››› Hydropower Development - a regional and integrated approach

Jürgen Kern, Head of Division, KfW

Energy and Transport – South East Europe and Turkey

Bank aus Verantwortung

KFW

Agenda

Long Tradition of Hydropower use in the Western Balkan

Present hydropower use in the Western Balkan

Hydropower potential in the Western Balkan

Perspective of Hydropower use in the Western Balkan

Assistance of KfW for sustainable development of the region

Long Tradition of Hydropower use in the Western Balkan

Albania

- HPP Ulza was constructed in 1957

Bosnia and Herzegowina

- Construction of HPP Jablanica started 1954

FYR of Macedonia

- HPP Matka was put into operation in 1938

Kosovo

- HPP Prizrenasja was built in 1926-1928

Montenegro

- HPP Perucica was put into operation in 1960

Serbia

- HPP Pod gradom in Užice on Djetinja river started operating in 1900

Present hydropower use in the Western Balkan

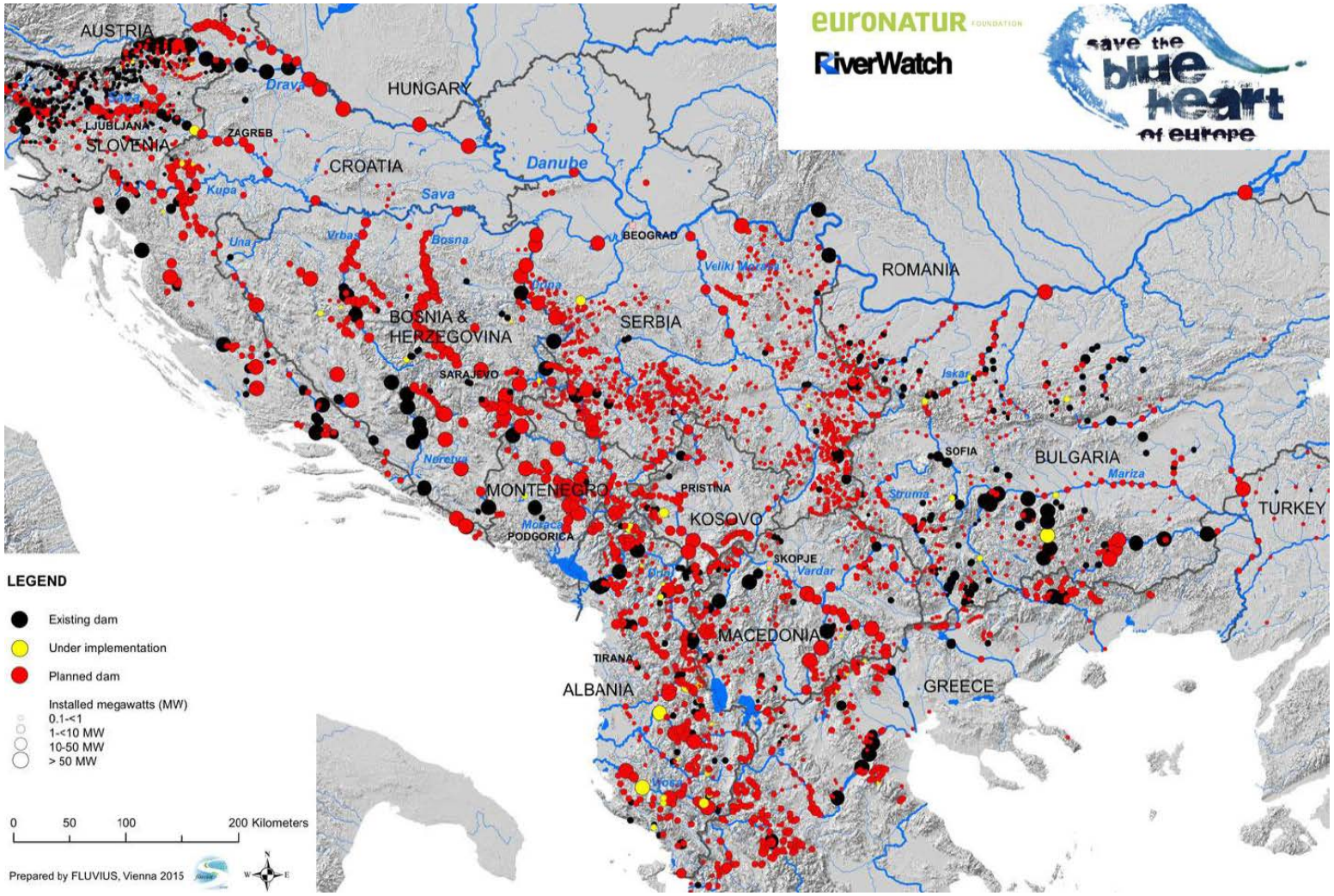
	ALB	BiH	FYROM	KOS	MNE	SRB
Installed Generation Capacity						
- Thermal	98 MW 5%	1,856 MW 47%	1,304 MW 67%	1,171 MW 96%	218 MW 25%	4,112 MW 59%
- Hydro	1,688 MW 95%	2,120 MW 53%	649 MW 33%	44 MW 4%	658 MW 75%	2,886 MW 41%
Total	1,786 MW	3,976 MW	1,953 MW	1,215 MW	876 MW	6,998 MW
Electricity Generation [2013]						
- Thermal	0 GWh 0%	10,215 GWh 59%	4,510 GWh 74%	6,382 GWh 98%	1,441 GWh 36%	29,024 GWh 73%
- Hydro	6,959 GWh 100%	7,236 GWh 41%	1,584 GWh 26%	143 GWh 2%	2,504 GWh 64%	10,853 GWh 27%
Total	2,323 GWh	17,451 GWh	6,094 GWh	6,525 GWh	3,945 GWh	39,877 GWh
- Import	2,323 GWh	- 3,695 GWh	2,429 GWh	- 342 GWh	167 GWh	- 2,537 GWh

Hydropower potential in the Western Balkan

	ALB	BiH	FYROM	KOS	MNE	SRB
Hydropower Potential [GWh/yr]						
Theoretical potential	40,000	70,128	8,863	n.a.	n.a.	27,300
Technically feasible potential	15,000	24,000	5,500	n.a.	10,846	17,600
Economically feasible potential	11,750	19,000	n.a.	n.a.	n.a.	n.a.
Hydro based generation in 2013	6,959	7,236	1,584	143	2,504	10,853
Ecologically feasible potential	?	?	?	?	?	?

Source: International Journal on Hydropower & Dams: 2009 World Atlas

Hydropower potential in the Western Balkan



Source:CEE Bankwatch Network: Financing for hydropower in protected areas in Southeast Europe (2015)

Perspective of Hydropower use in the Western Balkan

Review of hydropower potential

- **Revision of the economically and ecologically feasible potential**
- **Identification of exploitable hydropower in line with contemporary Integrated River Management strategies**
- **Identification of highly valuable biospheres and definition of "No Go-areas"**

Particular Focus on rehabilitation and non-powered dams

- **Safeguarding of existing hydropower schemes along with power upgrades**
- **Identification of water regulating dams which are presently not used as HPPs**

Multi-benefit installations

- **Combined use of dam structures as HPP, flood retention, irrigation, tourism**

Strengthening Connectivity

- **trans-national use of water resources**
- **balancing power (e.g. pumped-storage) with increasing HV grid integration**
- **Development of bigger projects and limitation of small hydropower**

Assistance of KfW for sustainable development of the region

Bi-lateral Financial Cooperation

- **German Government strongly supports conversion towards REs**
- **Competence of KfW regarding RE project implementation**
- **Technical Assistance (e.g. “Hydropower Atlas”)**

Multi-lateral Financial Cooperation

- **Bundling of resources of different donors (mandates) for bigger projects**

Cooperation with EU bodies

- **Support of Acquis**
- **Further strenghtening of Berlin process**
- **Initiation of WBIF-financed project ideas**
- **Active participation in Energy Community Working Groups**

» Thank you for your attention and valuable comments.