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NATIONAL WOOD BALANCES WORKSHOP RESULTS

Results of Study

Note by the Secretariat

Summary

This report informs delegates about the updated version of the study on “wood resources availability and demands”.

The study assesses wood supply and use on the basis of a wood resource balance. Further, an analysis of renewable energy policies was conducted, and their significance in terms of wood requirements was estimated.

The study was first presented at the UNECE/FAO Policy Forum on "Impacts and opportunities of bioenergy policies on the forest and other sectors" (October 2007). National correspondents and experts were then invited to comment on and validate the study. The revised study, incorporating revisions and additions supplied by country correspondents, will be presented at the workshop on national wood resource balances (31 March – 1 April 2008).

The study showed that in 2005 more woody biomass is being used than reported by international statistics. Analysing renewable energy policies, and making certain assumption regarding wood as renewable energy source, leads to the conclusions that future wood demand will increase substantially, if the energy policy targets are to be met.

Delegates are invited to review the process and the content of the study, authorise its publication and provide guidance as to follow up activities.

1. This document is produced in accordance with the programme of work as approved by the Timber Committee in ECE/TIM/2007/9, paragraphs 27 and 28, saying “The Working Party on Forest Economics and Statistics at its session in 2008 should review and guide this work”.

I. BACKGROUND

2. The study was launched in early 2007 by the UNECE/FAO Timber Section and the University of Hamburg together with other partners of the task force on “wood availability and demand” (European Commission (DG Enterprise), Confederation of European Paper Industry - CEPI, European Panel Federation - EPF, Swedish Forest Agency, Metsäteho Oy, Finland). Major sources of information for the study were the Joint Wood Energy Enquiry and the Joint Forest Sector Questionnaire. Existing outlook studies for the forest sector (EFSOS) and policy objectives for renewable energy and bioenergy were used to build scenarios for wood demand and supply in 2010 and 2020.

3. The figures presented are the results of combining actual figures, forecasts of future raw material demand from the wood-processing sector, and scenarios for wood-energy requirements to meet policy targets for renewable energy. The figures presented are not meant to be a forecast of future wood demand, but should be a basis for discussing renewable energy policies and help in finding realistic targets for the future contribution of wood to the overall energy supply. The assessment is based on the best data available and is seen as a step in an on-going continuous process of data improvement. The complete initial version of the study can be found at http://www.unece.org/trade/timber/docs/tc-sessions/tc-65/policyforum/Wood_availability_and_demand.pdf

What is a wood resource balance?

A wood resource balance compares the supply of wood raw material with use (wooden and paper products and energy use) in a national economy. It is a consistency check of national wood flows that counter-checks the sums of all sources of wood materials against the balance sheet total of the consumption side.

The structure of the wood resource balance is based on the German wood resource balance scheme being developed, applied and refined by Mantau (2005). The methodology calculates independently the wood supply on one side of the balance (directly from the forest as well as indirect sources: wood residues, recovered wood, etc), and wood consumption on the other side (by the wood-processing industries and energy generation).

Multiple uses of wood (e.g. the use of wood residues, chips and particles etc) are accounted on both sides of the balance, thus it does not only consider the wood supply (and use) directly from the forest.

The main advantage is that it makes it possible to detect and roughly estimate missing or weak information by comparing the two sides. It easily integrates information and developments from both the forestry and the energy sector. The approach goes beyond commodities defined by international trade classifications (e.g. Harmonised System) and includes logging residues, post-consumer recovered wood, locally exchanged fuelwood or even black liquor.

II. SUMMARY OF RESULTS: CURRENT ROLE AND RELATIVE IMPORTANCE OF WOOD ENERGY

4. Energy has always been one use of wood raw material, but it has not played a major economic role in the last decades; material use of wood (for paper and wood products) has been the dominating use in most countries of the UNECE region. In recent years wood energy came back in the focus of society and policy-makers as a renewable energy source to tackle issues of secure energy supply and climate change. In particular, the European Union and its Member States have set policy targets for renewable energy (12% by 2010 and 20% by 2020). Since wood energy is currently the major source for renewable energy, these targets can be expected to have major implications for the forest sector.

5. The first part of the study assesses in depth current wood supply and consumption in twenty-nine EU/EFTA countries in 2005, using the "wood resource balance" developed by Mantau (2005)¹ of Hamburg University.

6. Data from other European countries were added to the study during the revision of the data. However, North America, Russia and Central Asia are not included.

7. The first results of the study showed a higher (47 million m³) wood consumption (821 million m³), than wood supply (775 million m³) on EU/EFTA level. These differences were much higher in some countries, while for others a higher supply was estimated. The revised data including additional countries will be published on the UNECE website in March 2008.

8. Differences can be explained by weak and missing data. On the supply side, data weaknesses were found in particular in woody biomass outside the forest, post consumer recovered wood and used logging residues. On the consumption side, little or weak information was found in particular on wood use for energy, as well as conversion factors (calculating wood raw material equivalent from units of products).

9. As other experiences from international (Joint UNECE/FAO/IEA/EC Wood Energy Enquiry) and national level (e.g. household surveys in Germany, France, Norway) studies have also shown, volumes of wood used by the forest-based industries and in particular for energy generation, are sometimes much higher than published in international and national statistics. Therefore empirical research is needed to gain a better picture of the actual situation of wood supply and demand, as well as the current contribution of wood to energy supply.

¹ Mantau, U. (2005) Development of methods to generate market information and linkages between biomass supply and demand. INFRO - Information Systems for Resources. Hamburg, Germany.
online: [http://webapp.rrz.uni-hamburg.de/~holz/files/161_Methods%2006.pdf]

Table 1: Wood resource balance 2005 for EU/EFTA 29 (unrevised data)

	million m ³	%		%	million m ³	
Supply from forest & woody biomass outside the forest:						Material use:
Industrial Roundwood - JFSQ	377	49%		26%	214	Sawmill industry
Industrial Roundwood*	26	3%		11%	89	Panel industry
Fuelwood - JFSQ	56	7%		19%	155	Pulp industry
Fuelwood*	29	4%		1%	6	Pellets, briquettes etc. *****
Bark	12	2%		2%	14	Other physical utilization
Used logging residues	17	2%				
Woody biomass outside the forest	13	2%				Energy use:
Supply by-products:				6%	49	Power and heat
Chips, particles & wood residues	122	16%		7%	61	Industrial internal
Pulp production co- products**	72	9%		12%	96	Private households
Supply recovered wood				17%	138	Undifferentiated energy use
Recovered wood***	42	5%				
Supply processed wood fuel:						
Processed wood fuel	6	1%				
SUPPLY TOTAL	775		47		821	TOTAL USE

Difference

The totals vary from the sum of the individual items due to rounding.

* maximum difference

unreported to JFSQ

** black liquor, tall oil, etc.

*** for material &

energy use

**** processed wood

fuel industry

III. POTENTIAL OF WOOD TO ACHIEVE RENEWABLE ENERGY TARGETS

10. The second part of the study collected and assessed national and EU policy targets for renewable energy, bioenergy and wood energy (if available) and translated them into wood volumes by applying a number of straightforward, transparent assumptions (basically the same relative importance of different components as in 2005). Furthermore, the study calculated wood

consumption from the wood-based industries for 2010 and 2020, based on the European Forest Sector Outlook Study (EFSOS).

11. The wood requirements from EFSOS and the policy targets were then added up, to estimate wood requirements in 2010 and 2020 of both the energy and wood-based industries. The combined wood requirements showed a difference to the EFSOS wood supply forecast of 185 million m³ wood in 2010 and 321 m³ wood in 2020 (75% scenario) for the EU/EFTA region, using the unrevised data. Again, the revised and final results will be provided in March 2008. In any case, these calculations are not meant to be forecasts, but should be a basis for discussion and help setting realistic wood energy policy targets.

Table 2: Wood required to achieve national policy objectives for renewable energy (unrevised data)

	2005 [million m ³]	2010 [million m ³]	2020 [million m ³]	2020 "75% scenario" [million m ³]
EC target for EU 25	313	591	768	591
Sum of national targets in EU 25 countries	313	446	689	581
Sum of national targets in 29 EU/EFTA countries	343	481	738	620

IV. CONCLUSIONS

12. It can be concluded from this study that better data and discussion about the data is needed in different areas of wood supply and wood use. This knowledge is crucial for policy decision on the future role of wood as raw material for the wood-processing industry and energy generation.

13. There is a potential to increase wood supply from domestic sources, which still has to be analysed and quantified.

14. However, the potential wood requirements will have implications for the forest and energy sector, implying one or more of the following options:

- (a) Wood supply from existing forests will be increased, expansion or intensification of forest management, trees outside the forest, other sources - including recovered wood and industry co-products, or through imports;
- (b) Policy targets for renewable energy may not be met, at least not with the share of wood as expected in this study;
- (c) Wood-based industries in the region might decrease in production;
- (d) Overall energy efficiency and efficient use of wood resources will contribute to mitigate increasing demand for energy and wood fibre.
