EFORWOOD

Tools for Sustainability Impact Assessment of the Forestry-Wood Chain
Sustainability Impact Assessment (SIA)

  - “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)
Industrial activities are evaluated against their impact on Sustainable Development
A number of different methods are used today

Examples:

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

None of them allows for a complete analysis of all aspects of sustainability,

which is the objective of EFORWOOD!
The Forest-based Sector has the potential to play a key-role in the development of a sustainable society!
Target groups

Primary:
European commission/policy makers
Forest-based industry

Secondary:
Politicians / civil servants at national level
NGOs
Researchers
EFORWOOD develops a decision support Tool for Sustainability Impact Assessment (ToSIA)

Three pillars of sustainability:

**Economy**
- Added value
- Production costs
- Investment and R&D
- Total production

**Society**
- Employment
- Wages and salaries
- Safety and health
- Education and training

**Environment**
- Greenhouse gas balance
- Energy generation and use
- Emissions to soil, water and air
- Recycling and recovery

Examples of indicators

www.eforwood.com
ToSIA is suitable for:

identifying hot-spots in value chains that can contribute to improved sustainability
**ToSIA** is primarily designed to give answers to **WHAT IF? - questions**.

What if:

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

- selecting, weighing and analysing indicator values
- applying the Sustainability Indicators to production processes.
- relating Sustainability Indicator values to flow of material or another preferred reference base, e.g. value.
ToSIA is very scalable and can operate at different levels, within defined system boundaries:

(1) Single FWCs

(2) Case study FWCs
- “Production driven” (N. Scandinavia)
- “Products driven” (Iberia)
- “Regional” (Baden Württemberg)

(3) European FWC
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.
Foreseen applications

The future is not static!
**Scenarios** (under development)

- **Policy** – climate change / mitigation
  EU bio-energy policy; competition for raw-material; land-use…….

- **Planet** – environmental regulation
  Natura 2000; 20% set aside; raw-material prices; (increased recycling) ……

- **People** – consumption and lifestyle
  a) Increased demand of wood-based products;
  b) Decreased demand of wood based products ……

- **Productivity** – technological development
  "More from less"; increased flexibility ……
Scenarios (EFORWOOD applications)

- **Scandinavian Case**
  - Technological innovation: "more from less"
  - Reference Future A1

- **Iberian Case**
  - Consumption & lifestyle; demand for wood-based products
  - Reference Future A1

- **Baden Württemberg Case**
  - Bio-energy policy; competition for raw-material
  - Reference Future A1 & B2

- **EU-FWC**
  - Environmental protection 2000; set-aside policies; (increased recycling)
  - Reference Future A1 & B2
Main products

- **ToSIA** can be used to assess the impact on the sustainability indicators of changes in the FWC. Within the project a limited number of scenarios will be analysed.

- **ToSIA** includes modules designed to analyse and evaluate the impacts (e.g. MCA, CBA).

- **ToSIA** will also be available as web-based demonstration application with pre-defined scenarios and a limited number of results.
A: Sustainability Impact Evaluation

Multi-Criteria Analysis (MCA) compares apples and oranges

Cost-Benefit Analysis (CBA) Converts apples and oranges into €
... 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
Comparison of FWCs „What if?“

How are the impacts perceived?
Has the overall situation improved or worsened?
How ToSIA supports such questions...

1. How relevant is a difference of 5 €/m³ or 1 kg CO₂/m³?
   - assessing the relative magnitude of preferring one option over another

2. What is the overall relevance of the impacts on the FWC?
   - aggregating indicators on a uniform preference scale

3. Are all indicators equally important?
   - weighting indicators according to single / group preferences
Final remarks

- **ToSIA** is aimed for use by policy makers (EU and national), industry and NGO:s.

- **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.
EFORWOOD final results

Scientific oriented conference:
September 23-24, 2009, Uppsala, Sweden

Stakeholder oriented training / demonstration:
Thank you!