

Workshop on
**WATER-FOOD-ENERGY-ECOSYSTEMS NEXUS
ASSESSMENT IN THE SAVA RIVER BASIN**
4-6 March 2014, Zagreb (HR)



Guiding Principles on Sustainable Hydropower Development in the Danube Basin



Mr. Ivan ZAVADSKY
ICPDR Executive Secretary
ivan.zavadsky@unvienna.org

Danube River Basin District: Overview



This ICPDR product is based on national information provided by the Contracting Parties to the ICPDR (AT, BA, BG, CZ, DE, HR, HU, MD, RO, RS, SI, SK, UA) and CH, except for the following: EuroGlobalMap v2.1 from EuroGeographics was used for national borders of AT, CZ, DE, HR, HU, MD, RO, SI, SK and UA; ESRI data was used for national borders of AL, ME, MK; Shuttle Radar Topography Mission (SRTM) from USGS Seamless Data Distribution System was used as topographic layer; data from the European Commission (Joint Research Center) was used for the outer border of the DRBD of AL, IT, ME and PL.

Vienna, December 2009

www.icpdr.org



Catchment Area: 800.000 km² | 80 Mio. People | 19 Countries | Most international River Basin in the World

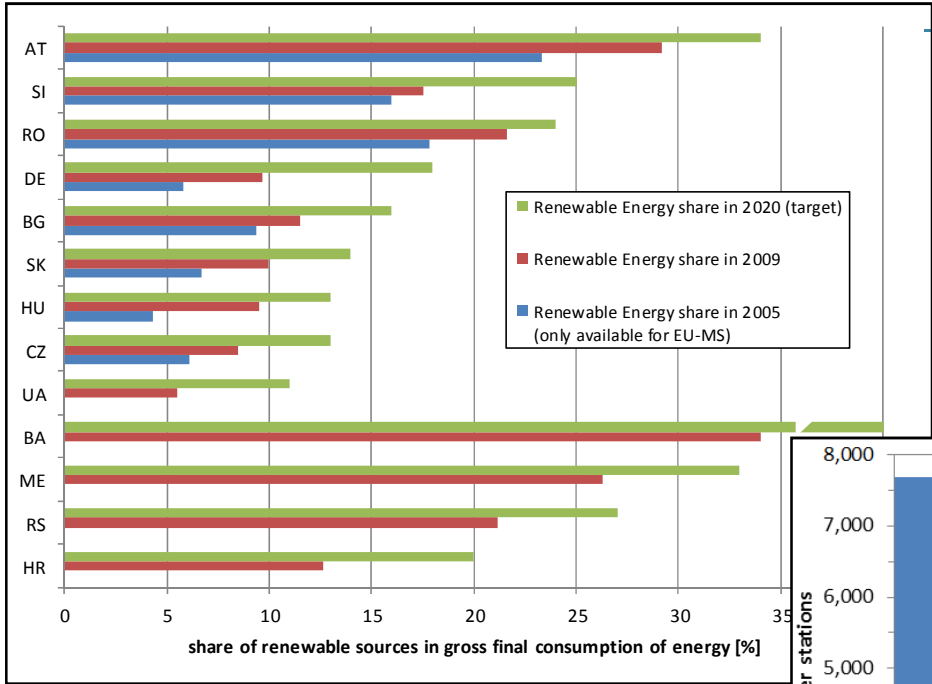
Renewable Energy and Environment Legal framework



<p>RES-e European Renewable Energy Directive 2009/28/EC</p> <p>Objectives: to increase share of energy from renewable sources with target figures for 2020 for each state</p> <p>States set national targets + decide on strategy; e.g. by targets for HP</p>	<p>WFD EU Water Framework Directive 2000/60/EC</p> <p>Objectives: good ecological status of water bodies</p> <p>No deterioration of status</p>
---	--

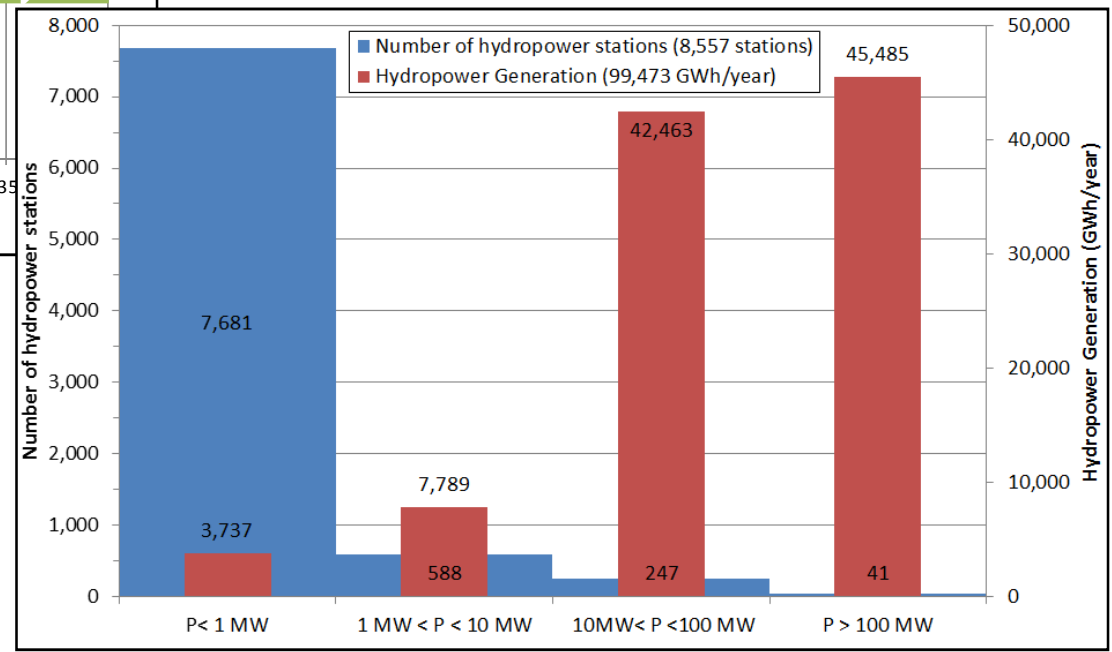
+ other related legislation, i.e. Natura 2000, EU Floods Directive, EU Directive on Energy Efficiency, National legislation, etc.

Need for increase of renewables: Major driver for hydropower



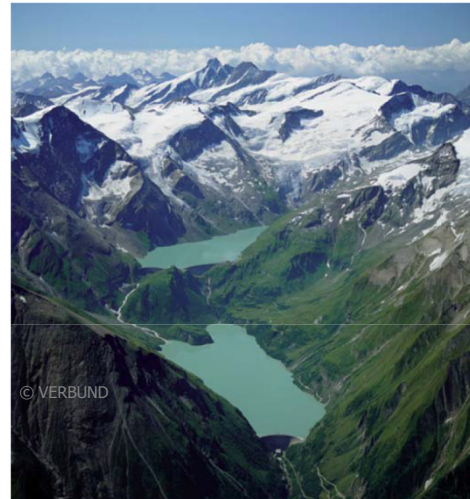
Planned **increase** of share of **renewable energy** in all Danube countries

Current generation: **3.4%** of facilities **larger 10MW** produce **88.4%** of electricity from hydropower

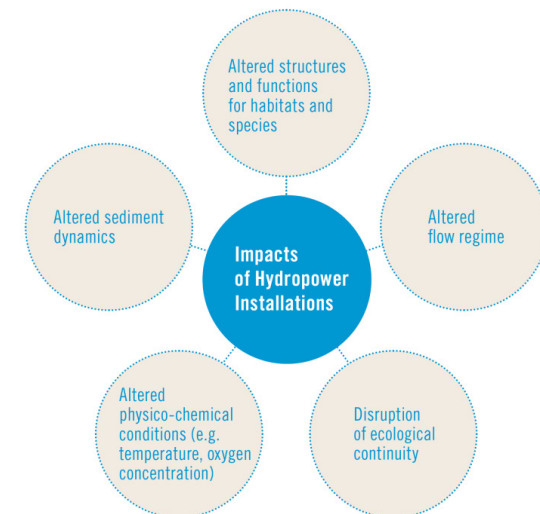


Benefits and impacts of hydropower

Renewable energy generation
Balancing supply and demand



Altered flow regime and sediment dynamics
Ecological impacts



How to strike a balance?

Potential conflict of interests



Increase of renewable energy



Ecological objectives

Need for inter-sectoral cooperation !



Sustainable Hydropower in the Danube Basin

icpdr iksd

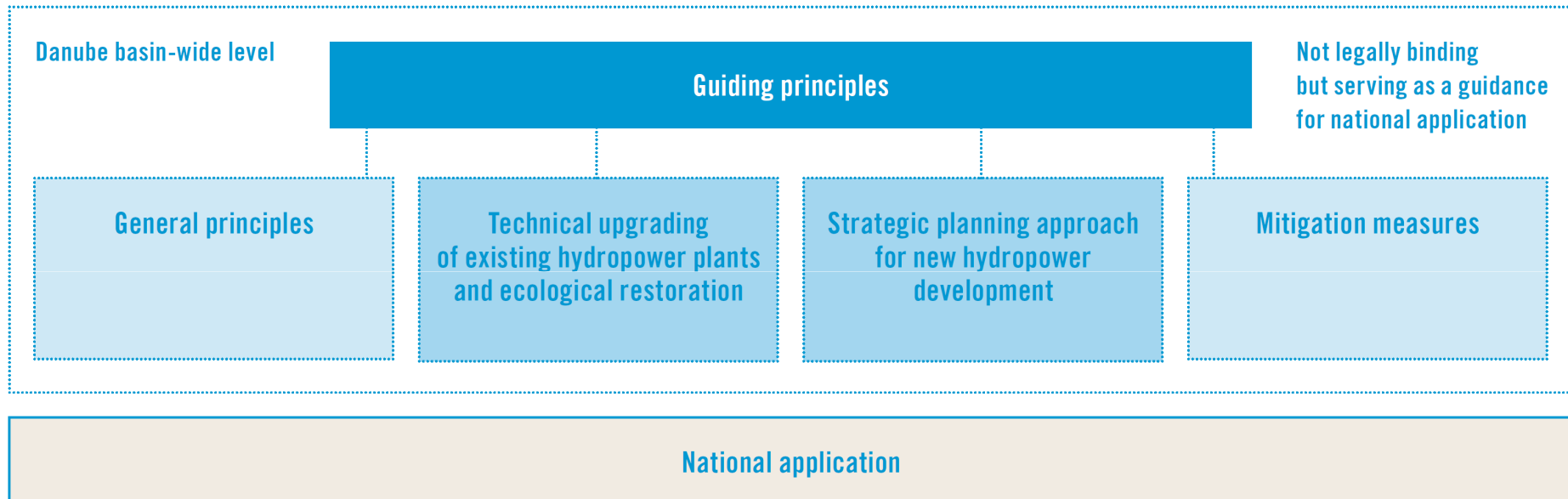
International
Commission
for the Protection
of the Danube River
Internationale
Kommission
zum Schutz
der Donau

- Political mandate to develop „**Guiding Principles on Sustainable Hydropower Development in the Danube Basin**“
- Launched in 2011
- **Broad participative process** - administrations from energy and environment, sector representatives, NGOs, scientific community, other relevant institutions
- **Adopted** in June 2013



Hydropower Guiding Principles

Main elements

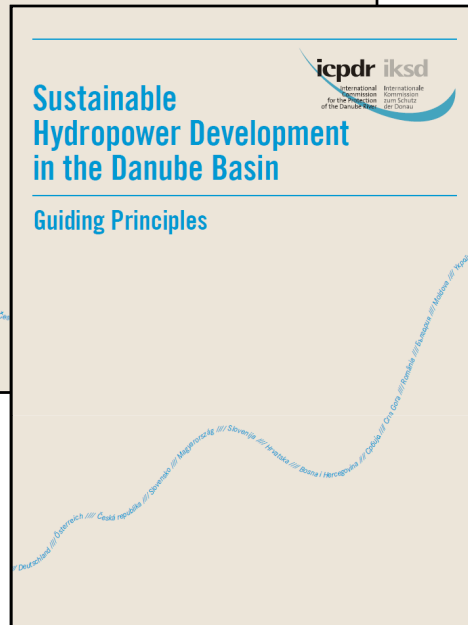
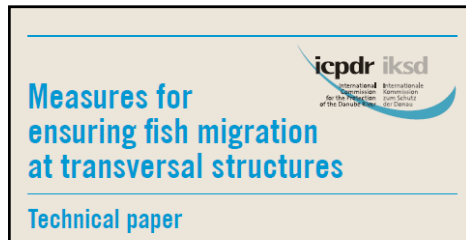


- ▶ **Common vision and understanding** on policy framework and requirements for sustainable hydropower
- ▶ Addressing issue **more holistically** (energy efficiency, other forms of RES, environmental objectives, ...)
- ▶ Main addressees: **Planning authorities for energy and environment**, hydropower sector, NGOs, interested public

Conclusions & outlook



- Inter-sectoral **cooperation is key** for sound implementation of energy and environmental legislation
- Practical application of Guiding Principles and strategic planning approach provides **broad range of potential benefits**:
 - Energy sector: **Streamlined authorisation** processes, improvement of predictability and upfront information where authorisation is likely
 - Environmental sector: **Transparency, involvement** in decision making process, **protection** of sensitive river stretches
 - Authorities: Increase of security for **legal compliance**, balanced approached with involvement of relevant actors at an early stage, **accelerated implementation** of legislation
- **Outlook: Facilitation of further exchange** between countries / stakeholders / NGOs, accompanying practical application of Hydropower Guiding Principles



Thank you for your kind attention!

Hydropower Guiding Principles and other related documents available for download on the ICPDR website:

<http://www.icpdr.org>

ICPDR Secretariat / Vienna International Centre, D0412 / P.O. Box 500 / 1400 Vienna / Austria
Phone +43 1 26060-5738 / Fax +43 1 26060-5895 / icpdr@unvienna.org / www.icpdr.org

