## Hydropower in the Danube River Basin

Hydropower as mostly $CO_2$-free energy source can contribute to the reduction of greenhouse gas emission and climate change mitigation. However, on the regional level hydropower has significant negative impacts on aquatic ecosystems by disrupting the river continuum (fish migration and sediment transport), changing hydrology and temperature (impoundment, water abstraction, residual flow, hydropeaking, groundwater table), and, hence, deteriorating riverine biota, habitats and adjacent floodplains. In this respect, hydropower is a major pressure in Danube River Basin management.

The EU Renewable Energy Directive (2009/28/EC) commits the EU Member States to binding individual targets leaving them free to choose a mix of old and new renewable energy sources. In addition, the EU Danube River Strategy promotes economic growth and sustainable development in the Danube River Basin. In this context, hydropower has recently become a key issue of ICPDR (www.icpdr.org).

The IAD as observer in ICPDR is actively involved in developing the **"Guiding Principles on Sustainable Hydropower Development in the Danube Basin"**. The issue was discussed in a first kick-off meeting in July 2011, in the second CIS Workshop in Brussels in September 2011 and in the first public workshop of stakeholders in February 2012. A first draft of the document is discussed in a workshop of the expert group in June 2012. The final delivery of the Guidelines is foreseen for the end of 2013.

The NGOs IAD, WWF, and EAA (European Anglers Alliance) have presented a joint **Position Paper** to the Ordinary Meeting of ICPDR in December 2011 where they have expressed their concern about river impacts by large and small hydropower plants in the Alpine, Carpathian, Danube, and Western Balkan regions, and requested that protected areas and river stretches of high ecological quality should be declared as **"no-go areas" for new hydropower plants**. EU long-term policy should carefully integrate hydropower in sustainable (renewable) energy scenarios and optimize first the efficiency of existing hydropower plants before constructing new ones. A number of well-known Directives and principles must be respected and applied. According to EIA (Environmental Impact Assessment) ecological impacts must be prevented, mitigated and compensated.

Further information can be gathered from www.icpdr.org

**References**

**Bloesch, J., Sandu, C. & Janning, J. (2012):** Integrative water protection and river basin management policy: The Danube case. River Systems, 20(1-2): 129-143.

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