

In the analysis of the Euronatur Foundation and the RiverWatch, there is a review of river resources in the Balkan states, of their hydro-morphological characteristics, the protected areas, the preservation of rivers value and the impact of the future planned hydro power plants, as well as a list of all planned hydro power projects in the Balkans.

When it comes to protected areas, it is important to mention the document Natura2000, of the ecological network that includes the EU member countries, but also the Energy Community members. Natura2000 represents the central part of the environmental protection and biodiversity conservation policy. There are three levels when it comes to the protection of areas – very high, high and low. In Serbia, several major rivers belong to the highest category of protected areas. However, the majority of rivers are classified as belonging to the second level of protection.

Serbia is rich in rivers and it has good conditions for building new hydro power plants. The hydro power plant Đerdap 1 is the largest within the Danube basin, with around 1 000 MW of installed capacity. Other HPPs are located on the river Drina, and many new facilities have been planned on the rivers Velika Morava and Ibar. The construction of a pumped-storage power plant Đerdap 3 has been planned on the Danube.

The construction of 10 small hydro power plants of up to 10 MW and of one larger of up to 50 MW has been planned on the river Ibar, then on the rivers Đetinja, Ribnica, Visočica, Vlasina, Rasina, Toplica, Pčinja, as well as on the rivers Čelije, Ušće, Manasija, Dutovo, Veternica, Vučjanka, Crni Timok, Veliki Rzav, Nišava, Lim (Brodarevo 2 and several other HPPs of up to 50 MW), on the river Velika Morava (five hydro power plants of up to 50 MW), on the rivers Veliki Rzav, Uvac, Danube (Đerdap 3 of up to 50 MW), on the rivers Sava, Tisa and Drina (six hydro power plants of up to 50 MW).

Macedonia offers an immense variety of river scenery, from high mountain springs, through lakes, tributaries to tectonic planes. So far, the state has had only several major hydro power plants, but several new dams have been planned along the river Vardar, which is the country's largest river.

The dams in river basins are planned on the rivers Mala (Boškov Most), Treska, Bregalnica, Radika, Crna, and 12 hydro power plants of up to 50 MW on the river Vardar.

Together with Montenegro, Albania still has a significant number of free watercourses and mostly untouched river basins. Even large rivers, such as the Vjosa, as well as the rivers Osam, Devol and Skumbin still do not have dams. Only the river Drim has been mostly turned into a chain of hydro power reservoirs. Many deltas and river mouths also have excellent hydro-morphological conditions.

The river Drim is the largest river in Albania used for hydro power generation. Other major

dams can be found only in the northern part of the country. All the rivers in mountain areas are subject to hydro power development.

The construction of several smaller hydro power plants has been planned on the rivers Devol, Drin, Belesoves, Cajе, Borjes, Curaj, Valbona, Gomsik, Zali, Melthit, Buštrica, Pavla, Lusa, several hydro power plants on the river Škumbin, then the rivers Šala, Vjosa, Mat, Bistrica, Gostima, Bence, Lusna and several more rivers on which it is possible to build HPPs.

All major tributaries of the river Sava are located in the BiH. The upper course of the river Una and the lower course of the river Vrbas, as well as the lower Drina, belong to the highest categories, which are subject to strong changes. The river Neretva has been changed to a large extent by a chain of major hydro power plants. On the other hand, the source and some of the lower tributaries still possess very good hydro-morphological conditions. Even the valley of the river Bosna offers good hydro-morphological conditions. Karst fields are very important in BiH. One of the largest karst fields in the world is called Livanjsko polje (*Eng. Livanjsko Field*) through which several underground rivers flow, these rivers belonging to the Adriatic basin.

Major hydro power plants can be found on the rivers Vrbas and Drina. The plans for constructing new facilities are focused on the rivers Vrbas, Bosna and Drina. In addition to the said, there are also plans for constructing on other locations, such as the rivers Sutjeska, Neretva, Pliva, Ugar, then the rivers Crna, Vrbanja, Lim, Tara, Cehotina, Bistrica, Tihaljina, Una, Prača and several other rivers.

Due to their characteristics, many rivers in Croatia are within the area protection zone. Despite the fact that some of the rivers belong to protected areas, Croatia is still planning to construct a significant number of hydro power plants on the rivers Sava, Drava, as well as on the river Kupa.

The recently concluded project “Lešće” on the upper Dobra Reka, implemented by HEP, is the first large HPP built in Croatia after gaining independence in 1991.

The use of the following river locations has been planned: in addition to the rivers Sava, Drava and Kupa where the majority of facilities have been planned, the rivers Lika, Trebišnjica, Cikola, Požega, Glina, Korana, Mreznica, Cetina, Livanjsko polje, Zrmanja and several other will also be used.

In Montenegro, only the middle and upper Zeta near Nikšić are used for hydro power generation. The river Morača is the main tributary of Skadar Lake and it still does not have any dams. The canyon of the river Tara is the country’s most famous national park, and it has good hydro-morphological conditions, the Bojana-Buna delta also provides good

conditions. Almost 80 percent of the overall river resources are protected areas, due to their riches and specificity.

Many new hydro power plants have been envisaged on the rivers Morača and Tara, as well as on the rivers Zeta and Piva. The construction of four dams with the heights from 60 to 150 meters and the installed capacity from 37 to 127 MW has been planned on the river Morača. The HPP Kostanica, with the capacity of 550 MW, will be built on the upper Morača. Besides the above said, there are also possibilities for using other mentioned rivers, such as Komarnica, Lim, Cehotina, Ibar, Bukovica, Sjevernica, Mrtvica, Bijela, Mala Rijeka, and several other rivers on which the construction of facilities with the power of up to 10 MW has been planned.