



Renewable energy indicators



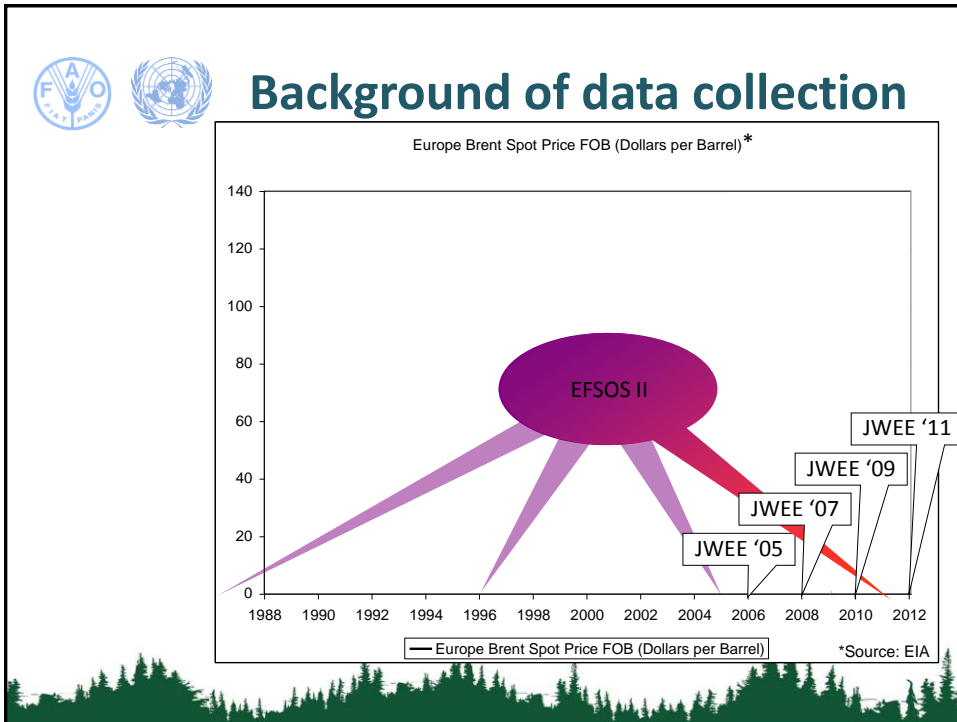
Florian STEIERER
UNECE/FAO Forestry and Timber Section

Joint Task Force on Environmental Statistics and Indicators
Geneva 17 – 18 November 2016





No.1 renewable fuel in the UNECE region ?






What is JWEE? - History



- 2004 assessment of available studies and data sources on national level. - Passive data collection.
- 2005 design of a detailed draft questionnaire sent to sample countries - Active data collection.
- 2006 revised detailed Joint Wood Energy Enquiry sent to all member countries.
- Since then the questionnaire has been sent to all member countries every two years (latest 2016)











What is the JWEE? - Objectives


- Provide the most complete picture available on wood energy in the UNECE region
- Cover all significant wood flows for energy generation (black liquor, pellets, charcoal, etc.)
- Improve cross-sectoral cooperation between forestry, energy, waste and other sectors concerned (e.g. pellets).
- Indicate the role of wood energy in national energy supply and wood consumption.

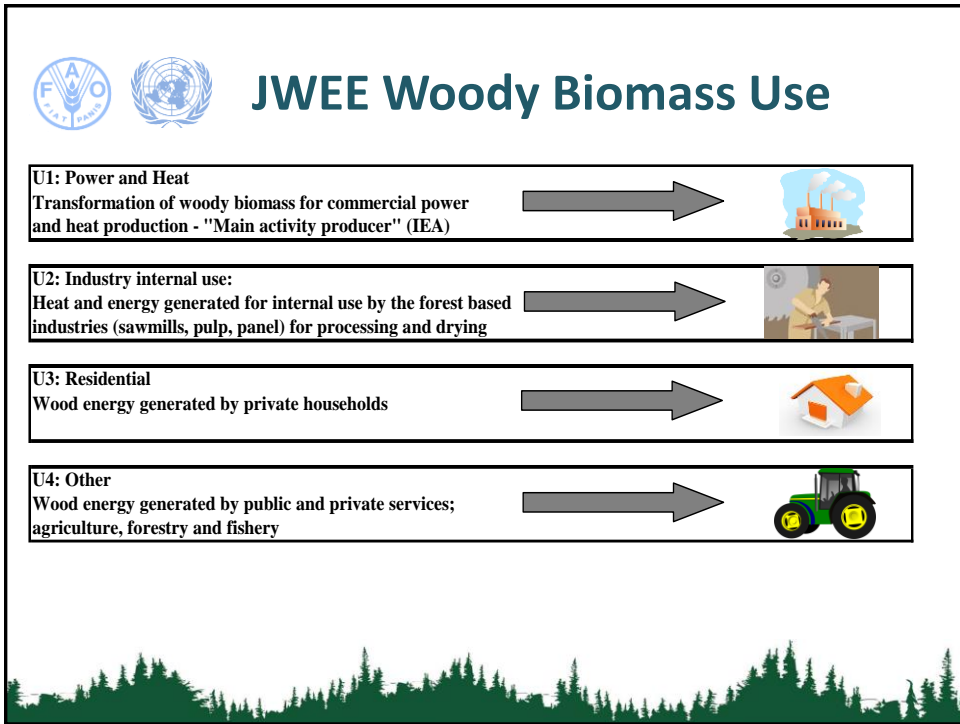


JWEE Woody Biomass sources

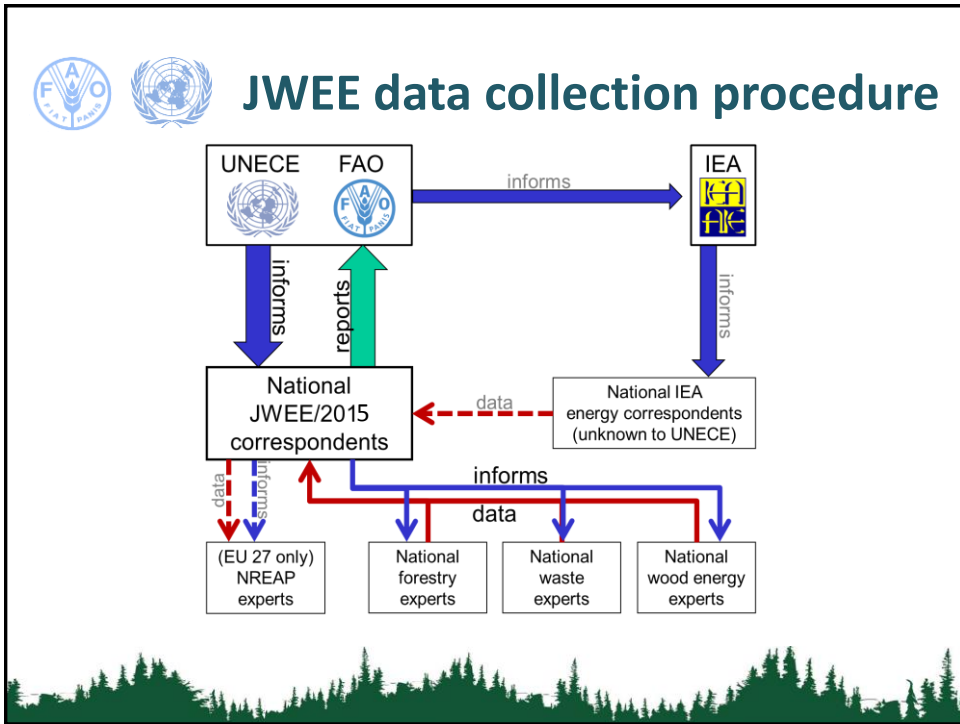
S1: Direct Logging residues, thinnings, clearings short rotation coppice, etc.	 → 
S2: Indirect Residues, enhanced/ densified processed wood based fuels (pellets, charcoal, biofuels), etc.	 →  → 
S3: Recovered Post consumer recovered wood products (often contaminated), construction demolition, waste, etc.	 →  → 
S4: Unspecified Unspecified material where it is unclear what kind of material is used	 → ? → 





JWEE Excel Structure

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



JWEE Results Presentation

Country Profile

JWEE 11
2011

* Year selection affects the "Wood Energy Sources and Uses"

Total population (2011)	253 503 886
Forest population (% of total)	82.2%

Wooded biomass supply

	2011	2009	2007	2005
Residual available from forest and outside forest (1000m ³)	292 770	258 260	302 390	n.a.
Residual supply from forest and outside forest (including net trade) (1000m ³)	345 336	371 748	361 470	n.a.
Total residual domestic supply of woody biomass (1000m ³)	317 240	317 360	313 130	

Energy Resources

	2011	2009	2007	2005
Total primary energy supply, 1000 toe	608 220	626 207	663 138	n.a.
Share of renewables (100%) in TPE	19.3%	19.0%	20%	n.a.
Total wood energy supply, volume basis (1000 m ³)	220 480	226 859	226 084	n.a.
Total wood energy supply, energy basis (toe)	30 000	30 400		

Wood Energy Intensity

	2011	2009	2007	2005
Average wood energy consumption (10 ⁶ toe/capita)	1.13	1.21	1.36	n.a.
Household consumption per rural inhabitant (m ³ /hab/annum)	1.77	1.87	1.98	n.a.
Public consumption per residential log skidder	26.26	28.05	34.23	

Role of Wood Energy in Forest Sector

	2011	2009	2007	2005
Share of total wood energy directly used for energy (%)	27.2%	23.7%	21.7%	n.a.
Share of bioenergy directly used for energy (toe/capita)	36.8%	36.6%	28.3%	n.a.
Share of bioenergy domestic consumption of waste (toe/capita)	44.6%	43.9%	41.6%	

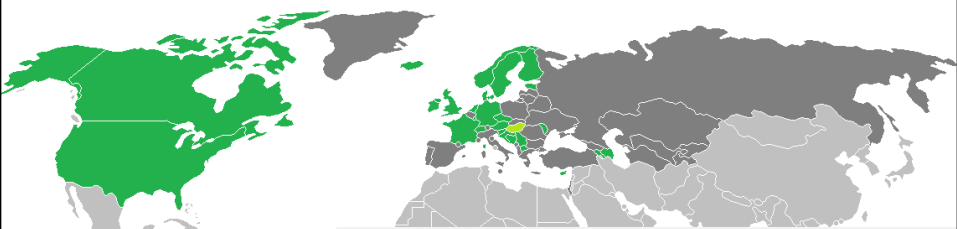
Role of Wood Energy in Energy Sector

	2011	2009	2007	2005
Share of woody biomass in TPE, energy basis (%)	5.4%	4.6%	4.3%	n.a.
Share of bioenergy in TPE, energy basis (%)	48.7%	46.1%	48.7%	n.a.
Share of wood energy generated from black liquor, energy basis (%)	16.8%	15.7%		
Reported wood fuel as share of wood energy, volume basis (%)	5.7%	5.2%	2.0%	

Wood Energy Sources (1000 m³)

Wood Energy Uses (1000 m³)

Response rate JWEE2013

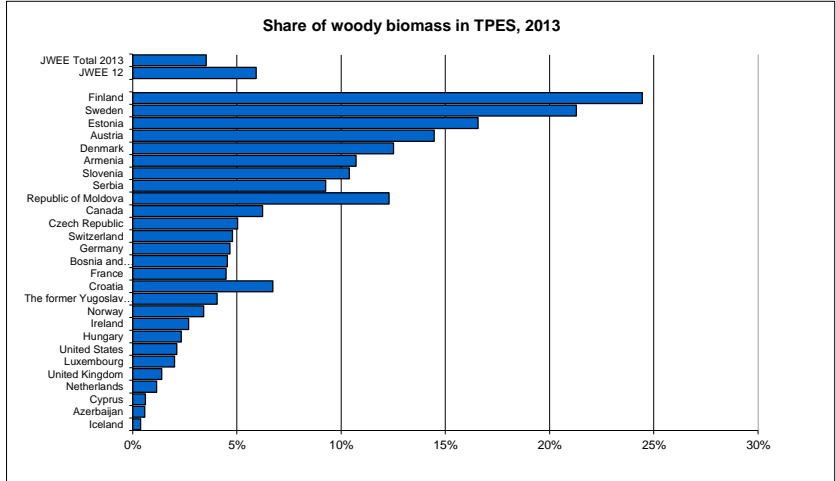


Main 2013 findings at a glance

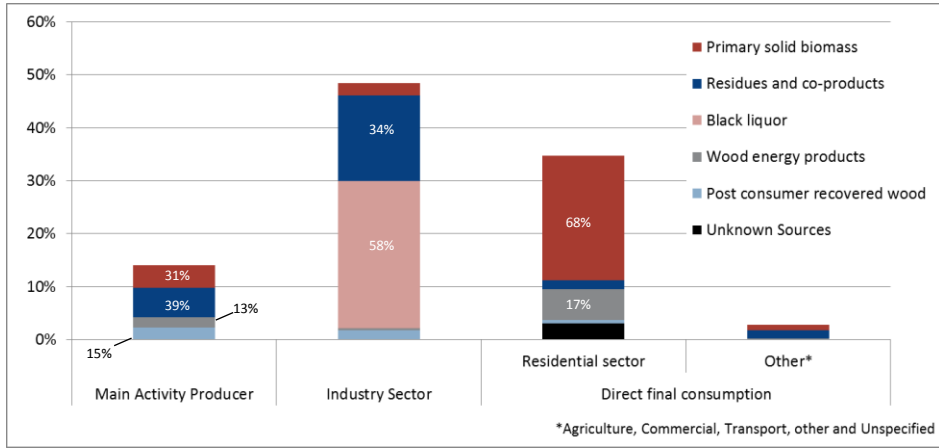
27 countries replied

- Total wood energy consumption: 581,422,265 m³
- Share of wood energy in TPES: 3.5%
- Share of wood energy in RES: 37.5%

Share of wood energy in TPES

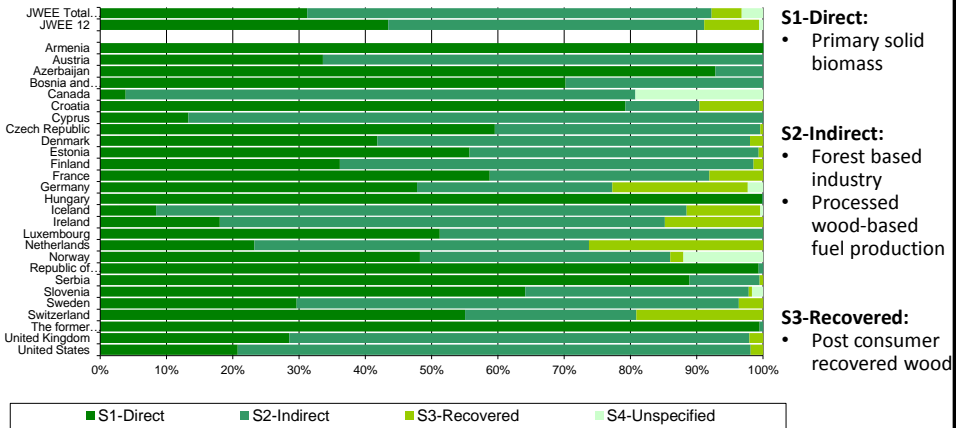


Use of wood energy in 2013

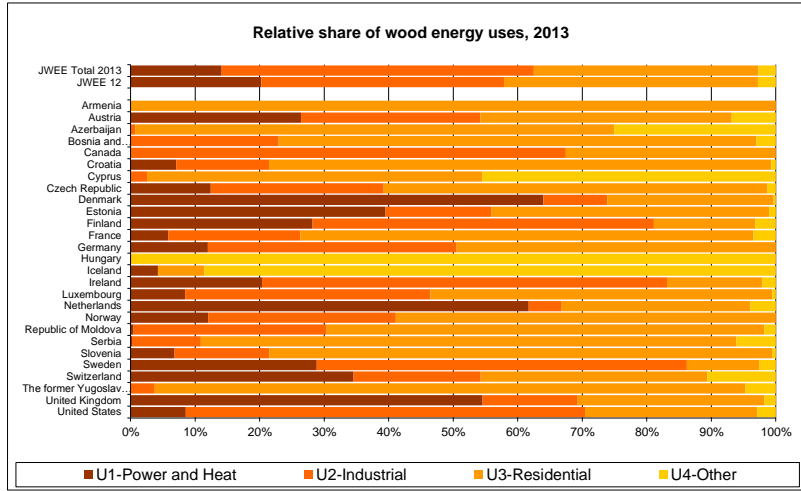


Share of wood energy sources

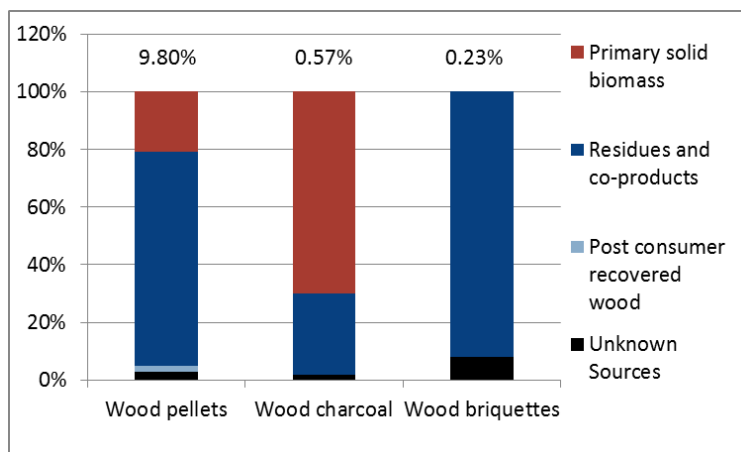
Relative share of wood energy sources, 2013



Share of wood energy uses



Resource mix of products*




* Reporting countries: Bosnia and Herzegovina, Canada, Croatia, Cyprus, Finland, France, Ireland, Netherlands, Serbia, Slovenia, Switzerland and the United Kingdom

Time series



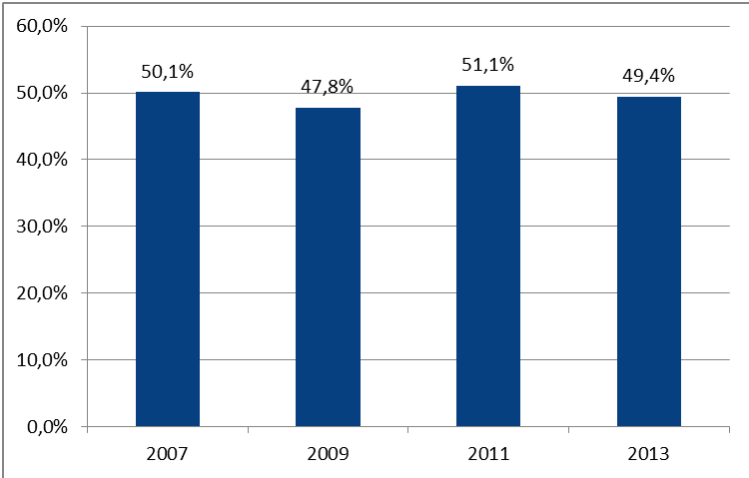
Trend 2007-2013



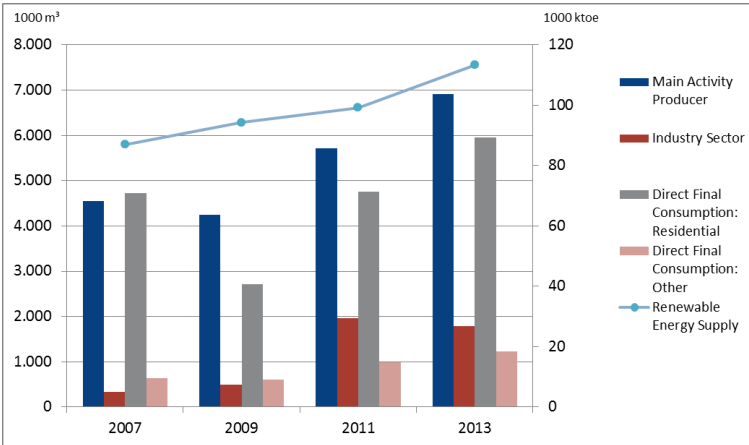
JWEE12 countries:

1. Austria
2. Cyprus
3. Finland
4. France
5. Germany
6. Ireland
7. Luxembourg
8. Serbia
9. Slovenia
10. Sweden
11. Switzerland
12. United Kingdom

Woody biomass in RES for JWEE 12



Pellet trend



Reporting countries: Austria, Cyprus, Finland, France, Germany, Ireland, Luxembourg, Serbia, Slovenia, Sweden, Switzerland and the United Kingdom

Obtaining data

UNECE/FAO Website:
<http://www.unece.org/forests/jwee.html>

JWEE country profiles

JWEE wood resources for wood energy products

Previous JWEE country profiles

The screenshot shows the UNECE/FAO Joint Wood Energy Enquiry website. The main content area is titled "Joint Wood Energy Enquiry" and includes an introduction, a "2013 Joint Wood Energy Enquiry" section, and a "Situation in 2013" section. The "2013 Joint Wood Energy Enquiry" section is highlighted with a red circle. Below it, the "Previous Enquiries and Contact" section is also highlighted with a red circle. Red lines connect the text on the left to these sections.

Capacity building

- JWEE2015 will be launched in a few weeks
- The UNECE/FAO Forestry and Timber Section is organizing a capacity building workshop, in close cooperation with FAO and IRENA:

“Workshop on Bioenergy from the Forest Sector - Capacity Building for Information”

6 - 8 December 2016 in Hungary, Budapest”



Conclusions

- Harmonized collection of most disaggregated data
- Improved cross-sectoral cooperation and communication at any level
- Reference structure for cross-sectoral discussions
- Encourage to fill gaps with estimates
- Data quality can be indicated for every data point
- Structure could be used for other biofuels

Recommendations:

- Go beyond official data
- Accompany data collection with capacity building
- Provide good guidelines/manuals
-



Recommendations

- Reach out to all stakeholders involved
- Use existing systems and definitions
- Accompany data collection with capacity building
- Provide good guidelines/manuals
- Go beyond official data





Thank you



Florian STEIERER
Florian.steierer@unece.org
+41 229171409

