

Challenges of development of RES in B&H - NEXUS approach

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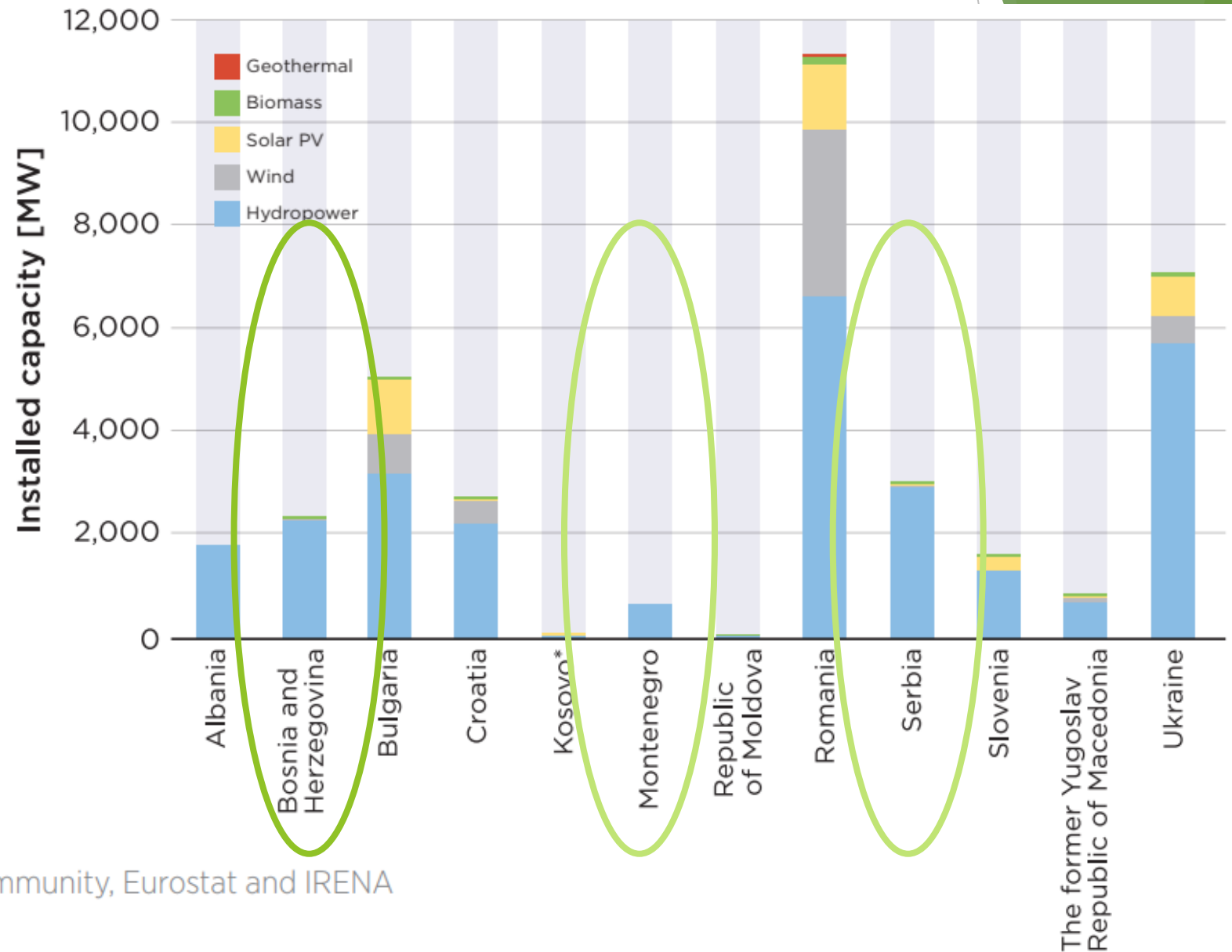
- ▶ **Electric power generation is a key sector of economic activity in BiH.**
- ▶ **The generating capacity is about 17,000 GWh.**
- ▶ **Evident changes in the hydrological regime in recent decades in Bosnia and Herzegovina,**
- ▶ **Sectors of agricultural production, hydropower, water supply in urban and rural areas will be particularly affected**
- ▶ **Redistribute the available water in a socially acceptable way**



RE capacity in the power sector in the region

Hydro by far the most established renewable source in the three riparian countries

Eight hydropower plants (and many smaller ones) in the Drina River Basin, accounting for 1,772 MW of power installed



Based on Energy Community, Eurostat and IRENA

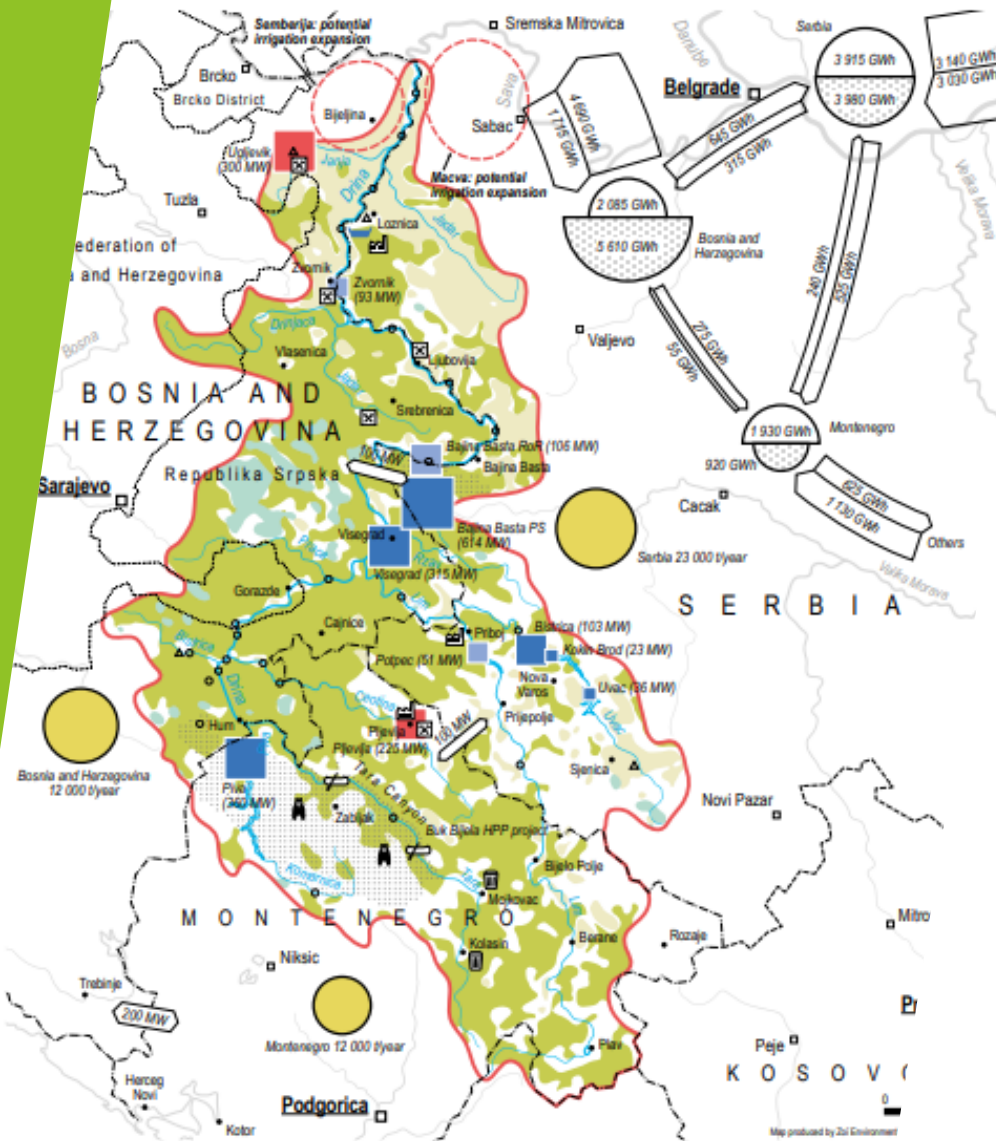
RE development in the Drina Nexus Assessment

The Drina Nexus Assessment highlighted the potential for RE development in the basin as means of:

- ▶ Effective solutions to power agriculture and tourism sustainably
- ▶ Pumped storage potential for integrating renewable energy in the grid

Furthermore, since the electrical grid is interconnected, energy development - including RE - outside the basin are also relevant:

- ▶ They can indirectly affect the use of water for energy production in the basin (thermal cooling and hydro)
- ▶ Drina hydropower can play a role in the integration of variable renewables (wind and solar).



RE potential in the Drina River Basin - hydropower



The Drina countries share an interest in the continuing development of hydropower. 60% of the basin's capacity is still unexploited



However:



Many of the planned hydropower plants are located on river stretches of high conservation value



The existing flow regulation is not coordinated and can be considered sub-optimal (potential aggravated effects of flooding and low flows)



Hydropower development is controversial because of the trade-offs and environmental impacts (even small hydro has cumulative effects)



“Reaching Interstate agreements [in the Drina] is crucial for the development of a significant portion of identified projects” (Regional Strategy for Sustainable Hydropower in the Western Balkans)



Existing plants have refurbishment/modernization needs

Main challenges in BiH energy sector



development of ecologically and climatically sustainable production of hydroelectric power plants



capacities of hydropower plants in the region could be increased by 60% to 90%.



will be obliged to have a greater share of RES in energy consumption



HPPs are also needed to increase the possibilities for the integration of other RES production facilities, such as photovoltaic (photovoltaic) production from wind and solar energy.



EU Water Framework directive an essential piece of legislation on the path to EU accession on all water sources and uses, requires the development of River Basin Management Plans.

Review of Sarajevo Energy & Climate Week – SECW 2023

- ▶ Energy transition and decarbonization is an unstoppable long process (BiH's obligation was assumed by signing the Sofia Declaration)
- ▶ Not realistic to expect the closure of mines and thermal power plants by 2030
- ▶ Decarbonization requires investments, first, in renewable energy sources, improvement of energy efficiency, as well as in the development of the transmission and distribution network and in new technologies.
- ▶ Decarbonization is expensive, but delayed will be too expensive.
- ▶ it is necessary:
 - to adopt the integrated energy and climate plan of BiH as soon as possible
 - to adopt energy strategic documents
 - to give focus on exploring motivating factors, establishing a central support system, developing financing tools



Sarajevo Energy & Climate Week – SECW 2023: Session on the transboundary Drina River Basin

- ▶ Session focused on the transboundary Drina River Basin was jointly organized by UNECE, MOFTER and Finland
- ▶ The interventions illustrated the importance of water, the nexus approach and sustainable renewable energy development for the green energy transition, and more broadly to climate goals and adaptation.
- ▶ The potential of the Drina Nexus Roadmap aimed to catalyze actions and investments was highlighted, and joint climate action emerged as opportunity for different sustainability objectives, also for resource mobilization



Conclusions

Hydropower production is crucial, and the potential being discussed but any future developments involve trade-offs and risk controversy

Non-hydro underdeveloped, potential non quantified at basin level

Clear need for rural development in the basin and potential to support it with RE development

RE development (inside and outside the basin) affects the basin's water resources

Need to coordinate State level planning, entity planning, and river basin management

What B&H doing to address these issues

- ▶ Growing awareness
- ▶ Concrete platform to determine the different sectors working on the same issues
- ▶ Joint determination of a package of political and technical measures with the authorities and stakeholders to solve the identified problems.
- ▶ A wider professional and social discussion about the main elements of this design

