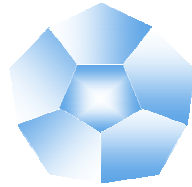


EFORWOOD



Tools for Sustainability Impact Assessment of the Forestry-Wood Chain

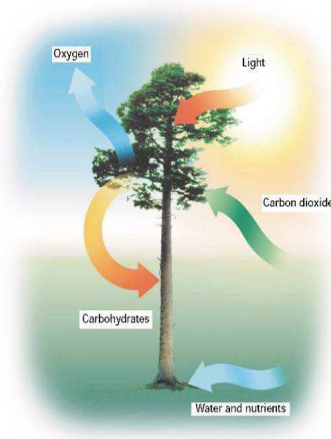
Prof. Dr. Dr. h.c. Gero Becker
University of Freiburg

*National Wood Resource Balance Workshop UNECE / FAO
Geneva, 31.03.2008*



Industrial activities are evaluated against
their impact on Sustainable Development





The Forest-based Sector has the potential to play a key-role in the development of a sustainable society!



A number of different methods are used today

Examples:

- Environmental Impact Assessment
- LCA (Life Cycle Analysis)
- Ecological footprint
- Carbon footprint



None of them allows for a complete analysis of all aspects of sustainability, which is the objective of EFORWOOD!

EFORWOOD is developed for the forest-based sector but based on the idea of

developing a general method to assess the sustainability impact of complete industrial sectors (or parts thereof).



Foto: Larry Fischer Scanpix



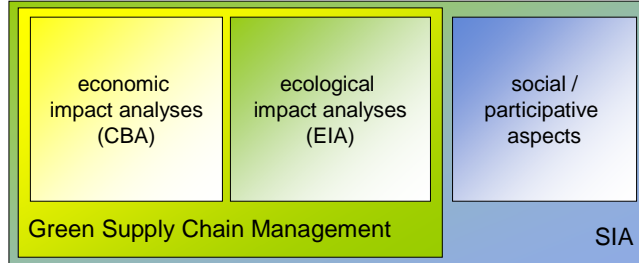
5

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



6

Sustainability Impact Assessment (SIA)

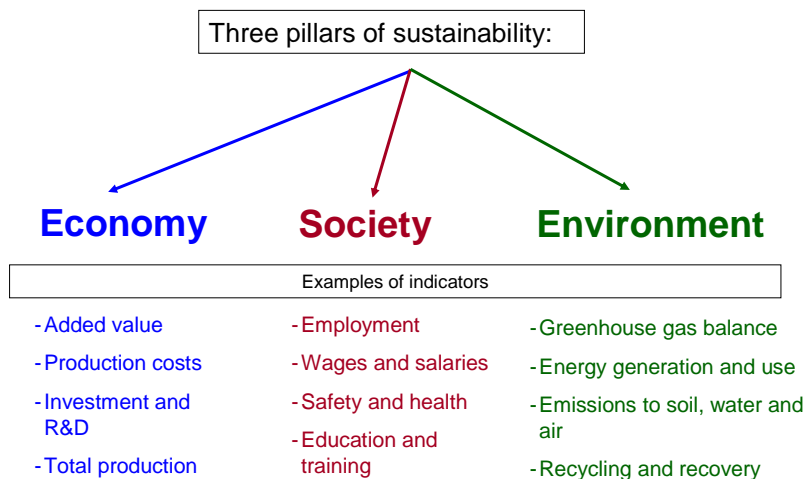


- Brundtland-Report (1987)
 - „sustainable development“ becomes a major issue
- UNCD Rio de Janeiro (1992)
 - concept of sustainability defined (3 pillars: social, economic, ecological)
- WTO negotiations (1999)
 - EU introduces SIA; this is setting standards!!
- at EU levels also applied in other policy issues (since 2001, ongoing)
 - estimate the impacts of policy decisions / changes in frame conditions / techn. innovations on sustainable development

7



EFORWOOD develops a Tool for Sustainability Impact Assessment (ToSIA)



8





ToSIA is suitable for:

- 1) identifying hot-spots in value chains that can contribute to improved sustainability
- 2) assessing sustainability impacts of value chains of competing materials/industrial sectors.



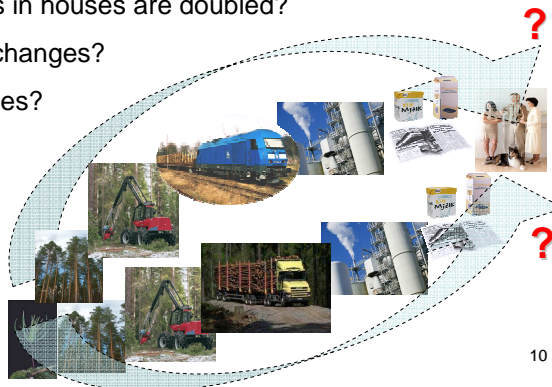
Approaches will not be developed within the scope of the current project, 2005-2009



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

What if:

- o EU introduces new policies on e.g. energy / transport / recycling / habitat protection?
- o wooden frames in houses are doubled?
- o global market changes?
- o oil prices doubles?





This is done by:

- selecting, weighing and analysing indicator values
- applying Sustainability Indicators to production processes.
- relating Sustainability Indicator values to flow of material.



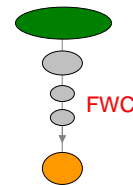
11



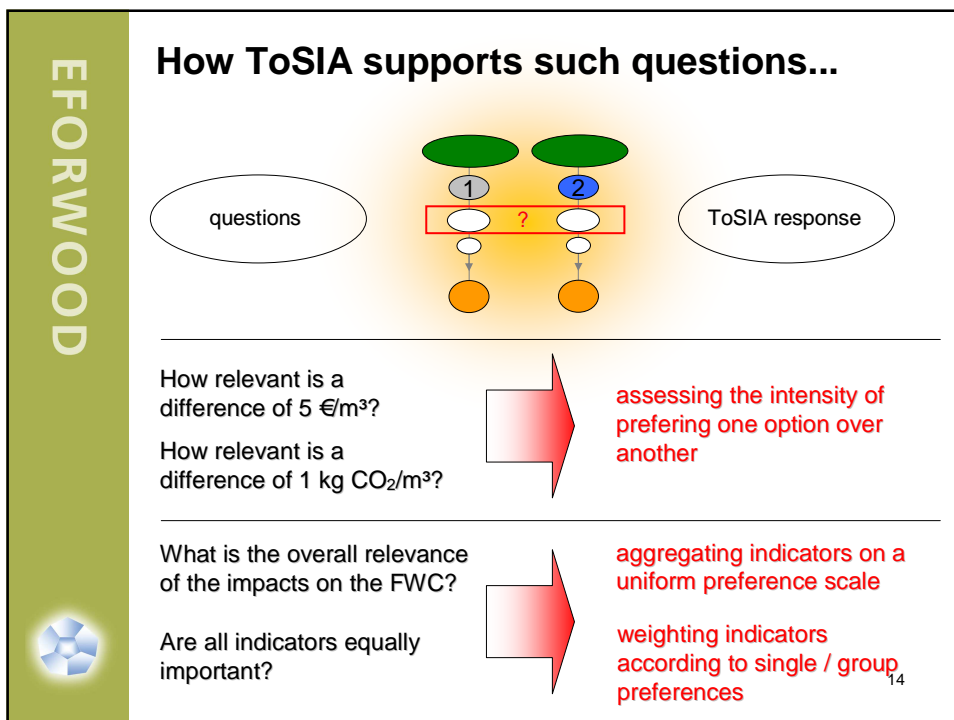
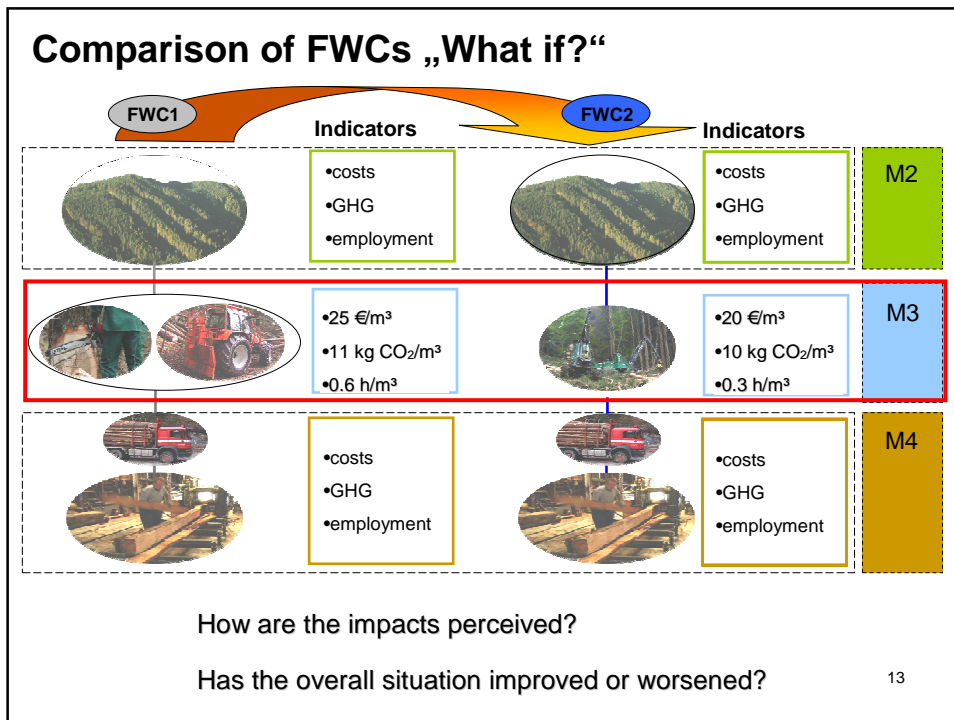
What can you do with ToSIA?

ToSIA will be able to assess:

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

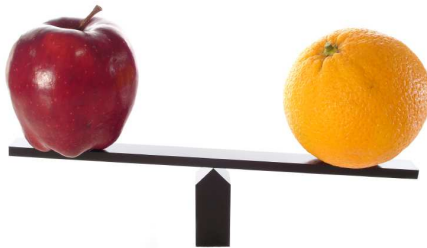


12





Q: How do you compile/weigh indicators of different measuring units?



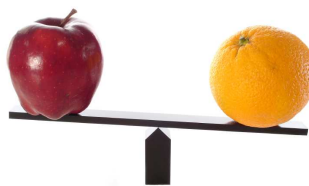
A:

1. As far as possible we convert indicator values to standard measuring units, e.g. tons of carbon, hectares, Euros.
2. Some indicators do only allow for qualitative measuring units.
3. In a holistic assessment the importance of each indicator is determined by the user. ToSIA will, in a transparent way, offer preference tools such as scoring techniques.

15



... multi-criteria evaluation



- compare alternative FWCs in a consistent and transparent manner
- consider subjective value information
- demonstrate concordance or discordance among stakeholders (groups)
- support negotiation and consensus-building

16



The main EFORWOOD "products"

ToSIA will be available in three different versions:

ToSIA-FWC

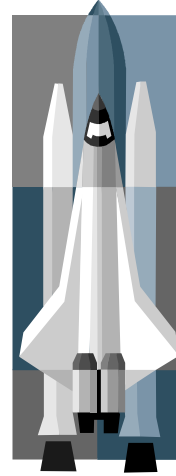
The basic version of ToSIA used for assessing indicator values for processes along single/multiple FWCs.

ToSIA-E

A tool for integrated sustainability impact assessment of the FWC in terms of Cost-Benefit, Cost-Efficiency and Multi-criteria analysis.

ToSIA-U

A simplified version of ToSIA including a user-friendly interface and context-help.

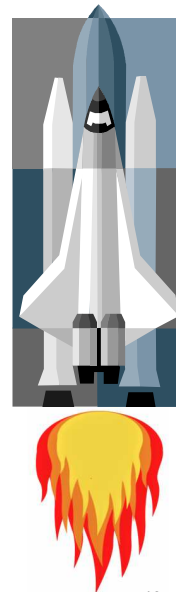


17



Foreseen applications

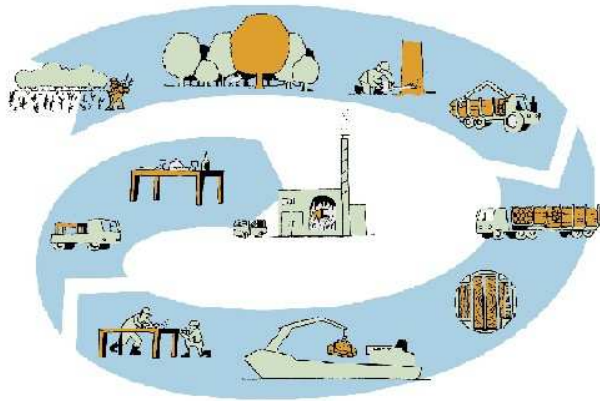
- **ToSIA-FWC** will be used to assess the impact on the sustainability indicators of a limited number of scenarios.
- Scenarios will be chosen based on external and internal drivers such as policies, climate change, market changes and innovations.
- **ToSIA-E** is used to analyse and evaluate the impacts.



18

ToSIA operates on three levels

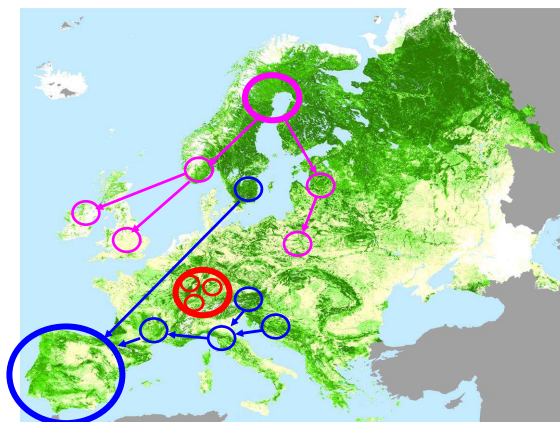
(1) Single FWCs



19

(2) Case study FWCs

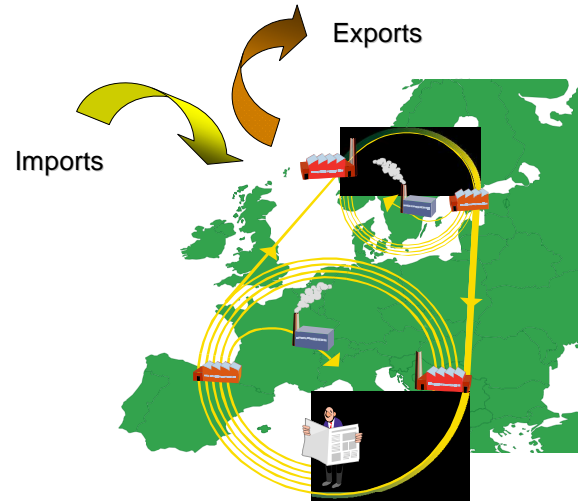
- “Production driven” (North Scandinavia)
- “Products driven” (Iberia)
- “Regional” (Baden Württemberg)



20



(3) European FWC



21



European FWC

Status Quo

- EU 25 + Norway, Switzerland
- 60- 80% of all material flows
- Data from countries (or country groups)
- Official statistics
- 2005 (baseline)

22



European FWC

The Future

➤ Future baselines 2015 / 2025

- Only „organic“ development
- Same processes as 2005
- EFI- GTM describes market changes

⇒ SIA- Indicator values ?

➤ Scenarios: 2015 / 2025

- External drivers:
 - Political
 - Technological
 - Social
- Processes will change

⇒ SIA- Indicators?

23



European FWC

The Future

➤ Scenarios: 2015 / 2025

- External drivers:
 - Political
 - Climate change and mitigation policy
 - Environmental regulation policy
 - Social
 - Consumption and lifestyle changes
 - Technology
 - Technology changes
- Processes will change

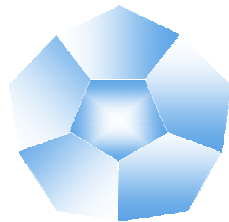
⇒ SIA- Indicators?

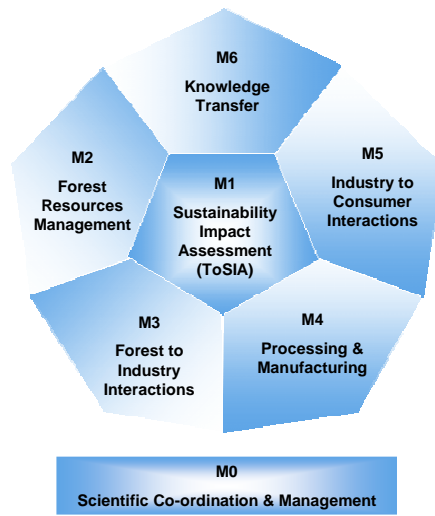
24

Possible European Scenarios



Some facts about EFORWOOD

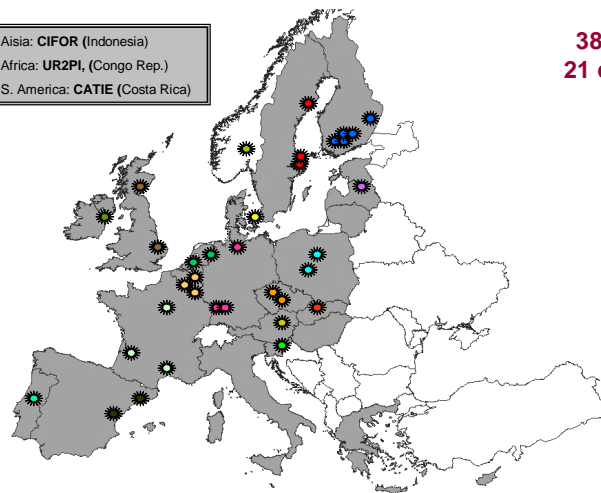




Module structure



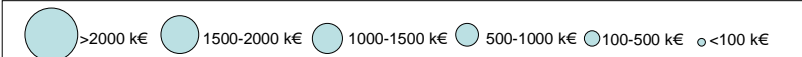
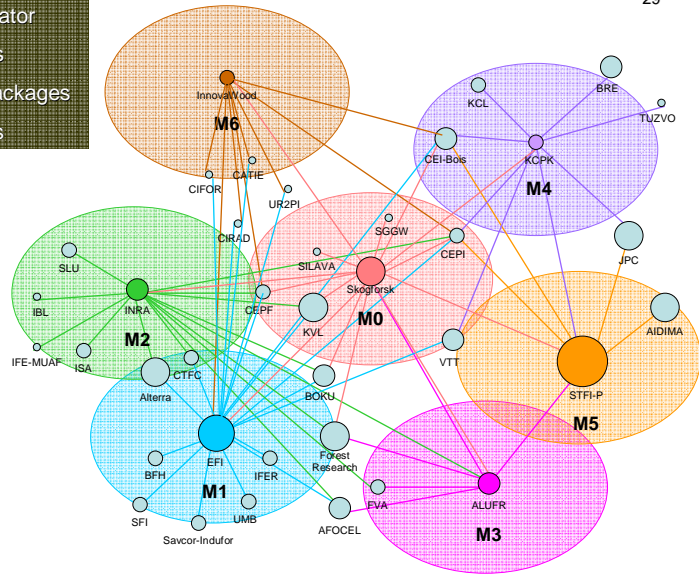
Aisia: CIFOR (Indonesia)
 Africa: UR2PI, (Congo Rep.)
 S. America: CATIE (Costa Rica)



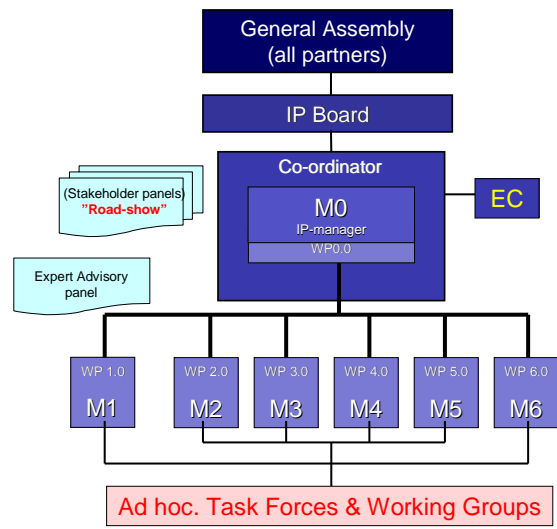
Partner map

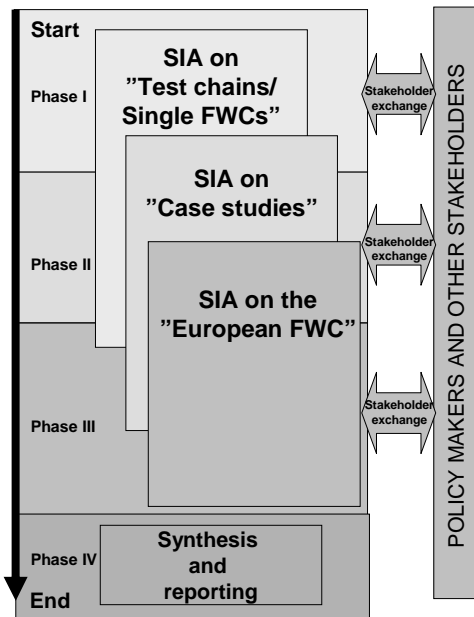
38 partners
21 countries

EFORWOOD
 1 Coordinator
 7 Modules
 28 Work packages
 38 Partners



Management structure





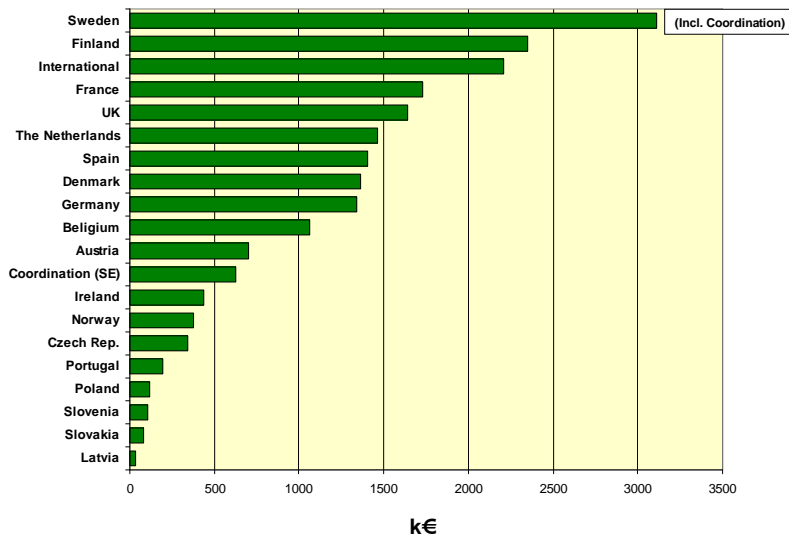
The project is including a continuous participatory process involving key stakeholders of the FWC



Budget (4 yrs)

Total: 20 milj €

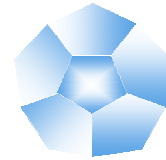
EU contribution: 13 milj €





Summary & Conclusions (1)

- The overall purpose of EFORWOOD is to develop a general tool for Sustainability Impact Assessment (**ToSIA**) of complete production chains.
- **ToSIA** is designed to:
 - identify hot-spots in production value chains that can contribute to improved sustainability
 - compare production chains for competing materials/industrial sectors. (NOT DONE IN THIS PROJECT!)

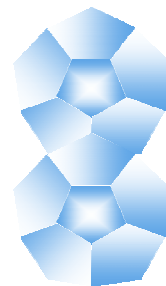


33



Summary & Conclusions (2)

- The FBS is used as the study object because it:
 - is a major industrial sector in EU.
 - includes basic prerequisites for Sustainable Development.
 - has worked with Sustainability Impact Assessment for a long time
- **ToSIA** will give answers to WHAT IF? – questions, using scenarios based on external and internal drivers.

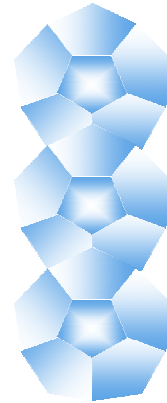


34



Summary & Conclusions (3)

- **ToSIA** is aimed for use by policy makers (EU and national), NGO:s and industry.
- **ToSIA** is a model of which the outcome can be used as a structured background material for analysis of proposed changes (discussions/negotiations).
- You can always "back-check" the assumptions and data on which a ToSIA-output is based.

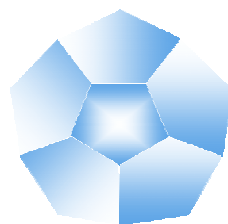


35



www.eforwood.com

Thank you!



Prof. Dr. Dr. h.c. Gero Becker
University of Freiburg

*National Wood Resource Balance Workshop UNECE / FAO
Geneva, 31.03.2008*