

UNECE/FAO Workshop on wood resource balances



Wood resources availability and demands in the EU/EFTA region

New data, lessons learned and identification of data gaps and weaknesses



University of Hamburg
Centre of Wood Science

Udo Mantau
Florian Steierer



UNECE/FAO Timber Section

Kit Prins
Sebastian Hetsch

UNECE/FAO Workshop on wood resource balances



Part I: European Wood Resource Balances

Presented by Florian Steierer

Part II: Implications of renewable energy policies

Presented by Sebastian Hetsch



University of Hamburg
Centre of Wood Science

Udo Mantau
Florian Steierer



UNECE/FAO Timber Section

Kit Prins
Sebastian Hetsch

UNECE/FAO Workshop on wood resource balances



Wood resources availability and demands

Part I: European Wood Resource Balances

by Florian Steierer



University of Hamburg
Centre of Wood Science

Udo Mantau
Florian Steierer



UNECE/FAO Timber Section

Kit Prins
Sebastian Hetsch

Outline



- Purpose of the study
- Data sources
- Data review process
- Results
- Conclusions

Outline



➤ Purpose of the study

- Data sources
- Data review process
- Results
- Conclusions

Purpose of the study



The goal is clear, but where are we at present?

? **How much wood is being used today?**

- Region EU/EFTA
- Reference year 2005
- Most complete picture possible

Outline



➤ Purpose of the study

➤ **Data sources**

➤ Data review process

➤ Results

➤ Conclusions

Data sources: JFSQ



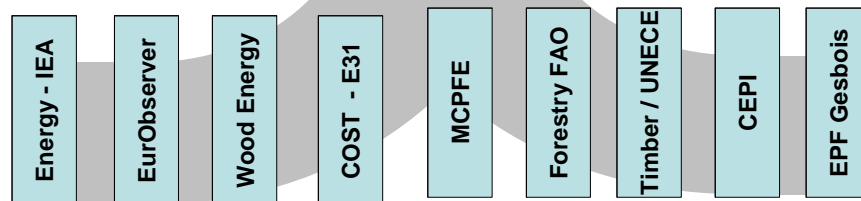
Sources			Uses		
	[mil. m ³]	%	%	[mil.m ³]	
Industrial Roundwood - JFSQ	Direct			Indirect	Sawmill industry
Industrial Roundwood - other				Indirect	Panel industry
Fuelwood - JFSQ	Direct			Indirect	Pulp industry
Fuelwood - Maximum other					Pellets, briquettes, etc.
Bark					Other physical utilization
Used logging residues	Indirect				Power and heat
Woody biomass outside forest					Industrial internal
Chips, particles & co-products	Indirect				Private households
Pulp production co-products	Indirect				Undifferentiated energy use
Recovered wood					
Processed wood fuel					

Data sources: other



3 — Regional wood resource balance (UNECE/FAO Policy Forum 2007) —

2 — Minimum / Maximum / Best estimate per item —



1 — Different databases —

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

9

Outline



- Purpose of the study
- Data sources
- **Data review process**
- Results
- Conclusions

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

10

Data review process - updates



I: Update of JFSQ dataset (10 February 2008)

II: Replies by country correspondents:

7 x endorsed (calculated) dataset

6 x proposed data adjustments

8 x “feed back” without data validation

4 x pending – ongoing consultation or research

2 x new data sets (Serbia and Turkey)

27 Total

Data review process – changes (EU/EFTA)



Sources

	[M.m ³]	%
Industrial Roundwood - JFSQ	+4	+1 %
Industrial Roundwood - other	-10	-38 %
Fuelwood - JFSQ	+23	+36 %
Fuelwood - Maximum other	-23	-79 %
Bark	+13	+108 %
Used logging residues	+6	+35 %
Woody biomass outside forest	+7	+54 %
Chips, particles & co-products	-4	-3 %
Pulp production co-products	-2	-3 %
Recovered wood	-13	-31 %
Processed wood fuel	+1	+17 %

Uses

%	[M.m ³]	
+1 %	+3	Sawmill industry
-1 %	-1	Panel industry
0 %	0	Pulp industry
+17 %	+1	Pellets, briquettes, etc.
0 %	0	Other physical utilization
0 %	0	Power and heat
+7 %	+4	Industrial internal
-4%	-4	Private households
-2%	-3	Undifferentiated energy use

Σ supply total: No fundamental change in balance sheet total Σ use

Data review process - consequences



- Right order of magnitude at regional level
- Supply side more controversial:
 - o Recovered (post consumer) wood
 - o Bark
 - o Woody biomass outside the forest
 - o Used logging residues

Outline



- Purpose of the study
- Data sources
- Data review process
- **Results**
- Conclusions

Results – Balance 2005 (EU/EFTA)



Sources			Uses		
	[mil. m ³]	%	%	[mil.m ³]	
Industrial Roundwood - JFSQ	381	49%	26%	217	Sawmill industry
Industrial Roundwood - other	16	2%	11%	88	Panel industry
Fuelwood - JFSQ	79	10%	19%	155	Pulp industry
Fuelwood - Maximum other	6	1%	1%	7	Pellets, briquettes, etc.
Bark	25	3%	2%	14	Other physical utilization
Used logging residues	23	3%	6%	49	Power and heat generation
Woody biomass outside forest	20	3%	8%	65	Industrial internal energy use
Chips, particles & co-products	118	15%	11%	92	Energy in private households
Pulp production co-products	70	9%	16%	135	Undifferentiated energy use
Recovered wood	29	4%			
Processed wood fuel	7	1%			
Σ supply total:	775	▲ 47	822	Σ use	

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

15

Results – unrecorded removals



	Roundwood removal from forest:		Woody biomass outside forests:
JFSQ 2005:	460 M. m ³		
WRB 2005:	531 M. m ³	+	20 M. m ³
Difference:	+ 71 M. m ³		+ 20 M. m ³

More wood extracted from forest and other areas that reported by international production and trade statistics.

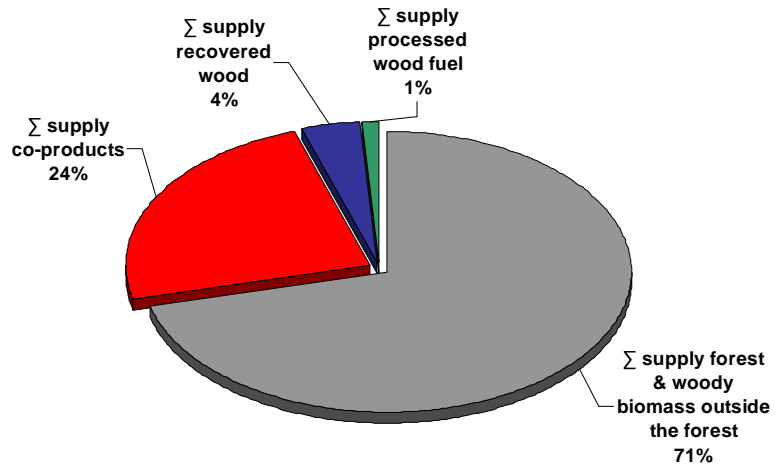
Reduced future potentials ?

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

16

Results - Wood supply EU/EFTA (2005)



31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

17

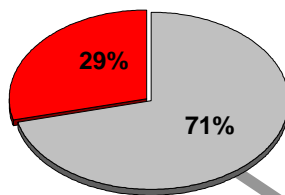
Results - Wood use EU/EFTA (2005)



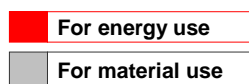
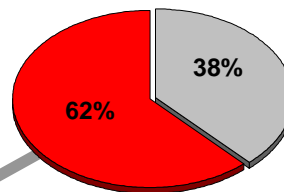
DRUM3

GCL19

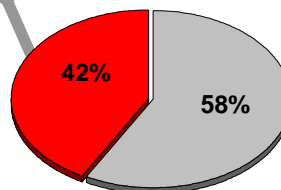
Wood removals 2005
from forest and trees
outside forests



Wood co-products,
& recovered wood



Total supply



Slide 18

GCL19 steht zweimal dieselbe legende im original
Gero C. Langenberg; 07.10.2007

DRUM3 Habe ich angepasst in ...
Mantau; 08.10.2007

Outline



- Purpose of the study
- Data sources
- Data review process
- Results

➤ Conclusions

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

19

Conclusions



- ✓ Wood resource balance is a suitable tool to assess complex supply and use of wood fibres.
- ✓ It integrates information from different data sources.
- ✓ Balance function helps to detect weak/missing information
- ✓ More wood used than reported in JFSQ
- ✓ Impact on future wood potentials
- ✓ **Conversion factors play a crucial role**

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

20

Conclusions



- ✓ Best results possible with currently available data of international databases
- ✓ Further improvement:
 - Integrating existing national studies
 - Conduct empiric field research (country level)
 - strong cross-sectoral cooperation (energy/waste/...)
- ✓ Key issues:
 - Recovered (post-consumer) wood
 - Bark & Used logging residues
 - Woody biomass outside the forest
 - Wood fuel use by private households

31 March, 2008

UNECE/FAO National Wood Resource Balance Workshop, Geneva

21

UNECE/FAO Workshop on wood resource balances



Thank you for your attention !



University of Hamburg
Centre of Wood Science

Udo Mantau
Florian Steierer

mantau@holz.uni-hamburg.de
steierer@holz.uni-hamburg.de



UNECE/FAO Timber Section

Kit Prins
Sebastian Hetsch

christopher.prins@unece.org
sebastian.hetsch@unece.org

Spare slides....

1.1 Method and structure of the wood resource balance

Wood resource balance:

- ✓ Calculated independently sources and uses of wood supply

Wood resource balance methodology

improves comprehension of:

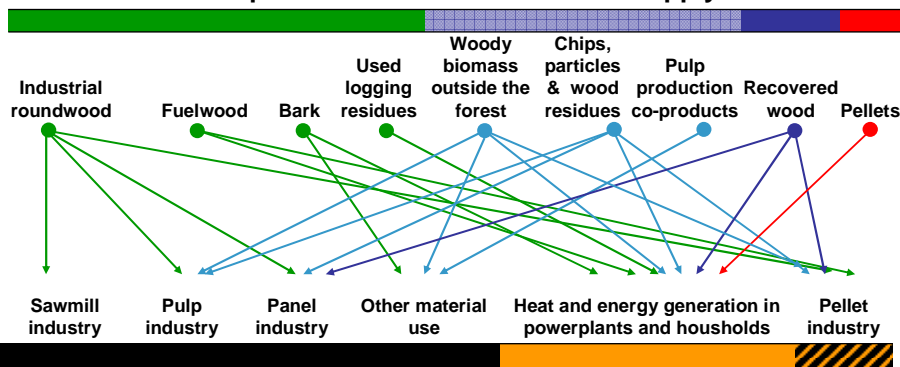
- ✓ linkages between wood and energy sectors
- ✓ data validation

Empiric research crucial

How to include results of national studies ?

Wood sources and use

Components of wood raw material supply



Components of wood consumption

Old data

sources			uses		
	[mio. m ³]	%	%	[mio. m ³]	
Industrial Roundwood - JFSQ	377	49%	26%	214	Sawmill industry
Industrial Roundwood - unrep.	26	3%	11%	89	Panel industry
Fuelwood - JFSQ	56	7%	19%	155	Pulp industry
Fuelwood – unrep.	29	4%	1%	6	Pellets, briquetts, etc.
Bark	12	2%	2%	14	Other physical utilization
Used logging residues	17	2%	6%	49	Power and heat
Woody biomass outside forest	13	2%	7%	61	Industrial internal
Chips, particles & residues	122	16%	12%	96	Private households
Pulp production co-products	72	9%	17%	138	Undifferentiated energy use
Recovered wood	42	5%			
Processed wood fuel	6	1%			

∑ supply total: 774 ▲ 47 821 ∑ USE