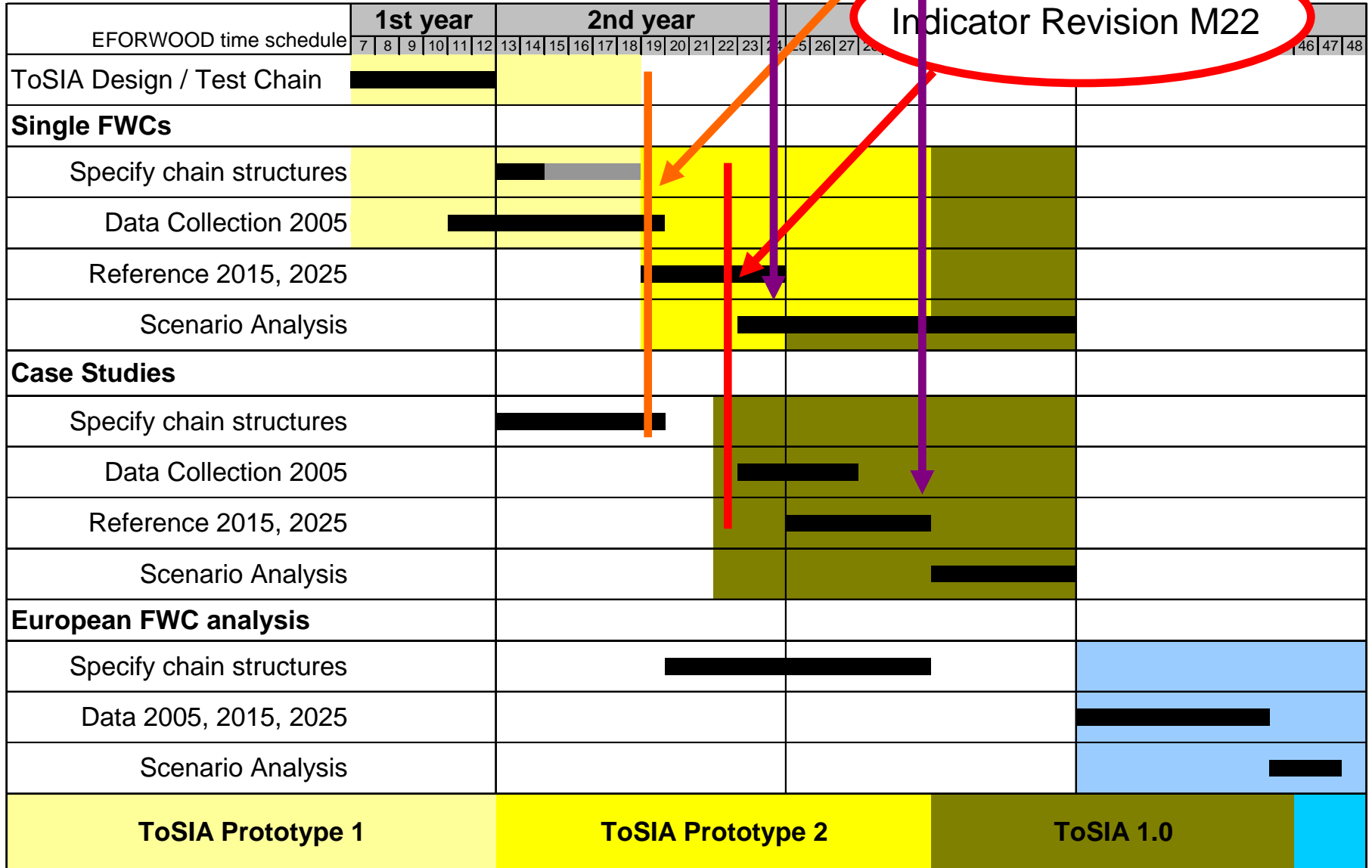
- 24 participants from all Modules
- 5 sessions with presentations and discussions
- The Training was recorded on Video and will soon be made available on DVD



ToSIA development – where are we?

Conferences Brussels, Berlin

Indicator Revision M22



Overall objective of EFORWOOD...

...is to conduct **Sustainability Impact Assessments** for the European Forest-Wood Chain(s)

- Calculating impacts of changes e.g. in policies, technology or external forces (global markets, climate change) requires the specification and analysis of **SCENARIOS**



Important Terms

(we need to agree upon...)

- Status Quo = sustainability of current FWC structure as documented in indicator data for 2005 (part of baseline/reference case)
- Baseline or Reference Future(s) = projection(s) of current FWC structure into 2015 and 2025
- Scenarios = modifications of the current FWC structure in response to internal (technology innovation) or external (e.g. global markets or policies) drivers of change



Baseline or Reference Future(s)

- this is what happens without a new policy or the introduction of an innovative technology
- we need also projections for 2015 and 2025, because we cannot compare future policy impacts with only the status quo (sustainability indicators 2005)



Scenarios

- Describe the conditions for future development
- Differ from the baseline/reference future in a specified way,
 - New policy implemented
 - Different global market conditions
 - Technological change beyond the assumptions for the baseline/reference cases

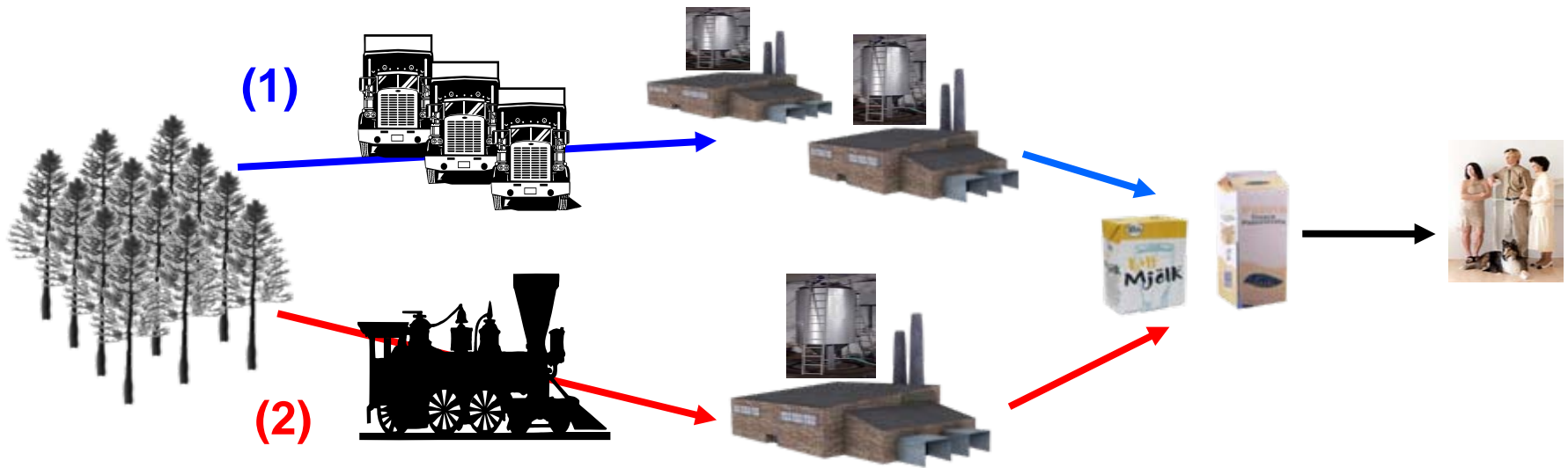


Scenario Application in ToSIA

- Type 1: comparing modified FWCs with the reference case
 - sustainability indicators will be collected for alternative FWCs and evaluation methods may be applied to compare alternatives A, B, C, D
- Type 2: analysing policy impacts or transient changes in other external drivers
 - partial chain or process-specific models will be applied to derive response functions to project indicator changes for ToSIA



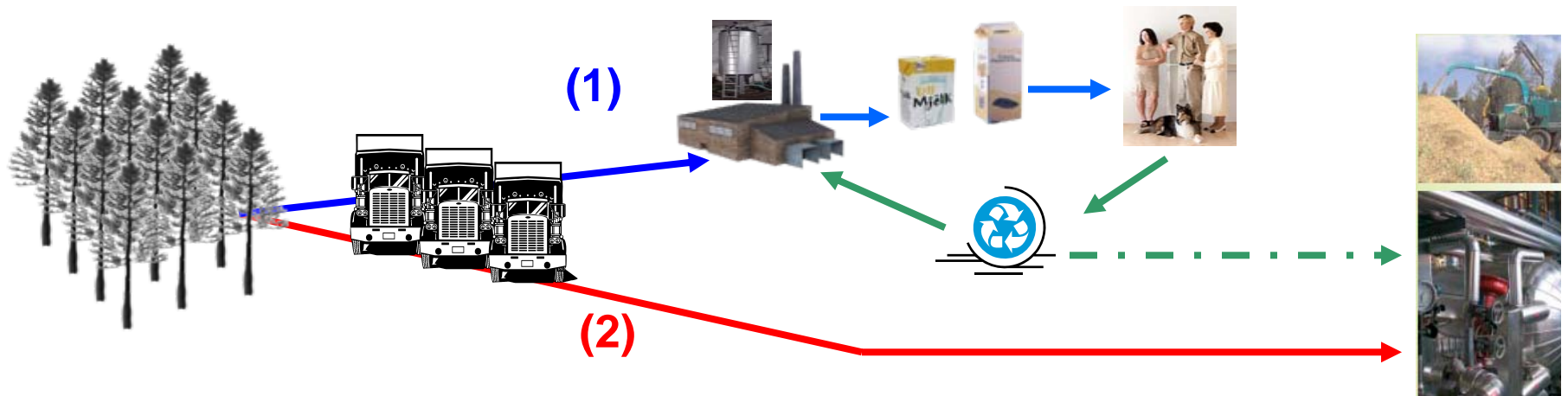
Type 1: FWC alternatives - changing technology



Examples:

- Forest management strategies in M2:
 - strict reserves (unmanaged), close to nature forestry, multifunctional forest management, evenaged mono-specious clear-cut system, high intensity biomass plantation
- Waste management in M5:
 - land fill, recycling, incineration/energy use

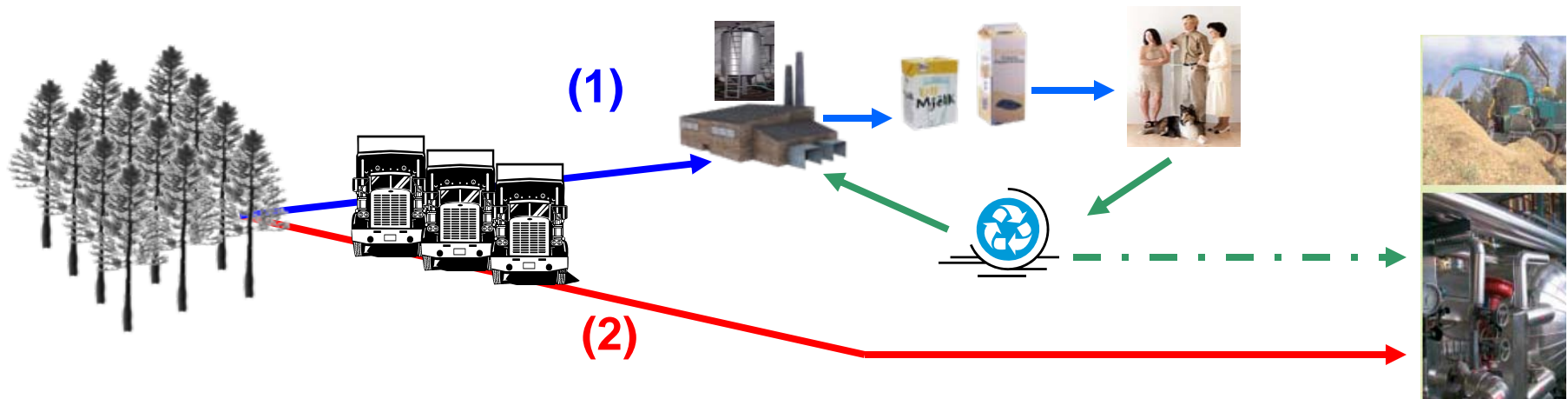
Type 2: Scenarios of changing policies and/or global trends



Example:

Increasing energy prices shift biomass use from paper making to energy use

Use of response functions to describe the effect of energy price increment on 2 alternative FWCs

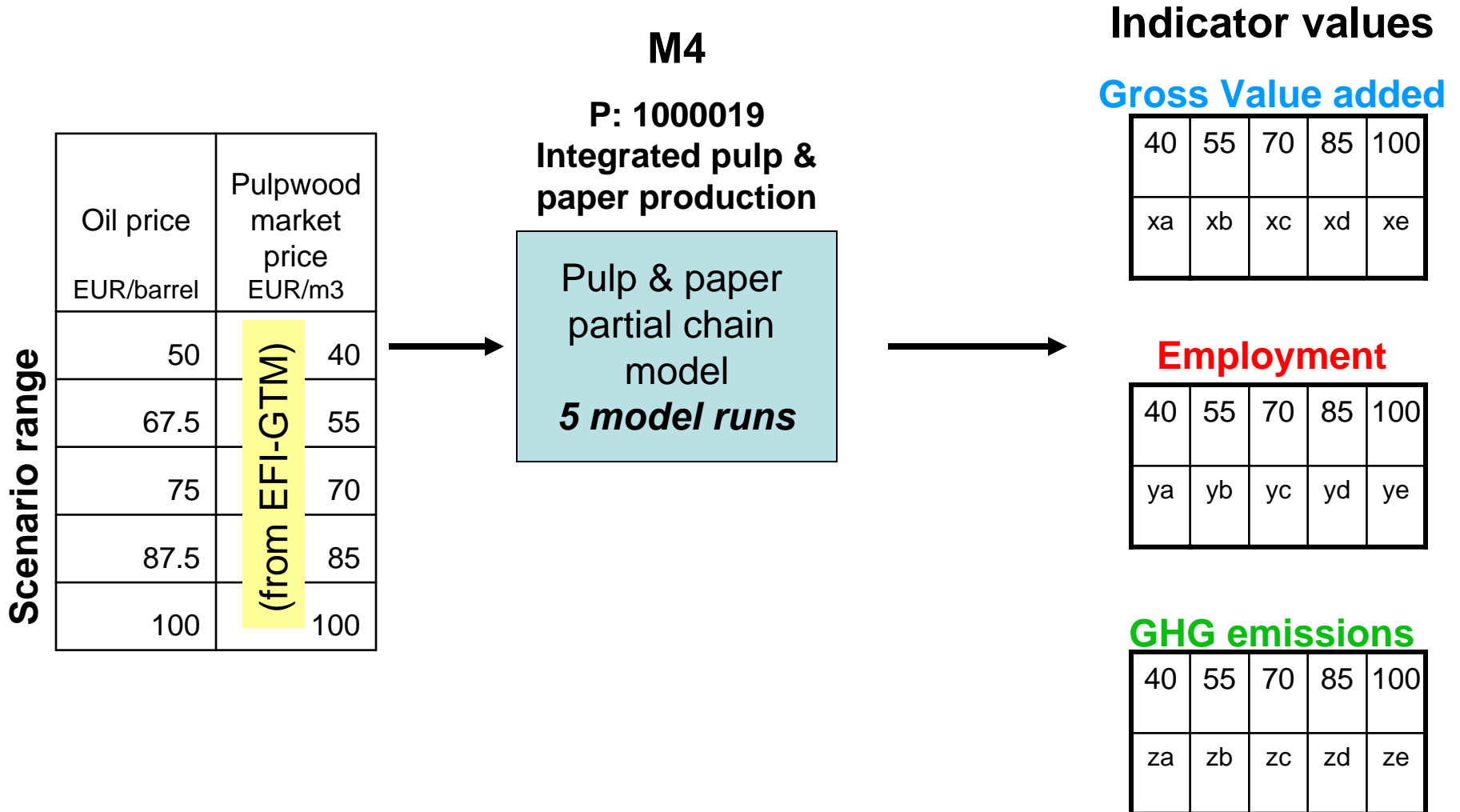


With increasing energy prices more wood resources are demanded for bioenergy ...

FWC 1: fibres are used in pulp and paper industry first, only after several recycling loops the waste is used to generate energy

FWC 2: the wood is directly used for bioenergy

Calculating response functions (1)



Calculating response functions (2)

Response functions

M4

P: 1000019

Integrated pulp & paper production

Pulp & paper partial chain model
5 model runs

Indicator values

40	55	70	85	100
xa	xb	xc	xd	xe

$$Y = X\beta + e$$

40	55	70	85	100
ya	yb	yc	yd	ye

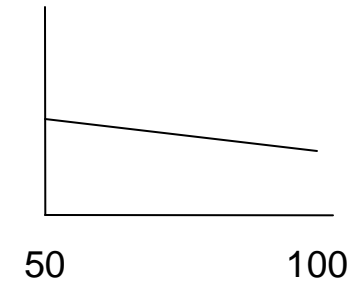
$$Y = xy + z$$

40	55	70	85	100
za	zb	zc	zd	ze

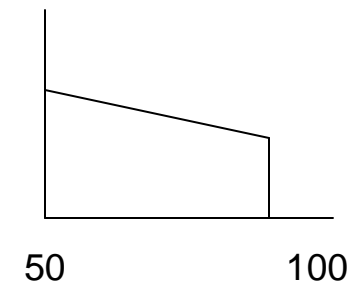
$$Y = X\alpha + b$$

ToSIA

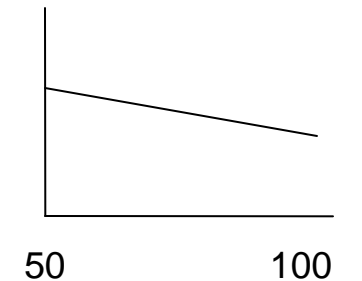
GHG



GVA

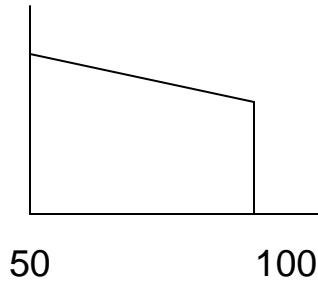


Employment

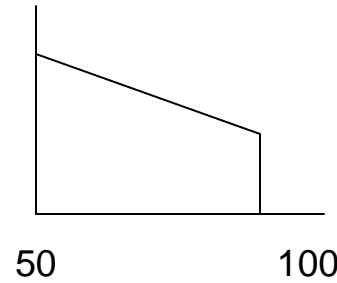


Sustainability impacts of energy price increases calculated with ToSIA for the two alternative chains

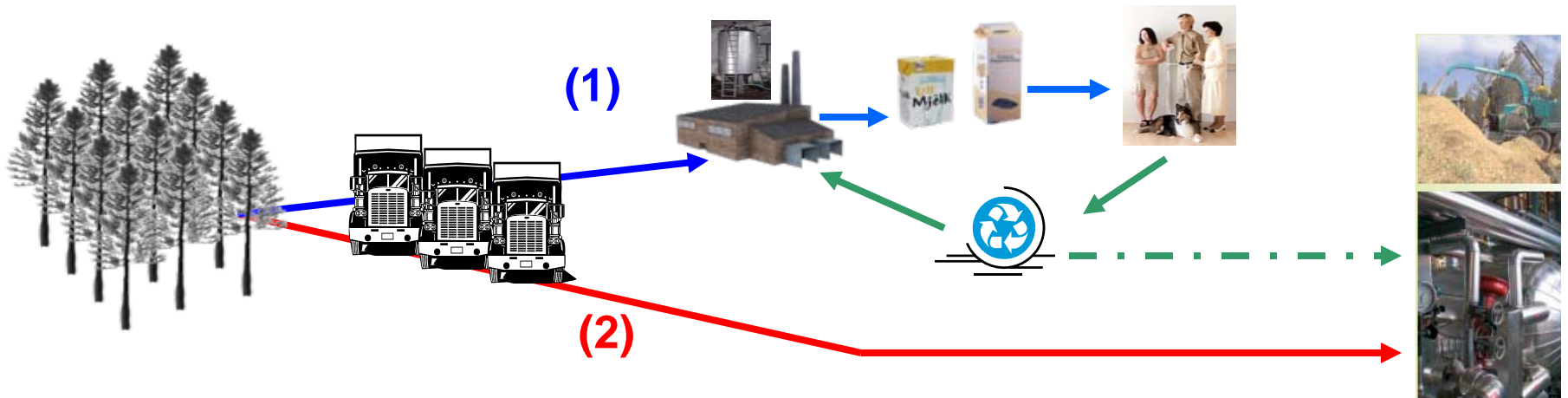
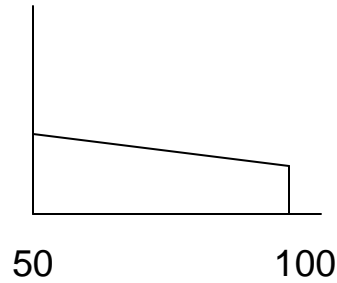
Employment



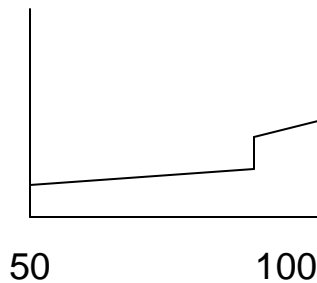
GVA (€)



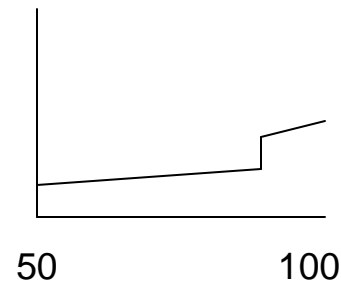
GHG



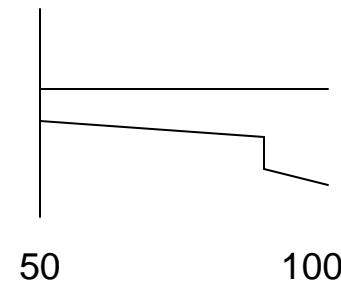
Employment



GVA (€)



GHG



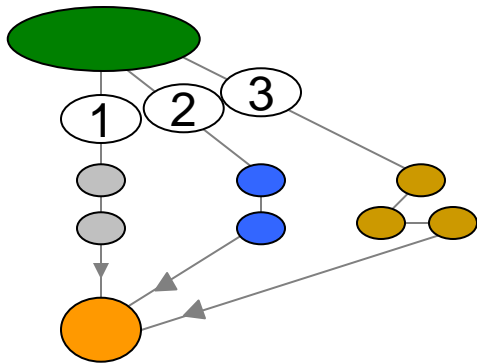
EFORMOOD



Sustainability Impact Evaluation WP 1.5

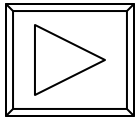


Task: Choosing the best alternative



	FWC1	FWC2	FWC3
forest resource	net revenue [€/m ³] 10	net revenue [€/m ³] 10	net revenue [€/m ³] 10
	employment [h/m ³] 1.89	employment [h/m ³] 1.89	employment [h/m ³] 1.89
	GHG (CO ₂ _e) [t/m ³] -0.037	GHG (CO ₂ _e) [t/m ³] -0.037	GHG (CO ₂ _e) [t/m ³] -0.037
harvest & transport	net revenue [€/m ³] 2.43	net revenue [€/m ³] 2.88	net revenue [€/m ³] 3.99
	employment [h/m ³] 0.63	employment [h/m ³] 0.28	employment [h/m ³] 0.17
	GHG (CO ₂ _e) [t/m ³] 0.011	GHG (CO ₂ _e) [t/m ³] 0.0109	GHG (CO ₂ _e) [t/m ³] 0.0105
industry (sawmill)	net revenue [€/m ³] 8.33	net revenue [€/m ³] 8.33	net revenue [€/m ³] 8.33
	employment [h/m ³] 1.47	employment [h/m ³] 1.47	employment [h/m ³] 1.47
	GHG (CO ₂ _e) [t/m ³] 0.003	GHG (CO ₂ _e) [t/m ³] 0.003	GHG (CO ₂ _e) [t/m ³] 0.003
total FWC	net revenue [€/m ³] 20.76	net revenue [€/m ³] 21.21	net revenue [€/m ³] 22.32
	employment [h/m ³] 3.99	employment [h/m ³] 3.64	employment [h/m ³] 3.53
	GHG (CO ₂ _e) [t/m ³] -0.0220	GHG (CO ₂ _e) [t/m ³] -0.0227	GHG (CO ₂ _e) [t/m ³] -0.0235

Importance of indicators



Scoring the importance of indicators [score 10 = most important]

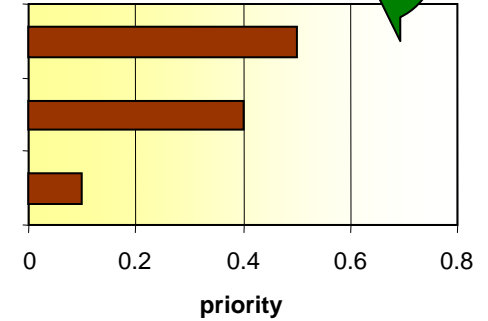
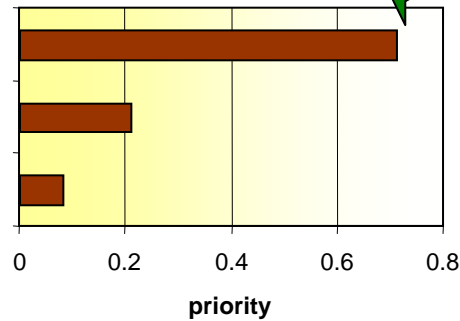
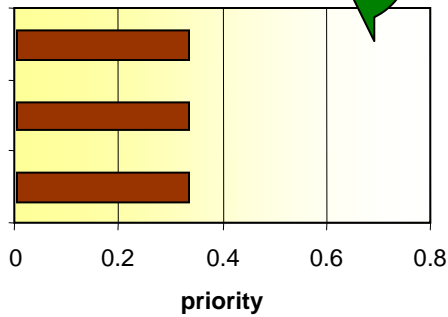
net revenue
employment
GHG

score: 10	A
score: 10	
score: 10	
total: 30	

score: 10	B
score: 3	
score: 2	
total: 15	

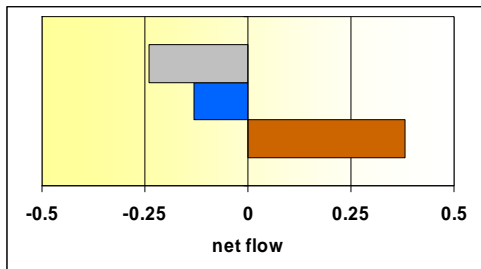
score: 10	C
score: 8	
score: 2	
total: 20	

net revenue
employment
GHG

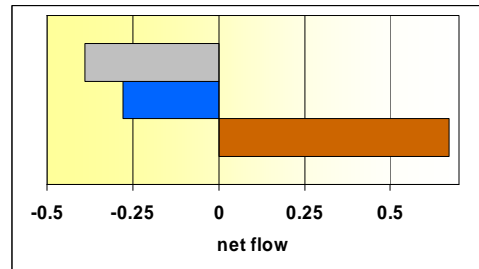


ranking result

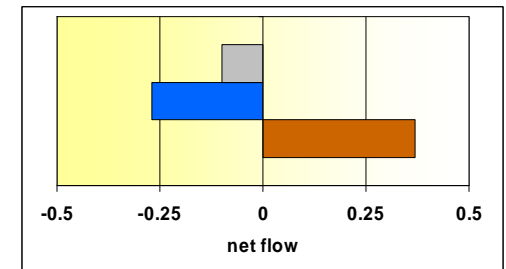
FWC1
FWC2
FWC3



ranking result



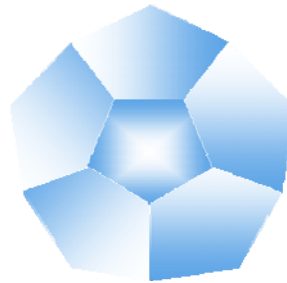
ranking result





- **Next steps:**
- **Module-specific indicators,**
- **more data collected and evaluated,**
- **ToSIA software reviewed and developed further, scenarios and system boundaries defined**
- **Equilibrium model improved**
- **Trade-off evaluations tested**

THANK YOU



Brussels, 14 June 2007

Risto Päivinen



Update on M2 progress

Jean-Michel Carnus, INRA





M2 overall objective

To develop methodologies and tools to conduct **SIA of Forest Resources Management** at various scales. M2 will produce improved indicators and models, and provide data and results to M1 on

th **Specific objectives**

- to characterise environmental, economic and social functions of forests and their interactions with management
- to assess the impacts on the three pillars of sustainability of forest management strategies (FMS)
- to analyse and assess risks associated with various FMS
- to improve integration of predictive tools for sustainability assessment



Overall workplan

Phase I - description of forest production processes
- identification of reference forests
- contribution to the selection of C&I
- data collection for test chains forests
- review of models
- definition of current FMS and future alternatives

Phase II - evaluation of indicators for case studies
- data collection for reference forests
- SIA of current FMS in case studies
- extension of existing models

Phase III - data collection and analysis (national, EU)
- calibration of improved models
- derivation of indicator values under various scenarios
- sensitivity analysis of FMS to hazards
- SIA of alternative FMS

Phase IV - synthesis and reporting



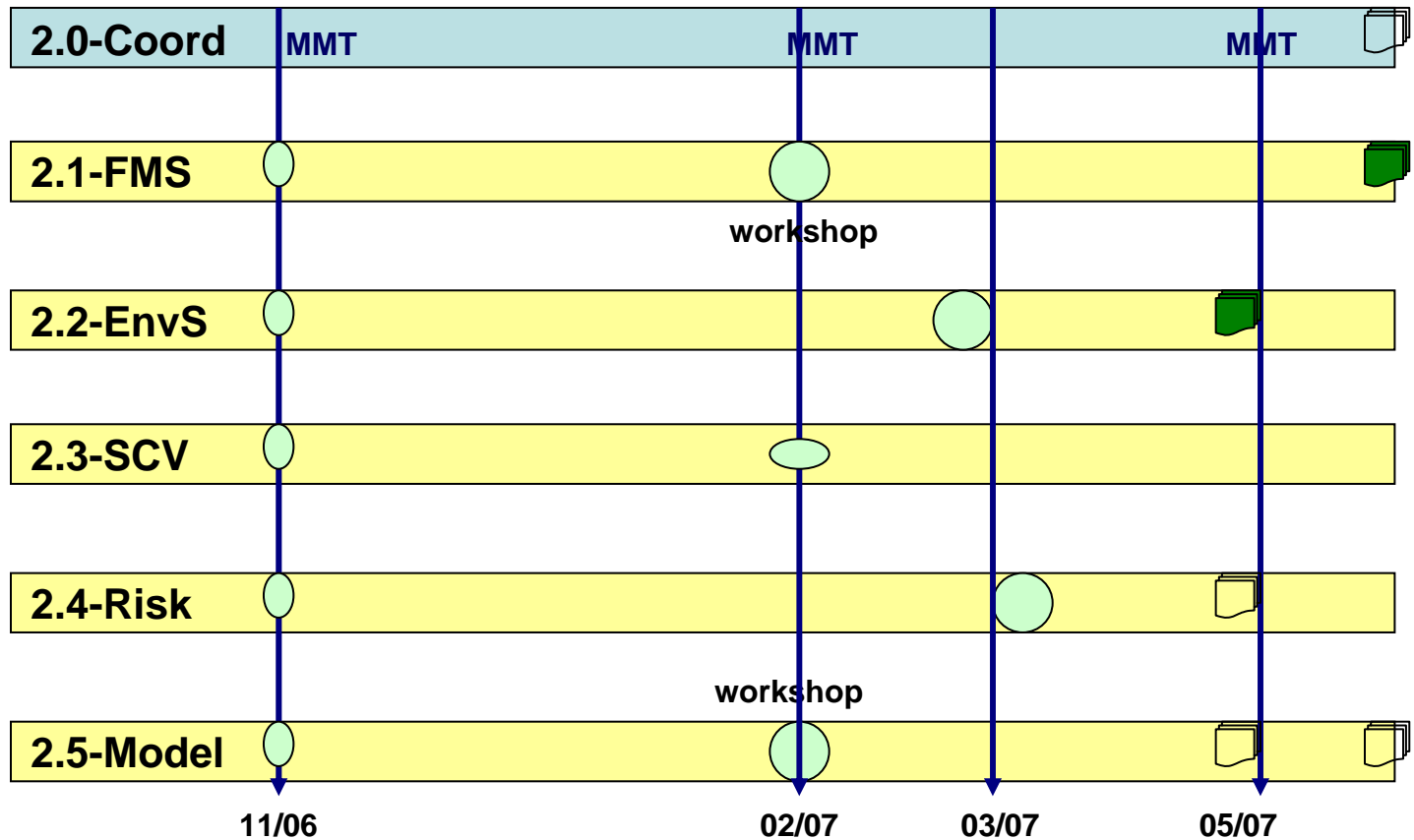
Here we are today



progress in last six months

- completion of 3 deliverables
 1. **impacts of FM on environmental services**
 2. prevalence of hazards in European forests
 3. methods to improve and extend models
- discussion of scenarios and elaboration of forest management alternatives
- set up data base for module 2
- finish data collection for single chains indicators
- set up & contribution to regional case study task forces
- contribution to indicator WGs and preparation of Specific Module Indicators (set 1)

months 13 - 18 activities



12 meetings (Module, WP)
reports (6 deliverables)
data collection (test chains)

EAP - 14 JUNE 2007



deliverables - first 18 months

Del No.	Deliverable name	WP No.	Lead Contractor
PD 2.0.1	Summary report of module Kick-off meeting	2.0	INRA
D 2.0.2	Progress report module 2	2.0	INRA
PD 2.1.1	Description of forest production processes:	2.1	ALUFR
PD 2.1.2	Review report on current forest management strategies	2.1	ALUFR
PD 2.2.1	State of the art report on operational defined indicators for key environmental services	2.2	KVL
D 2.3.1	Report on “Social and Cultural Values in relation to key indicators of sustainability”,	2.3	FR
PD 2.4.2	Database on statistics for both biotic and abiotic hazards intensity and occurrence	2.4	INRA
D 2.5.1	Report on models requirements and outputs	2.5	ISA

D2.2.2	<i>Impact of forest management on environmental services</i>	2.2	KVL
PD 2.4.2	<i>Intensity and occurrence of main hazards in reference forest tree species</i>	2.4	INRA
PD 2.5.2	<i>Description of models currently available and their ability to evaluate indicators</i>	2.5	ISA



Social and cultural values

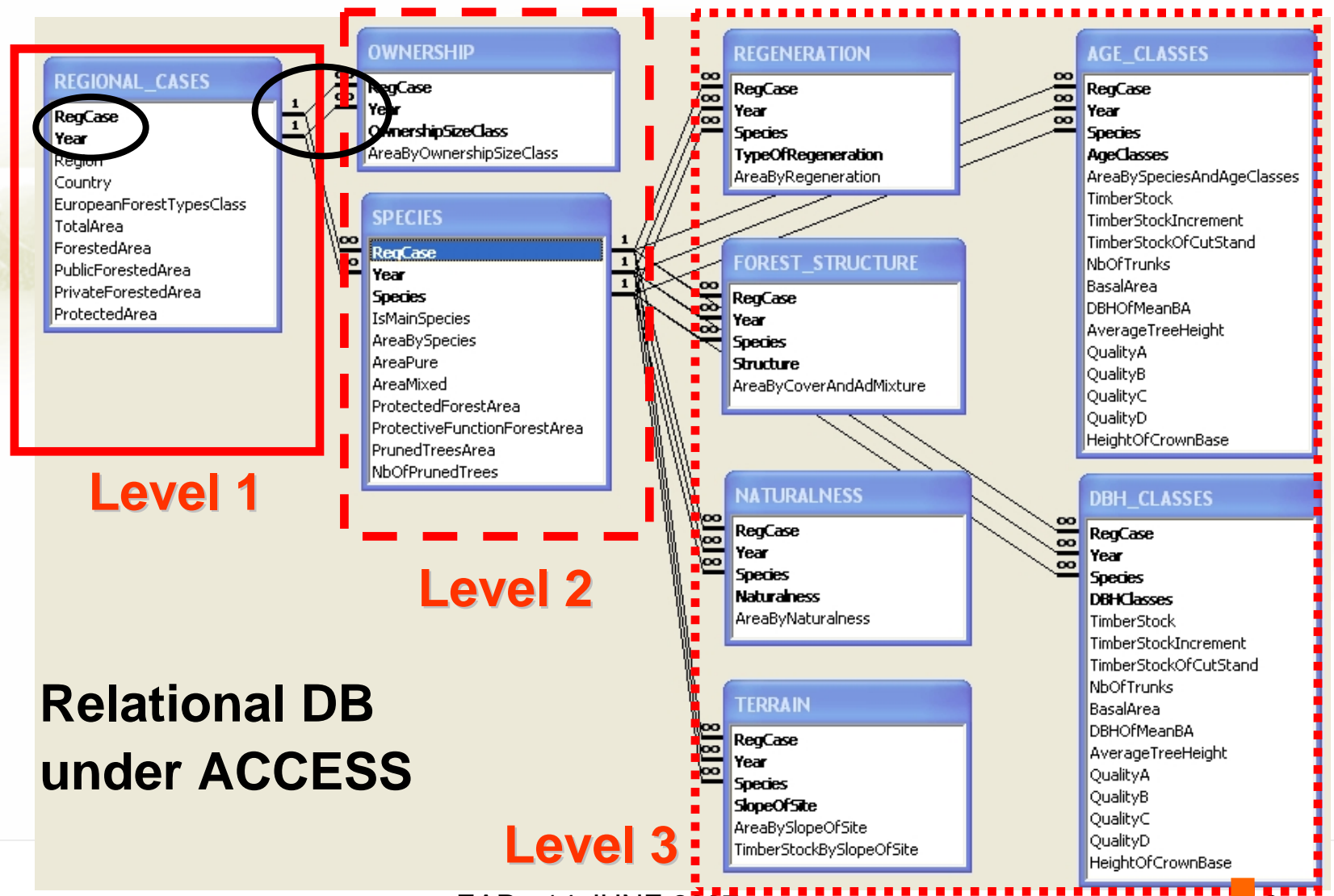
literature review of SCV associated with European forests

typology of SCV in 9 themes

- Employment
- Non-Timber Forest Products
- Governance
- Community development
- Recreation and tourism
- Education and learning
- Health and well-being
- Landscape and aesthetic
- Cultural and heritage

framework of potential indicators

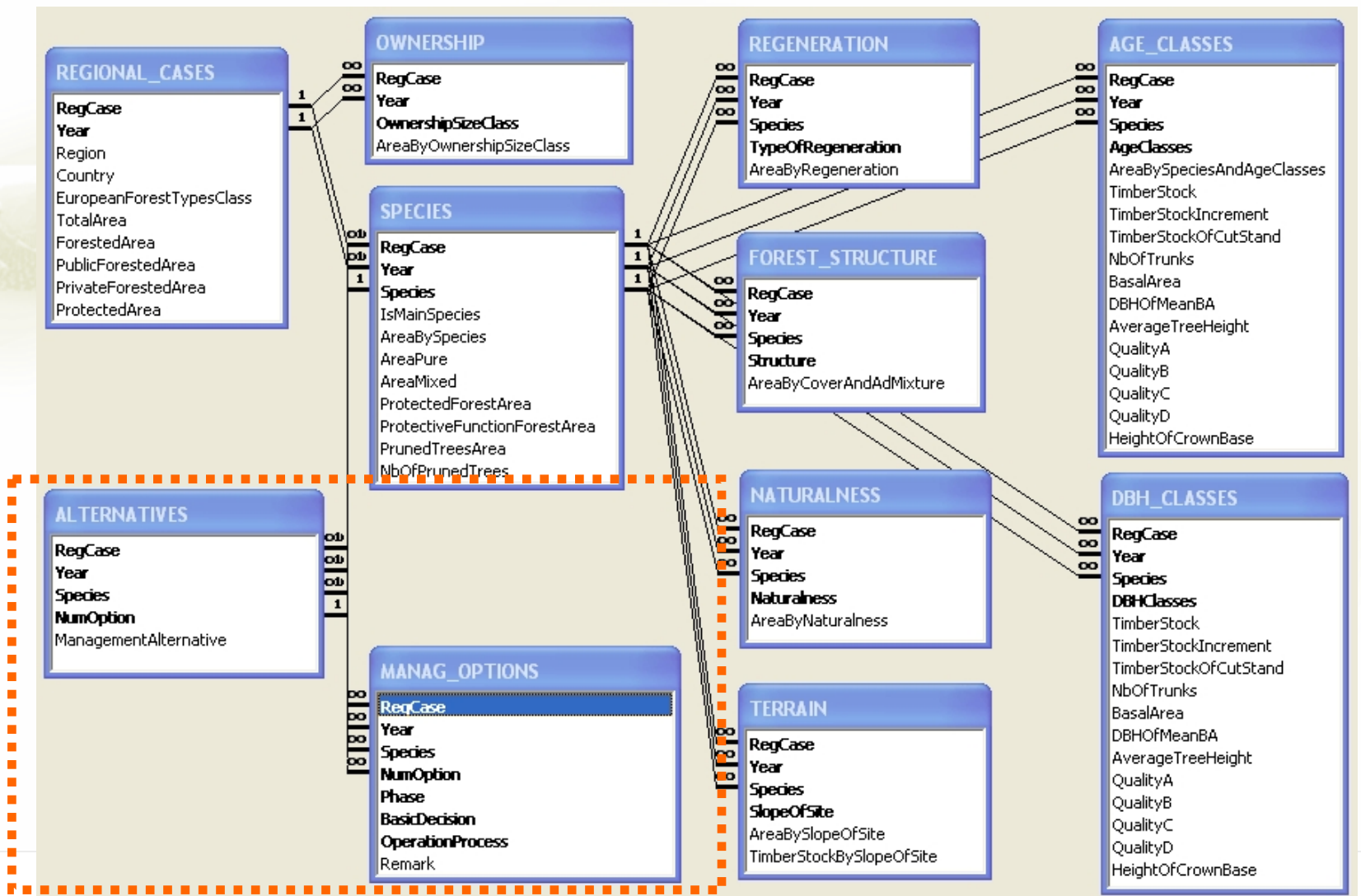
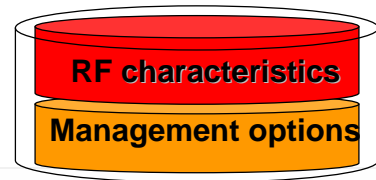
Database structure (1)



Relational DB under ACCESS



Database structure (2)



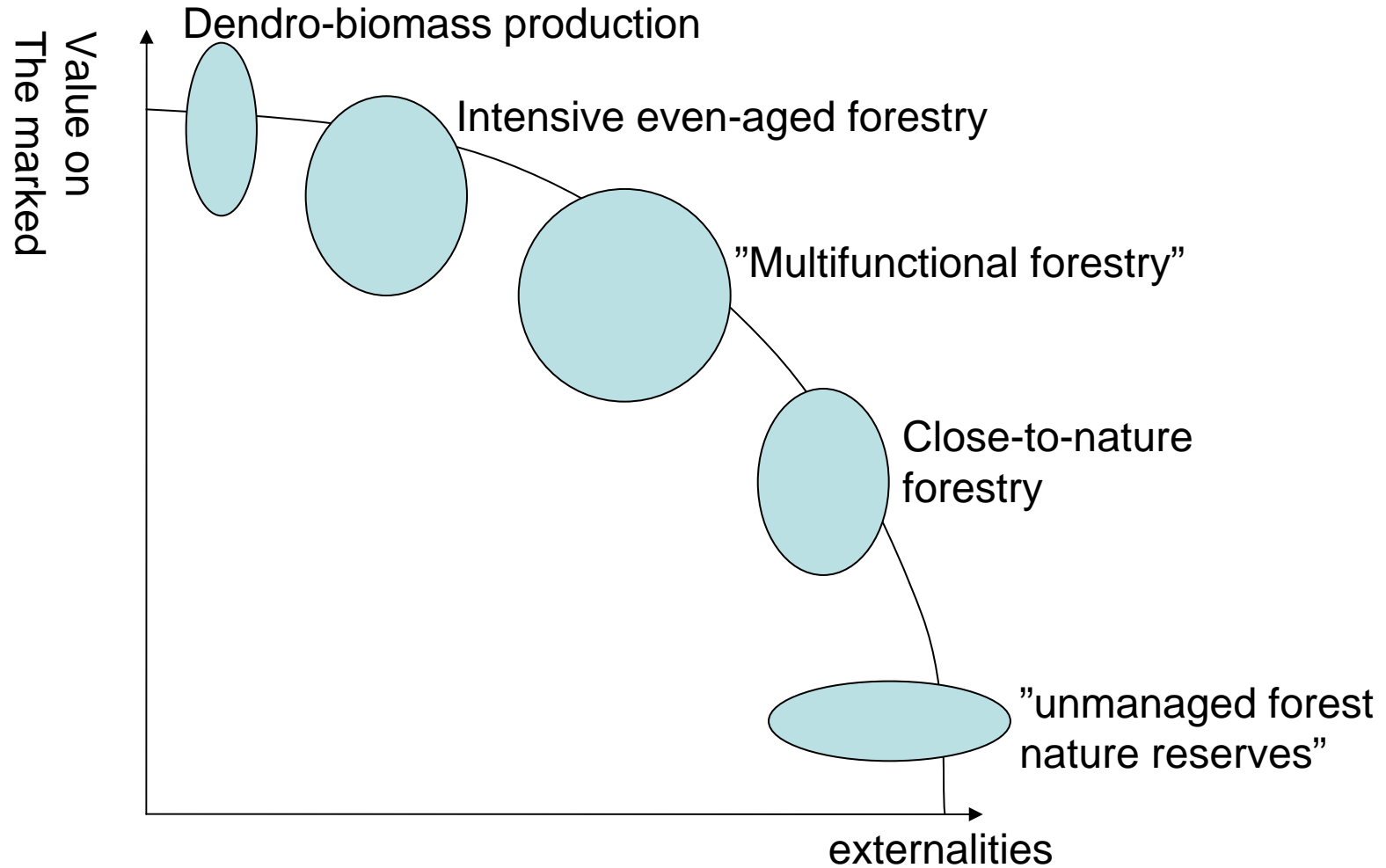
M2



EAP - 14 JUNE 2007
 Link to simulation results



Forest management alternatives



Drivers for scenarios in M2

Annual values for:

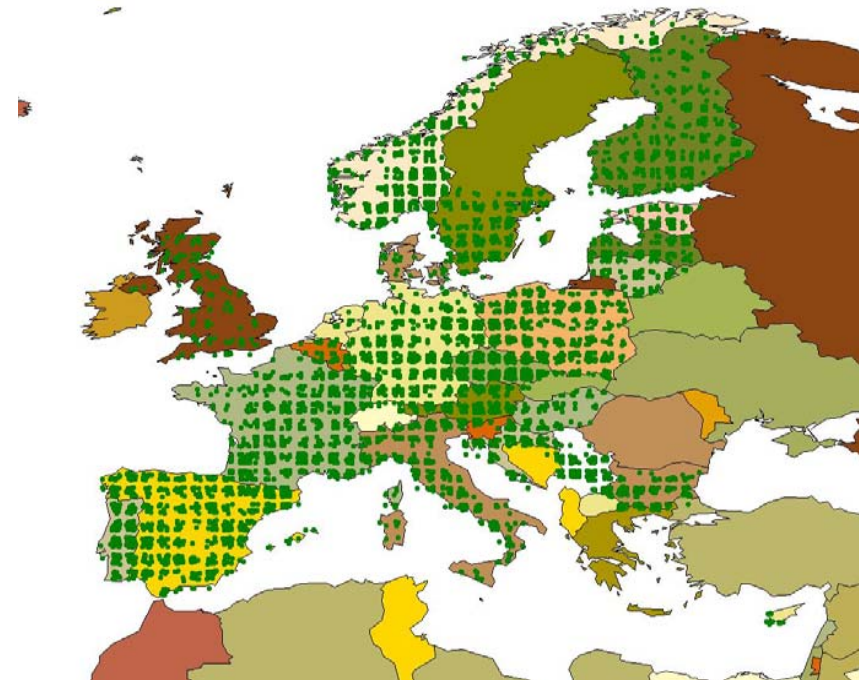
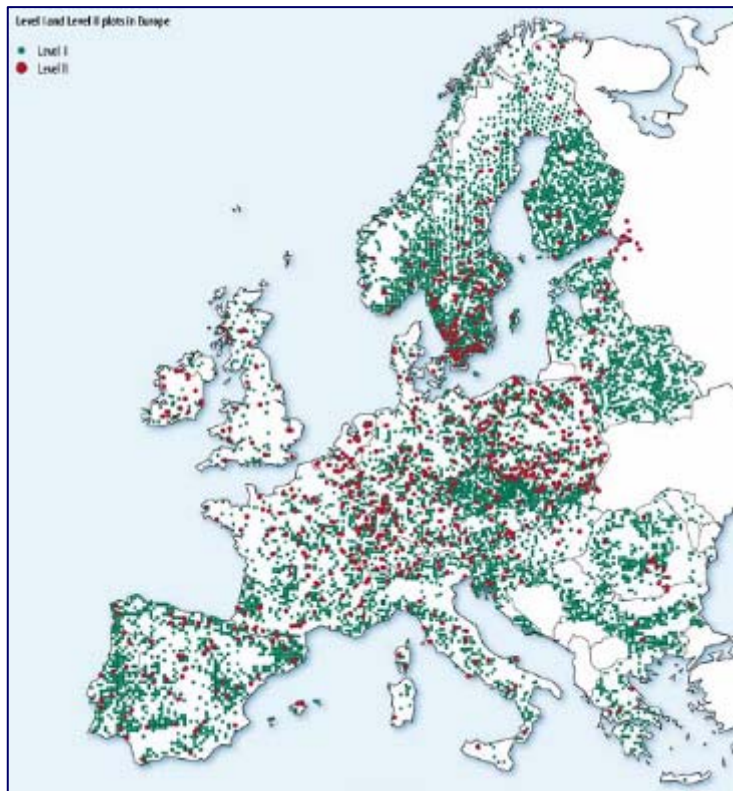
- Volume harvested
- Changes in management
- Land use changes
- Occurrence of hazards



Prevalence of hazards in European forests

Method = analysis of ICP Forest data

The International Co-operative Programme Forests monitors the forest condition in Europe on around 6000 observation plots on a systematic transnational grid of 16 x 16 km

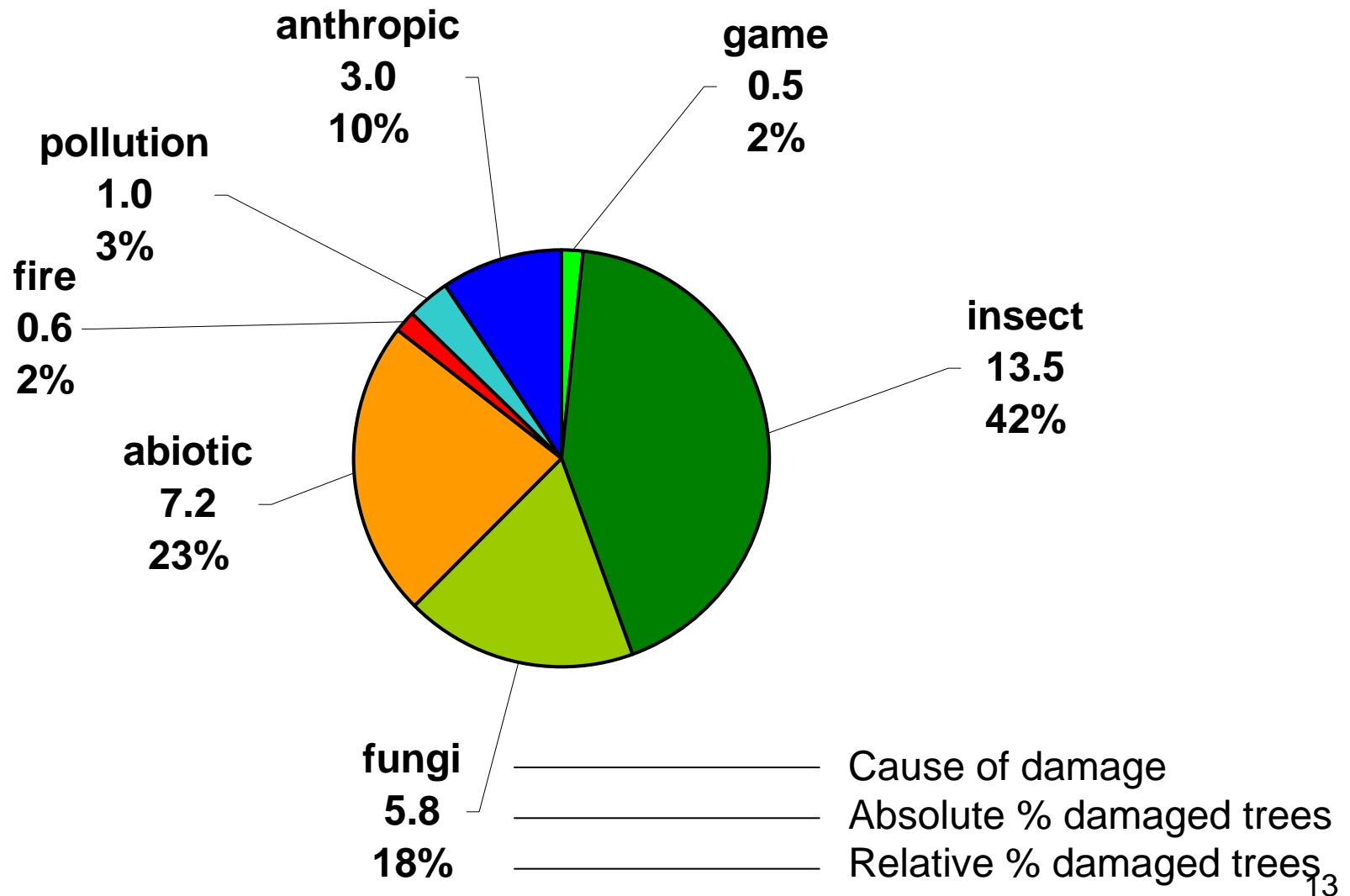


25 out of 40 countries agreed to share ICP data with EFORWOOD project

EAS 14 JUN 2007

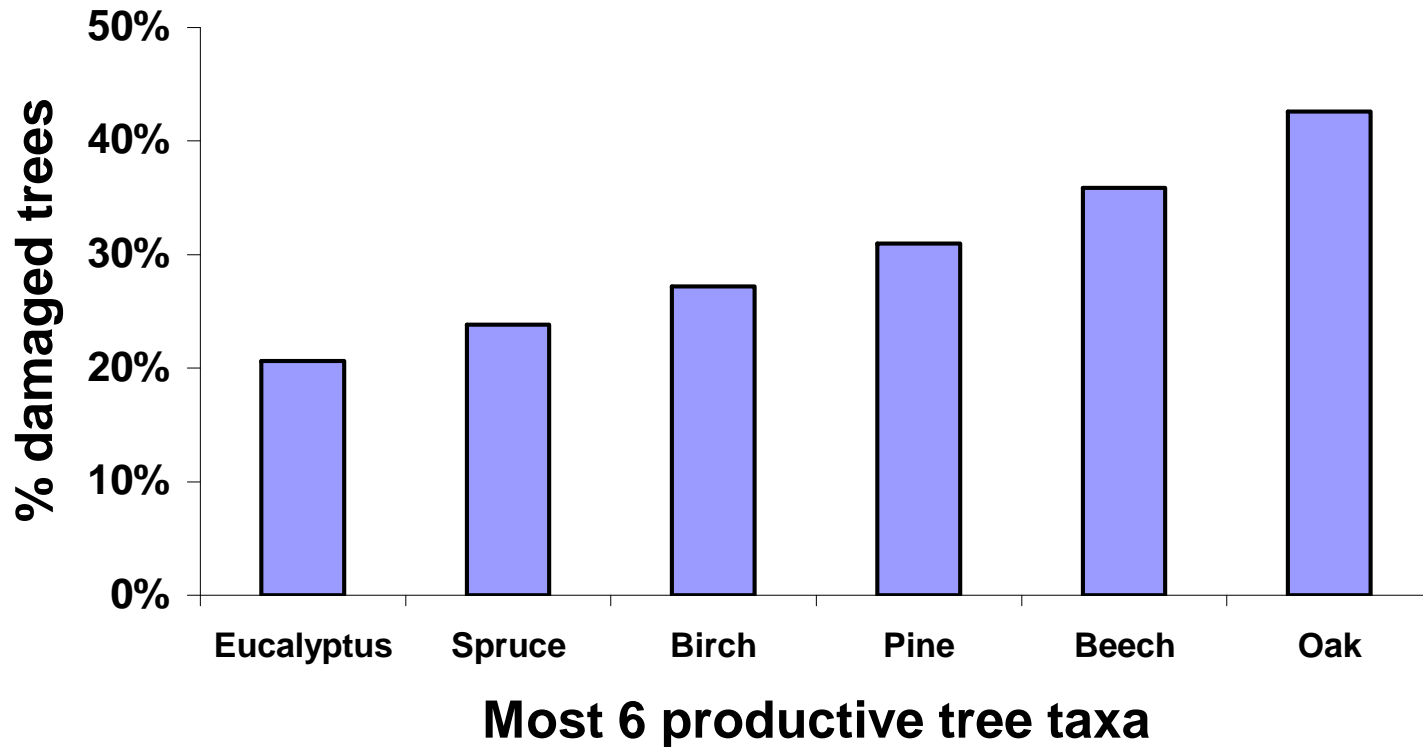
Prevalence of hazards in European forests

Patterns



Prevalence of hazards in European forests

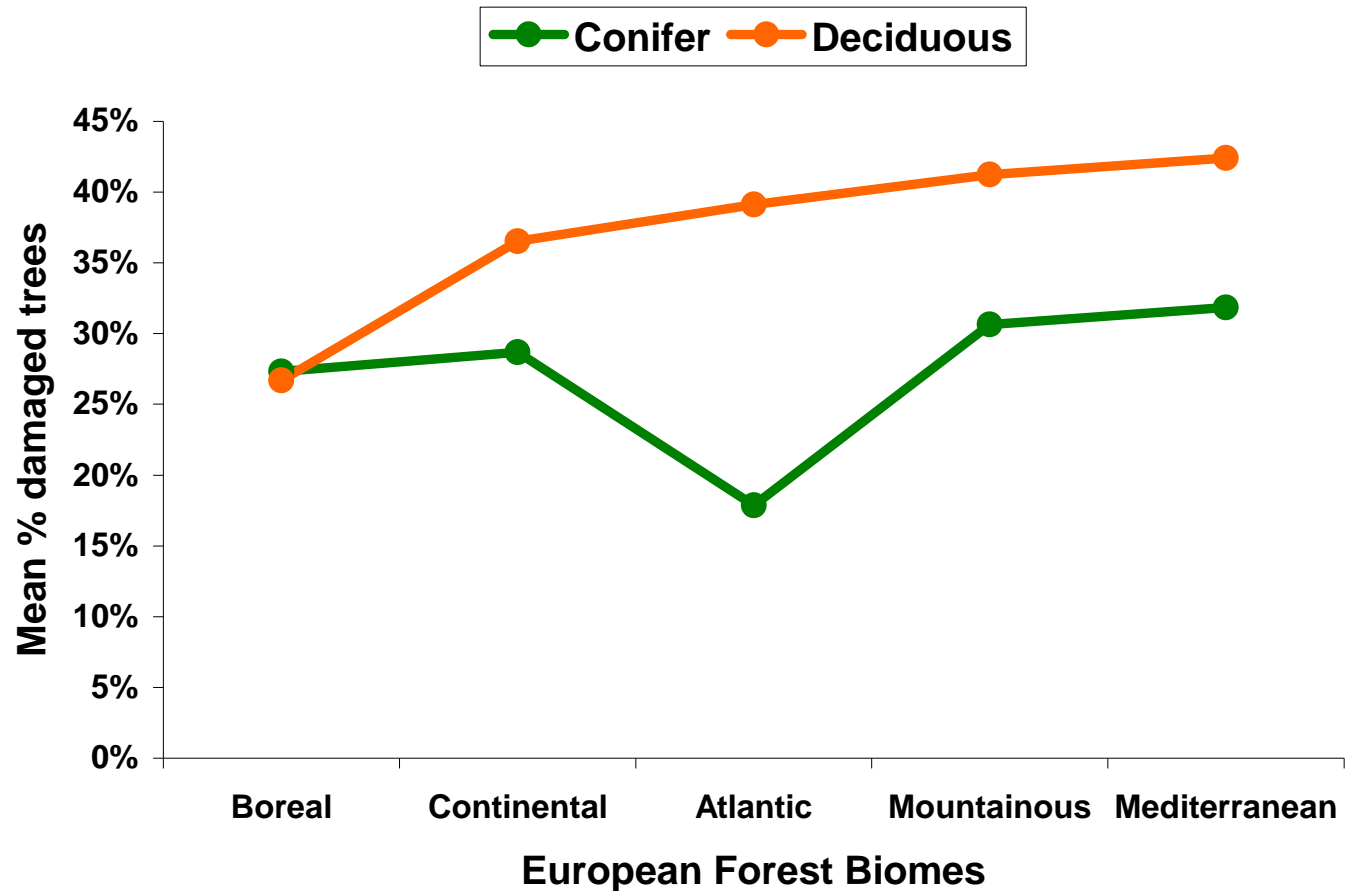
Patterns



Prevalence of hazards in European forests

Patterns

Biome level





next steps.....





IP 13-30 months - main objectives

1. elaboration of forest management alternatives in relation with larger scenarios
2. protocols for measurement of selected WCI and SMI
3. data collection (complete SMI values in test chains forests and *indicator measurement in other reference forests*)
4. *develop response functions to management alternatives*
5. *regional simulation and large scale modelling*
6. *organise and initiate data collection at national level*

M3 Forest to Industry Interactions



EFORWOOD – Expert Advisory Panel

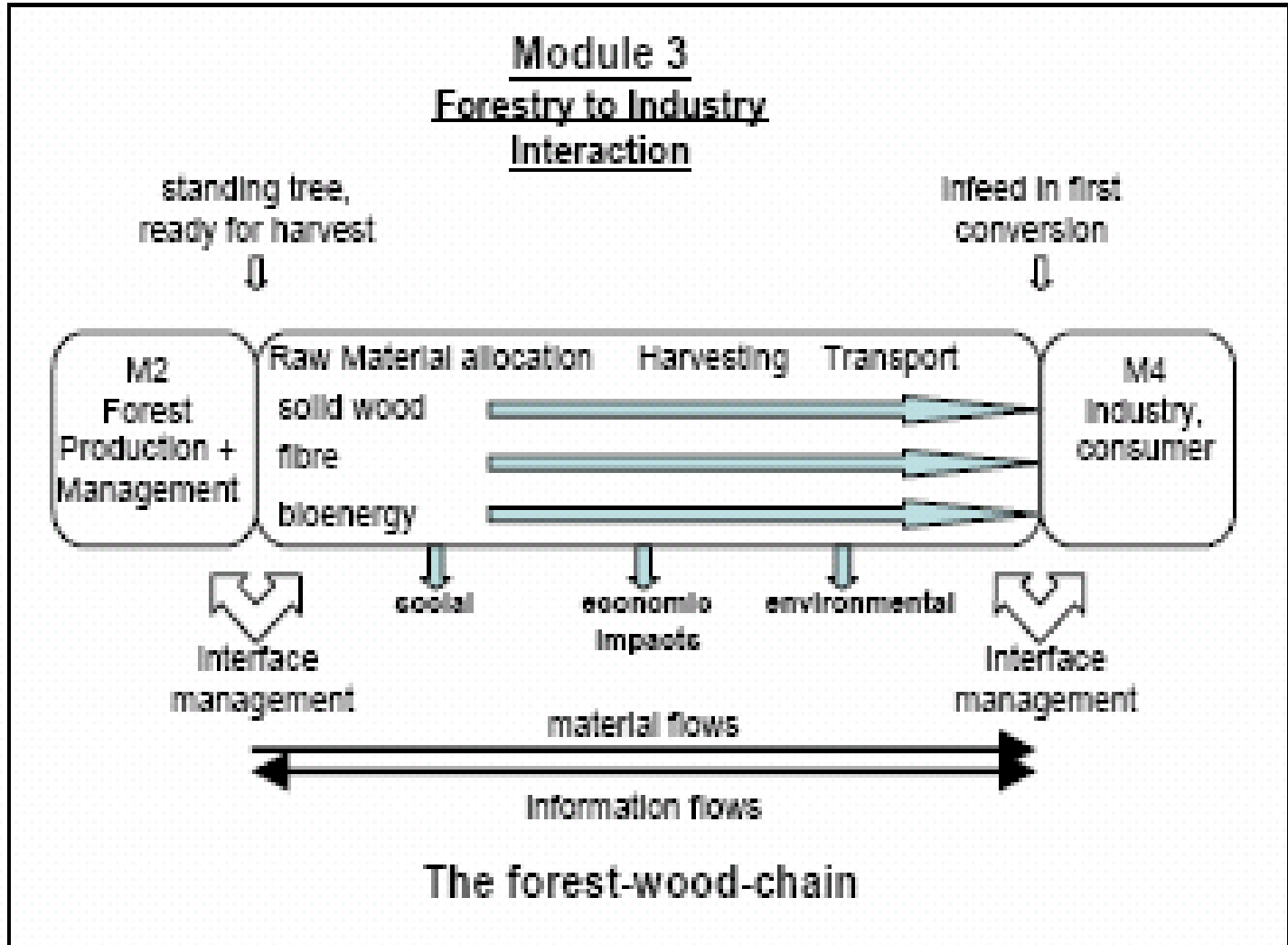
Brussels, 14 June 2007

Gero Becker (M3-leader)
Diana Vötter





Sustainability impact from M3 activities



Work on Allocation

Converted product (M5)	Manufactured Product (M4)	Species Choice (M3/M2)	Desired Wood Properties	Log Properties (M3/M2) (see Table 1 below)
Solid wood-furniture:				
Home and office furniture	Solid Wood	Pine, Beech, Oak	Clear wood, Tight knots if present, No stain. Visual appearance	Log Type I
	Laminated Sheet	Birch, beech + spruce/pine	Clear wood. No stain, straight grain.	Log Type I
Solid wood-joinery:

-Product lists with properties for solid wood

-Product lists with properties for fibre

-Product lists with properties for bio-energy

⇒Ongoing: adaptation to respective case studies

⇒D312 Key products of the forest-based industries and their demands on wood raw material properties. Due: March 2007 [17], status: external review

⇒PD313 Draft concept for the mapping of properties of the forest resources according to potential utilisations/products. Due: July 2007 [21]

⇒PD314 Data collection of allocation processes to be provided for ToSIA at case study level. Due: Nov. 2007 [25]

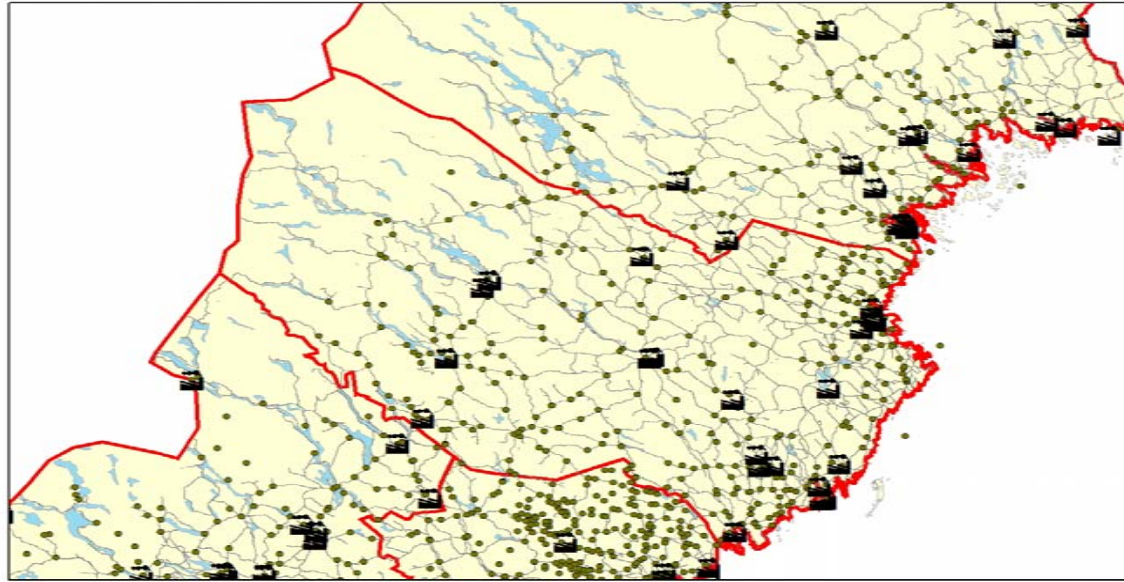
⇒PD315 Draft results of the mapping of properties of the forest resources according to use by generally applicable methods at case study level. Due: April 2008 [30]

⇒PD316 Prototype development of stratified partial models for allocation on case study level. Due: April 2008 [30]

⇒PD 317 Delivery of a preliminary set of data for allocation processes to be provided for ToSIA at European case level. Due: April 2008 [30]



Work on Harvesting



Source: Gert Andersson, Skogforsk

- Mapping of industry structure
- Mapping of timber flows
- Classification of machine parameters

⇒Ongoing: adaptation to respective case studies

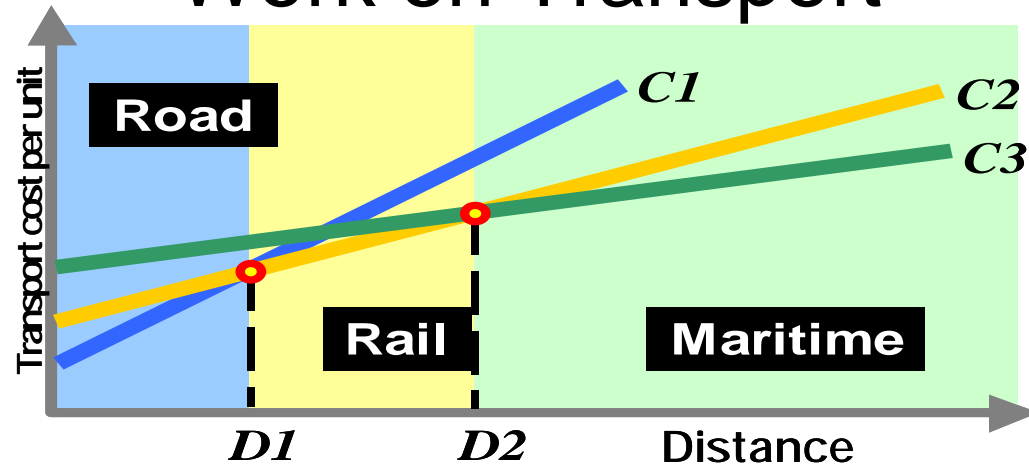
⇒PD324 Data collection of harvesting processes to be provided for ToSIA at case study level. Due: Nov. 2007 [25]

⇒PD325 Delivery of a preliminary set of data for harvesting processes to be provided for ToSIA at European case level. Due: April 2008 [30]

⇒PD326 Prototype development of stratified partial models for harvesting on case study level. Due: April 2008 [30]



Work on Transport



Source: Elisabeth Le Net, AFOCEL

- Collection of transport data for road transport
- Collection of transport data for rail transport
- Collection of transport data for water transport

⇒Ongoing: adaption to respective case studies

⇒PD332 Identification of existing transport methods and alternative methods or new approaches with relevant SI-data. Due: Jan 2007, delivered: March 2007 [15]

⇒D333 Assessment of logistic concepts to sustainability : Development of a common approach to transport issues at case study level within a M3-M4-M5-cross module transport group. Due: Jun. 2007 [20], status: ongoing

⇒PD334 Data collection of and transport processes to be provided for ToSIA at case study level. Due: Nov. 2007 [25]

⇒PD335 Development of a common approach to logistic issues at case level within a M3-M4-M5-cross module transport group. Due: Dec. 2007 [26]

⇒PD336 Prototype development of stratified partial models for transport on case study level. Due: April 2008 [30]

⇒PD337 Delivery of a preliminary set of data for transport processes to be provided for ToSIA at European case level. Due: April 2008 [30]

M3



M3 work on partial models

- ⇒ PD342 To collect and aggregate test chain data from WP3.1.- WP3.4, derive ToSIA inputs in commonly agreed units and formats and deliver those to M1. Due: April 2007 [18], status: ongoing
- ⇒ D343 A method of integrating SIA-results of different partial models in the context of module 3 is developed and first tests are carried out in the framework of the common test chain. Due: August 2007 [22]



M3- Work on different levels of aggregation

	Storyline	Processes	Data	Indicator calculation
Test chain	✓	✓	✓	✓
Single chain	✓	✓	✓	✓
Case study	✓	Ongoing	Ongoing	Ongoing
European study	—	—	—	—

*M3 responsible for Baden Württemberg case study

⇒PD303 Draft description of Bade- Württemberg Case Study. Due: June 2007 [20], status: ongoing

⇒PD344 Compilation of collected data of allocation, harvesting and transport processes to be provided for ToSIA at case study level. Due: January 2008 [27] 7



Cross-Module Activities of M3

- Coordination of transport activities of all modules
- Coordination of Case study Baden-Württemberg
- Participation in:
 - Scandinavian Case study
 - Iberian Case study
- Participation/Chairing of expert groups:
 - Economical-social indicators
 - Environmental indicators
 - Transport indicators
 - Energy
 - Waste
 - Compilation of group work
- Scenario task force
- First MCA- Test on BW chain in Freiburg 14. Sep. 2007



M3 work on Scenarios

Driver	For A1	For B2	Scenario 1 - n
1. Technology-driven			
a) Harvesting technology	Automatisation – 80%	Automatisation – 40%	
b) Information technology	Digital forest wood chain 80%	Digital forest wood chain 40%	
c) Transport technology	Hybrid engines	Alternative transport systems	
2. Policy-driven			
...	x
b) Natura 2000	X % segregation, Y% open	100% Natura 2000 implemented	
c) Birds directive	na	na	
d) Water directive	100%	100%	
...
3. Market driver			
a) Energy prices	Low (surplus capacity of bioenergy sources)	High	volatile
b) population	High growth rate	Lower growth rate	x
c) Product preferences	Hedonic preferences	Value for certified products	?
...

- ⇒ **Ongoing**: adaptation to respective case studies
- ⇒ **Next Major Meeting**: 10-11th July, 2007, Freiburg
- ⇒ **PD345 Development and selection of M3- specific key scenarios for ToSIA at case study level. Due: February 2008 [28]**





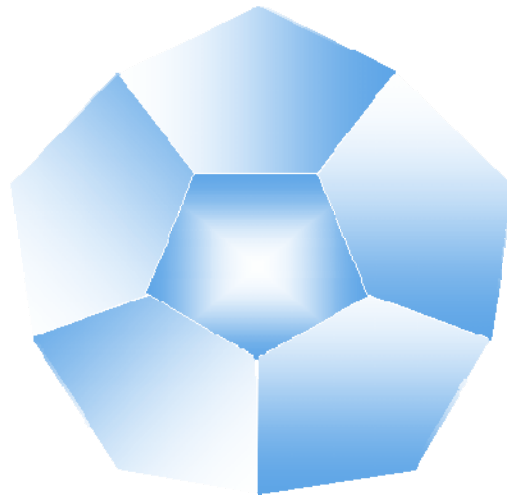
M3 contributions and meetings (in addition to Eforwood week and IP-Boards) M13-M30

- EFORWOOD-related meetings:
 - 27 Feb. 2007: Case study BW meeting Freiburg
 - 5-6 March 2007: Uppsala case study Scandinavia
 - 8-9 March 2007: Allocation meeting Stockholm
 - 19 April 2007: MCA Freiburg meeting
 - 23-24 April 2007: Joensuu ToSIA training
 - 10-11 July 2007: M3-Scenario meeting, Freiburg
- Presentation of EFORWOOD at conferences:
 - 8-10 May 2007: Presentation at the BMBF-Forum für Nachhaltigkeit, Leipzig
 - 1-4th Oct. 2007: 3rd Forest Engineering Conference 2007 in Mont Tremblant, Quebec, Canada
Poster: "Allocation Effects on Sustainability in the European Forest-Wood-Chain's Part from Forestry to Industry"

EFORWOOD

Tools for Sustainability Impact Assessment of the Forestry-Wood Chain

Module 4 : Processing and Manufacturing



Arie Hooimeijer, KCPK, the Netherlands



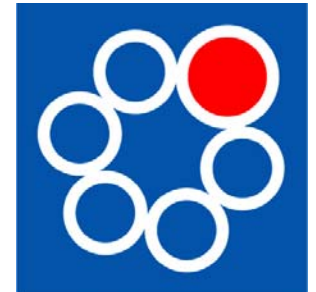
Module 4 Partners



JAAKKO PÖYRY



KCL
re-inventing paper



STFI-PACKFORSK



cepi confederation of
european paper industries



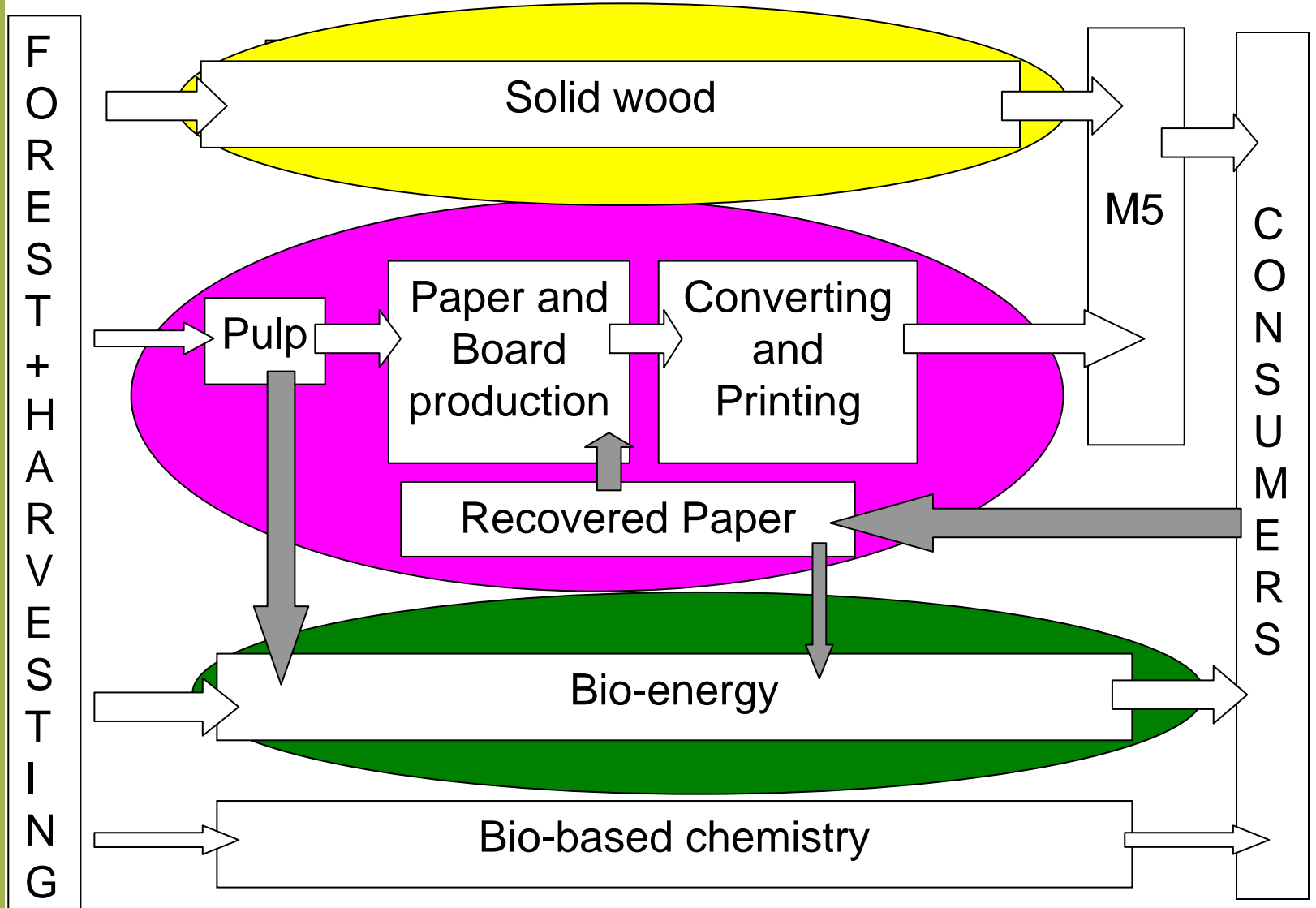
CEI CEI-Bois

bre

BUILDING A BETTER WORLD



Value chains within Module 4



Distribution of partners over value chains

	Solid wood	Pulp and Paper	Bio-Energy
KCPK			
STFI-Packforsk			
VTT			
BRE			
JPC			
Cei-Bois			
CEPI			
KCL			
TUZVO			



Work Package 4.1 Data collection

Objectives:

- 1) C&I selection
- 2) Definition and description of Module 4 processes in test chains, single chains, case studies and European FWC,
- 3) Data collection for test chains, single chains, case studies and European FWC
- 4) Selection of relevant policies on European, National and Regional level

— finalised — ongoing — not yet started

- 1) C&I selection for the first phase was performed via WP 4.1, for the next phases a separate taskforce has been initiated (EFORWOOD wide)
- 2&3) Work on these issue is in M4 divided over 3 value chains: Pulp & Paper, Wood Products and Bio-energy. There are responsible partners for each value chain and the WP leader coordinates the joint efforts (i.e. in Case Studies etc)
- 4) The associations in M4 (CEI-Bois and CEPI) have developed an overview of all relevant EU policies affecting the industry.

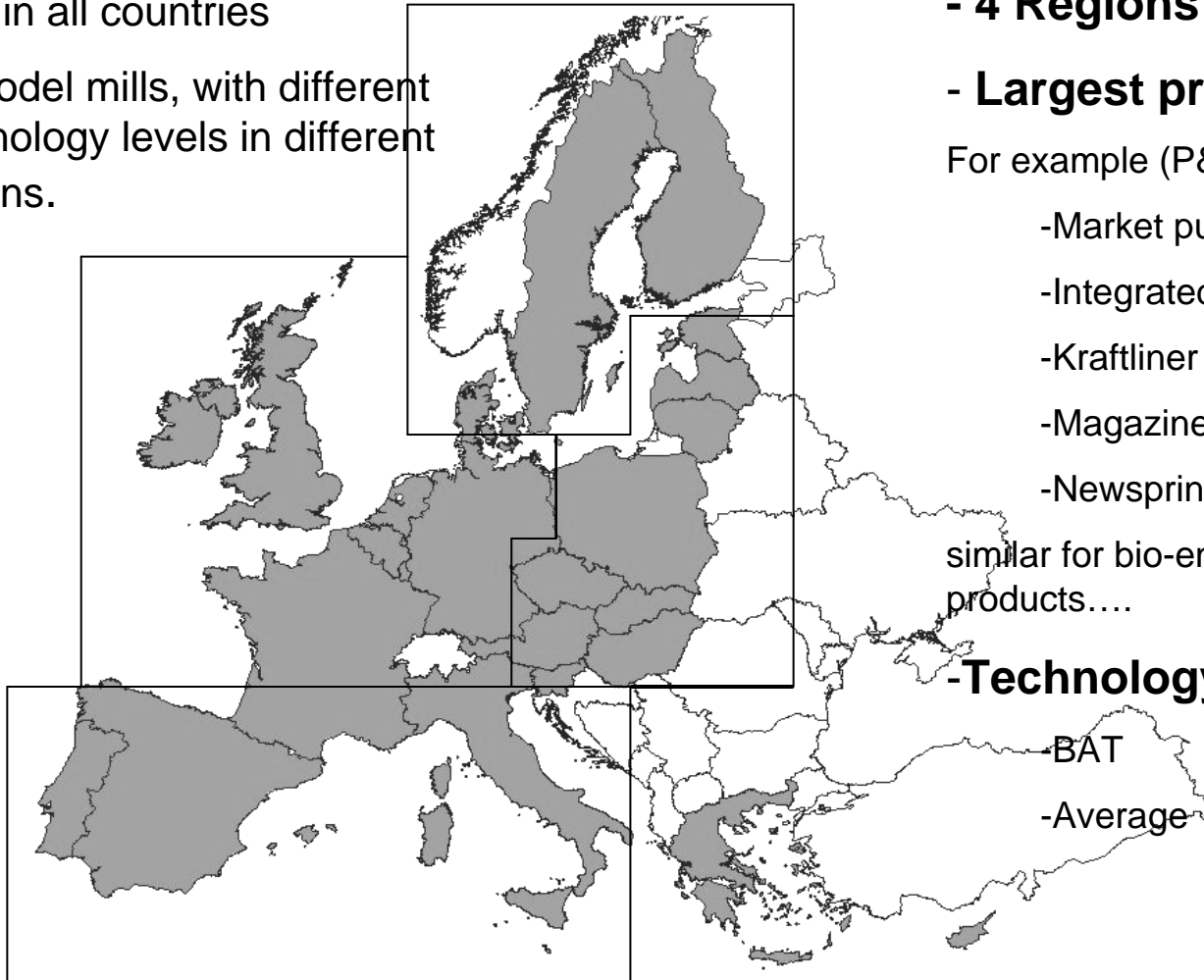


Work Package 4.1– ongoing issues

Structuring data collection:

Not possible (nor appropriate) to collect data for all products, in all mills in all countries

→ Model mills, with different technology levels in different regions.



Possible solution....

- 4 Regions
- Largest product groups

For example (P&P)

- Market pulp
- Integrated fine paper
- Kraftliner
- Magazine
- Newsprint

similar for bio-energy and wood products....

-Technology

- BAT
- Average



Work Package 4.2 Development of process models

Objectives:

- 1) to review and analyse existing tools and methodologies
- 2) to develop (if needs arises) new tools or to refine and adopt existing ones
- 3) to study the impact of process related policy changes and technologies on FWCs levels of sustainability in the future

— finalised — ongoing — not yet started

- 1) A review of existing tools and a report containing benchmarking options for companies / regions / national / European level across the manufacturing FWC and throughout Europe, were delivered in the beginning of 2007.
- 2) The development of new tools or the refining of existing tools, is an ongoing process during the EFORWOOD project and will take place if needs arise in e.g. the collection of data and the development of response functions
- 3) A review of technology development trends within the various processes has been delivered. This document, including all relevant new technologies in the 3 value chains, will be used to study the impact of new technologies related to drivers in the scenarios and reference futures.



Work Package 4.2 – ongoing issues.

**New technologies (+/- 80) in 3 value chains have been identified
Identify the drivers to implement these technologies? e.g.**

- economic
- consumers
- legislative
- environmental

The drivers can be linked to drivers in baseline and scenario's

**Under what circumstances (scenario/baseline/region/timescale)
will these technologies be implemented and on what scale? e.g.**

	within 5	5-10	10-15	15-20	20-25	more than 25
Expected time	years	years	years	years	years	years

technology in all SMEs

technology generally adopted

technology adopted in best practice

Further next steps:
technology in industrial trials

What will be the (quantitative) effect of implementation of the new technologies on the sustainability of the FWC?



Work Package 4.3 Industry Dynamics

Objectives:

- 1) to provide specifically robust data and support in refining the EFI-GTM model in WP1.3 in the manufacturing, processing and market parts of the FWC chain
- 2) to carry out complementary, more detailed analysis of key aspects of the industry dynamics
- 3) to develop tools and carry out analysis of industry dynamic aspects not covered by the EFI-GTM model in regard to FWCs sustainability levels.

finalised



ongoing



not yet started



Work Package 4.3 Industry Dynamics

Already delivered:

- 1) Data and support for EFI-GTM
- 2) First report on the industry's competitiveness and its impact on industry dynamics

Competitive balance between FWC actors is not stable, power shifts in competition can be sudden and what (contradictory) trends affect the industry in what way?

- 3) First report on the interdependence between the agents within the FWC

The forest sector faces hard competition on the raw material side as well as on the market side, in order to succeed, the whole value network must be optimised.. → understand the dynamics of the FWC and co-operate to create value!

- 4) Trade projections of forest products by country and product

Reports will be further linked to EFORWOOD and ToSIA work and scenario's in later phase of the project





WP5.1 – WP5.3

Month 13 – 30 Plans and progress

Carl Olsmats

June 14

2007

WP5.1: Mapping, Aggregation of Processes and Value Chains for Final Products

Description of work month 13-30

- ❖ Following the definition of the supply chain of the FWC, the mapping processes, the aggregation of indicators, the WP5.1 will work on following tasks:
 - Revisioning and fine-tuning of the processes and indicators of the supply chain according to the collection process needs in WP 5.2 and M1.
 - Definition of module specific indicators for the ToSIA
 - Definitive data collection for ToSIA of the single chains
 - Mapping of processes and definition of ToSIA case studies and EU FWC (project leader Iberia)

Deliverables month 13-30

- Month 15: PD5.1.5; report on revised process mapping and aggregation, serving the case studies in WP5.2, including identification of tentative sustainability indicators for WP5.3 – Draft expected in June
- Month 18: D5.1.6; Report with collected data for the ToSIA test chain/single chains and process mapping/definition of ToSIA case studies- Draft expected in June



WP5.2: Data Collection and Analysis and Case Study Development

Description of work month 13-30:

❖ Task 5.2.1 – Collection and Analysis of information related to the intermediates attitudes and demands on FWC products

- Focus Groups.
- Expert Interviews

D 5.2.3 – Report of the analysed information due Month 18 – Draft available now



WP5.2: Data Collection and Analysis and Case Study Development

Description of work month 13-30:

- ❖ Task 5.2.2 – Development of Case Studies

Case Study Report (Month 18)

- Selection and characterisation of Case Studies (Month 13-17)
- Data Collection (Month 13-17)

D 5.2.4 – Report of Analysed Information (Month 24)

- Case Study Data Analysis (Month 18-24)
- Implication for ToSIA (Month 18-24)



WP5.2: Data Collection and Analysis and Case Study Development

Description of work month 13-30:

❖ Task 5.2.3 – Knowledge Development

PD 5.2.5 Month 24 –

Training Session on data collection and survey

PD 5.2.6 Month 24 –

Training Session on data analysis for consumer's FWC reaction

PD 5.2.7 Month 30 –

Report on training methods for the analysis of Consumer's attitudes to FWC products



Module 5 – Industry to consumer interactions
Training session. Zvolen May 10th 2007.

“M5 perspectives on scenarios”

Carl Olsmats

Module partners:

AIDIMA – STFI/Packforsk – Jaako Pöyry

CEI-Bois - CEPI



Sustainability "in simple terms"

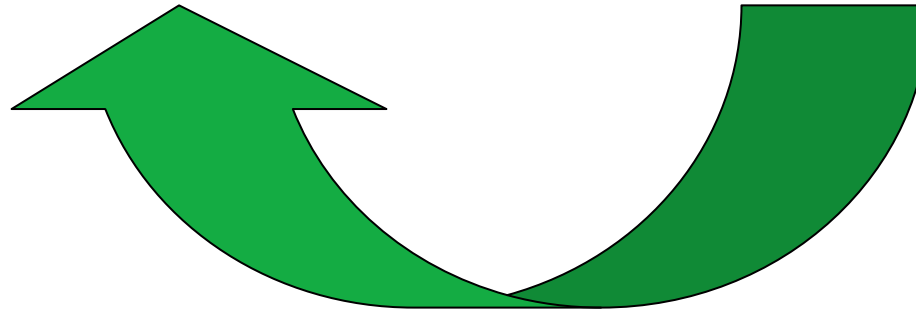
EFORWO



**Sustainable
resource supply**

**Sustainable
processes**

**Sustainable
demand**



Sustainable recovery



Globalisation is the "name of the game" –

Competition at all levels

- Regions
 - Nations
 - Cities
 - Villages
 - Companies
 - Associations
 - Universities
 - Schools
 - Individuals
 -
- Products
 - Services
 - Packaging
 - Materials
 -



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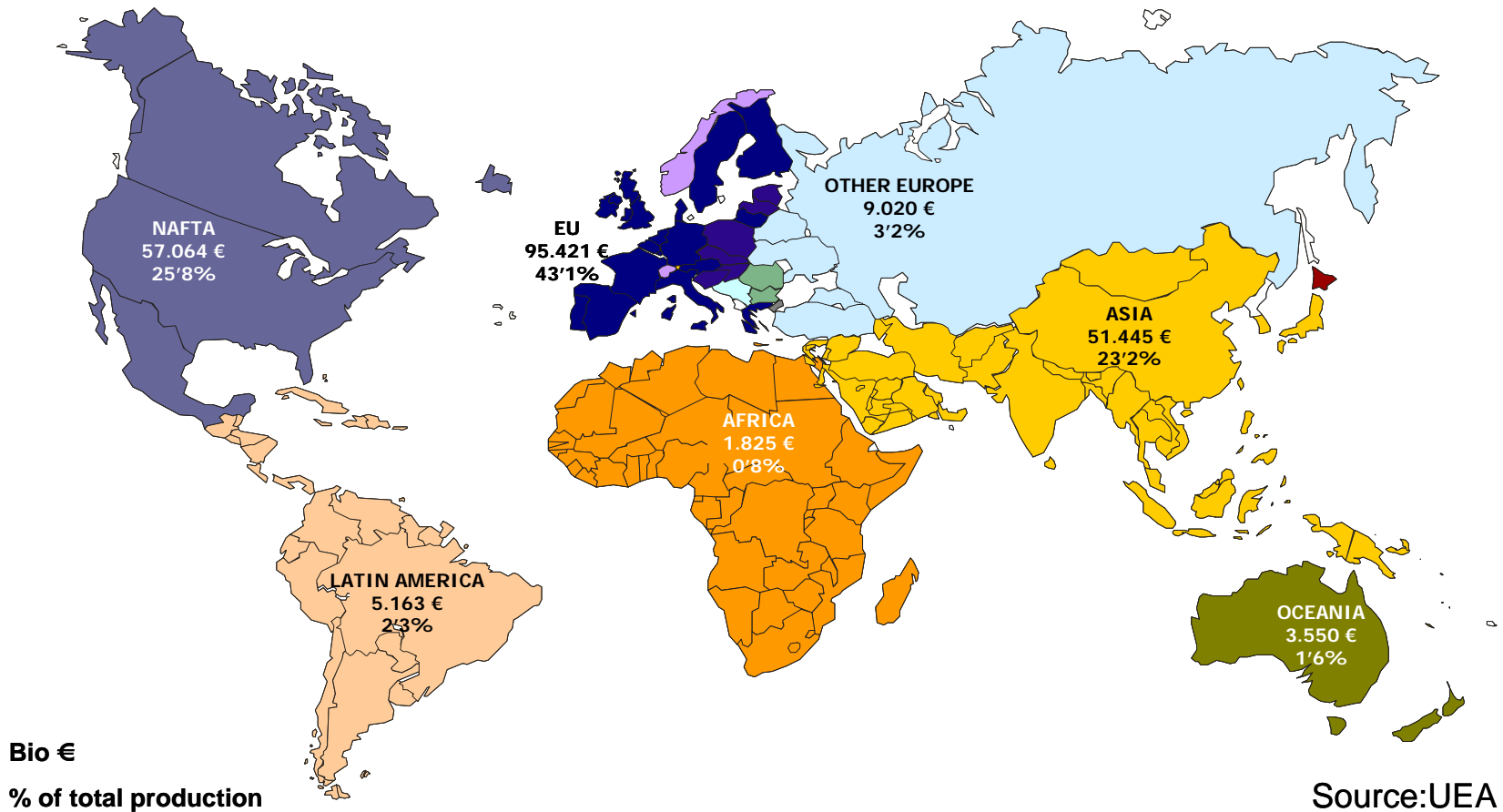


5. Attitudes and perceptions of consumers

5.3. Solid-wood product: furniture

PRODUCTION

Furniture global production in 2004



Case study specific scenarios, an example

- Apply general scenarios A1, B2
..to all cases
- Market scenarios - Iberia
 - X % Newspaper substituted by e-media
 - Changed consumer preferences (packaging, furniture..)
- Policy scenarios BW/ Scandinavia
 - Forest management
 - Bio energy



5. Attitudes and perceptions of consumers and customers

5.1.a Fibre-based products: packaging

Future of packaging business models

- *key variables*

Actors

- Legislation
- Standards
- Demands

Company



Supplier

- Price
- Transports
- Resources

Competitors

- Other Materials
- Emerging markets (Asia)
- Promote development of packaging Industry in Asia e.g. India

Customers

- Economy
- Life style
- Demography
- Policy
- Image

Raw Material

- Price
- Properties
- Certificate
- Availability



5. Attitudes and perceptions of consumers and customers

5.1.b Fibre-based products: books

FUTURE OF BUSINESS MODEL

Customers

- Trends within content
- Trends within lay out
- Buying process
- Variation demands (LP3, DVD)
- Better economy
- Quality requirements

Company



Actors

EU, Community, Energy supplier, TV, etc.

- Legislation
- Standards
- El. Price
- Debate

Suppliers

- Price
- Transport Availability

Competitors

- Price
- Technology
- Globalization

Raw Material

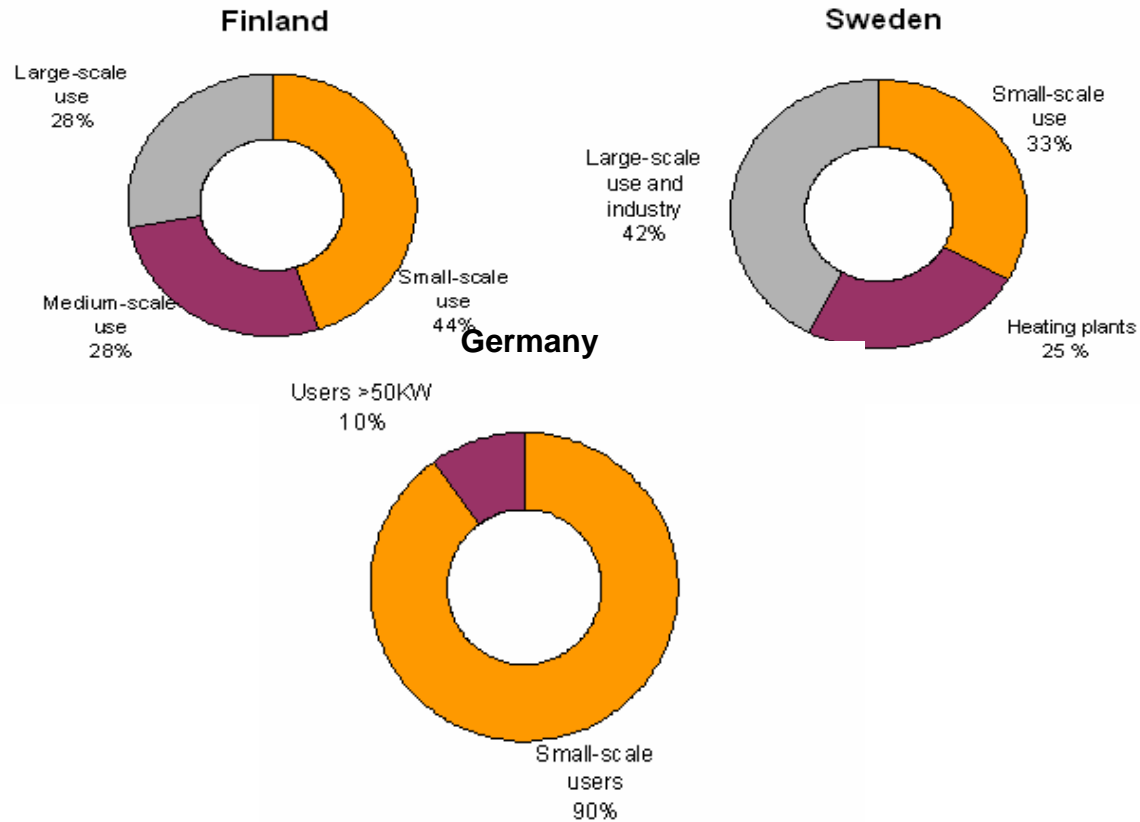
- Availability & Price
- Standards & Certificate
- Demands



5. Attitudes and perceptions of consumers and customers

5.2. Bio-energy product: pellets

User Segments in Studied Countries



6. Conclusions

Conclusions on pellets – B2C / B2B

✓ **Disadvantages:**

- ❖ One-time investment (pellet heating system)
- ❖ Storage (space)
- ❖ Maintenance, cleaning (time and effort)

✓ **Advantages:**

- ❖ Environmentally sound, ecology, sustainability.
- ❖ Low running cost compared to oil/gas energies.
- ❖ Not dependence on fossil fuels.





WP 5.3 Synthesis – Improvement in Interacting Value Chains

Overall purposes:

- Make it possible to increase pro-activity for the FWC.
- Develop and suggest strategies for increased sustainability for significant FWC-products and market sectors.

Partial objective:

- Develop and apply a M5 sustainability process tool.
- Kickoff Month 19

WP 5.3 Synthesis – Improvement in Interacting Value Chains

- Phase 5.3.1 – Scenario development (incl response functions)
- Phase 5.3.2 – Vision and strategies
- Phase 5.3.3 – Communication and dialogue





WP 5.3 Synthesis – Improvement in Interacting Value Chains

- Phase 5.3.1 – Scenario development
 - 5.3.1.1 – Scenario development including response functions.
 - 5.3.1.2 – Consolidation and analysis of WP 5.1, WP 5.2, stakeholder sessions, etc.
 - 5.3.1.3 – Planning of phase 5.3.2 and a M5 sustainability process tool.
 - 5.3.1.4 – Compilation of deliverables.

WP 5.3 Synthesis – Improvement in Interacting Value Chains

- Phase 5.3.2 – Vision and strategies
 - 5.3.2.1 – Identification of significant aspects (Scenario development output and SWOT).
 - 5.3.2.2 – Development of draft pro-active sustainability strategies.
 - 5.3.2.3 – Evaluation of processes in phase 5.3.1 and 5.3.2 and formulation of the M5 sustainability process tool.
 - 5.3.2.4 – Compilation of deliverables.



WP 5.3 Synthesis – Improvement in Interacting Value Chains

- Phase 5.3.3 – Communication and dialogue
 - 5.3.3.1 – Dialogue with Eforwood modules and stakeholders
 - 5.3.3.2 – Suggestion of pro-active sustainability strategies.
 - 5.3.3.3 – Communication of WP results.
 - 5.3.3.4 – Compilation of deliverables.



WP 5.3.1 – Scenario development

Deliverables (Month 30) (D 5.3.1)

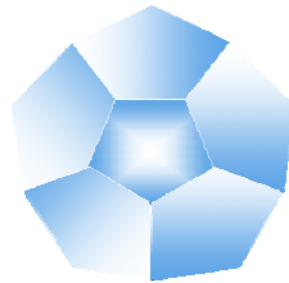
- Scenarios including response functions.
- “summarised data related to attitudes on sustainability in the context of FWC-based products in interacting final product value chains”
- Plans for further work and for a M5 sustainability process tool.



The EU Integrated Project

EFORWOOD

**Tools for Sustainability Impact Assessment
of the Forestry-Wood Chain**



**External Advisory Panel Meeting
Brussels, June 14th 2007**

Module 6 (Knowledge Transfer) update

Denis Mc Gowan



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- Year 1 review – recommendations for M6
- Activities since January
- Plans for next 12 months
- Problems / concerns
- Questions



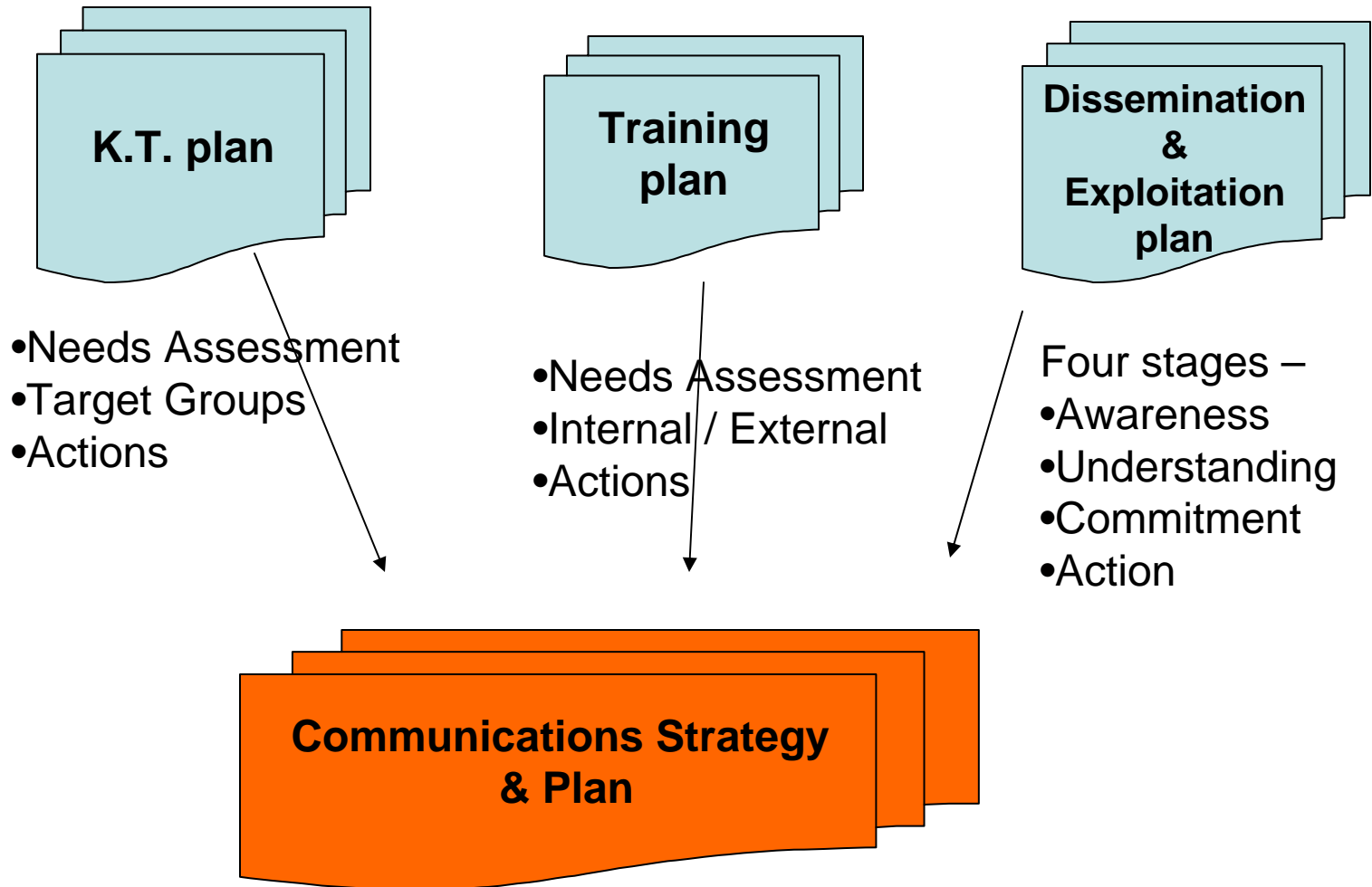
Year 1 Review - recommendations

- "It is urgent to base the outreach on a clear strategic program concentrating on policy makers inside and outside the forest and wood processing sector."
- "It is proposed to carry out fewer but more focused activities in order to achieve a more effective result."
- "Links need to be established with other IP projects in the same thematic priority."
- "There is a need of developing contacts with relevant sections in the DG's of the Community (e. g. sustainable land management programme) and to use the outputs of the 5th and 6th FP, and of other international agencies such as, for instance, FAO."
- "Stakeholders should play an important role in the indicators definition as well as in project activities in general."



Activities since January

Original Workprogramme included:



Activities since January

Brochure design

- New brochure front page – hired a professional designer
- Updated content based on project progress
- Feedback from partners – lots of it !

Web design

- New home page consistent with brochure design
- Plan to revise structure and layout of home page for public and partners
 - eNewsletter on home page; Simplified structure – less tabs; Search mechanism

EFORWOOD Conference

- Date and venue confirmed – 1st and 2nd October 2007, Arsenal Building, Brussels
- Keynote speakers identified and currently being approached
- Draft programme prepared

Other

- Recording of ToSIA training session – for use by all partners



Plans for next 12 months

Communications Strategy →

Communications Plan

The plan describes:

- ways in which we plan to accomplish the communications objectives (our program of work)
- how and when we plan to implement the programme of work (the tools and timetable)
- how we will measure the results (evaluation).



Plans for next 12 months

Communications Plan

What	When	Target Groups	Desired Impact	Comms. Channels	Who is responsible	What information is required and from whom	Evaluation method(s)	Link to Training Plan		Link to Dissemination & Exploitation Plan		Link to Knowledge Transfer Plan	
								Target groups	Training methods	Target groups	Modes of Diss. & Exploit.	Target groups	Modes of KT
Guidance at stakeholder events to the story" about EF	Apr-07 - Mar-08	Stakeholders	Awareness	Meetings, Presentation	M0 (ID opportunities by other Modules)	All modules - identify and communicate opportunities	Number of events attended, number of presentations made	N/A	N/A	Industry & EU Commission	Presentations, brochures	N/A	N/A
Week Zvolen	May-07	All partners and EU Commission	Review Year 1 plan the work for Year 2	Meetings, Workshops	M0 + all modules	All modules – prepare work programme based on 13-30 plan. Ensure all cross-module discussions are arranged and planned	Event evaluation questionnaire	Partners	Training plan activities – scenario workshop	Partners and their contacts	Web site, presentation material	Partners	Meetings / workshops
EFORWOOD brochure	May-07	Stakeholders, particularly Industry	Increase awareness and build understanding about the project and its benefits	Brochure in paper and electronic formats	M6	Project overview and key messages from IP Board	Record Feedback	N/A	N/A	Industry, Commission, NGOs	Brochure	N/A	N/A



Plans for next 12 months

Major tasks

- EFORWOOD Conference
- Revised web site and brochure
- Stakeholder interaction in conjunction with Module 0, WP 0.1
 - Roadshow
 - Meeting with EU Commission
 - Interaction with other projects and relevant outside organisations
- SENSOR Conference - April 2008



Problems / concerns

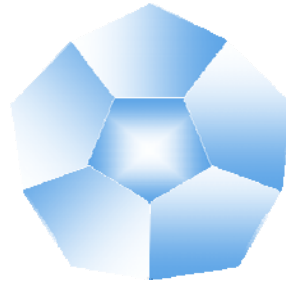
- How to sell our message to the outside world – external communications (Agenda item 7)
- Extracting information about all the good work being done by the different modules and using it effectively
- Possible revised role for the industry federations – impact on M6 resources
- INCO partners – need to figure out an effective role given the limited resources



Questions / Discussion



**Thank you for your
attention**



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