



This Project is Financed by the European Union



WB6 Hydropower Masterplan Development

Approach and Intended Outputs

Martyn Osborn, Key Expert, Energy

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Hydropower Development Study for Western Balkans

Requested By:

- DG NEAR on behalf of WB6
- Beneficiaries – Utilities, Ministries, Private Concessionaires
- Energy Community Secretariat (Vienna) – specifically Renewable Energy Coordination Group (RECG)
- Interested IFIs, especially KfW, EBRD, EIB, WB

Why?

- Considerable untapped hydropotential (RES) in Europe
- Lack of progress on implementation of national REAPs in WB6
- Coherent transboundary approach
- Optimal use of water – integrated river basin water management plans
- New opportunities for IFIs - improved financing possibilities



Hydropower Development Study for Western Balkans

Coverage:

- Serbia
- Albania
- Montenegro
- Bosnia & Herzegovina
- Kosovo*
- former Yugoslav Republic of Macedonia

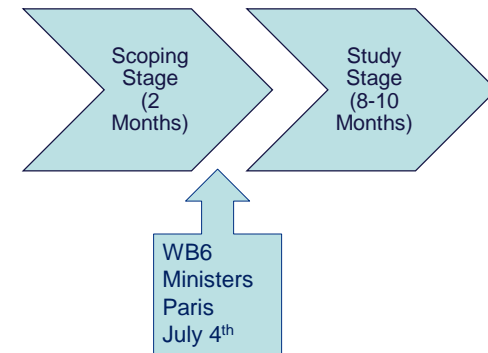
* without prejudice to the status of Kosovo as prescribed by resolution 1244



Hydropower Development Study for Western Balkans

Scoping Team:

- Marko Košir (Hydropower policy expert & Team Leader)
- Maja Kerovec (SEA and EIA expert)
- Marko Krejči (Hydropower Development expert)
- Božidar Radović (Grid Connection expert)
- Mladen Simić (GIS application expert)
- Zoran Stojić (Hydrology & civil engineering expert)



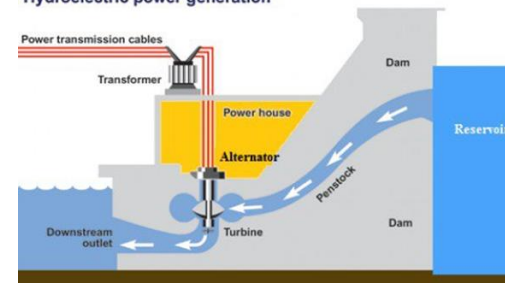
Hydropower Development Study for Western Balkans

The **overall objective** of this project is to foster harnessing of **environmentally and climate change sustainable hydropower generation in the Western Balkans (WB)** region in line with **strategic objectives** of the European Union and Energy Community Treaty obligations.

The **purpose** of the intervention is the development of a Hydropower Master Plan for the Western Balkans (**now referred to as “Hydropower Development Study”**), including a list of HPP development priorities by (i) **individual WB6-country** as well as the **WB-region as a whole** and (ii) type of planned HPP facilities (storage, run-of-river, reversible), by which the **remaining hydropower potential in the region will be evaluated**.

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Hydroelectric power generation



Type	Capacity
Micro hydro HPPs	< 100 kW
Mini hydro HPPs	100 kW to 1 MW
Small HPPs	1 MW to a few MW
Medium HPPs	More than a few MW
Super / large HPPs	More than 1000 MW

Type of new HPPs to consider:

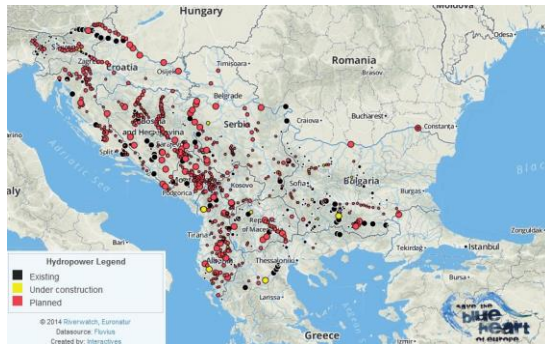
- Very many **small HPPs** (<1MW: 1,570 or 59%, 1-10 MW: 867 or 32% = 2,437 or 90,8% under 10 MW) * – will be grouped
- Have preferential terms for generation (e.g. FIT) – status of „privileged producers“ subject of country specific regulations
- Far fewer **larger HPP** sites (10-50 MW: 178 or 6.6%, >50 MW: 68 or 2.5%)
- Larger HPPs sell electricity in market without any state support scheme
- **HPP developers:** private and PPP (usually based on concessions)
- **Scheme type:** storage, run-of river, reversible.

* On the Balkan Peninsula incl. WB6 + Slovenia, Croatia, Northern Greece, Bulgaria and Turkey (European part only)

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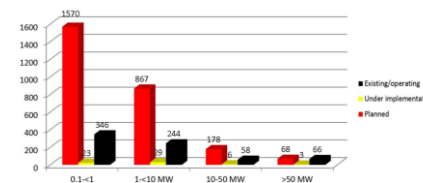
GIS:

- Hydrography, major rivers with tributaries, reservoirs, indication of catchment areas, water divide: Adriatic and Black Sea;
- Protected areas: Emerald, National Parks & reserves, Biosphere, Natura 2000 (under preparation for non-EU);
- River sections with protected migratory fish (e.g. Hucho hucho);
- Hydropower potential: shared, existing
- Accessibility to power grids
- Zones reserved for other water users (agriculture / fishery, industrial development, recreational areas etc.



Scoping Phase Outputs (i):

- Situation Analysis in terms of frameworks relevant for hydropower sector development (Policy, Legal-Regulatory, Institutional-Organisational etc.);
- Identification of data sources and (initial – to the extent possible) collection of data, study reports, HPP documentation;
- Initial analysis based on collected information from desk research, country feedback, initial contacts with institutions.



Scoping Phase Outputs (ii):

Work Programme for the Study Phase:

- Main tasks and activities (to the extent necessary, also at the Country level)
- Required personnel and (if necessary) other resources
- Timelines of main tasks and activities
- Outputs and Deliverables (intermediate reports, final reports, GIS system/DB, consultation workshops via TAIXEX etc.)
- Project management /steering structure
- Budget of the Study Phase

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Study Phase outputs 1:

- **Unexploited hydrological potentials** of the WB6 countries with a view to generating electricity
- Identification of **candidate HPPs**
- **Status** of planning and preparations for each identified HPP development project is **assessed including its maturity, next steps**
- The role of **hydropower** generation in **WB6 energy** mix
- The **implementation framework** (policy, legal-regulatory, institutional - organisational)



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Study Phase Outputs 2:

- **Technically and economically exploitable** hydropower potential **by main water streams** and relevant tributaries (i.e. water basins) is determined
- **Climate change mitigation and adaption** of HPPs in scenarios of increased used of HPP RES-E by 2030
- **Regional Action Plan** with identified and proposed measures
- **Portfolio of prospective future HPP projects**, ranked in order of maturity and importance by following a multi-criteria assessment



"UNECE and KfW highlighted the need to a more integrated view on hydropower development in order to ensure a regional approach to investments, mitigating the impact on the food-water-transport-ecosystem nexus."



Thanks for listening. Any questions?

WBIF-IPF 3 Consortium



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