



UNECE/FAO Forestry and Timber Section

The Joint Wood Energy Enquiry – a brief introduction



UNECE-FAO JOINT WOOD ENERGY ENQUIRY 2021 TRAINING WEBINARS

Module 1 Overview session

17 April 2023





1. Joint UNECE/FAO Forestry and Timber Section
2. Why do we collect detailed wood energy data?
3. Objective and structure of the training webinars
4. The basic structure of the JWEE
5. How to collect which data?



1. Joint UNECE/FAO Forestry and Timber Section

Economic Commission for Europe

- ... was established in 1947
- ... is one of five UN regional commissions
- ... facilitates greater economic integration and cooperation among its 56 member States



Joint UNECE/FAO Forestry and Timber Section

The forest in the UNECE
region covers:

- 41 % of the global total
- 85% certified area
- 60% industrial roundwood



UNECE/FAO Forestry and Timber Section

Work Areas:

1. Data, monitoring and assessment;
2. Policy dialogue and advice
3. Communication and outreach
4. Capacity building



Forest Assessment



Urban trees and forests



Forest Statistics



Landscape Restoration



Forest Products



Policy Dialogue



Circularity



Forest Sector Outlook



Wood Energy



Communication



2. Why do we collect detailed wood energy data?

Why did we start to collect detailed wood energy data?

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Wood energy = no.1 renewable energy in the UNECE region

Scoping exercise in 2003/2004 to assess data situation

No comprehensive dataset on wood energy available

Mandate (2005) to develop a questionnaire with the main objectives:

- **Build on existing** data from forestry and energy
- Collect detailed data on **any wood energy source**
- Ask for **disaggregated production and consumption** data
- Assess the **role of the forestry sector (production & consumption)**

Why do we continue collecting detailed wood energy data?

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The JWEE has become an important source of information and improved:

- A) Assessment of **Sustainable Forest Management**
- B) **Wood flow** assessments
- C) Assessment of the **role of wood energy in national energy balance**
- D) **Wood Balances**
- E) **Policy guidance** (European Forest Sector Outlook Study II)
- F) Understanding of the role of **wood energy in a circular economy**



3. Objective and structure of the training webinars

Objective and structure of the training webinars

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- Raise awareness and provide support to national data experts on forestry, energy and waste to provide a national reply for the reference year 2021.
- Provide guidance on how to obtain data from and energy statistics and how to fit them into the questionnaire.
- Foster communication and cross-sectoral cooperation between national experts on energy, forestry and waste.

Objective and structure of the training webinars

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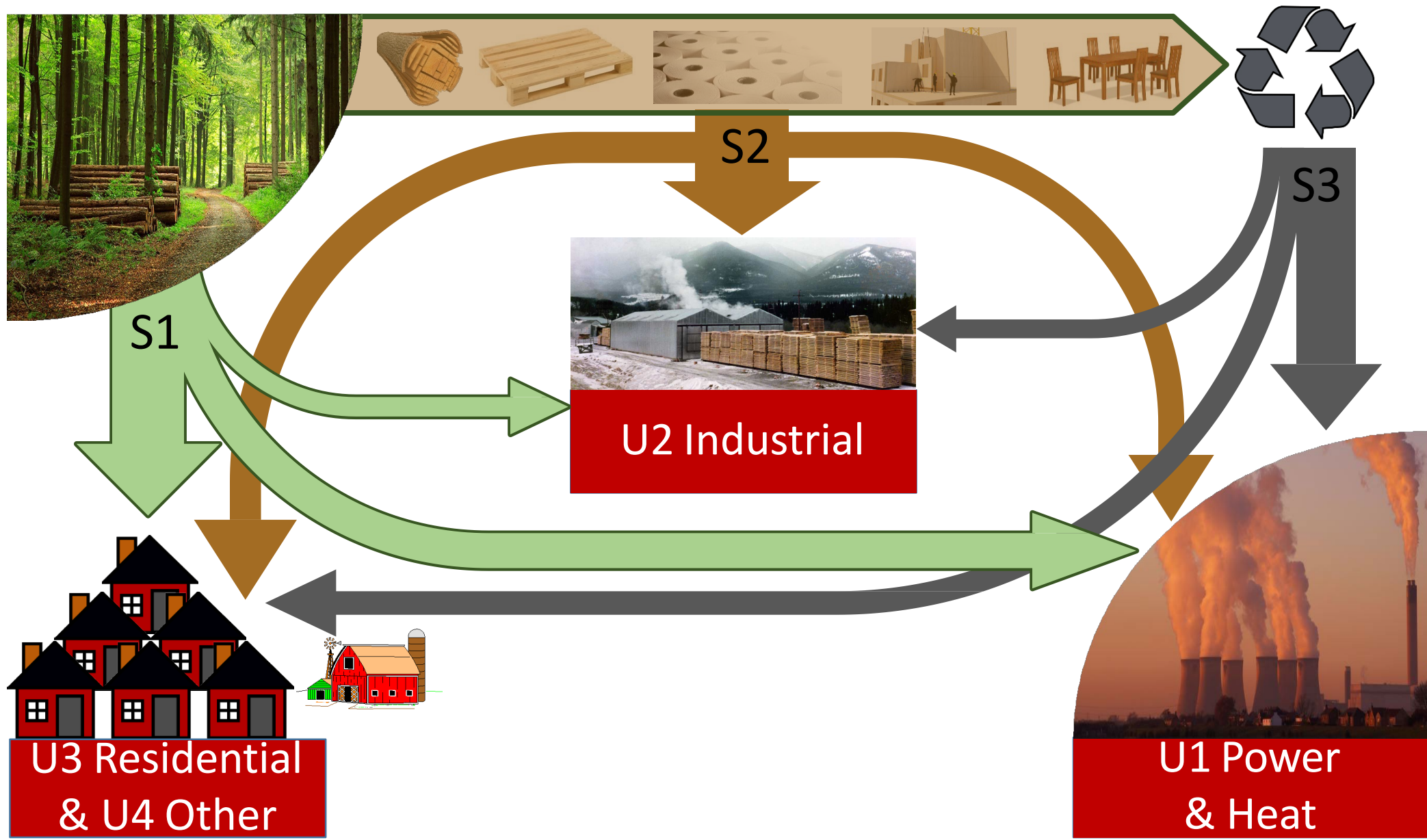


- Module 1 *“Overview session – Introduction to the Joint Wood Energy and data sources on energy consumption”*
- Module 2 *“Detailed structure of the Joint Wood Energy Enquiry and how to best obtain relevant national data”*
- Module 3 *“Online discussion about specific datapoints and last remaining questions to refine national replies. Discussion with the secretariat and among peers about possible solutions”*

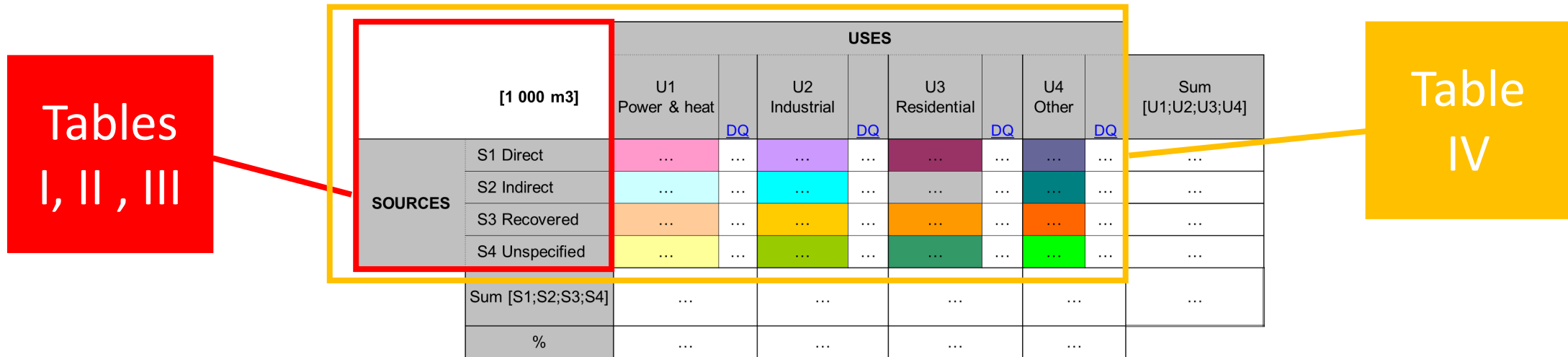


4. The basic structure of the JWEE

The basic structure of the JWEE – sources ->user



The basic structure of the JWEE Correlation of tables I – IV to the aggregate table



- Table I: Detailed assessment of fibre sources – beyond forests and including waste
- Tables II & III: Avoiding double counting for processed wood-based fuels and their origins (to be subtracted in Table IV) metric tonnes dry matter
- Table IV: Building a bridge between forest, wood, energy and waste databases - with Conversion factors and an “artificial unit” [metric tonnes dry matter]

The basic structure of the JWEE – Table I - fibre sources

Fibre SOURCES		Fibre TYPES		Unit [1 000]	
Wood Sources	Primary solid biomass	Woody Biomass from Forests	Industrial Roundwood (C & NC)	m ³	
			Fuelwood (C & NC)	m ³	
			... of which from short rotation coppice	m ³	
		Woody Biomass Outside Forests	Industrial Roundwood (C & NC)	m ³	
			Fuelwood (C & NC)	m ³	
			... of which from short rotation coppice	m ³	
	Industrial waste (co-products)	Forest based Industry	Solid co-products (C & NC)	Chips and particles	m ³
				Wood residues	m ³
				Bark	m ³
			Liquid co-products (C & NC)	Black liquor (without crude tall oil)	t
Crude tall oil				t	
Municipal solid waste biodegradable	Wood waste		Post-consumer recovered wood	Non-hazardous wood waste	t
		Hazardous wood waste		t	
		Unspecified wood waste	t		
	Wood from unknown sources				m ³

- Prefilled to the extent possible (Joint Forest Sector Questionnaire)
- Heterogenous units
- Clear distinction between wood processing residues and post-consumer recovered wood (waste)
- No processed wood based fuels to avoid double counting (Tables II & III)

SOURCES	[1 000 m ³]	USES				Sum [U1;U2;U3;U4]
		U1 Power & heat	U2 Industrial	U3 Residential	U4 Other	
S1 Direct
S2 Indirect
S3 Recovered
S4 Unspecified
Sum [S1;S2;S3;S4]
%

The basic structure of the JWEE – Tables II & III

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Processed **solid** biofuels (pellets – white or torrefied, briquettes, charcoal fuels)

Processed **liquid** biofuels (pyrolysis oils, cellulose based ethanol, wood-based biodiesel)

- No natural sources but processed products
- Globally traded commodities

Table II: Gross domestic supply = production + import – export

Table III: Raw material used for production

Table IV: Consumption

		USES				Sum [U1;U2;U3;U4]
		U1 Power & heat	U2 Industrial	U3 Residential	U4 Other	
SOURCES	S1 Direct	...	...	...	...	...
	S2 Indirect	...	...	...	...	...
	S3 Recovered
	S4 Unspecified
Sum [S1;S2;S3;S4]	
%	

The basic structure of the JWEE – Table IV

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Industry Sector				
Direct Final Consumer and Autoproducer (Heat, CHP and Electricity)				
Pulp & Paper [ISIC No.21]	Wood & wood products	Other Industry	Unspecified	Total

Energy Transformation Sector				
Main Activity Producer				
Electricity	CHP	Heat	Unspecified	Total

Other direct final consumption						
Residential	Agriculture, Forestry and Fishing	Commercial and Public services	Transport Sector	Other	Unspecified	Total

		USES					
		U1	U2	U3	U4		Sum
		Power & heat	Industrial	Residential	Other		[U1;U2;U3;U4]
		[1 000 m3]	DQ	DQ	DQ	DQ	
SOURCES	S1 Direct	...	...	...	...	...	...
	S2 Indirect	...	...	...	...	...	...
	S3 Recovered	...	...	...	...	...	...
	S4 Unspecified	...	...	...	...	...	...
	Sum [S1;S2;S3;S4]	...	...	...	...	...	...
		%

Calculated domestic availability based on data in Tables I, II and III



5. How to collect which data?

How to collect which data?

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- The scoping exercise of wood energy data back in 2003/2004 indicated that data on wood energy are often scattered but available
- Finding the data and converting them into an artificial (but universal) unit is the first step
- Use information from any sector - cross-sectoral cooperation is key!
- Data of various qualities are acceptable (use the data quality rating flag)

How to collect which data?

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Information on Data Quality

- | | |
|----------|--|
| A | Excellent data quality (e.g. empirical data from a recent study) |
| B | Good data quality (e.g. older studies with widely recognized precision or a good expert estimate -based on more than one source) |
| C | Rough estimate (about right order of magnitude), |
| D | No information on data quality available |
| O | Official national statistics |

How to collect which data?

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- The second segment of module 1 will highlight the data available by various international, regional, sub-regional organizations – with a focus on energy production and transformation.
- The third segment of module 1 will provide some examples of data generation via detailed surveys, modeling and empirical household studies that could be used to prepare the JWEE.
- Module 2 will present and discuss in detail solutions found by member States to successfully complete the JWEE tables.

Conclusions, next steps and way ahead

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- See if any of the information presented today could help in completing the JWEE by 02 May 2023.
- Contact woodenergy.timber@un.org in case of any questions regarding the JWEE or how to get in touch with energy data experts in your country.
- Consider joining module 2 for practical solutions found at national level.
- The recording of the module will not be published but may be made available to interested experts upon request.

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Thank you!

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