

Towards 2020:

New Horizons for RTD and Innovation in the Western Balkan Region

WBC-INCO.NET Final Conference & Brokerage Event

Tech Gate Vienna / Donau-City-Straße 1 / 1220 Vienna / Austria

Horizon 2020

Focus on Secure, Clean and Efficient Energy
(supported by C-Energy Network)

Possibilities for cooperation of WBC in energy sector

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University of Belgrade-Faculty of Mechanical Engineering



Faculty of Mechanical Engineering, University of Belgrade

- ▶ The oldest and largest educational and scientific institution in the area of mechanical engineering in Serbia.
- ▶ More than 400 employees involved in education, scientific and research programs.
- ▶ All study programs are ACCREDITED by
 - ▶ Committee for Accreditation and Quality Verification of the Republic of Serbia and
 - ▶ ASIIN - German accreditation agency specialized in accrediting degree programs from the fields of engineering, informatics/computer science, the natural sciences and mathematics.
- ▶ Over 3.000 students on 22 different modules
 - ▶ Three level of academic studies: B.Sc, M.Sc and Ph.D studies
- ▶ The Faculty has participated in several EU projects as well as on dozens national level research projects per year.
- ▶ The research activities are the cooperation with the industry and the joint research projects with the universities in Serbia and abroad.
- ▶ Today, the main projects are related to the activities in energy sector, especially renewable energy and energy efficiency.:
 - ▶ Faculty of Mechanical Engineering is one of participants on the FP7 project S2Biom: Sustainable supply and demand for biomass for a "resource- efficient" Bioeconomy



Energy Sector in Serbia

- ▶ Member of Energy Community from 2006
- ▶ Strategy, targets and activities are defined through the cooperation within the EC
- ▶ Implementation of the regional energy projects for which individual member states lack sufficient capacities to implement them on their own
- ▶ Essential document for development of energy sector
 - ▶ Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 and with projection by 2030



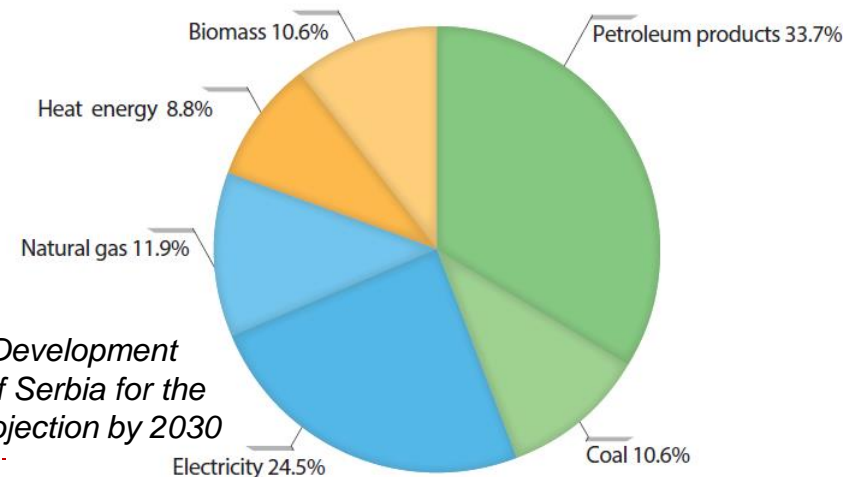
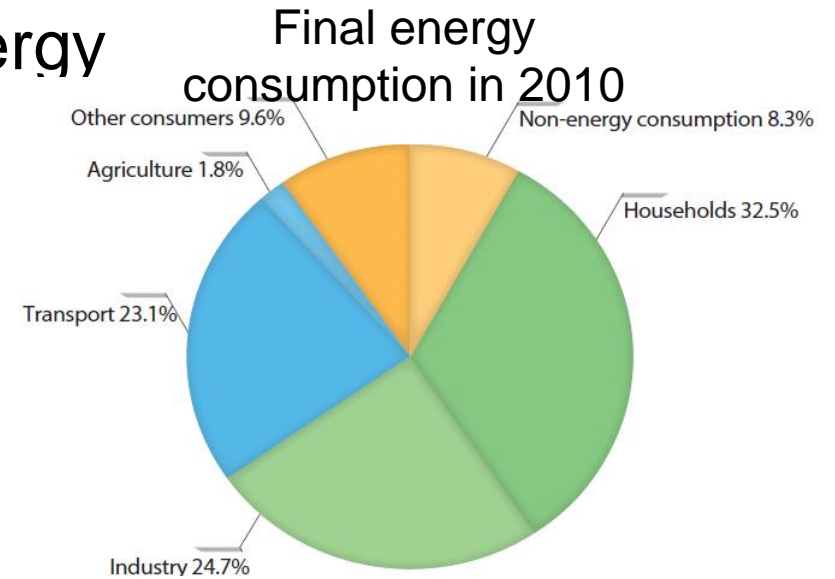
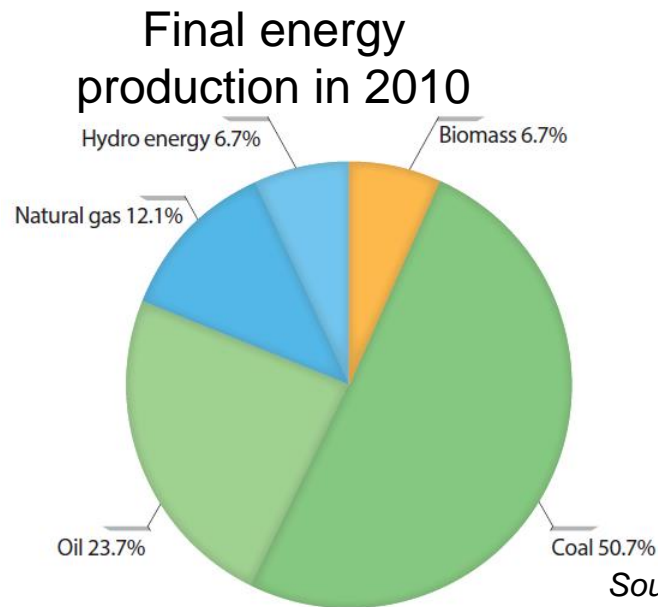
Energy Sector in Serbia

- ▶ Essential document for development of energy sector
 - ▶ Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 and with projection by 2030
 - ▶ Strategic Environmental Assessment for the Energy Sector Development Strategy of the republic of Serbia by 2025 with projection until 2030
 - ▶ National Renewable Energy Action Plan of the Republic of Serbia



Energy Sector in 2010

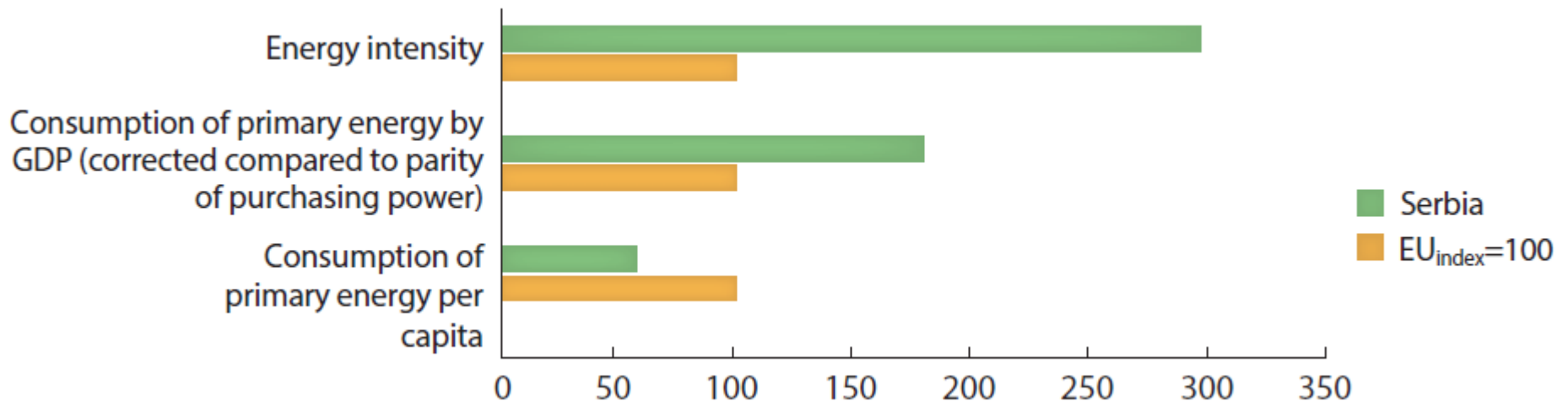
- ▶ Total consumption of final energy
 - ▶ 9.696 milliom toe
- ▶ Primary energy consumption
 - ▶ 15.531 million toe



Source: Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 and with projection by 2030

Energy indicators Serbia - EU in 2010

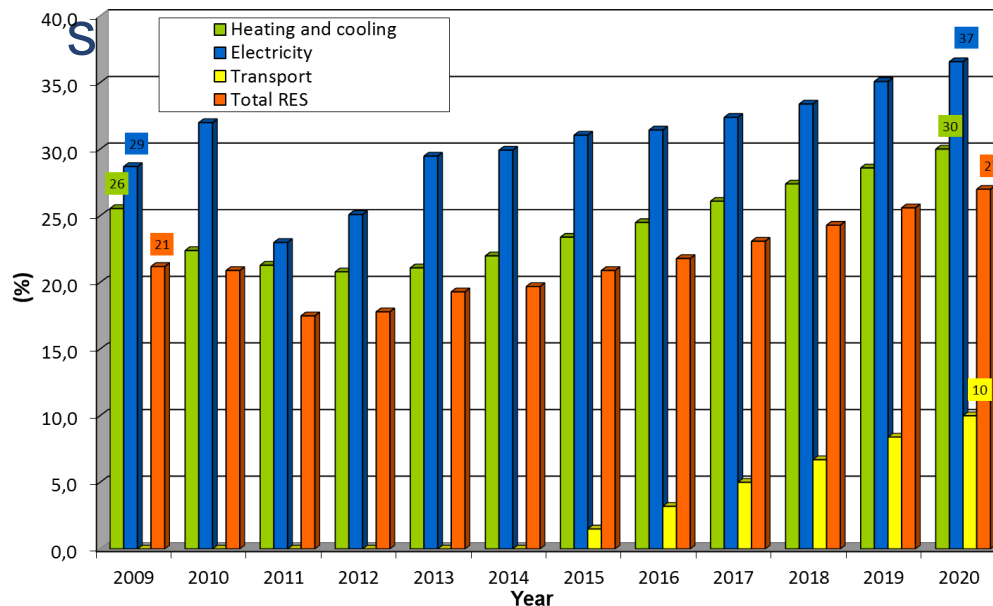
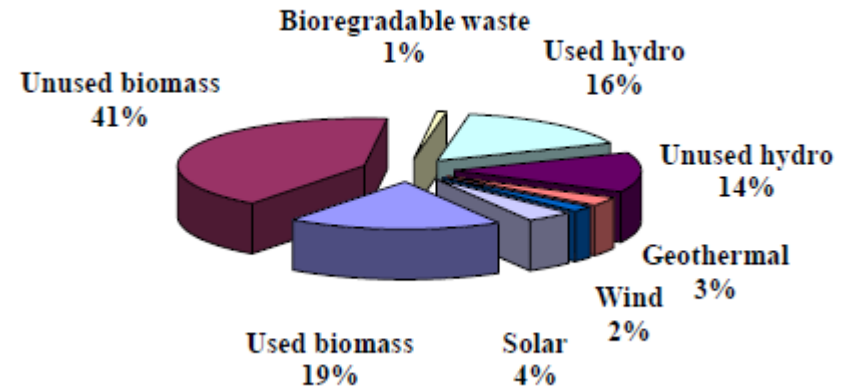
- ▶ Energy consumption compared to the value of GDP
 - ▶ Serbian values are comparable to the values of the countries in the region
 - ▶ Serbian values are significantly above the values of the EU countries



Source: Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 and with projection by 2030

Renewable energy

- ▶ Estimated usable potential
 - ▶ 5.6 million toe
- ▶ Target in 2020
 - ▶ 27% of RES in GFEC
 - ▶ 10% of RES in transport



- ▶ Serbia has also ratified the Kyoto Protocol as a non-Annex 1 Country since 2007
- ▶ Serbia is eligible for CDM projects

Source: National Renewable Energy Action Plan of the Republic of Serbia

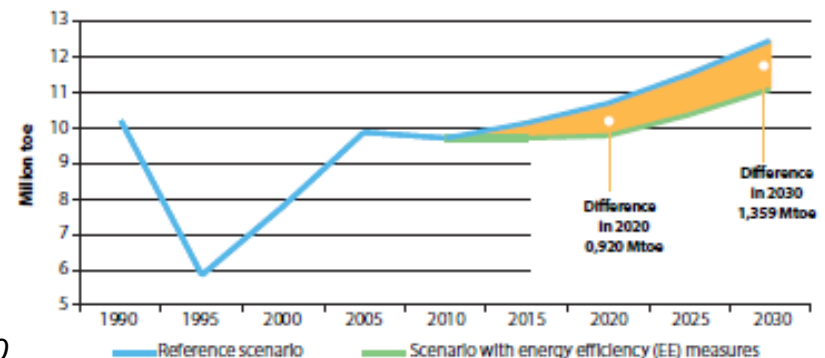
Energy Sector – projections and strategy

- ▶ security of energy supply
 - ▶ reliable, safe and quality supply
- ▶ increase energy efficiency
 - ▶ improvement of EE in energy consumption
- ▶ integrate more renewable energy sources
 - ▶ increase the share of CHP
 - ▶ promotion of more efficient and sustainable biomass utilization
 - ▶ increase the utilization of alternative fuels, especially biofuels in transport



fulfill the requirements for climate targets

Source: Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 and with projection by 2030



Energy Sector research priorities

- ▶ Energy security improvement
- ▶ Increasing the efficiency of energy production, distribution and consumption
 - ▶ Energy efficiency improvement in the manufacturing industry
 - ▶ Energy efficiency in household sector
- ▶ Sustainable renewable energy - Developing new technologies in using renewable energy sources
 - ▶ Renewables for heating and cooling
 - ▶ Biofuels
- ▶ Environmentally friendly Thermal Power Plants
 - ▶ Co-combustion of selected renewable fuel SRF (selected industrial and municipal waste) and biomass in coal fired Thermal Power Plants

Energy Sector – possibilities for cooperation

- ▶ Sustainable energy policy
 - ▶ capacity building, measures development, implementation, monitoring and improvement,
- ▶ Biofuels
 - ▶ technical, environmental, sustainability and cost feasible production and utilization of biofuels – especially bioethanol from lignocellulose materials
- ▶ Energy efficiency and renewables for heating and cooling
 - ▶ technical, environmental, sustainable and cost feasible utilization, especially in household sector
- ▶ Energy efficiency and environmental impact improvement for existing low coal quality fired TPP
 - ▶ technical and cost feasible implementation of new European technologies (for example: pre-drying high moisture coal – lignite)

Energy Sector - cooperation

- ▶ To overcome the perceived problems in energy sector and to improve regional energy market toward sustainable system it will be necessary:
 - ▶ to build scientific capacities for multi criteria assessment of sustainable energy policy development and its systematic monitoring and improvement
 - ▶ to analyze and define the measures and project which will improve WBC energy network and energy security supply
 - ▶ to create the possibilities for strengthening the cooperation with other European research institutions

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**27 - 28
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Vienna**

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Thank You For Your Attention!

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