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Green Economy Development Potential in Serbia: Key Research Findings



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General Course of Serbian Economy

- ▶ Economy devastated by the war, sanctions and privatization that followed
- ▶ Issue but also an opportunity
- ▶ General course of the Serbian economy and focus of decision makers - attracting big, multinational companies
- ▶ Small and medium enterprises face a number of challenges
- ▶ The informal economy is estimated at around 20-30 % of GDP
- ▶ Unemployment is still particularly high among young people – around 40 % of youth has no job and close to one in four is not in employment, education or training.
- ▶ Women's position in the labor market is characterized by significantly lower activity and employment rates compared to men

- ▶ Transformation toward green alternatives in Serbia is the best way to improve the economy and citizen's welfare
- ▶ Serbia is a candidate country for EU membership
- ▶ Based on the state of environmental infrastructure in Serbia and estimations from the situation in countries that joined the EU, it is projected that the total cost of meeting the requirements of the environmental Acquis will be around €10.6 billion (between now and 2030), the most demanding sectors being water (€ 5.6 billion), waste (€2.8 billion) and industrial pollution (€1.3 billion)
- ▶ Environmental protection allocations in Serbia do not exceed 0.25% of GDP per year

Green Economy in Serbia

Sectoral Analysis

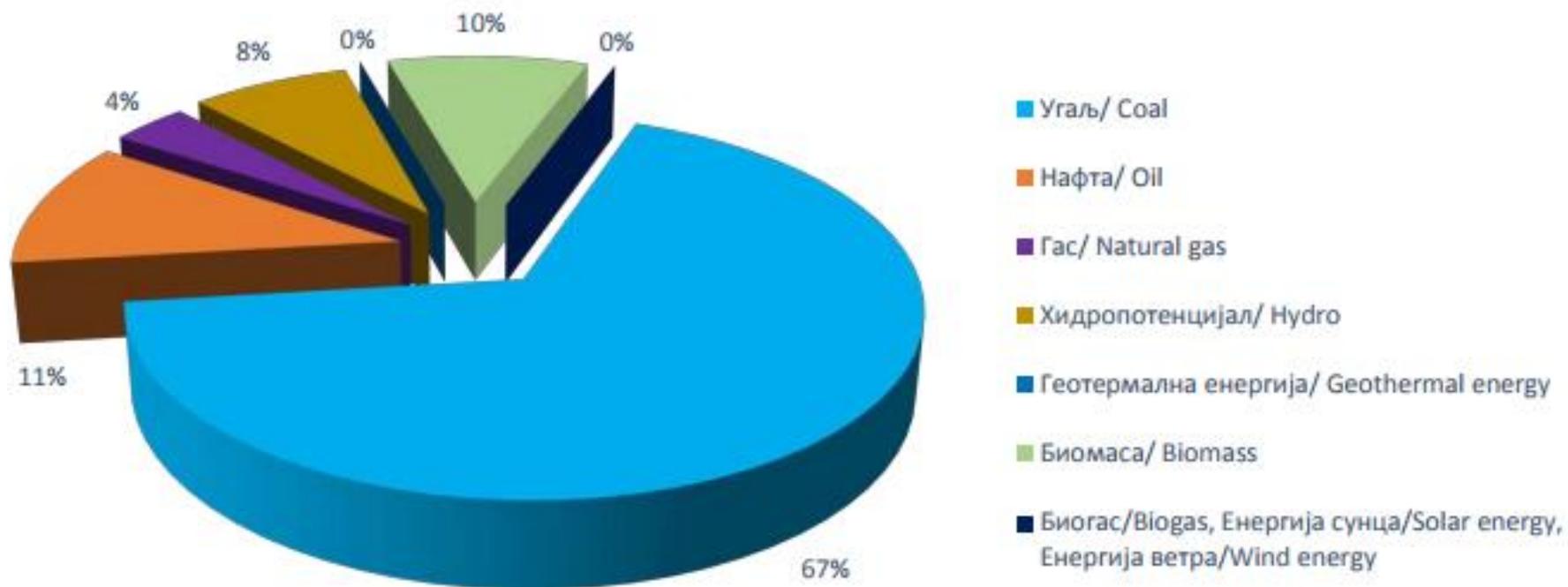
- ▶ Energy
- ▶ Green Building
- ▶ Sustainable Transport
- ▶ Water Management
- ▶ Sustainable Agriculture
- ▶ Sustainable Tourism

- ▶ Circular Economy in Serbia
- ▶ Green Public Procurement

Energy Transition in Serbia

- ▶ Like many other countries in the South - East Europe (SEE), Serbia has significant potential in renewable energy and energy efficiency
- ▶ Dependence of Serbia on the energy import in amounts to 30.28%
- ▶ Heavily reliant on fossil fuels, especially in electricity production where more than 80% comes from coal, oil and gas. Energy Strategy foresees over 1 GW of new coal-fueled power plants by 2030.
- ▶ Thermal power plants:
 1. produce more than 5.5 million tons of ash per year
 2. largest source of SO₂ in Europe
 3. economic costs resulting from premature deaths caused by air pollution in Serbia amounted to 33,5 percent of GDP.

Слика 2.3.1 Структура производње примарне енергије по енергентима у Србији 2013.
Figure 2.3.1 Structure of primary energy production per energy sources in Serbia in 2013



Renewable Energy potential

- ▶ Serbia adopted its National Renewable Energy Action Plan (NREAP) in 2013.
- ▶ A binding target was set for the Republic of Serbia, amounting to 27 % of RES in its GFEC in 2020.
- ▶ Official estimates of technically usable potential of RES are about 5.6 Mtoe per annum, but there are several independent studies that show that potential is much greater.

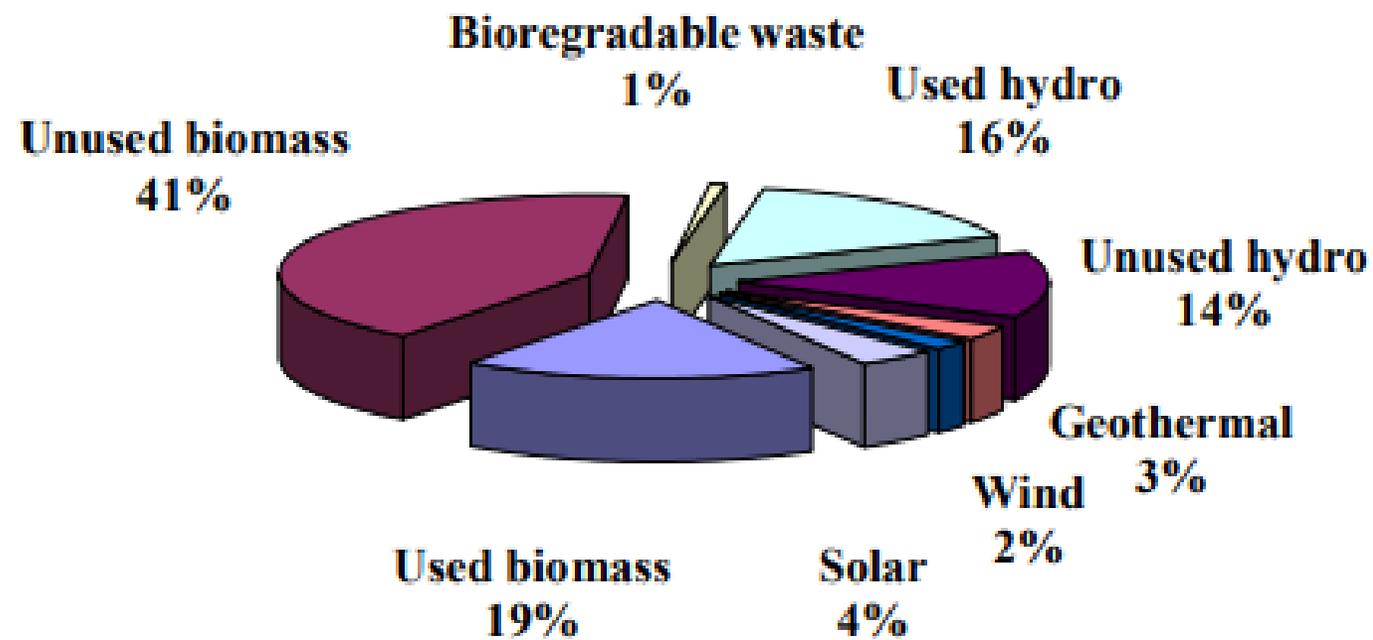


Figure 1: Structure of RES in the Republic of Serbia

Green Building in Serbia

- ▶ Research of Serbian Chamber of Engineers from 2014. shows that, from about three million buildings that exist in Serbia, 90 percent of them are energy-inefficient
- ▶ 60% of the total heating energy is consumed by households
- ▶ It is estimated that Serbia could increase energy efficiency by 50% of the existing housing stock by 2020, but that it is necessary to allocate investments 1.6 billion euro



- ▶ 2009. Two employees of the Vrbas City Directorate for Construction worked on analysis of energy efficiency of public buildings
- ▶ In July 2011, the Office for Energy Management in this municipality was founded as a pilot project, which was entrusted to the Directorate for Construction
- ▶ In 2015, the Office introduced the ISO 50001 Energy Management Standard, which "covers" the field of municipal energy management

Sustainable Transport

- ▶ One quarter of the total pollutants of the environment make transport and traffic.
- ▶ There is a constant increase in the number of passenger cars
- ▶ Serbian government's top priority in terms of investment in the transport network is the road traffic or road construction
- ▶ Legislation on clean and energy-efficient road transport vehicles, on the deployment of infrastructure for alternative fuel and on intelligent transport systems needs to be developed. Open issues regarding road charges need to be clarified
- ▶ Railway traffic is in a poor condition, and large investments are needed in order to raise the quality of rail transport to European standards. An average of 6 million passengers travels annually to the Serbian railways, bearing in mind that the average speed of trains on Serbia's railways is 42 kilometers per hour, there are huge potentials for the development of rail transport in Serbia.
- ▶ There is no research available about the potential of bicycle transport except some local plans

Water Management

- ▶ It is believed that Serbia is country rich with water resources, but the truth is that out of all the waters in Serbia, less than 20% are domestic water, and everything else is transit water.
- ▶ Only 4% of wastewater is treated in Serbia. Of the 165 municipalities in Serbia, only 20% have facilities for purification of municipal wastewater, while large cities, like Belgrade, Novi Sad and Nis, do not have these facilities due to lack of funds. More than 50% of industrial plants in Serbia do not purify wastewater, as there are no systems for purification
- ▶ The overall annual commitment required for operation and development in the water management is about 900 mil. €
* Existing sources of financing at all water management levels are about 250 mil . € - about 3 -4 times less than needed.

Potential in water sector

- ▶ More than 90% of Serbia's territory falling within the Danube River Basin, so transboundary cooperation is very high on the list of future potential for green jobs. Only a small number of projects is prepared in a way that would make it possible to seek funding internationally.
- ▶ Serbia has a high-quality hub in scientific, research, planning, engineering and other fields, as the core for future water sector development. Numerous universities are providing a satisfactory level of education, but the issue is that syllabuses and teaching methods needs to be updated, including those related to post-graduate studies.
- ▶ Insufficient involvement of scientific and research institutions in areas of special relevance to water management.

Sustainable Agriculture

- ▶ The rural population in Serbia accounts for 40.6 per cent of the 7.2 million people living in this country.
- ▶ Serbia's utilized agricultural area is 3.44 million hectares which accounts for 44% of the total territory.
- ▶ Arable land is the predominant land use (73%) followed by permanent grassland and crops.
- ▶ Agriculture accounts for 21% of Serbia's employment, generating €29.6 billion of the country's gross domestic product.
- ▶ Among Serbia's 631.552 agricultural holdings, 99.5 per cent are family farms, and 17 per cent of those are held by women.

Sustainable Agriculture

- ▶ Small -scale farmers have difficulty accessing markets, and when they do, they lack competitiveness on the European markets.
- ▶ These farms are less resilient to floods and droughts, hence there is a need to strengthen the adaptive capacity of farmers against climate fluctuations.
- ▶ There is a lack of technical support, limited health care, transport, lack of internet, limited knowledge transfers, and young people migrate out of rural areas because of lack of opportunities
- ▶ The forthcoming IPARD program is, a major chance for the organic sector in Serbia.

Table 1:
Overview of area under organic production

Year	Areas under organic production (in ha)	Share of areas under organic production in total utilised agricultural land (in %)
2012	6.340	0,18
2013	8.228	0,23
2014	9.547,8	0,28
2015	15.298	0,44

Source: Statistical office of RS and MAEP

Sustainable Tourism

- ▶ Western Balkan countries have beautiful nature that is untapped potential for future green jobs
- ▶ The bases for development of ecotourism as a niche market for Serbian tourism are protected areas
- ▶ The Danube region is bursting with tourism potential
- ▶ One of the most important forms of sustainable tourism in Serbia is rural tourism

Rural Tourism

- ▶ An integrated approach to rural development requires great attention towards at least four key areas:
 - 1) transport and development of electronic communications;
 - 2) provision of public services;
 - 3) valorization of natural and cultural resources;
 - 4) promotion of rural enterprises, including the development and financing of small and medium-sized enterprises

Rural Development Issues

- ▶ In the period of 2002 - 2011 the rural population decreased by 311,139 inhabitants (10.9%), declined to below 3 million, and now accounts for 40.6% of the total population of Serbia.
- ▶ In favor of negative demographic trends in rural areas, the data show that in about 1,000 settlements, the number of inhabitants is less than 100, which practically indicates that every fifth settlement is on the way of extinction;
- ▶ The largest concentration of such settlements is in the south and east of the country, where every third settlement has fewer than 100 inhabitants



Thank you!

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