Sustainable Development in the Forest Sector: Balancing production and consumption in a challenging economic and political environment

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1. Introduction

Sustainable development

- Management and conservation of the natural resource base, and
- Orientation of technological and institutional change
- In such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations.
Sustainable development (in the forest sector)

- Conserves land, water, plant and animal genetic resources
- Environmentally non-degrading
- Technically appropriate
- Economically viable
- Socially acceptable.
Sources of information

- UNECE/FAO *Forest Products Annual Market Review*
- FAO *Global Forest Resource Assessment*
- UNECE Timber Committee Market Statement & market forecasts
- UNECE/FAO Timber Database
- FAO Statistics database
UNECE/FAO *Forest Products Annual Market Review, 2009-2010*

- 100th edition
- Available in English
- Russian and French language versions available later
World shaped by political boundaries

Source: Worldmapper, 2009

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World shaped by population

Source: Worldmapper, 2009
As shaped by forest products production

Sources: Worldmapper & FAOStat, 2009

Promoting Sustainable Consumption Workshop, Geneva, 2011
Shaped by wood and paper consumption

Sources: Worldmapper & FAOStat, 2009
As shaped by forest products exports

Sources: Worldmapper & FAOStat, 2009
As shaped by forest products imports

Sources: Worldmapper & FAOStat, 2009
II. Forest resources

Where in the world are the forests?!
Where are the forests?

- Europe: 27%
- S. America: 23%
- Africa: 17%
- Asia: 14%
- Oceania: 5%
- N&C America: 14%
Where does the wood come from?

- S. America: 29%
- Europe: 30%
- N&C America: 17%
- Asia: 9%
- Africa: 12%
- Oceania: 3%
Net change in forest area
2005-2010 (hectares/year)

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Net change in forest area

Million ha/year

Africa  Asia  Europe  N & C America  Oceania  South America

Net gain

Net loss

1990-2000
2000-2010
1990-2000
2000-2010
Global forest resources

- 31% of world forested
- Net change = \( \Sigma \) of gain – \( \Sigma \) of loss
  - 1990-2000 \(-8.3\) million ha/year
  - 2000-2010 \(-5.2\) million ha/year

“The rate of deforestation shows signs of decreasing – but is still alarmingly high.”

Causes of deforestation

• Conversion to other land uses
  – Agriculture
  – Palm oil
  – Pasture
  – Urbanization

• Fire, insects and disease

• Root causes
  – Poverty
  – Inefficient heating and cooking
  – Illegal logging
UNECE subregions
Growing Stock vs. NAI vs. Fellings

Million m³

Europe (41)  North America  CIS

Growing Stock
Net Annual Increment
Fellings

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NAI vs. Fellings


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Global Forest Resources Assessment findings

- Large-scale planting of trees is significantly reducing the net loss of forest area globally
- South America and Africa continue to have the largest net loss of forest
- Primary forests account for 36% of forest area – but have decreased by more than 40 million hectares since 2000
- Planted forests increasing to 7% of total area
- 12% of the world’s forests are designated for the conservation of biological diversity
Global Forest Resources Assessment findings

- 30% of the world’s forests are primarily used for production of wood and non-wood products
- Harvests decreased in the early 1990s due to breakup of the Soviet Union
- Harvests rose to 3.4 billion cubic metres, but fell during 2008-2009 economic crisis
- Over half of harvests used for woodfuel globally, often inefficiently
- Value of wood removals reached $100 billion in 2007, but fell sharply in 2008-2010
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Europe excl. Russia

- Production: 58%
- Multiple use: 17%
- Protection: 11%
- Conservation: 10%
- Social services: 3%
- Other function: 1%

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Global Forest Resources Assessment findings

- Forest fires are severely underreported at the global level
- 30% of the world’s forests are primarily used for production of wood and non-wood products
- Pests and diseases, natural disasters and invasive species are causing severe damage in some countries
  - Mountain pine beetle in western Canada
    - 11 million hectares
    - BC to Alberta to USA
    - Eventually up to 1 billion cubic metres of timber
Global Forest Resources Assessment findings
Non-timber uses of forests

- Forests store a vast amount of carbon
- 12% of the world’s forests are designated for the conservation of biological diversity
- 8% of the world’s forests have soil and water conservation as their primary objective
- The management of forests for social and cultural functions is increasing
- The value of non-wood forest products remains underestimated
Global Forest Resources Assessment findings
Legal, policy and institutional framework

• Significant progress in developing forest policies, laws and national forest programmes
  – 76 of the 143 countries that have a forest policy statement, 76 countries have issued or updated their statements since 2000.
  – 69 of the 156 countries that have a specific forest law, primarily in Europe and Africa, reported that their current forest law has been enacted or amended since 2005.
  – 75% of the world’s forests are covered by a national forest programme, i.e. a participatory process for the development and implementation of forest-related policies and international commitments at the national level.
Global Forest Resources Assessment findings

Employment

• Staff in public forest institutions is decreasing
  – 1.3 million people, 22% women,
  – 20,000 professionals in public forest research institutions

• More than 60,000 university students graduate in forestry annually – one-third are female

• 10 million people employed in forest management and conservation

• Considerably more people dependent on forests for livelihoods
III. Market drivers
Market drivers

• Economic situation
• Certification and certified forest products
• Government policies, e.g.
  – EU renewable energy promotion
  – FLEGT initiative
  – Green building
Economic and construction developments

• Recovering from the most severe financial shock since the Great Depression
• Deepest economic downturn since World War II
• Debt crisis in the Eurozone
• Sluggish recovery despite massive intervention
• High unemployment restrains recovery
**Housing Starts: North America vs. Europe**

(Millions of Units)

![Graph showing the comparison between Housing Starts in North America and Europe from 1998 to 2011. The graph indicates a decrease in housing starts in both regions, with a sharper decline in North America starting in 2007. The data sources are CMHC / NAHB / Euroconstruct for the forecast 2010/11.](image-url)

*Source: WOOD MARKETS Monthly Newsletter, 2010*
United States housing starts
2003-2010

Million starts (SAAR)

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United States housing market

- Peak 2.2 million new houses per year in 2005
- 500,000 in 2010
- Huge inventory unsold new and used homes +
- “Shadow homes” (owned by banks, not on market)
- House prices down at 2003 levels
- Problems grew
  - Sub-prime mortgages with little down payment
  - Mortgage value greater than house value
  - Economic downturn → foreclosures
Certification

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• Certification of sustainable forest management assures harvesting is continually conducted
  - Environmentally
  - Socially
  - Economically

• Certified forest products carry labels
  - Demonstrate coming from forest meeting standards for SFM
  - Verifiable by independent bodies
Certified forest area

Million hectares

2004 2005 2006 2007 2008 May 2009 May 2010

PEFC FSC CSA SFI ATFS MTCS

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Chain of custody certificates

Number of CoC certificates

Year

2004
2005
2006
2007
2008
May 2009
May 2010

FSC
PEFC

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Certification drivers

- Business-to-business (B2B)
- Not by consumer demand
- Minority of companies that have chain of custody
- Considerable potential for development
  - EU FLEGT and “due diligence”
  - USA Lacey Act Amendment
  - Corporate social responsibility programmes (trade associations and companies)
Wood energy

The only market sector that grew during the 2008-2009 economic crisis.
Wood energy drivers in Europe

- European Union renewable energy targets (20% renewables by 2020)
- Energy security – independence from imports
- Environmental concerns with fossil fuels
- Forest sector development by governments
- Industry-driven diversification
European wood pellet production capacity

Major European pellet importing countries and their suppliers, 2009


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Modern wood energy production is efficient, economical and environmentally sound … and beneficial for some parts of the forest sector, while presenting competition for low-grade, small-diameter timber with other parts of the sector.

Photo source: M. Fonseca.

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IV. Forest products market developments

Overall highlights

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Highlights from our *Annual Market Review*

- Forest sector experiencing a structural change
  - Industries innovating and adapting
  - “Innovation for structural change recovery”
- Consumption of wood and paper products fell 12% in 2009 (greatest ever)
- Production of industrial roundwood at record low
Structural change in forest sector: 4 reasons

1. Downturn in demand forcing rationalization of production capacity

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Structural change in forest sector

2. Climate change policies: wood energy escalation production, consumption and trade

![European pellet production capacity chart](chart.png)

3. Globalization of forest products markets, e.g. China’s rise as a major provider of forest products in the global markets

Structural change in forest sector

4. International control of origins of wood to ensure sustainable and legal production.
Structural change in forest sector

1. Downturn in demand forcing rationalization of production capacity;
2. Climate change policies: wood energy escalation production, consumption and trade;
3. Globalization of forest products markets, e.g. China’s rise as a major provider of forest products in the global markets;
4. International control of origins of wood to ensure sustainable and legal production.
V. Forest products trade
Global trade of all forest products

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Source: FAO Statistics.
European forest products exports

$ Billion

Source: FAO Statistics.

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Value-added forest products exports

$120.0

2x in 10 years

$100.0

$80.0

$60.0

$40.0

$20.0

$0.0

$ Billion


Asia
Europe
Africa
CIS
North America
South & Central America

Source: FAO Statistics.

Promoting Sustainable Consumption Workshop, Geneva, 2011
Timber Committee forecasts ...
Consumption rebounds!

Source: Timber Committee forecasts, 2010.

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VI. Conclusions

• Sustainable supply in UNECE region
• Markets rebounding, but not recovered: sustainable markets required for SFM
• Recovery dependent on US housing
• New market opportunities
  – China
  – Middle East
• Market drivers
  – Certified forest products
  – Green building
• Increased trade regulations
VI. Conclusions

• Wood energy escalation
  - Positive for parts of forest sector
  - Positive for renewable energy, when efficient production, transport, combustion
  - Negative in short term for competition

• Globalization and strong trade development

• = Structural change in 2007-2010

• Optimistic future for sustainable development of forest sector in UNECE region
VII. Discussion

INTERNATIONAL YEAR OF FORESTS – 2011

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