

Development of wood energy statistics in the Balkans

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CONTENTS

- » Wood energy systems in the Balkans before 2010: general overview
- » What was done in the region in the period 2010-2016?
- » What are wood energy statistical systems like in the Balkans now
- » What should be done in the future for wood energy statistical system in the region to become sustainable?



I. Wood energy systems in the Balkans before 2010: general overview

Биланс за огревно дрво
Energy balance for Firewood

	Ogreвно drvo / Firewood	
	t	TJ
Примарна производња енергије / Primary production	832285	12797
Увоз / Import	1365	21
Извоз / Export	10646	164
Салдо залиха / Stock changes	3931	60
Међународна складишта / Bunkers	-	-
Статистичка разлика / Statistical difference	-	-
Укупно расположива енергија Gross inland consumption	826935	12715
Утрошак за производњу енергије Transformation input	-	-
Термоелектране / Thermal power plants	-	-
Термоелектране - топлане (ТЕ-ТО) / CHP	-	-
Индустријске енергане / Autoproducers	-	-
Топлане / District heating plants	-	-
Екстракција нафте и гаса / Oil and gas extraction	-	-
Рафинерије / Refineries	-	-
Петрохемија / Petrochemical refinery	-	-
Високе пећи / Blast Furnace plants	-	-
Рудници угља / Coal mines	-	-
Прерада угља / Coal transformation	-	-
Остали / Other	-	-
Производња енергије трансформацијом Transformation output	-	-
Хидроелектране / Hydro power plants	-	-
Термоелектране / Thermal power plants	-	-
Термоелектране - топлане (ТЕ-ТО) / CHP	-	-
Индустријске енергане / Autoproducers	-	-
Топлане / District heating plants	-	-

» 2006: official statistics monitored only
firewood production in their statistical reports.

» Data about wood fuels and wood energy given by official statistics in its statistical system were incorrect and unreliable



I. Wood energy systems in the Balkans before 2010: general overview

Укупан енергетски биланс,
Total Energy Balance

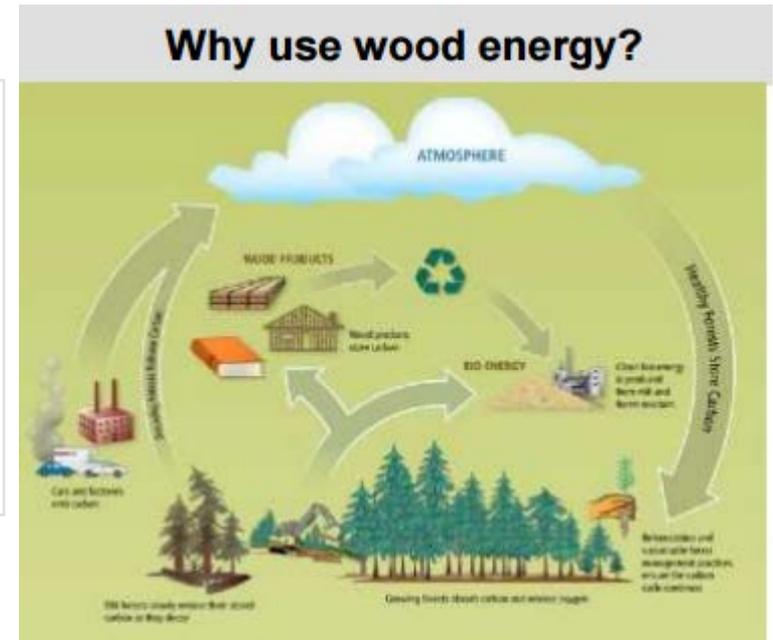
	Укупно Total	Природни гас Natural gas	Нафта и деривати нафте Oil and Oil products	Хидро електрична енергија Hydro Energy	Укупна електрична енергија Electricity	Топлота Heat	Угаљ и производи од угља Coal and Coal products	Геотермална енергија Geothermal Energy	Огривно дрво Fire wood
	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ
Примарна производња енергије / Primary production	395351	9658	27631	36392	-	-	308601	272	12797
Увоз / Import	313107	74634	166938	-	31950	-	39564	-	21
Извоз / Export	44499	-	10231	-	31687	-	2417	-	164
Салдо залиха / Stock changes	-9861	-	-4643	-	-	-	-5278	-	60
Међународна складишта / Bunkers	-	-	-	-	-	-	-	-	-
Статистичка разлика / Statistical difference	-	-	-	-	-	-	-	-	-
Укупно расположива енергија Gross inland consumption	654096	84292	179693	36392	263	-	340469	272	12715
Утрошак за производњу енергије Transformation input	503882	23810	160527	-	-	-	319546	-	-
Термоелектране / Thermal power plants	283151	-	435	-	-	-	282716	-	-
Термоелектране - топлане (ТЕ-ТО) / CHP	5883	4458	1425	-	-	-	-	-	-
Индустријске енергане / Autoproducers	14190	2510	8718	-	-	-	2962	-	-
Топлане / District heating plants	25947	16842	6370	-	-	-	2735	-	-
Екстракција нафте и гаса/Oil and gas extraction	-	-	-	-	-	-	-	-	-
Рафинерије / Refineries	141059	-	141059	-	-	-	-	-	-
Петрохемија / Petrochemical refinery	1638	-	1638	-	-	-	-	-	-
Високе пећи / Blast Furnace plants	22240	-	-	-	-	-	22240	-	-
Рудници угља / Coal mines	-	-	-	-	-	-	-	-	-
Финална потрошња / Final consumption	393585	57287	154535	-	98129	30422	40227	270	12715
Финална потрошња за неенергетске сврхе Final Non-Energy consumption	38732	5559	32407	-	-	-	766	-	-
од тога за хемијску индустрију of wich: Chemical industry	26631	5559	21072	-	-	-	-	-	-
Финална потрошња за енергетске сврхе Final Energy consumption	354853	51728	122128	-	98129	30422	39461	270	12715
Индустрија / Industry	116437	40512	14531	-	24696	12379	23409	-	830
Грађевинарство / Construction	3434	1703	953	-	742	-	33	-	3
Саобраћај / Transport	99950	189	98797	-	950	-	14	-	-
Домаћинства / Household	90616	2737	1434	-	50753	15160	13538	-	6994
Пољопривреда / Agriculture	3294	179	2146	-	774	-	34	149	12
Остали потрошачи / Other users	41101	6408	4266	-	20214	2883	2433	121	4776

- » wood energy was underestimated in energy balances
- » decision makers in the institutions neglected its significance
- » Wood energy participation: 3.2%



I. Wood energy systems in the Balkans before 2010: general overview

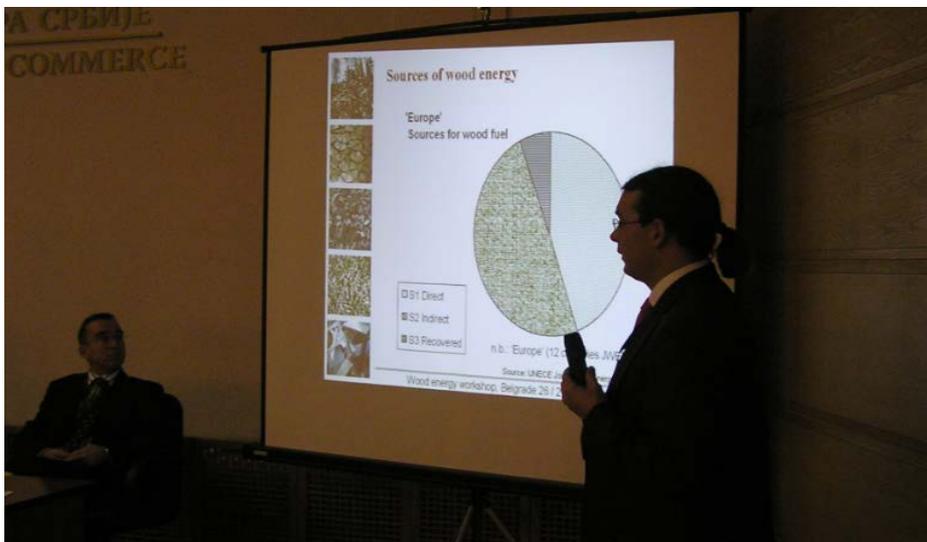
» General evaluation: the situation in the field of wood energy was such that it could be marked as neglected.



» Few experts in the academic community and occasional persons in the institutions who had some knowledge to understand the concept of renewable energy sources and significance of wood energy in such a concept.



I. Wood energy systems in the Balkans before 2010: general overview



» First conferences were organized covering the topic of new types of wood fuels and wood energy.



» The first regional conference about new wood fuels : Belgrade 2007





I. Wood energy systems in the Balkans before 2010: general overview

- » Presenters from Austria, Germany, Italy, Finland and other countries who presented the results of production, consumption and benefits of using wood pellets and wood chips at the conference caused astonishment among the participants.
- » Many participants were in disbelief regarding the profitability of the production of these new wood fuels.





I. Wood energy systems in the Balkans before 2010: general overview

- » The first factories in the region for wood pellet production started with operation in 2006
- » Their production was not statistically registered



Ђумуране и реторте / Charcoal kilns and retorts	-	-
Произвођачи дрвних пелета / Producers of wood pellets	-	-
Произвођачи дрвних брикета / Producers of wood briquettes	-	-
Остали / Other	-	-





I. Wood energy systems in the Balkans before 2010: general overview

- » The role of the UNECE and FAO was of great significance for educating staff in institutions, companies and academy community.



Thanks so much!



- » Owing to the UNECE and FAO, through numerous conferences awareness was increased about new types of wood fuels



II. What was done in the region in the period 2010-2016?

» In the period 2010-2016, 3 WISDOM projects were implemented in the region: in Serbia, Montenegro and Kosovo and another 3 WISDOM projects are being finalized: in Albania, Bosnia and Herzegovina and Macedonia.

WISDOM SERBIA

Spatial wood fuels production and consumption analysis

The work carried out in the framework of the FAO/Government of Serbia Project: "Wood energy for sustainable rural development" TCP/YUG/3201

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Wood energy specialist

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WISDOM specialist

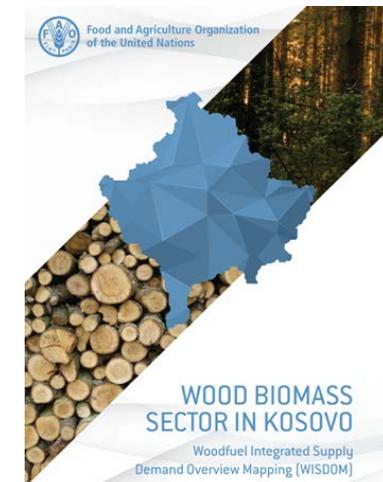
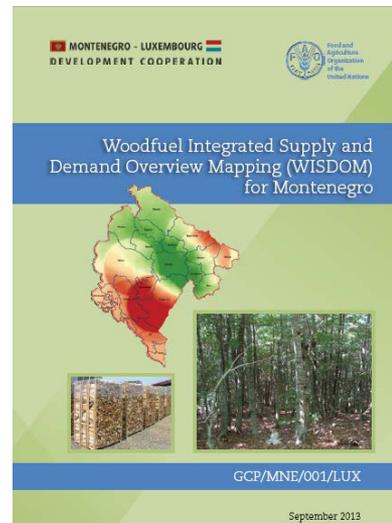
Dušan Jović,
Forestry specialist



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2015

WISDOM CROATIA

Spatial woodfuel production and consumption analysis applying the Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM) methodology



II. What was done in the region in the period 2010-2016?

» Through WISDOM projects:

- New methodology was defined for monitoring consumption, production and market of wood fuels which is successfully implemented in this region
- Concept and methodology are defined for the preparation of new energy balances for wood energy

Total number of households	—
Number of households using district heating system for heating	—
Number of households using gas for heating	—
Number of households using electricity for heating	—
Number of households using heating oil for heating	—
Number of households using solid fuels for heating (wood, coal, briquettes, pellets, combined fuels)	—

Биланс дрвних горива

Balance of wood fuel

	Огривно дрво и вишеметарска обловина/ Firewood and long-meter roundwood	Дрвени остатак/ Wood residue	Дрвна сечка/ Wood chips	Дрвени брикети/ Wood briquettes	Дрвени пелети/ Wood pellets	Дрвени угаљ/ Charcoal
	m ³	m ³	t	t	t	t
Примарна производња енергије /	7212626	155728				
Увоз / Import	4623	498	1631	11431	1272	486
Извоз / Export	8465	798	125	4063	31520	6969
Салдо залиха / Stock changes						
Међународна складишта / Bunkers						
Статистичка разлика / Statistical						
Укупно расположива енергија / Gross inland consumption	7208784	155428	1506	7368	-30248	-6483
Утрошак за производњу енергије / Transformation input	310740	67034	7383	1373	2276	0
Термоелектране / Thermal power						
Термоелектране - топлане (ТЕ-ТО) / Индустријске енергане /						
Топлане / District heating plants				1373	2276	
Тумуране и реторте/ Charcoal kilns	240849					
Произвођачи дрвених пелета/ Producers of wood pellets	46953	13876	7383			
Произвођачи дрвених брикета/ Producers of wood briquettes		36922				
Произвођачи дрвне сечке/ Producers of wood chips	22938	16236				
Произвођачи дрвног остатка/ Producers of wood residue						



II. What was done in the region in the period 2010-2016?

» Through WISDOM projects:

- Certain number of persons who participated in the implementation of the WISDOM projects are appointed as national correspondents of those countries for the needs of the UNECE/FAO wood energy statistics
- Data of the WISDOM projects are the most reliable and relevant data that exist today in most countries
- Based on the data and the statistics from the FAO projects, new projects have developed and are still developing which are financed by international banks and numerous organizations
- Based on the data of the FAO projects, calculations of the national contribution of wood energy to the mitigation of climate changes were done (national target 2020)





III. What are wood energy statistical systems like in the Balkans now

- » It is a general estimation that wood energy statistics in the Balkans is more developed than it was 6 years ago. In certain countries, statistics of wood fuels and wood energy is relatively successfully monitored by the official statistics.
- » In some other countries, unfortunately, official statistics has returned to the old concept and approach to monitoring wood energy and continued to produce incorrect data.
- » In the countries in which the statistics returned to the old system to produce incorrect data, a parallel statistical system for wood fuels and wood energy is functional the creators of which are the national correspondents.





III. What are wood energy statistical systems like in the Balkans now

- » Incorrectness and unreliability of the official statistics has opened the field to numerous amateurs to deal with the issues of production, consumption, market, export, import of wood fuels and wood energy through international projects.
- » Persons who cannot differentiate beech from oak are discussing nowadays about the statistics of wood fuels
- » In the period from 2010 to 2015, over 50 conferences were held in the region which were dedicated to the energy from renewable sources.
- » In the last year, various conferences, forums, panels and other events have been organized almost every month. This is the other extreme. On numerous events discussions are repeated, the same conclusions and recommendations are made.





IV. What should be done in the future for wood energy statistical system in the region to become sustainable?

- » Creation of conditions for stronger connecting of the official statistics with other institutions (academy, independent experts, etc.) for the purpose of constructing a stable and sustainable statistical system on wood energy.
- » Initiation of new projects in the region by the UNECE, FAO, Energy Community and other relevant institutions with the purpose to strengthen the capacities of the institutions and establish inter-institutional cooperation as well as with academia.



Thank you!

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