



## Country Statement of Serbia: WISDOM Serbia- method, results & implications

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## CONTENT

- »FAO's activities on wood energy in SEE Countries
- »Case studies: WISDOM-Experiences and Applications from SEEC
- »WISDOM Serbia-background, method, results and implications



## FAO's activities on wood energy in SEE Countries

- » Enhance the role of Forestry Services on WE
- » Improve the capacities of Forestry Services
- » Development of inter-institutional programmes
- » Development of WE policies & plans
- » Improvement of WE systems knowledge




## WISDOM- Woodfuels Integrated Supply/Demand Overview Mapping

- » WISDOM is main tool to (Trossero M., 2008):
- » DESCRIBE
- » UNDERSTAND
- » PRESENT
- » ANALYSE
- » FORMULATE wood energy policies and
- » PLAN current and future wood energy activities at local, national, regional and global level

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## Case studies in SEE Countries



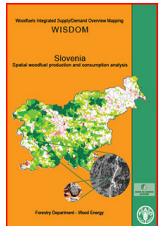
» Slovenia, 2003-2004.  
» Croatia, 2006-2008.  
» Serbia, 2009-2011.

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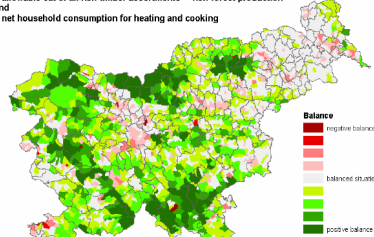
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## WISDOM-Experiences and Applications: SLOVENIA



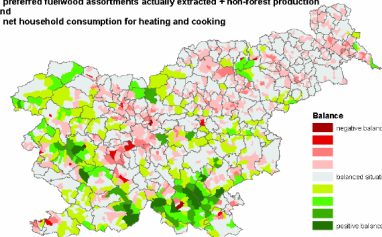
» The main output is the Slovenia WISDOM, which includes a geodata base at the level of Cadastral Community (KO) providing details on current and potential woodfuel production and consumption patterns (and related parameters) and the first versions of the Slovenia Wood Energy Information System (SWEIS), which provides a national-level overview.

**Balance between:**  
- allowable cut of all non-lumber assortments + non-forest production  
and  
- net household consumption for heating and cooking



**Balance**  
■ negative balance  
■ balanced situation  
■ positive balance

**Balance between:**  
- preferred fuelwood assortments actually extracted + non-forest production  
and  
- net household consumption for heating and cooking



**Balance**  
■ negative balance  
■ balanced situation  
■ positive balance

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## WISDOM-Experiences and Applications: CROATIA

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**WISDOM Croatia – SUPPLY MODULE**

- » FAO TCP project: Development of a Sustainable Charcoal Industry in Croatia (2006-2008)
- » Main objectives:
  1. preparation of a modernization and revitalization programme for the charcoal industry
  2. Development of wood energy information system through WISDOM methodology application to Croatia

**WISDOM – INTEGRATION MODULE**

Woody biomass supply-demand balance

**WISDOM – INTEGRATION MODULE**

Pellet production vs. Quantity of wood residues

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## TCP/YUG/3201 - Wood energy for sustainable rural development Main Objective

» The overall objective of the project is to enhance the capabilities of the Forest Directorate of Ministry of Agricultural, Forestry and Water Management, for the formulation, evaluation and development of sound bioenergy strategies, programmes and projects compatible with the sustainable management of the forestry, energy and agricultural sectors.

### Specific Objectives

- » Knowledge & understanding on wood energy systems & potentialities improved
- » Capacity building activities (knowledge dissemination)
- » National wood energy action plan developed

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**Outputs**

**1. Knowledge & understanding on wood energy systems & potentialities improved**

- » Serbian Wood Energy Information System (SWEIS) established at the DF (in close collaboration with the National Energy Agency and Faculty of Forestry);
- » Geo-referenced database established with information on wood energy and wood fuels and related aspects regarding users, consumption patterns, production, supply sources, trade and marketing
- » Vital technical studies & field work carried out for the formulation of a sound woody biomass action plan

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**Outputs**

**2. Capacity building activities (knowledge dissemination)**

- » National capacities enhanced for planning, implementing and monitoring sustainable wood fuels production and utilization (energy) systems through the development of the infrastructure and human resources of the DF and related partners;
- » supply of international and national consultants as well as main contractors

**3. National wood energy action plan developed**

- » national wood energy action plan (WEAP) developed for increased wood energy production and utilization as an environmentally friendly source of energy that is integrated within the forestry and energy programmes

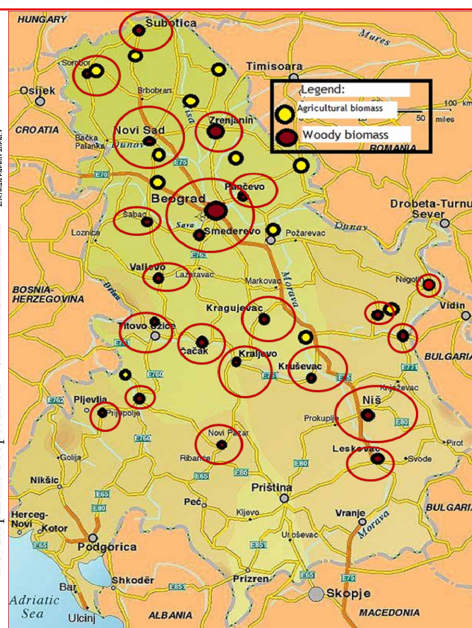
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## Lessons Learned in Serbia: FAO/TCP Project: results

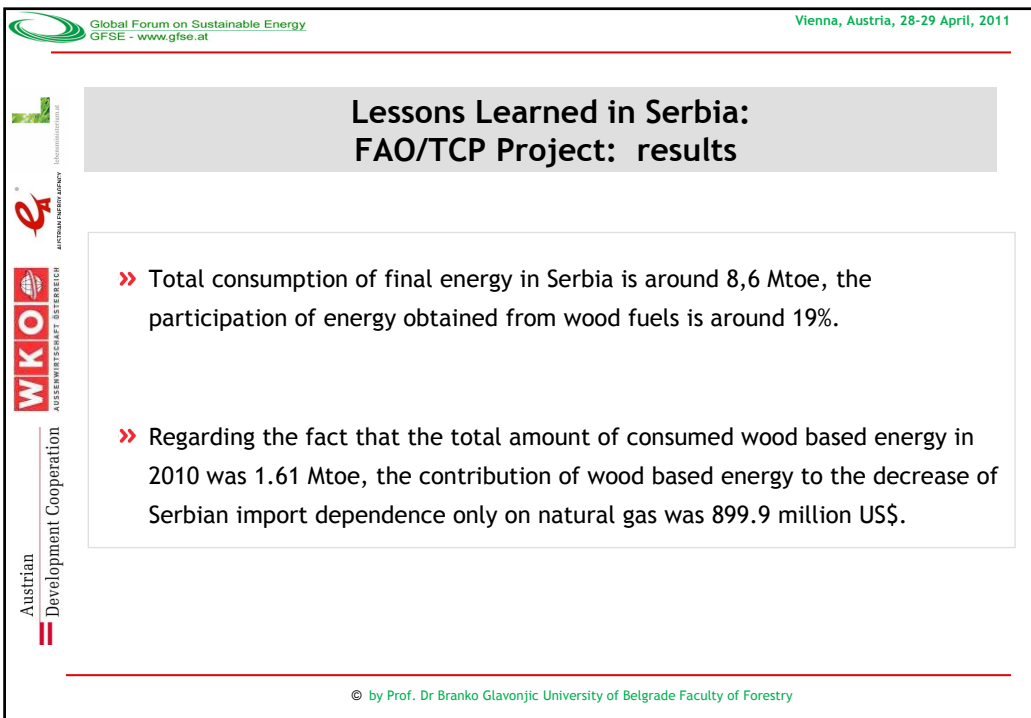
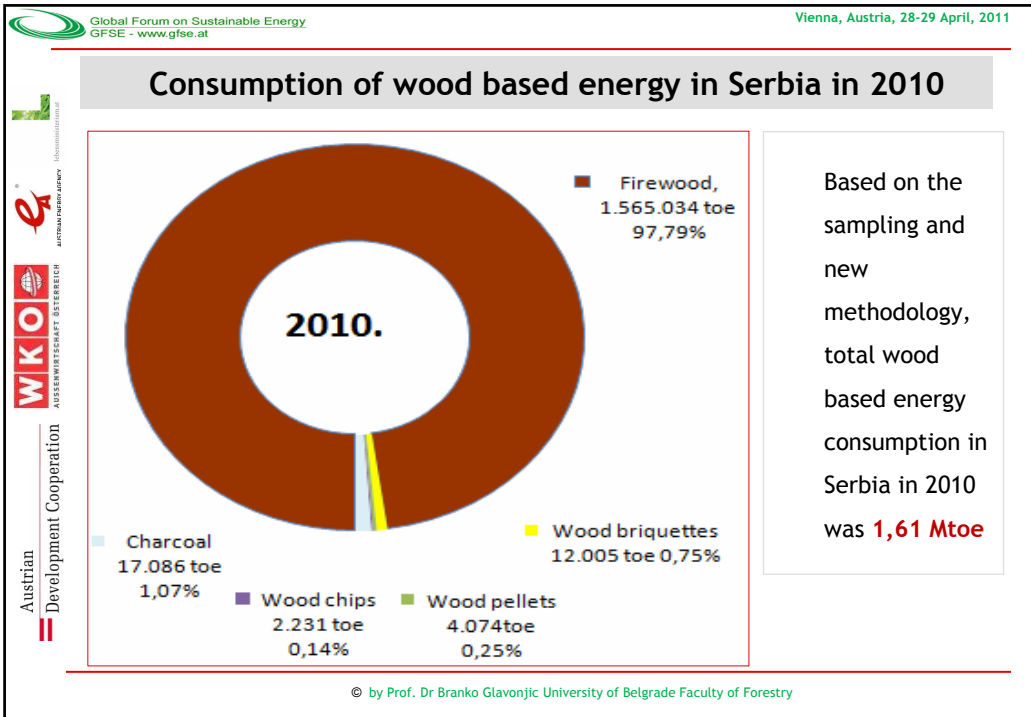
### » NEW METHODS OF WORK AND RESEARCH METHODOLOGY

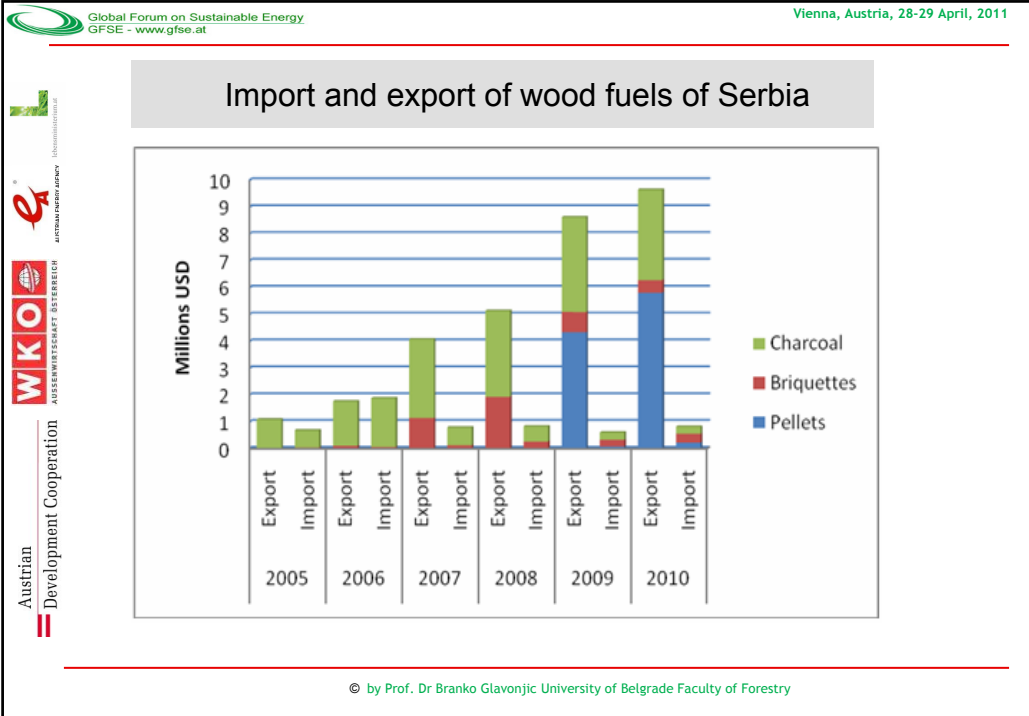
- the field surveys were conducted in two directions:
  1. one direction included the surveying of households and district heating systems in Serbia,
  2. and the other one the collection of data on consumption of other energy products for heating in Serbia, as follows: electric energy, coal, gas and fuel oil.



❖ Overview of main areas in which the surveying of households and other users of wood fuels was conducted in Serbia in the period January-February 2011

❖ The total number of surveyed households was **36,946**, out of which urban **20,725** or 56,1%, and rural **16,221** or 43.9%.





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### Serbia: Feed-in tariffs for electricity generation

Biomass CHP	c€/kWh
Installation up to 500 kW	13.6
Installation between 500 kW and 5 MW	13.845-0.489*P
Installation larger than 5 MW	11.4
Bioogas	c€/kWh
Installation up to 200 kW	16
Installation between 200 kW and 2 MW	16.444-2.222*P
Installation larger than 2 MW	12

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## CONCLUSION

- » Researches conducted so far and results from TCP/FAO projects show undoubtedly significantly bigger role and significance of woody biomass in energy balance of Serbia than all forecasts and estimations made so far,
- » In further continuation of project implementation, consumption of wood based energy will be determined in other sectors as well
- » All this together will produce the right picture on the significance and role of woody biomass in energy balance of Serbia.





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# ZAHVALJUJEM SE NA PAŽNJI

## THANK YOU FOR YOUR ATTENTION



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