Mobilization of Wood Resources for Wood Products and Energy: Challenges for Sustainable Forest Management

Outcomes of UNECE/FAO and FAO Meetings

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Topics

I. Background for bioenergy developments
II. FAO seminar, October 2006
III. UNECE/FAO workshop, January 2007
IV. Conclusions
Info sources

- FAO seminar proceedings
- UNECE/FAO workshop proceedings
- UNECE/FAO European Forest Sector Outlook Study
- UNECE/FAO Forest Resources Assessment
- UNECE/FAO TIMBER Database
- International Energy Agency
- EuroStat
Background issues

• Increasing fossil fuel prices
• Energy security
• Policies to reduce climate change
• Wood industries’ wood needs
Background issues

- Increasing fossil fuel prices

Background issues

- Increasing fossil fuel prices
- Energy security
  - Middle East instability
  - Russian supply interruptions
  - Growing consumption, e.g. China
  - Nuclear safety
Background issues

• Increasing fossil fuel prices
• Energy security
• Policies to reduce climate change
  – UNECE region
  – Kyoto Protocol
  – European Union & member countries
    • 20% renewable energy target in 2020
  – United States’ government lagging behind
EU renewable energy 2005

Germany, 4.8%

European Union, 6.5%

Source: EurObserv'ER, 2007
EU renewable energy 2005

Source: EurObserv’ER, 2007
EU biomass use, 1990–2004

Source: Eurostat, 2007
Background issues

• Increasing fossil fuel prices
• Energy security
• Policies to reduce climate change

• Wood industries’ wood needs
  – Increasing demand
  – Increasing raw material prices
  – Competition
    • Local can be intense
    • Short-term can be intense
Western European wood and fibre requirements, 1960–2020

Growing demand without energy

Gap is residues

Source: UNECE/FAO European Forest Sector Outlook Study, 2005

WRME = Wood raw material equivalent
Supply and demand dilemma in western Europe in 2010

• Wood and paper industry – 312 million m³ (wood raw material equivalent)
• Energy sector – 210 million m³ (based on EU targets)
• Forests’ annual growth – 505 million m³ (net annual increment on forests available for wood supply)
Supply and demand dilemma in Europe in 2010

<table>
<thead>
<tr>
<th></th>
<th>Western Europe</th>
<th>Eastern Europe</th>
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<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2010</td>
</tr>
<tr>
<td>Industrial roundwood consumption</td>
<td>271</td>
<td>312</td>
</tr>
<tr>
<td>Energy targets (direct wood energy only)</td>
<td>139</td>
<td>210</td>
</tr>
<tr>
<td>Total direct wood supply for industry and energy</td>
<td>411</td>
<td>522</td>
</tr>
<tr>
<td>Net annual increment on forest available for wood supply (NB NOT directly comparable!)</td>
<td>515</td>
<td>505</td>
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1[million m³WRME/year]

2EFSOS country groups (new EU members are in eastern Europe)

3Very rough estimation on basis of EU25 Biomass Action Plan potential

NAI not only source. Wood outside forests. Recovered wood too, e.g. 12 MM m³ in Germany

Source: UNECE/FAO European Forest Sector Outlook Study, 2005 and EU
International Seminar on Energy and the Forest Products Industry

October 2006, Rome

FAO, IEA, ICFPA, UNECE, ITTO, WBCSD
Energy and the Forest Products Industry Seminar

- Themes
  - Energy policies and trends
  - Role of wood as an energy source
  - Energy and material efficiency in the forest products industry

- Building on results of technical workshop on new technologies and systems leading to energy efficiency and CO₂ emissions reduction in pulp and paper industry
Energy & industry seminar conclusions

• Integrated and balanced energy and forest policies mitigate climate change
• Local actions with global vision
• Stable, sustainable regulatory frameworks needed for level playing field
Energy & industry seminar conclusions

• Forest products industry combats climate change by
  – Optimizing raw material usage
  – Increasing efficiency
  – Producing bioenergy
  – Expanding into biofuel production
  – Improving sector competitiveness

• Forest products industry could be a net supplier of energy
Energy & industry seminar conclusions

• Forest products industry suffers an image problem – must be proactive
• Developing countries need assistance to use forest and mill residues for energy
• International organizations can
  – collect, analyze and distribute data and information
  – Develop partnerships, provide forums
  – Coordinate research
Mobilizing Wood Resources Workshop

January 2007, Geneva

UNECE/FAO, FAO, CEPI, MCPFE, EFI
Mobilizing Wood Resources Workshop

- Can Europe’s forests satisfy the increasing demand for raw material and energy under SFM?
- Stakeholders, over 100, represented industry, government, international organizations, NGOs,
Mobilizing Wood Resources
Workshop conclusions

• Potential for increased wood supply
• Opportunities for increased mobilization
Forests increasing

- European forest area
  - 193 million hectares
  - +7% since 1990

- North America area
  - 677 million hectares
  - No change since 1990

- Russian forest area
  - 809 million hectares
  - Small reduction since 1990

Sources: *State of the World’s Forests, 2007* and UNECE/FAO Forest Resources Assessment
Forests increasing

<table>
<thead>
<tr>
<th>Region</th>
<th>Fellings as % of annual growth</th>
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<tbody>
<tr>
<td>Central Europe</td>
<td>61%</td>
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<tr>
<td>Nordics &amp; Baltics</td>
<td>72%</td>
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<tr>
<td>Northwest Europe</td>
<td>53%</td>
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<tr>
<td>Southeast Europe</td>
<td>45%</td>
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<tr>
<td>EU 27</td>
<td>60%</td>
</tr>
<tr>
<td>Russia</td>
<td>34%</td>
</tr>
<tr>
<td>North America</td>
<td>80%</td>
</tr>
</tbody>
</table>

Sources: *State of the World’s Forests, 2007* and UNECE/FAO Forest Resources Assessment
Mobilizing Wood Resources Workshop principles

• Limits of sustainability
• Energy and resource efficiency
• Equal treatment (agriculture vs. forestry, imported vs. domestic)
• Respect regional variations
Mobilizing Wood Resources

Recommendations

• Coherence between different sector policies
• Integrate whole supply chain in biomass strategies
• Need for comprehensive reliable data
• Empower forest owners to form “clusters”
• Improve infrastructure and logistics
• Qualified workforce
• Capacity building and training
Mobilizing Wood Resources
Implementation of findings

- MCPFE resolution on wood energy and mobilization
- UNECE/FAO activity
  - Wood energy data and information
  - Mobilization
  - Policy forum October 2007
- Opportunities for technical, policy assistance to developing countries, e.g. wood energy workshop in Balkan region
Conclusions

- Remember importance of climate change and energy security
- Increase in wood supply possible
- Realistic policy targets
- Requirement for reliable statistics and forecasts
- Consider impacts on other sectors
- Overall, an opportunity for the forest sector