National Forest Strategy for Germany

Strategia rozwoju lasów i leśnictwa w Polsce do roku 2030
Sękocin Stary 15 – 17 marca 2011

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Structure of presentation

1. Framework conditions
2. Challenges and opportunities
3. Wood potentials and demand
4. Need for a national forest strategy
5. Fields of actions and outlook
Germany's forest sector

31 % of land area
11.1 mio hectares (ha)
+ 1 mio ha since 1960
3.4 bio m³ stock (2002)
+ 700 mio m³ since 1986
70% certified (PEFC/FSC)
73% mixed stands
33% close to nature
24 m³/ha „deadwood“
<table>
<thead>
<tr>
<th>main tree species</th>
<th>share (%)</th>
<th>German forests</th>
</tr>
</thead>
<tbody>
<tr>
<td>spruce</td>
<td>28.2</td>
<td></td>
</tr>
<tr>
<td>pine</td>
<td>23.3</td>
<td>57.5 % coniferous</td>
</tr>
<tr>
<td>other coniferous</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>beech</td>
<td>14.8</td>
<td>40.1 % non-coniferous</td>
</tr>
<tr>
<td>oak</td>
<td>9.6</td>
<td></td>
</tr>
<tr>
<td>other deciduous</td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td>without trees</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
# Forest ownership structure Germany

<table>
<thead>
<tr>
<th>Category</th>
<th>mio ha</th>
<th>share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>private</td>
<td>5.2</td>
<td>46</td>
</tr>
<tr>
<td>16 States (Laender)</td>
<td>3.3</td>
<td>30</td>
</tr>
<tr>
<td>communal</td>
<td>2.2</td>
<td>20</td>
</tr>
<tr>
<td>Federal Government</td>
<td>0.4</td>
<td>4</td>
</tr>
<tr>
<td>overall</td>
<td>11.1</td>
<td>100</td>
</tr>
</tbody>
</table>
Forest and timber cluster Germany

The German forest and timber cluster (including pulp, paper, printing and publishing sector)
- employs 1.2 mio people
- in about 150 000 enterprises and
- generates an annual turnover of 170 bio €

Contribution of the cluster to economy: about 3 to 4% of GDP
### Development of industry production

<table>
<thead>
<tr>
<th></th>
<th>1 000 m³</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>sawnwood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- coniferous</td>
<td>25 063</td>
<td>19 187</td>
<td>20 674</td>
<td></td>
</tr>
<tr>
<td>- non-coniferous</td>
<td>23 922</td>
<td>18 093</td>
<td>19 656</td>
<td></td>
</tr>
<tr>
<td>particle board</td>
<td>1 141</td>
<td>1 094</td>
<td>1 018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 859</td>
<td>9 174</td>
<td>9 311</td>
<td></td>
</tr>
</tbody>
</table>
Annual removals in German forests since 1954

Last 10 years average:
55 mio m$^3$
about 60 % roundwood
about 40% industrial
2. Challenges and opportunities
Future challenges for sustainable raw material management

- Worldwide **growth of population** by 80 mio. people per year
- Estimated **food demand** plus 70 % by 2050 (e.g. meat consumption Taiwan last 15 years from 25 to 75 kg per caput)
- Reduction target of **greenhouse gases** (CO₂) by 40% by 2020
- Increased **raw material competition** e.g. between industrial and energetical wood utilisation
- **Possible conflicts** between roundwood production, nature conservation (set-aside of production forests, introduction wilderness area) and growing demand of recreation and leisure (urban forests)
Global trends in energy demand until 2030

- 2008
- 2030

+45% increase

World Energy Outlook; OECD/IEA 2008

- Oil
- Coal
- Gas
- Biomass
- Nuclear
- Hydro
- Other renewables

Mtoe

Climate protection effects of forests and timber products

- Carbon storage by timber:
  - 1 ton of timber about 1.8 t CO₂ eq
- Substitution of materials
- CO₂-neutral cycle
  - Sustainable forest management
- Wood energy
  - Substitution of fossil energy
EU climate protection targets 2007 to be met by 2020:

1. Target of **20%** renewable-generated electricity
2. Reduction of overall energy demand by **20%**
3. Increase share of renewable energy in fuel supply to **10%**
4. Reduction of greenhouse gas emissions (CO$_2$) by **20%**
German Wood Charter 2004 - 2014

- to secure wood supply
  - wood mobilisation
  - efficiency of wood utilisation
  - marketing, R & D
  - foreign trade

- Increase wood utilisation
  + 20% (1.1 to 1.3 m³ per caput)
  intergrated solutions (cascading, biorefinery)

National forest strategy
Development of wood utilisation in Germany 1988 - 2008

in Mio. $m^3$

- industrial use: 72 mio $m^3$
- energetical use: 53 mio $m^3$

125 (2007)

62 (1990)
3. Wood potentials and demands
Some results of forest inventory for time frame 2002 – 2008

- **timber stocks** are still increasing (average over 320 m³/ha)
- **age structure** towards older stands (average from 73 to 77 years)
- overall **growth rate decreased** (reduced vitality of older stands)
- **increment** about 11 m³/ha*a  **harvest** about 5 m³/ha*a

Harvest in German forests is still clearly below increment **but** is there enough timber to sustainably meet future challenges?
## Wood supply and demand balance Germany 2020

<table>
<thead>
<tr>
<th></th>
<th>wood demand</th>
<th></th>
<th>wood potential</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>minimum scenario</td>
<td>maximum scenario</td>
<td>base scenario</td>
<td>scenario stock reduction</td>
</tr>
<tr>
<td>mio m³ pa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>industrial</td>
<td>80</td>
<td>83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>energetical</td>
<td>72</td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>overall</td>
<td>152</td>
<td>155</td>
<td>162</td>
<td>182</td>
</tr>
</tbody>
</table>
Wood supply-demand scenario for Germany 2020

Source: EUwood 2010; Mantau, U. et al.
Wood supply-demand scenario for Germany 2030

Source: EUwood 2010; Mantau, U. et al.
Development total material and energy wood demand for Germany

Source: EUwood 2010; Mantau, U. et al.

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Wood supply-demand scenario for Poland 2020

Supply and demand are shown in terms of mio m³. The chart indicates different scenarios for mobilisation under low, medium, and high conditions. GDP 1 and 2 levels are also depicted. The year 2020 is marked on the chart.

Source: EUwood 2010; Mantau, U. et al.

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Wood supply-demand scenario for Poland 2030

Source: EUwood 2010; Mantau, U. et al.
Development total material and energy wood demand for **Poland**

![Bar chart showing the development of total material and energy wood demand for Poland from 2010 to 2030.](chart)

**Source:** EUwood 2010; Mantau, U. et al.
In order to meet EU energy targets, demand for energy wood could more than double by 2030 (from 346 to 752 mio m³)

Within the same time frame, wood consumption for industrial use could rise by 35% (from 458 to 620 mio m³)

The described demand scenarios can only be achieved, if wood production is much more intensified than at present.
4. Need for a national forest strategy
Reasons for a national forest strategy

How to mobilise existing wood potentials inside and outside forests?

How to meet future wood demand without jeopardizing sustainability?

Another question

Reaction on growing requirements of nature protection (biodiversity)?
## Protected forest areas in Germany 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>Area</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 (no harvest)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1.2 (limited harvest)</td>
<td>120,000 ha</td>
<td>1.1%</td>
</tr>
<tr>
<td>1.3 (protection by management)</td>
<td>2.6 mio ha</td>
<td>23%</td>
</tr>
<tr>
<td>2 (specific protection targets)</td>
<td>5 mio ha</td>
<td>56%</td>
</tr>
<tr>
<td>3 (water, erosion, avalanches)</td>
<td>3.8 mio ha</td>
<td>34%</td>
</tr>
<tr>
<td>Natura-2000 (FFH/bird &amp; habitat directive)</td>
<td>1.9 mio. ha</td>
<td>17%</td>
</tr>
</tbody>
</table>

About 67% of whole forest area is covered with protective functions.
National strategy on biological diversity

adopted by Federal Cabinet in November 2007

Main objectives are safeguarding

- efficiency and balance of nature functions
- regenerative power and sustainable use of resources
- fauna and flora including their habitats
- biodiversity, uniqueness, beauty of nature and landscapes and their recreational value
Conflict potential caused by the strategy on biodiversity?

Some forest related targets/visions:
- forests with natural forest development account for 5% of the wooded area by 2020
- to promote contract-based nature conservation in 10% of private owned forest land
- to certify 80% of woodland to high ecological standards by 2010
- to ensure natural development on 10% of publicly-owned forest land by 2020
How to deal best with biodiversity requirements?

Natural forest development on 5% of area means set-aside of about 550,000 ha forest land with economic consequences.

Set-aside of 1% of forest land (about 100,000 ha) could result in 700,000 m³ less timber processing and may subsequently cause losses of 7,000 jobs.

Challenge:
Identification of solutions to compensate negative economic effects.
Main target of forest strategy for Germany

Against this background the national forest strategy strives for a new balance between conflicting future requirements of different interest groups in forest matters.

The strategy is going to set out priorities for discussion and to identify opportunities for action.
5. Fields of action and outlook
Identification of measures

Following fields of action in discussion:

1. wood supply (e.g. wood mobilisation, efficient wood use, cascading)
2. safeguarding employment and income (e.g. keep competitiveness)
3. nature conservation (e.g. „hot spots“, also accepted for wood production)
4. silvicultural treatment (e.g. productive tree species, shorten rotation age)
5. climate (e.g. adaptation of forest to climate change, C-sequestration)
6. hunting (e.g. adaption of game density to meet silvicultural requirements)
7. recreation, health, tourism (e.g. working towards „nature sound“ activities)
8. education, consumer information (e.g. International year of forests 2011)
9. research and development (e.g. promote innovation, monitoring)
State of discussion and outlook

After sessions in October 2008 („kick-off“, Munich), December 2008 (scientific forum, Berlin) and May 2009 (policy forum, Berlin), discussions could not be finished so far and now focus on government level with the aim to get final decision of the Federal Cabinet.

In order to facilitate discussion process, Federal Government is now working along a „two-step-approach“:

**First step:** agreements on **targets and priorities**

**Second step:** agreements on **measures, financing** included

It is intended to present results during the „International year of forests 2011“